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INDUSTRIAL EXPERIENCE OF TRADE-SCHOOL GIRLS IN MASSACHUSETTS

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CONTENTS.

This study was undertaken in September, 1914, by the Department of Research of the Women's Educational and Industrial Union of Boston, under the direction of Dr. May Allinson, associate director, and with the advice and criticism of Dr. Susan M. Kingsbury, director of the department. The study covered a period of eleven months, seven months being devoted to field work and four months to writing the report. Three fellows, Louise Moore, Edith Gray, and Cora Parkhurst, with two secretaries in the office, constituted the working force. Special recognition should be given Louise Moore for her independent work in planning and presenting the material in Chapter II on The school problem, her analyses of the machine-operating trades (pp. 210 to 233), and for Appendixes A and B.

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CHAPTER I.—INTRODUCTION.

PROBLEM OF TRADE TRAINING FOR GIRLS.

Trade training for girls has proved to be one of the most difficult problems of present-day education. Federal, State, and private reports on industrial conditions under which women work show the need for some kind of more adequate preparation for life.[1] With an appreciation of the significance of these conditions has come a new conception of education: a realization, first, that some sort of education must be developed for those girls who can not be profited by existing forms and, second, that teaching for trades must be undertaken by educators in cooperation with employers.

Naturally, conflicting theories have arisen as to where, when, and how this trade training can best be given. First, some educators and employers insist that it can and should be given only in the factory.[2] Second, some maintain that systematic training can be given only in special trade schools, because training and production on a profit basis are incompatible.[3] Third, others are still debating as to whether this trade training can best be given preliminary to

[1] Massachusetts. Report of the Commission on Industrial and Technical Education. April, 1906.
National Society for the Promotion of Industrial Education. Reports and bulletins.
United States Bureau of Education, A trade school for girls, Bulletin, 1913, No. 17.
United States Bureau of Labor Statistics publications:
Bul. No. 145. Conciliation, arbitration, and sanitation in the dress and waist industry of New York City. Appendix I—A study of the dress and waist industry for the purpose of industrial education, p. 155.
Bul. No. 146. Wages and regularity of employment and standardization of piece rates in the dress and waist industry: New York City.
Bul. No. 193. Dressmaking as a trade for women in Massachusetts.
Report on condition of woman and child wage earners in the United States (S. Doc. No. 645, 61st Cong., 2d sess.). 1910–1912.
All bulletins in Women in Industry series.
Reports of the Massachusetts Minimum Wage Commission.
Lorinda Perry: Millinery as a trade for women. New York, 1916.
Mary Van Kleeck: Wages in the millinery trade. (In Fourth Report of New York State Factory Investigating Commission, 1915. Vol. II, pp. 361-469.)
Mary Van Kleeck: Women in the bookbinding trade. Russell Sage Foundation, New York, 1913.
Mary Van Kleeck: Artificial-flower makers. Russell Sage Foundation, New York, 1913.

[2] Anna C. Hedges: Wage worth of school training. Teachers' College, Columbia University, New York, 1915.

[3] Florence M. Marshall: Industrial training for women. Bulletin 4, National Society for the Promotion of Industrial Education, October, 1907.

employment or in the form of continuation schooling, either in part-time day classes or in evening classes.[1] Fourth, still others oppose special industrial schools for the 14 to 16 year old child on the ground that they must either deplete or unnecessarily duplicate the present educational system and tend toward class distinction.[2]

Whether a long or short period of training is required, what proportion of time should be devoted to practical trade work and what to related academic training, and how the academic and trade work can best be combined, are questions still argued. The administrative system by which these schools shall be controlled is another source of controversy and both the unit and dual systems exist in Massachusetts.[3]

Even if an agreement were reached upon the where, when, and how of industrial education, the most perplexing question of all, What shall constitute the basis of trade training—that is, for what trades shall these schools train?—is after ten years still an open question.

GROWTH OF TRADE SCHOOLS FOR GIRLS IN MASSACHUSETTS.

The first so-called trade school for girls in the United States was established by private initiative in New York City in 1902. It was planned to meet local problems and to train girls for the sewing trades which occupy so important a place in that city,[4] and which offer good opportunities for the girl who has sufficient fundamental training to gain entrance. In 1904, the Boston Trade School for Girls was established by private initiative, also giving its main emphasis to training for the custom sewing trades, which occupy a much smaller place in Boston, but still, at that time, presented good openings. After five years' experimentation under private management, both schools were taken over as a part of the public-school system. In 1911, the Worcester and Somerville schools were established, in Worcester as a part of the Independent Industrial Schools and in Somerville [5] as a part of the public-school system. In 1913, the Cambridge Trade School was established as a part of the public-school system.

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[1] Massachusetts, Board of Education: Special report on the needs and possibilities of part-time education, 1913. Also Mary Van Kleeck: Working girls in evening schools. Russell Sage Foundation, New York, 1914. Also Anna C. Hedges: Wage worth of school training.

[2] John Dewey: Industrial education and democracy, in Survey, Mar. 22, 1913, p. 870. See also David Snedden and John Dewey: Communications on vocational education in New Republic, May 15, 1915, pp. 40-43.

[3] The question of the dual system, in Survey, Jan. 18, 1913, p. 490.

H. E. Miles: Work and citizenship—The Wisconsin experiment in industrial education, in Survey, Feb. 15, 1913, p. 682.

E. H. Fish: Revolution in school control, in Survey, June 21, 1913, p. 407.

[4] Mrs. Mary Schenck Woolman: The making of a girls' trade school. Columbia University Press, New York, 1909.

[5] The Somerville School was changed to the Vocational School for Girls—offering training for home making—in 1913-14.

All the trade schools have been organized on the model of the Manhattan Trade School, giving the main emphasis to the custom sewing trades. But, while the Manhattan Trade School might train and place advantageously any number of girls who applied for training in the custom sewing trades, the Massachusetts trade schools soon found that this opportunity was limited. In Worcester, for instance, only a small proportion of the young girls trained for dressmaking and millinery can utilize their training in a wage-earning capacity because of the limited number of openings in this city. The schools in the different localities, therefore, are gradually being forced to adjust their training to local trade conditions, and to realize certain fundamental facts: First, that there is a fairly constant but very limited demand for young girls with some degree of skill and maturity in the custom sewing trades, and, second, that the school must develop new lines of work for those without special aptitude in the trades originally selected by the school.

NEW QUESTIONS INVOLVED IN INDUSTRIAL EDUCATION.

Trade schools at first met much serious criticism and there was a conscious emphasis by their supporters on their educative value and their development of the girl as a future home maker. After these new schools became established as a recognized part of the school system, a new and more insistent issue was faced—that of the pupils' capacity to meet trade standards. The new emphasis, therefore, is laid on trade efficiency. But since trade efficiency means personal advancement, the two motives are by no means divorced but very intimately connected.

A new and most serious situation, however, now confronts the trade schools for girls, for the sewing trades have undergone a tremendous industrial evolution during the twelve or more years these schools have been training for these trades.

Opportunities for trade-school pupils are decreasing in the custom trades, not only from the standpoint of decreasing numbers employed but also because of the industrial demands for increasing maturity, skill, and experience. The insistent problem of the immediate future is, therefore, twofold: To develop a type of trade training in accordance with the specific industrial needs of each of these custom trades, and to divert the pupils to some extent into other lines of work, so that the number of trained workers turned out shall not exceed the capacity of their trades to provide them employment.

Industrial education thus involves many new questions which are increasingly demanding consideration.

1. A trade school must know the trend and the demands of the trades, (*a*) from the standpoint of numbers that it may not over-

stock the supply, and (*b*) from the standpoint of qualifications of the workers that its pupils may be able to meet trade demands.

2. Trade practice and products which change greatly and without reason in the fashion trades constitute the basis of instruction.

3. A new conception of school administration becomes a necessity, for the trade school must be allowed a large degree of independence, flexibility, and correlation with and adjustment to the industries to which it caters. Its methods, hours and atmosphere must approximate trade rather than school conditions.

4. Since the efficiency of a vocational school is judged by the success of its pupils, the trade school must study the industrial experience of its pupils that it may, on a basis of concrete knowledge, develop and readjust its curriculum to meet the changing needs and conditions.

METHODS AND SCOPE OF THIS SURVEY.

To provide some concrete facts on these many points of debate, this study was undertaken. The main purpose has been to see to what extent the trade school can equip a girl as an efficient producer. To draw fair and intelligent conclusions, we must know:

1. What proportion of the girls complete their trade course—that is, what degree of selection is represented by the girls who utilize their training in a wage-earning capacity?

2. What has been the aim of the school and the methods by which it has sought to prepare the girl for wage earning?

3. What are the processes and conditions of employment in the industries and what demands do they make on their workers?

4. How does the trade-school girl meet these demands in comparison with the girl who has acquired her training in the industry itself?

Because of the comparatively short existence of these schools, it was within reason to attempt a complete survey of the total number who had gone out from the three trade schools, Boston, Worcester and Cambridge, as a basis for conclusion, rather than to employ the more usual sampling method. The records of all girls leaving school were taken from the school files, 2,044 girls leaving the Boston Trade School from September, 1904 to September, 1914, 343 from the Worcester Trade School from September, 1911 to February, 1915, and 113 from the Cambridge Trade School from February, 1913 to February, 1915, making a total of 2,500 trade-school girls.

Since the trade schools make an effort to place their pupils and to keep a record of their subsequent experience, some index was provided as to those using and not using their training in a wage-earning capacity. These records also provided data on the date of birth, previous schooling, date of entering the trade school, course, and usually the father's occupation, taken at the time of registration.

An intensive study of the working experience through personal interviews with all girls who used their training in a wage-earning capacity and all others who attended the trade school nine months or more was determined on for Boston and Worcester, and of the total group from the Cambridge Trade School, since the comparatively small number made this possible. Because the effort has been made to give a complete picture of all girls who used their training, the total number is accounted for in most of the tables, even though there may be no data on some one point, because the girl could not remember this particular item.

In Boston, records were found of 788 who had used their training one week or more and of 135 who had attended the trade school nine months or more but had not used their trade, making a total of 923, or 45.2 per cent of the total number leaving during the school's 10 years' existence. This number was checked from every possible source. Girls from different classes went through the lists and frequently contributed helpful information. All girls visited in their homes were asked for information concerning their classmates and sometimes contributed new names which had not appeared on the trade-school records. Forty-four additional girls whose names were secured in this way were followed up on one clue or another, but were found not to have used their trade. Seventy-four of the 923 could not be located, leaving 849, of whom 744 used their trade and 105 attended the trade school nine months or more but did not use their trade.

The problem was simpler in Worcester because the experience of the school covered only three years. Of a total of 343 girls, 166 had used their trade or attended the trade school nine months or more and all were found and interviewed. In spite of the short period (two years) covered by the Cambridge Trade School, 15 of the total 113 girls could not be located, making 98 girls the basis of study for this school.

Of the total, 2,500 girls, therefore, leaving the three trade schools, 1,202 girls, or 48.1 per cent, were chosen for an intensive study of their working experience, and of these 1,113, or 92.6 per cent, were found and interviewed.

Naturally many difficulties were encountered in securing these "experience" records. Some of the addresses dated 10 years back, and a long trip to a remote suburb sometimes brought the investigator to an empty lot or to a big factory where once may have stood a house. The girls had scattered to all parts of the United States, and a few of the records had to be secured by correspondence, several letters sometimes being required to clear up one fact. One record came from Detroit, another from Austin, Tex., another from New York, another from New Jersey. Names had changed for various

reasons. Mary Smith was reported by a neighbor to have married a Mr. Pistachio, who worked in the Palace of Sweets in Lynn. A letter to Mrs. Pistachio brought no response, and as a last resort, before making the trip, the investigator secured telephone connection with the Palace of Sweets and asked for Mr. Pistachio. The blur of sounds served the investigator well, for the voice at the other end asked, "You wish Mr. Rustaccio?" The investigator, assenting, found that Mr. Rustaccio was the husband of Mary Smith and received a hearty invitation to come to-morrow afternoon at 3 o'clock and she would be sure to be at home.

Maria Martinucci was sought far and near. Neighbors, teachers, settlement workers in the neighborhood were interviewed. Tracer letters were sent to no avail. One day another trade-school girl mentioned that Maria was working at Madame X's. The investigator hurried to the shop and was met with the statement that no such person ever worked there. "Ask Madame X," insisted the investigator, "if she knows her." Madame came out and, after listening to the story, said, "Oh, you must mean Mary Martin." Mary Martin was called out and proved to be Maria Martinucci, the trade-school girl.

Clues no more definite than "I don't know where she lives, but she is cashier in ———, in the grocery department on the fifth floor, right opposite the meat"; or "Ask the undertaker on the corner; he buried her brother last year," brought the investigator in touch with girls from whom the trade school had had no information for years. The most difficult situation to surmount was occasioned by precautionary measures against being traced by bill collectors. In several cases the investigator secured certain information of a girl but could not personally reach her. "Oh, she's a friend of mine; I wouldn't put a collector on her track," was the reply to inquiries and all efforts to locate her proved futile.

From these girls was sought their complete working experience by successive years, after leaving the trade school, that information might be gained on such points as these:

1. What types are coming to the trade school for training and how do they correspond to the types already in these trades?
2. What are the requisite qualifications for success and what proportion complete the course of training?
3. What proportion enter their trade and in what length of time do they become self-supporting?
4. What influences determine advancement and success?

For some basis of comparison it was decided to secure the experience record of 100 girls in dressmaking and in the cloth machine-operating trades in Boston. The method by which these should be secured was one for serious consideration. The first attempt was made to secure cases from the educational certificates in the school

offices, all girls of 16 to 21 years being so registered by law. This was soon found impracticable as the sole basis, since the new law of 1913, under which a new system was inaugurated, had been in force only one year, and the types secured by this means proved to be below normal, drifting from industry to industry and from shop to shop.[1] Complete lists of all girls not exceeding 25 years were next taken from pay rolls of typical shops and factories. This method excluded the drifter in most cases, since the girl remaining less than one week did not appear on the pay roll. The lists were supplemented by names secured through other girls, or from people in touch with girls in the sewing trades. Forty-six girls who were under 25 years and were employed in the sewing trades in Worcester were secured through the Worcester Evening Trade School. Through these different methods a group of girls were secured who correspond to a surprising degree in age, education, and wage with the trade-school girls.

A study of the three trade schools to discover their purpose, the needs which they attempt to meet, and the methods by which they are trying to fulfill their aim, and a cursory survey of the industries to see to what extent the school has grasped its problem rounded out the study.

The following chapters therefore seek to show:

1. The problems with which the trade school has been confronted from the standpoint of—

(*a*) The girl who comes for training.

(*b*) The industries for which it trains.

2. The specific problems which it has attempted to solve and the extent to which it has succeeded or failed.

3. The conclusions which may be drawn for future development and adjustment.

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[1] See Table 50, p. 87.

CHAPTER II.—THE SCHOOL PROBLEM.

THE SCHOOL.

The leaders in the movement to establish trade schools for girls, an experiment in education begun outside the regularly established school system, found it necessary very early to formulate a statement of their aim. This, briefly stated, is to "give girls an education that will fit them for industrial work as distinguished from office work and teaching."[a] That the public desires this type of education is proved by the adoption of the Boston Trade School for Girls by the Boston School Committee and the Massachusetts State Board of Education, and by the founding of similar schools in the cities of Worcester and Cambridge.

GROWTH OF ENROLLMENT IN TRADE SCHOOLS.

The action of these three cities seems to have been justified by the number of girls who have taken advantage of the opportunity thus presented. The growth in membership of the trade schools as compared with the growth of the other schools under public management is striking. In 1905 the enrollment in the Boston day schools

TABLE 1.—RELATIVE INCREASE IN ENROLLMENT IN TRADE SCHOOLS AND OTHER PUBLIC SCHOOLS IN BOSTON AND WORCESTER, BY YEARS, 1906 TO 1914.

Year.	Boston.						Worcester.					
	Per cent of increase in enrollment in—											
	Day schools.[1]		High and normal schools.[1]		Trade school for girls.[2]		Day schools.[3]		High schools.[3]		Trade school for girls.[4]	
	Over preceding year.	Over 1905.	Over preceding year.	Over 1905.	Over preceding year.	Over 1905.	Over preceding year.	Over 1912.	Over preceding year.	Over 1912.	Over preceding year.	Over 1912.
1906	2.2	2.2	4.2	4.2	14.0	14.0	.....	.....	.....	.....	.....	.....
1907	1.2	3.4	1.6	5.9	5.4	20.2	.....	.....	.....	.....	.....	.....
1908	2.0	5.5	6.7	13.0	63.5	96.5	.....	.....	.....	.....	.....	.....
1909	2.9	8.6	20.9	36.6	58.9	212.3	.....	.....	.....	.....	.....	.....
1910	[5].2	8.3	12.9	54.2	[5]23.6	138.6	.....	.....	.....	.....	.....	.....
1911	[5]1.1	7.2	9.6	69.1	25.0	198.2	.....	.....	.....	.....	.....	.....
1912	3.6	11.0	7.7	82.0	15.3	243.9	.....	.....	.....	.....	.....	.....
1913	1.2	12.3	1.5	84.8	28.6	342.1	2.1	2.1	7.4	7.4	66.7	66.7
1914	3.1	15.8	5.1	94.3	17.9	421.1	4.9	7.1	5.6	13.4	21.8	102.9

[1] From annual reports of the Boston School Committee, 1905 to 1914.
[2] From annual reports of the Boston Trade School for Girls, 1905 to 1909; annual reports of the Boston School Committee, 1910 to 1914.
[3] From annual reports of the Worcester Public Schools, 1912 to 1914.
[4] From data furnished by the Worcester Trade School for Girls.
[5] Decrease.

[a] Worcester, Report of Trustees of Independent Industrial Schools for the year ending June 30, 1911, p. 622.

was 102,880, in the high and normal schools 8,115, and in the trade school for girls 114. In 1912, when the Worcester Trade School for Girls was opened, the enrollment in the Worcester day schools was 23,539, in the high schools 3,101, and in the trade school 102. Table 1 shows the relative increase in enrollment for these various schools, giving both the increase each year over the enrollment of the preceding year and the increase over the year in which the trade schools were founded, respectively.

In Boston the average annual increase in the total enrollment of the day schools from 1905 to 1914, inclusive, was 1.7 per cent, in the high and normal schools, 7.9 per cent, and in the trade school for girls, 22.8 per cent. That is, the enrollment in the trade school has increased about thirteen times as rapidly as that of all the public day schools, and almost three times as fast as that of the high and normal schools. During the whole period, while the enrollment in all day schools has increased by a little less than one-sixth and the enrollment in the high and normal schools has not quite doubled, the enrollment in the trade school for girls has more than quadrupled. The trade school in Worcester has had a far shorter period of growth, but is showing the same tendency to a rapid increase. During the first year of its history its enrollment increased two-thirds, and the next year a little more than one-fifth. The total number of pupils registered in 1914 was a little more than twice the number enrolled in 1912. Meanwhile, the day schools had increased their numbers by 7.1 per cent and the high schools by 13.4 per cent.

Striking as these comparative percentages of increase are, they do not tell the whole story, since the actual enrollment has not at any time since the first year represented all who wished to enter the trade schools. Since then the schools have been unable to accommodate all applicants, so the number has been limited and pupils are allowed to enter as vacancies occur, in the order of their application. The consistently rapid growth of the trade schools for girls shows the value set upon this sort of training by the community, the girls, and their parents.

NONCOMPETITIVE CHARACTER OF TRADE AND ORDINARY SCHOOLS.

The very rapid increase in the trade-school enrollment naturally raises the question, "Are these schools competing with ordinary high and grammar schools or are they satisfying a need not previously met by other educational institutions?" Certainly they are not competing on the same terms, owing to the great difference between the trade-school courses and those offered in any other kind of schools. There is good reason for thinking, however, that they are not competing at all. A comparison between the rate of increase shown in the preceding table for the high schools and the trade schools does not indicate that the high schools have suffered from the establish-

ment of the trade schools. In both Boston and Worcester the percentage of increase in the high schools since the establishment of the trade schools has been normal, the increase being in Boston about five times as rapid as in all schools and in Worcester about twice as rapid. Moreover, in the years 1908 and 1909, when the Boston Trade School showed the largest increases, 63.5 per cent and 58.9 per cent, respectively, the high school increases, also, were unusually large (6.7 per cent in 1908 and 20.9 per cent in 1909).[1] As to competition with the grammar schools, the age of the trade-school pupils seems to show that if it exists at all it is too small to have any importance. Girls may not enter the trade schools until they are 14 years of age, and in the Boston school two-thirds of the total number of pupils enrolled since its opening have been over this age. (See Table 5.) But in June, 1914, only 1.9 per cent of all pupils in the elementary schools of Boston were over 14, and in 1913 the proportion was 3.9 per cent.[2] Evidently the field of possible competition between grammar and trade school is very limited.

Another indication that the trade schools reach a type of girl not attracted to the regular school, or, at least, not held by it, is found in the rather large proportion of the pupils in both the Boston and the Worcester trade schools who had been out of the regular schools for some time before entering the trade schools. In Boston 849 girls and in Worcester 166 were visited. The following table shows how many of these had been out of school for four months or more before entering the trade school:

TABLE 2.—INTERVAL BETWEEN LEAVING REGULAR PUBLIC SCHOOLS AND ENTERING TRADE SCHOOL, FOR 164 GIRLS IN BOSTON AND 45 IN WORCESTER.

Time intervening.	Number of girls out of school specified length of time before entering—		Total.
	Boston Trade School.	Worcester Trade School.	
4 and under 8 months	58	17	75
8 and under 12 months	34	6	40
12 and under 16 months	28	13	41
16 and under 20 months	11	3	14
20 and under 24 months	2	1	3
2 and under 3 years	11	3	14
3 and under 4 years	10	2	12
4 and under 5 years	5	.....	5
5 years or more	5	.....	5
Total	164	45	209

It appears from this that in Boston nearly one-fifth of the girls visited (18.1 per cent), and in Worcester more than one-fourth

[1] The rapid increase in the number of pupils in the high schools of Boston in 1909 was partly due to changing the number of grades in the grammar school from nine to eight, thus throwing into the high school the pupils of one grade which had previously been included in the grammar course.

[2] Report of the Boston School Committee, 1913, Document 9, p. 17; 1914, Document 6, p. 15.

(27.1 per cent) had been out of the regular public schools from four months to nearly four years before entering the trade schools. If the girls visited are representative of the whole body of pupils—and there is no reason to suppose that they are not—it is evident that there is a considerable proportion of the trade-school pupils for whom the question of competition between the two kinds of schools could not arise; they had definitely left one before planning to enter the other.

When the trade schools were started it was with the purpose of reaching the kind of girl who did not wish to attend high school, or who could not afford the time for it, and this purpose has been borne in mind throughout. In both the Boston and the Worcester trade schools it is customary to send back to the grammar and high schools all pupils who their instructors have reason to think will do better in academic than in trade work. In Worcester 7.3 [1] per cent of all the pupils leaving the trade schools for any reason returned to other schools. On the Boston records 11.6 [1] per cent are set down as having returned to school.

Summing up the situation, then, such information as is available seems to show that the trade school is not a competitor of the regular grammar and high schools, because: (1) The character of the work done is so different from that carried on in other public schools that it would scarcely attract children likely to make a success of the ordinary school studies. It is primarily attractive to the girl whose chief interest is to earn money as soon as possible, but who is willing and able to give a short time for preparation. (2) The pupils do not come in any large measure from those of ordinary grammar school age. (3) No change in the percentage of increase in high and normal schools can be discovered in the 10 years subsequent to the founding of the trade school in Boston. (4) Many of the pupils (20.6 per cent of those visited in Boston and Worcester) had definitely left the regular public schools before entering the trade schools. (5) The trade schools have sent back to grammar and high school 10.5 per cent of the whole number of pupils leaving the trade schools. The increase in the enrollment seems to indicate, therefore, that the trade schools are filling a need not hitherto met in the system of education, and that instead of competing with the other schools they supplement them, giving a training which the regular schools can not supply but for which there is a real demand.

COURSES OFFERED IN THE DIFFERENT TRADE SCHOOLS.

The courses offered in the trade schools differ essentially from those given in any other educational institution, both in object and in method of presentation. The selection of the trades to be taught in the several communities has been a matter of much difficulty.

[1] See Table 28, p. 45.

The bases of selection may be three: First, a general survey of trade opportunities for women in the city, including occupations for which women are generally supposed to be best adapted, particularly those connected with the making of clothing and the preparation of food; second, a scientific survey of a community to determine which lines of work offer the best opportunities; and, third, the experience of the school itself, resulting in the modification of old courses and the introduction of new ones, in accordance with the demands of the public with which the school comes in contact.

Boston followed the first of these plans. From a study of such data as were available it was decided that "clothing trades offer women the greatest opportunities." [1] A brief survey of the dressmaking, millinery, and ready-made clothing industries was then made to determine the content of the proposed courses. Sewing only was offered in the summer course given in 1904,[2] and millinery and power-machine operating on cloth were added in the fall. In addition to these three trades, selected on the basis of the first general survey, training in three other trades is now offered, as a result of the experience of the school. Power-machine operating on straw hats has been taught since 1905–6,[3] and trade cooking and design were first offered in 1912–13.[4]

In the other three cities the second plan of selection was followed. The board of trustees of the Independent Industrial Schools in Worcester and the superintendents of schools in Cambridge and Somerville were instrumental in securing a survey of their cities before the girls' trade schools were established.[5] Dressmaking, millinery, and power-machine operating on cloth have been taught in Worcester since the opening of the school; trade cooking was introduced in September, 1914. In Cambridge, at first, dressmaking, cooking, and millinery were offered. The course in millinery was discontinued in October, 1914, because the management believed that, as a trade, it offered too little opportunity. In Somerville, dressmaking and millinery were taught in 1911–12. The following year, the household arts side of the training received more emphasis than the trade side, and in 1913–14 the name of the school was changed from the Trade School for Girls to the Vocational School for Girls. Dressmaking, millinery, and cooking are taught as home-making vocations with trade standards.

In 1914–15, then, the Boston Trade School for Girls offered six courses, dressmaking, millinery, power-machine operating on cloth,

[1] Fifth Annual Report of the Boston Trade School for Girls, 1909, p. 11.
[2] First Annual Report of the Boston Trade School for Girls, 1905, pp. 6, 7.
[3] Second Annual Report of the Boston Trade School for Girls, 1906, p. 14.
[4] Trade School Bulletin IV, April, 1912; Trade School Bulletin VI, May, 1913.
[5] Department of Research, Women's Educational and Industrial Union: A trade school for girls, United States Bureau of Education, Bulletin, 1913, No. 17, p. 9.

power-machine operating on straw hats, catering, and design; the Worcester school trained girls in four subjects—dressmaking, millinery, power-machine operating on cloth, and trade cooking. In Cambridge, instruction was offered in dressmaking and in trade cooking.

Besides these trade courses, of which each girl selects one, supplementary courses in cooking, art, academic branches, and physical training are required of all pupils. The Boston Trade School, ever since it was founded, has required its pupils to take design and physical training.[1] The course in cooking, with household arts intent, has been obligatory since the summer of 1905, and academic work since 1906–7.[2] The other schools, founded since the Boston Trade School, and profiting by its experience, have had supplementary work since the beginning.

RELATIVE DEMAND FOR THE DIFFERENT COURSES.

The number of girls enrolled in each course in the several schools since their foundation shows where the emphasis of the teaching has been placed. The following table shows the distribution of the 2,500 pupils among the courses offered:

TABLE 3.—NUMBER AND PER CENT OF GIRLS TRAINED IN EACH SPECIFIED TRADE IN BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOLS.

Course.	Girls trained in specified trades.							
	Number.				Per cent.[1]			
	Boston.	Worcester.	Cambridge.	Total.	Boston.	Worcester.	Cambridge.	Total.
Dressmaking	1,255	224	78	1,557	62.0	66.3	69.0	62.9
Millinery	426	53	21	500	21.0	15.7	18.6	20.2
Power-machine operating on—								
Cloth	178	61	.....	239	8.8	18.0	.....	9.7
Straw hats	137	.....	.....	137	6.8	.....	.....	5.5
Trade cooking	19	.....	14	33	.9	.....	12.4	1.3
Design	10	.....	.....	10	.5	.....	.....	.4
Not reported	19	5	.....	24	.....	.....	.....	.....
Total	2,044	343	113	2,500	100.0	100.0	100.0	100.0

[1] Based on the number of girls whose course was reported.

It will be seen that of all the girls who have gone out from the three trade schools, almost two-thirds (62.9 per cent) have taken dressmaking and one-fifth have been trained in millinery. That is, four-fifths of the girls (83.1 per cent) have been trained in the two custom or hand sewing trades, while only one-fifth have taken advantage of the other four trades offered. These proportions have been

[1] First Annual Report of the Boston Trade School for Girls, 1905, p. 9.
[2] Third Annual Report of the Boston Trade School for Girls, 1907, p. 14.

nearly the same in all the schools, even in Boston, which offers the greatest variety of other courses. Worcester shows a much larger percentage than Boston of girls learning power-machine operating on cloth, and Cambridge has relatively a large proportion who have chosen trade cooking, but in each of the three cities more than 80 per cent of the pupils have enrolled in the two hand-sewing trades.

A study of the enrollment in 1915 shows that this situation has not changed. The following table, compiled from data furnished by the three trade schools, shows the number enrolled in the different courses in January, 1915:

TABLE 4.—NUMBER AND PER CENT OF PUPILS ENROLLED IN SPECIFIED COURSES IN BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOLS AT THE TIME OF THE INVESTIGATION, JANUARY, 1915.

Course.	Girls enrolled in specified trades.							
	Number.				Per cent.[1]			
	Boston.	Worcester.	Cambridge.	Total.	Boston.	Worcester.	Cambridge.	Total.
Dressmaking	343	108	82	533	71.0	70.6	87.2	73.0
Millinery	70	15	.....	85	14.5	9.8	.....	11.6
Power-machine operating on—								
Cloth	26	18	.....	44	5.4	11.8	.....	6.0
Straw hats	30	.....	.....	30	6.2	.....	.....	4.1
Trade cooking	14	12	12	38	2.9	7.8	12.8	5.2
Not reported	.....	.....	2	2	.....	.....	.....	.....
Total	483	153	96	732	100.0	100.0	100.0	100.0

[1] Based on the number of girls whose course was reported.

The proportions shown here in the two custom sewing trades are curiously close to those shown in the preceding table. In all three cities millinery has lost ground and dressmaking has gained, but these two trades still account for over four-fifths of the total enrollment. Of the other trades offered, cooking is the only one that shows a gain, and its increase is less than half of that shown by dressmaking.

There is little doubt that these proportions fail to correspond to the trade demands in any of the three cities. The emphasis on training for the custom sewing trades is due not so much to the needs of the industries as to the attitude of the schools and their patrons. One important reason for the numbers found in these courses is the disfavor in which factory work is held. Power-machine operating leads to factory work, which the girls do not wish to enter. This dislike is probably due mainly to misconceptions and lack of knowledge of conditions in the modern clothing factory, which compares favorably with the custom shop in sanitary conditions, wage opportunities, and working conditions in general. Again, dressmaking and millinery, occupations which have always been followed by women,

have been offered as trade courses since the schools were opened, and consequently training in these subjects has been more closely studied and is organized on a more careful analysis of processes than is the case with some of the newer trades. The schools therefore tend to make these courses more attractive to the pupils. Moreover, dressmaking and millinery can always be utilized by the girl at home, and the public, the school, and the pupil are likely to overemphasize this phase, forgetting that the function of a trade school is to fit for a trade, and that processes such as cutting and fitting, which are essential for home use, are not given except to the more mature pupils who return for advanced training, since they would not be of immediate value to the young beginner in the shop.

THE PUPILS AND THE SCHOOL.

AGE AND PREVIOUS SCHOOLING OF PUPILS ENTERING THE TRADE SCHOOLS.

Although the trade schools have a clearly defined aim and a fairly simple program of activities, they face a difficult problem in adjusting this program to the varied age and educational acquirements of their

TABLE 5.—AGE AT ENTRANCE OF GIRLS ENTERING THE BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOLS AND THE VOCATIONAL SCHOOL OF SOMERVILLE.

NUMBER.

Age at entering trade school.	Pupils of specified age entering—						
	Boston Trade School.			Worcester Trade School.	Cambridge Trade School.	Total entering trade schools.	Somerville Vocational School.
	1904–1909	1909–1914 [1]	Total.				
Under 15 years	289	392	681	143	41	865	52
15 and under 16 years	236	354	590	93	32	715	50
16 and under 17 years	157	240	397	56	21	474	38
17 and under 18 years	77	145	222	24	6	252	16
18 and under 19 years	26	43	69	13	7	89	8
19 and under 20 years	12	22	34	6	3	43	3
20 and under 21 years	4	9	13	2	1	16	2
21 years and over	5	20	25	1	1	27	2
Not reported	2	11	13	5	1	19	1
Total	808	1,236	2,044	343	113	2,500	172

PER CENT OF EACH SPECIFIED AGE.[2]

Under 15 years	35.9	32.0	33.5	42.3	36.6	34.9	30.4
15 and under 16 years	29.3	28.9	29.0	27.5	28.6	28.8	29.2
16 and under 17 years	19.5	19.6	19.5	16.6	18.8	19.1	22.2
17 and under 18 years	9.6	11.8	10.9	7.1	5.4	10.2	9.4
18 and under 19 years	3.2	3.5	3.4	3.8	6.3	3.6	4.7
19 and under 20 years	1.5	1.8	1.7	1.8	2.7	1.7	1.7
20 and under 21 years	.5	.7	.6	.6	.9	.6	1.2
21 years and over	.6	1.6	1.2	.3	.9	1.1	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] From July, 1904, to August, 1909, inclusive, the Boston Trade School was under private management and from September, 1909, was a part of the public-school system.
[2] Based on number of pupils whose age at entering trade school was reported.

pupils. The only limitation on admission to the trade schools made by the State board of education relates to age. Up to its capacity each school admits all applicants who are 14 years old and under 25.[1] This results in a condition which does not exist in any other part of the day-school system. The trade-school pupils range in age from 14 to 20 and over and in previous schooling from those who have never gone beyond the third grade to high-school graduates. Naturally this wide variation in age and acquirements increases materially the difficulty of adapting the courses to the needs of the pupils. Table 5 shows the classification by age at entrance of the pupils of the three trade schools and the one vocational school.

Considering the whole group who have entered the trade schools, it appears that over one-third were under 15 at the time of entrance, and that only in Worcester does this proportion differ much in the individual schools. The next largest group is also the next most youthful group, the girls between 15 and 16 years forming nearly three-tenths of the total. In other words, more than three-fifths have been under 16 when they entered the trade schools. Nearly three-tenths have been 16 but under 18, while those aged 18 or over form only 7 per cent of the whole.

It is interesting to notice that a trade school seems to attract a younger group when first opened than later. During the first five years of the Boston Trade School's existence, 65.2 per cent of the pupils were under 16 when they entered; during the next five years this proportion sank to 60.9 per cent. Again, 15.4 per cent of those entering from 1904 to 1909 against 19.4 per cent of those entering from 1909 to 1914 were 17 or over at entrance. In Worcester the trade school was opened in 1911 and in Cambridge in 1913, so that both these schools may be regarded as still in their first period. In Worcester 69.8 per cent and in Cambridge 65.2 per cent of the pupils have entered before they were 16. These proportions correspond very closely to those of the Boston Trade School up to 1909, as do also the 13.6 per cent in Worcester and the 16.2 per cent in Cambridge entering at 17 or over.

From a school point of view this variation in age makes an extremely difficult situation, since pupils of 14 and 16 must be taught in the same classes. Girls of 16 can be taught with older girls more easily than with younger girls. The 36.3 per cent of the pupils who enter when they are 16 or over present a serious problem for adjustment on the part of the school.

The variation in previous schooling at time of entrance is even greater than the variation in age. The following table shows the extent of variation in this respect:

[1] Massachusetts Acts of 1911, ch. 471, sec. 3.

TABLE 6.—NUMBER AND PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOL PUPILS HAVING EACH SPECIFIED AMOUNT OF PREVIOUS SCHOOLING.

Previous schooling.	Pupils with specified schooling.											
	Number.						Per cent.[1]					
	Boston Trade School.			Worcester Trade School.	Cambridge Trade School.	Total.	Boston Trade School.			Worcester Trade School.	Cambridge Trade School.	Total.
	1904–1909	1909–1914	Total.				1904–1909	1909–1914	Total.			
GRAMMAR SCHOOL.												
Third grade	1	2	3	.....	.....	3	0.1	0.2	0.1	.....	.....	0.1
Fourth grade	4	16	20	4	4	28	.5	1.3	1.0	1.2	3.6	1.1
Fifth grade	26	21	47	10	4	61	3.2	1.7	2.3	3.0	3.6	2.5
Sixth grade	54	71	125	31	14	170	6.7	5.8	6.2	9.3	12.7	6.9
Seventh grade	124	143	267	65	35	367	15.4	11.7	13.2	19.4	31.8	14.8
Eighth grade	133	156	289	75	12	376	16.5	12.8	14.3	22.4	10.9	15.2
Ninth grade	28	44	72	25	1	98	3.5	3.6	3.6	7.5	.9	4.0
Graduate	286	432	718	31	25	774	35.4	35.4	35.4	9.3	22.7	31.3
Foreign	1	14	15	.....	.....	15	.1	1.1	.7	.....	.....	.6
Unclassified [2]	12	57	69	5	1	75	1.5	4.7	3.4	1.5	.9	3.0
Total, grammar school	669	956	1,625	246	96	1,967	82.9	78.3	80.1	73.4	87.3	79.5
SECONDARY SCHOOLS.												
High school:												
First year	83	147	230	51	6	287	10.3	12.0	11.3	15.2	5.5	11.6
Second year	38	56	94	26	6	126	4.7	4.6	4.6	7.8	5.5	5.1
Third year	5	21	26	7	.....	33	.6	1.7	1.3	2.1	.....	1.3
Fourth year	.....	3	3	1	.....	4	.....	.2	.1	.3	.....	.2
Graduate	7	22	29	2	2	33	.9	1.8	1.4	.6	1.8	1.3
Unclassified	2	13	15	1	.....	16	.2	1.1	.7	.3	.....	.6
Total, high school	135	262	397	88	14	499	16.7	21.5	19.6	26.3	12.7	20.2
Technical school	3	3	6	1	.....	7	.4	.2	.3	.3	.....	.3
Total, secondary schools	138	265	403	89	14	506	17.1	21.7	19.9	26.6	12.7	20.5
Schooling not reported	1	15	16	8	3	27	.....	.....	.....	.....	.....	.....
Grand total	808	1,236	2,044	343	113	2,500	100.0	100.0	100.0	100.0	100.0	100.0

[1] Based on number of pupils whose previous schooling was reported.
[2] Including ungraded schools, special schools, country schools, etc.

It will be seen that 51.8 per cent of the 2,500 girls considered have been grammar-school graduates, and 20.5 per cent of the 2,500 have had some high or technical school training. As representing the extremes, 10.6 per cent have gone no further than the sixth grade and 1.3 per cent have graduated from the high school. In so far as this variation means simply a difference in the amount of information acquired, it presents no serious difficulty to the trade school, since the trade training calls for a kind of power very different from that developed by mere memory training. But since the difference means also a difference in the development of mental capacity, the school is confronted by the problem of adjusting its course to pupils varying both in development and in natural ability to grasp it. It is not merely a question of allowing one pupil to progress more

rapidly than another; some pupils can actually be trained to a higher degree of skill in each process than can others.

It has been seen that the tendency of the trade school, as it becomes better established, is to attract a group slightly more mature at entrance. It also seems to draw a group better prepared from the standpoint of previous education. Of the pupils entering the Boston Trade School during its first five years, 47.5 per cent were not graduates of the grammar schools; during its second five years only 42.9 per cent of its pupils had entered without first graduating from the grammar schools. The proportion of girls who had attended high or technical school increased from 17.1 per cent in the first period to 21.7 per cent in the second.[1]

Naturally in a group as young and as untrained as the majority of these pupils are on their entrance to the trade schools, there are many who have no real taste for the kind of instruction provided, and who come with no very clear idea of what they wish to get or what use they will make of their training, if they persevere long enough to get it. In Cambridge the whole group of trade-school girls were asked why they had come to the school, and the various reasons were grouped under the following heads:

TABLE 7.—NUMBER AND PER CENT OF GIRLS ENTERING THE CAMBRIDGE TRADE SCHOOL FOR EACH SPECIFIED REASON.

Reason for entering trade school.	Girls giving specified reason.	
	Number.	Per cent.[1]
Wanted a trade	28	31.1
Liked to sew	24	26.7
Wanted the training for home use	3	3.3
Too large for her grade, disliked school	20	22.2
Ill health	5	5.6
Advised to by employer	1	1.1
Too young to go to work	1	1.1
Did not know what else to do, friends were there	8	8.9
Not reported	[2]23	
Total	113	100.0

[1] Based on number who reported reason for entering school.
[2] Of these 15 could not be located.

The girls who wanted a trade or liked sewing or wanted the training to use at home all presumably brought to the work of the school a definite purpose and interest which would make it probable that they would benefit by the courses given, and they constituted a little more than three-fifths (61.1 per cent) of those reporting. Over one-fifth came because they could not adapt themselves to

[1] The number of grammar grades was decreased from nine to eight, which resulted in the entrance of many pupils to high school, not because they wanted to go to high school but because they were under 14 and must attend some school.

the requirements of the ordinary schools, and one-tenth because they did not know what else to do or were too young to begin work, or had friends in the school. Such aimlessness on the part of a pupil gives little promise of success. It is hardly to be expected that such young girls should have very definite motives for entering the schools, yet the intensive kind of work done in a trade school presupposes at least a slight interest in handwork. There is little doubt that in this respect the conditions found in Cambridge are common to all trade schools. The lack of real interest or even of a conception of the school's aim on the part of so many pupils certainly hampers the school's activities and complicates its problems.

DEGREE TO WHICH TRADE TRAINING IS UTILIZED.

In a body of pupils predominantly young, who have had relatively little previous training and many of whom enter the school with no definite aim in view, it might naturally be expected that many would fail to use their training after they leave the school. But even making due allowance for these points, the proportion of girls who failed to utilize their trade training seems large. Less than two-fifths of all who have left the three trade schools have taken up the trade for which they had been trained. The number taking each trade course has already been discussed (see Table 3); the proportion of these who, having left the school, entered their trade is shown in the following table:

TABLE 8.—PER CENT OF GIRLS TRAINED IN SPECIFIED TRADES IN BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOLS WHO UTILIZED THEIR TRADE TRAINING.

Trade.	Per cent using trade in—		
	Boston.	Worcester.	Cambridge.
Dressmaking	35.4	22.3	19.2
Millinery	38.5	39.6	19.0
Power-machine operating on—			
Cloth	50.0	37.7	.....
Straw hats	58.4	.....	.....
Trade cooking	26.3	.....	50.0
Design	60.0	.....	.....
Total	38.6	27.4	23.0

The relatively large proportions shown for cooking and design are based on very small actual numbers, cooking having been taken by only 19 in Boston and 14 in Cambridge and design by 10 in Boston. The differences shown in the other trades are to some extent explained by a difference in demand for workers of a given kind. Thus the demand for young girls trained for dressmaking is known

to be larger in Boston than in Worcester or in Cambridge. In dressmaking the percentage in their trade varies from under one-fifth to a little over one-third, in millinery from under one-fifth to nearly two-fifths, and in the cloth power-machine operating trades from a little over one-third to one-half. Such a disproportion between the number taking training and the number using their training is a matter for serious consideration by the trade schools. To some extent, it is explained by the desire of the girls and their parents for courses which do not correspond to the industrial demands of the community. But from the standpoint of the school the question of main interest is, given a certain number of industrial openings, why does one girl secure a foothold while another does not? How far can the tendency not to use her trade be ascribed to the girl herself? Has age anything to do with it, or the amount of schooling she had before taking up her trade training? Has the length or type of her trade training any effect on the matter? It seems worth while to study each of these details in connection with the use—or failure to make any use—of the trade training.

RELATION OF AGE AT LEAVING TRADE SCHOOL TO UTILIZATION OF TRADE TRAINING.

This question may be considered from two aspects: It may be asked (1) what is the age of the girls who succeeded in gaining access to their trade on leaving the trade school, and (2) to what extent may their age explain their success? Taking up the first question, Table 9 shows the age distribution of the girls recorded as using and not using their trades.

It is at once evident that the girls who made use of their trade were an older group at the time of leaving school than those who did not. Of the latter from one-half to three-fifths, according to the school, were under 16 at the time of leaving, while of those who used their trades the proportion in that age group was only from one-fourth to one-third. The group aged 16 and under 18 has about the same numerical importance among those using their trade that the group aged under 16 has among those not using it; that is, about one-half of all using their trade were 16 but not yet 18 when they left the school. The group aged 18 or over forms from one-sixth to very nearly one-fourth (17.3 per cent to 23.3 per cent) of those using their trade, while among those who did not use it less than one-tenth had reached the age of 18. Of the total group, 44.6 per cent left the trade school before the age of 16, but only 26.1 per cent of those who used their trade as against 56.6 per cent of those who did not were under 16 years old when they left school. Approximately, for every trade-school girl of less than 16 years who gained access to her trade, three did not succeed in entering it.

TABLE 9.—AGE AT LEAVING SCHOOL OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL GIRLS WHO USED AND WHO DID NOT USE THEIR TRAINING.

NUMBER.

Locality and use of trade.	Pupils leaving trade school at each specified age.									
	Under 15 years.	15 and under 16 years.	16 and under 17 years.	17 and under 18 years.	18 and under 19 years.	19 and under 20 years.	20 and under 21 years.	21 years and over.	Not reported.	Total.
BOSTON.										
Using their trade:										
1904 to 1909 [1]	10	58	68	62	33	6	7	3	.....	247
1909 to 1914 [2]	13	122	159	117	75	32	10	13	.....	541
Total	23	180	227	179	108	38	17	16	.....	788
Not using their trade:										
1904 to 1909 [1]	209	146	111	60	20	3	4	4	4	561
1909 to 1914 [2]	93	145	129	74	33	14	8	14	185	695
Total	302	291	240	134	53	17	12	18	189	1,256
Total, Boston	325	471	467	313	161	55	29	34	189	2,044
WORCESTER.										
Using their trade	8	17	24	23	13	5	2	2	.....	94
Not using their trade	73	73	48	26	14	5	3	2	5	249
Total, Worcester	81	90	72	49	27	10	5	4	5	343
CAMBRIDGE.										
Using their trade	3	5	7	4	2	1	.....	1	3	26
Not using their trade	31	22	23	3	5	1	1	1	.....	87
Total, Cambridge	34	27	30	7	7	2	1	2	3	113
TOTAL.										
Using their trade	34	202	258	206	123	44	19	19	3	908
Not using their trade	406	386	311	163	72	23	16	21	194	1,592
Total	440	588	569	369	195	67	35	40	197	2,500

PER CENT.[3]

BOSTON.										
Using their trade:										
1904 to 1909 [1]	4.0	23.5	27.5	25.1	13.4	2.4	2.8	1.2	.....	100.0
1909 to 1914 [2]	2.4	22.6	29.4	21.6	13.9	5.9	1.8	2.4	.....	100.0
Total	2.9	22.8	28.8	22.7	13.7	4.8	2.2	2.0	.....	100.0
Not using their trade:										
1904 to 1909 [1]	37.5	26.2	19.9	10.8	3.6	.5	.7	.7	.....	100.0
1909 to 1914 [2]	18.2	28.4	25.3	14.5	6.5	2.7	1.6	2.7	.....	100.0
Total	28.3	27.3	22.5	12.6	5.0	1.6	1.1	1.7	.....	100.0
Total, Boston	17.5	25.4	25.2	16.9	8.7	3.0	1.6	1.8	.....	100.0
WORCESTER.										
Using their trade	8.5	18.1	25.5	24.5	13.8	5.3	2.1	2.1	.....	100.0
Not using their trade	29.9	29.9	19.7	10.7	5.7	2.0	1.2	.8	.....	100.0
Total, Worcester	24.0	26.6	21.3	14.5	8.0	3.0	1.5	1.2	.....	100.0
CAMBRIDGE.										
Using their trade	13.0	21.7	30.4	17.4	8.7	4.3	.....	4.3	.....	100.0
Not using their trade	35.6	25.3	26.5	3.4	5.8	1.1	1.1	1.1	.....	100.0
Total, Cambridge	30.9	24.5	27.3	6.4	6.4	1.8	.9	1.8	.....	100.0
TOTAL.										
Using their trade	3.8	22.3	28.5	22.8	13.6	4.9	2.1	2.1	.....	100.0
Not using their trade	29.0	27.6	22.2	11.7	5.2	1.6	1.1	1.5	.....	100.0
Total	19.1	25.5	24.7	16.0	8.5	2.9	1.5	1.7	.....	100.0

[1] Under private management.
[2] Under public management.
[3] Based on the number of pupils whose age at leaving the trade school was reported.

Taking up the other side of the question, the significance of maturity in the girl's ability to enter her trade is strikingly illustrated in the following table:

TABLE 10.—PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL GIRLS WHO ENTERED AND WHO DID NOT ENTER THEIR TRADES, BY AGE AT LEAVING TRADE SCHOOL.

Age at leaving trade school.	Per cent of trade-school pupils in—						Per cent of total trade-school pupils—	
	Boston—		Worcester—		Cambridge—			
	Who used their trades.	Who did not use their trades.	Who used their trades.	Who did not use their trades.	Who used their trades.	Who did not use their trades.	Who used their trades.	Who did not use their trades.
Under 15 years	7.1	92.9	9.9	90.1	8.8	91.2	7.7	92.3
15 and under 16 years	38.2	61.8	18.9	81.1	18.5	81.5	34.4	65.6
16 and under 17 years	48.6	51.4	33.3	66.7	23.3	76.7	45.3	54.7
17 and under 18 years	57.2	42.8	46.9	53.1	57.1	42.9	55.8	44.2
18 and under 19 years	67.1	32.9	48.1	51.9	28.6	71.4	63.1	36.9
19 and under 20 years	69.1	30.9	50.0	50.0	50.0	50.0	65.7	34.3
20 and under 21 years	58.6	41.4	40.0	60.0	.....	100.0	54.3	45.7
21 years and over	47.1	52.9	50.0	50.0	50.0	50.0	47.5	52.5
Total	38.6	61.4	27.4	72.6	23.0	77.0	36.3	63.7

The large proportion of those in the younger groups who did not enter their trades shows the importance of maturity in gaining a foothold in the industrial world. Ninety-two (92.3) per cent of those leaving the school under 15 years, 65.6 per cent of those 15 years and under 16, and 54.7 per cent of those 16 but under 17 did not enter their trade. Of the girls leaving the trade school at 17, more entered their trade than did not, and the proportion entering increases with each year up to 20. Girls going out at the age of 20 or over are about equally divided in their use of the training. It is to be noted in this connection that while a large proportion of the girls under 16 can not enter their trade because of their immaturity, the girl who is 20 or over frequently does not use her training because of better opportunities which are open to her. The young girl can not get into her trade, the older girl can get into something better. In Boston, where trade opportunities are more favorable for the young girl than elsewhere, the proportions in each age group entering and not entering the trade are very similar to those shown for the group as a whole, and all the advantage in entering a trade lies with the girl of 16 or over when she leaves the trade school.

There are perhaps three causes for this condition; first, the child-labor laws of Massachusetts make it increasingly difficult for children under 16 years to enter industry; second, all the skilled industries are making higher demands for maturity and judgment, demands which a girl under 16 is quite unable to meet; and third, conditions in the sewing trades make the employment of young and inexperienced workers peculiarly unprofitable.

Comment has already been made on the fact that in its earlier years a trade school tends to attract a slightly younger group of pupils than is enrolled after the school is better established. Inevitably, this leads to an increase in the age at leaving school. The following table shows the age distribution at time of leaving of the pupils of the Boston Trade School during the first and second five years of its existence:

TABLE 11.—AGE DISTRIBUTION OF THE PUPILS LEAVING THE BOSTON TRADE SCHOOL UNDER PRIVATE MANAGEMENT, 1904 TO 1909, AND UNDER PUBLIC MANAGEMENT, 1909 TO 1914.

Age at leaving trade school.	Per cent of girls of specified age leaving the trade school.		
	1904 to 1909	1909 to 1914	Total.
Under 15 years	27.2	10.1	17.5
15 and under 16 years	25.4	25.4	25.4
16 and under 17 years	22.3	27.4	25.2
17 and under 18 years	15.2	18.2	16.9
18 and under 19 years	6.6	10.3	8.7
19 and under 20 years	1.1	4.4	3.0
20 and under 21 years	1.4	1.7	1.6
21 years and over	.9	2.6	1.8
Total	100.0	100.0	100.0

The change in the group under 15 is particularly striking. From the preceding table it appeared that not 1 in 10 of those leaving the school under the age of 15 made use of her trade, so this decrease is emphatically a change for the better. Since a girl under 16 has little opportunity to make use of her training, the general increase in age of leaving shown in the second period means that more pupils should be able to enter their trades immediately on leaving. A comparison of this table with Table 5 shows that the increase in the percentage of older pupils leaving the school is greater in the second period than the increase in the percentage of older pupils entering it, indicating that the pupils are spending a longer time in their training now than formerly. This very patent change must mean that more and more young people will depend on the trade school for a fairly complete training, instead of going into the industry after having obtained only the rudiments of their trade in the school. It may also be another indication that trade schools must be depended on to give young people the training they formerly received in the industry.

RELATION BETWEEN AMOUNT OF PREVIOUS SCHOOLING AND TENDENCY TO ENTER TRADE FOR WHICH TRAINED.

The following table shows the proportion which girls with a specified degree of previous school experience formed of those who used and of those who failed to use their training:

TABLE 12.—PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL PUPILS WITH SPECIFIED PREVIOUS SCHOOLING WHO USED AND WHO DID NOT USE THEIR TRADE TRAINING.[1]

Previous schooling.	Girls using their trade.						Girls not using their trade.						Grand total.
	Boston.			Worcester.	Cambridge.	Total.	Boston.			Worcester.	Cambridge.	Total.	
	1904 to 1909	1909 to 1914	Total.				1904 to 1909	1909 to 1914	Total.				
Total number....	247	541	788	94	26	908	561	695	1,256	249	87	1,592	2,500
Grammar-school nongraduates:													
Below sixth grade.....	0.8	1.1	1.0	4.3	3.8	1.4	5.2	4.8	5.0	4.1	8.3	5.0	3.7
Sixth grade...	3.2	4.3	3.9	2.1	3.8	3.8	8.2	7.0	7.6	12.0	15.5	8.7	6.9
Seventh grade	5.7	10.4	8.9	13.8	19.2	9.7	19.6	12.8	15.9	21.6	35.7	17.8	14.8
Eighth and ninth grades	13.8	11.1	12.0	33.0	19.2	14.3	22.7	20.5	21.5	28.6	9.5	21.9	19.2
Unclassified..	.4	1.7	1.3	.....	.....	1.1	2.1	9.1	6.0	2.1	1.2	5.1	3.6
Total.....	23.9	28.6	27.1	53.2	46.2	30.4	57.9	54.3	55.9	68.5	70.2	58.6	48.2
Grammar-school graduates.....	51.8	48.4	49.5	11.7	26.9	44.9	28.2	25.1	26.5	8.3	21.4	23.4	31.3
High school.....	24.3	23.0	23.4	35.1	26.9	24.7	13.9	20.7	17.6	23.2	8.3	18.0	20.5
Grand total.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Percentages are based on number of girls whose previous schooling was known.

As Boston furnished a little over four-fifths of all who have gone out from the girls' trade schools of the State, its figures are more significant than those of the other cities. In Boston nearly three-fourths (72.9 per cent) of those using their trades had graduated from the grammar schools, and nearly one-fourth (23.4 per cent) had gone on to the high school. On the other hand, not half (44.1 per cent) of those who did not use their trades had graduated from the grammar school, and only about one-sixth (17.6 per cent) had entered the high school. In the other two cities the nongraduates of grammar schools furnish a far larger proportion of those using their trades, but it must be remembered that in these schools they also form a much larger proportion of the total enrollment than in Boston. Reference to Table 6 shows that of the Worcester pupils 64.1 per cent and of the Cambridge pupils 64.6 per cent, against 44.7 per cent in Boston, had not graduated from the grammar schools. But in Worcester this 64 per cent furnished 68.5 per cent of those who did not use their trades, and in Cambridge 70.2 per cent, while the 36 per cent who had finished the grammar-school work provided in Worcester 46.8 per cent and in Cambridge 53.8 per cent of those using their trades. These figures are not, of course, conclusive, but they seem to indicate that a girl with a good academic preparation gains access to her trade more readily than one with less education.

This indication is strengthened by a comparison of the proportion of those having each specified degree of previous education who used or did not use their trades. The following table gives the figures on this point for the three trade schools:

TABLE 13.—PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL PUPILS WITH SPECIFIED PREVIOUS SCHOOLING WHO USED AND DID NOT USE THEIR TRADE TRAINING.

Previous schooling.	Per cent of trade-school girls who used and did not use their trades.											
	Boston.						Worcester.		Cambridge.		The three schools.	
	1904–1909		1909–1914		Total.							
	Using their trade.	Not using their trade.	Using their trade.	Not using their trade.	Using their trade.	Not using their trade.	Using their trade.	Not using their trade.	Using their trade.	Not using their trade.	Using their trade.	Not using their trade.
Grammar-school nongraduates:												
Below sixth grade	6.5	93.5	15.4	84.6	11.4	88.6	28.6	71.4	12.5	87.5	14.1	85.9
Sixth grade	14.8	85.2	32.4	67.6	24.8	75.2	6.5	93.5	7.1	92.9	20.0	80.0
Seventh grade	11.3	88.7	39.2	60.8	26.2	73.8	20.0	80.0	14.3	85.7	24.0	76.0
Eighth and ninth grades	21.1	78.9	30.0	70.0	26.0	74.0	31.0	69.0	38.5	61.5	27.4	72.6
Unclassified	7.7	92.3	12.7	87.3	11.9	88.1	.....	100.0	.....	100.0	11.1	88.9
Total	15.4	84.6	29.4	70.6	23.5	76.5	23.3	76.7	16.9	83.1	23.1	76.9
Grammar-school graduates	44.8	55.2	60.4	39.6	54.2	45.8	35.5	64.5	28.0	72.0	52.6	47.4
High school	43.5	56.5	46.8	53.2	45.7	54.3	37.1	62.9	50.0	50.0	44.3	55.7
Not reported	.....	100.0	13.3	86.7	12.5	87.5	.....	100.0	.....	.....	7.4	92.6
Grand total	30.6	69.4	43.8	56.2	38.6	61.4	27.4	72.6	23.0	77.0	36.3	63.7

It is at once apparent that relatively few of the girls who had not completed their grammar-school course succeeded in gaining a foothold in their trade. The proportion of this group who used their trade never rises to one-fourth, and in Cambridge is little over one-sixth. As opposed to this showing the proportion of grammar-school graduates using their trade varied from nearly three-tenths (28 per cent) in Cambridge to well over one-half (54.2 per cent) in Boston. In Worcester and Cambridge the high-school students show a larger proportion using their trade than is found among the grammar-school graduates; in Boston the proportion is not quite so large, but is still considerably larger than the proportion found among the nongraduates from grammar schools. Whether the advantage which the pupil who has completed the grammar-school course apparently has over the one who leaves before its completion is due to maturity or to the individual capacity indicated by the ability to complete the grammar-school work remains a matter of doubt. The fact is clear that the girl who has not done full grammar-school work has, as shown by the figures for the total group, only one chance in four to enter her trade, while the girl who has completed the elementary training has one chance in two.

A comparative study was made of 200 dressmakers and power-machine operators on cloth, which seems to show that the academic education of women in the sewing trades is an important factor in their success. The distribution of these women as to school training is shown by the following table:

TABLE 14.—DISTRIBUTION AS TO PREVIOUS SCHOOLING OF 200 WOMEN EMPLOYED IN THE DRESSMAKING AND POWER-MACHINE OPERATING TRADES.

Schooling.	Girls with specified schooling.					
	Number.			Per cent.[1]		
	Dress-making.	Power-machine operating on cloth.	Total.	Dress-making.	Power-machine operating on cloth.	Total.
Grammar-school nongraduates:						
Below sixth grade	7	8	15	7.2	8.1	7.7
Sixth grade	6	1	7	6.2	1.0	3.6
Seventh grade	4	6	10	4.1	6.1	5.1
Eighth and ninth grades	4	19	23	4.1	19.2	11.7
Foreign	1	15	16	1.0	15.2	8.2
Not reported	2	3	5	2.1	3.0	2.6
Total	24	52	76	24.7	52.5	38.8
Grammar-school graduates	46	28	74	47.4	28.3	37.8
High school	27	19	46	27.8	19.2	23.5
Schooling not reported	3	1	4	.....	.....	.....
Grand total	100	100	200	100.0	100.0	100.0

[1] Based on number of girls whose schooling was reported.

It appears that among the 100 trade-trained[a] dressmakers 3 girls in every 4 had at least completed the grammar-school course, and 1 in 4 had taken high-school work. In Boston 444 girls trained as dressmakers in the trade school made use of their trade; of these, 26.4 per cent were nongraduates of the grammar schools, 51.4 per cent had graduated from the grammar schools but had gone no further, and 22.1 per cent were high-school students. These last two percentages are slightly below the corresponding ones for the trade-trained dressmakers. Among the power-machine operators a lower educational equipment prevailed; lower both as compared

TABLE 15.—PER CENT OF TRADE-TRAINED WORKERS AND OF BOSTON TRADE SCHOOL PUPILS HAVING EACH SPECIFIED SCHOOLING—DRESSMAKING AND CLOTH POWER-MACHINE OPERATING.

Schooling.	Per cent having each specified schooling.		
	Trade-trained workers.	Trade-school pupils—	
		Using trade.	Not using trade.
	Per cent.	*Per cent.*	*Per cent.*
Grammar-school nongraduates.	38.8	29.6	57.2
Grammar-school graduates	37.8	50.0	26.7
High-school students	23.5	20.3	16.1
Total	100.0	100.0	100.0

[a] The term "trade trained" is used for simplicity to mean those girls who have acquired their training through actual experience in the trade.

with the trade-trained dressmakers and with the trade-school girls who had taken the cloth power-machine operating course. Only 46.1 per cent of the latter, as compared with 52.5 per cent of the trade-trained girls, had not at least graduated from grammar school.

Comparing the whole group of trade-trained workers with the pupils of the Boston Trade School trained in dressmaking and cloth power-machine operating, we have the proportions shown in Table 15.

The trade-trained group does not show quite so high a level of education as the trade-school girls who used their trade, but surpasses the trade-school girls who did not use their trade. The trade-trained group is small, and it is doubtful whether any significance can be attached to the difference in education between it and the trade-school girls who used their trades. The close resemblance between these two groups, however, and their common difference from the group of trade-school girls who did not use their trades make it seem probable that both in dressmaking and in cloth power-machine operating education is an important factor, and that in both these trades the majority of workers require for success at least the degree of education implied by graduation from the grammar school. This seems to hold good whether the workers are trained in the trade or in the trade school.

RELATION BETWEEN LENGTH OF TRADE-SCHOOL COURSE AND USE OF TRADE TRAINING.

Before discussing this relationship it seems desirable to give some statement of the time a trade school course is normally expected to cover, and how it compares with the courses of other public schools in this respect. Comment has already been made on the great variation in age and school experience of the girls who come as pupils to the trade schools, a variation much greater than is found in other day schools. This variation increases so greatly the difficulty of handling the pupils in classes that it is practically necessary to give individual instruction. The course must be extremely elastic, but in each case its end is the same, to equip very young pupils adequately for the demands of exacting trades. The content of each course is, therefore, variable according to the needs of the pupils, and the length is not always definitely fixed.

Short and intensive courses have been planned in order to meet the needs of the girl who must be prepared as quickly as possible to enter the industry. The school has devised a course designed to supply the pupil with both the minimum of skill demanded by the trade and such general understanding of trade processes and methods as will allow her to advance in her work. Critics have sometimes objected to this latter feature, urging that intensive courses in a single process or group of processes should be given. Experience has shown that this is not desirable. Even the greatest amount of

skill in an elementary process can never equip a girl with the general knowledge of her craft, which she needs if she wishes to progress. The difficult way of acquiring these general facts is by observation in a shop while actually working at the trade; the easier way is by learning systematically in the school. Yet this general training necessarily makes the course longer, and increases the need for working with each pupil individually.

The trade schools attempt to meet the complex demands made on them by giving a long school day and a long school year, and by making their courses as flexible as possible. When the Boston Trade School was opened the sessions lasted from 8.30 a. m. to 5 p. m. five days a week; of the 37½ hours thus obtained 29 were devoted to trade work, 3 to design, 1½ each to gymnasium and cooking, and 2½ to assemblies.[1] These are approximately the established hours still,[2] 25 hours being spent in trade practice, 8 in arithmetic, English, design, and textiles, and 4½ in gymnasium and general training. In the Worcester Trade School the hours are from 8.30 a. m. to 4.45 p. m., and in Cambridge from 8.30 a. m. to 4.30 p. m. The division of time is substantially the same as that in the Boston school. The trade-school week is thus longer by about seven hours than that of the ordinary school, and is a fair approximation to a working week. The school year is in Worcester 42 weeks and in Cambridge and Boston 40 weeks.

In order to make the training as nearly continuous as possible Boston and Worcester have, for several years, offered summer school courses, the trade school in Worcester holding a six weeks' and the Boston school an eight weeks' session. This summer session, besides allowing girls already in school to continue their training without interruption, is considered an "especially favorable time for elementary-school graduates to enter, as they may complete their preparatory sewing before September and gain a season in going out to work."[3] The enrollment in the summer schools is constantly increasing; in Boston it has risen from 134 in 1911 to 201 in 1914, and in Worcester from 43 in 1912 to 88 in 1914.

The trade schools, then, endeavor to meet the varied needs of their pupils by devising a short, intensive course, by offering training which is practically continuous throughout the year, and by approximating trade hours in the length of the day sessions.

TIME ACTUALLY SPENT IN TRADE SCHOOL.

In Worcester the trade-school course is two years (21 months) in length, during which time 1,700 hours must be spent in trade work. In Boston a girl is placed as soon as the school thinks she is ready to do the work. This time varies according to the ability, age, and

[1] First Annual Report of the Boston Trade School for Girls, 1905, p. 4.
[2] Trade School Bulletin IV, April, 1912.
[3] Trade School Bulletin IX, May, 1915.

previous general training of the pupil, but two-thirds of the pupils placed by the school have been in attendance more than 12 months. Virtually, therefore, the school may be said to have established a course of at least 12 months for the majority of its accredited pupils. The trade schools, however, like all other schools, have many pupils who do not in any sense complete their courses. The following tables show for each of the schools the number and per cent of girls, by trades, who remained in attendance for specified periods:

TABLE 16.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL PUPILS WHO ATTENDED THE TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME, CLASSIFIED BY COURSES.

NUMBER.

Period of attendance in trade school.	Girls attending trade school specified length of time.							
	Dressmaking.	Millinery.	Power-machine operating on—		Cooking.	Design.	Not reported.	Total.
			Cloth.	Straw hats.				
Under 3 months	368	124	54	28	3	1	15	593
3 and under 6 months	154	51	30	25	2	1	1	264
6 and under 9 months	154	63	18	20	2	3	.....	260
9 and under 12 months	125	37	13	13	2	1	.....	191
12 and under 18 months	232	79	44	28	2	2	.....	387
18 months and over	111	30	15	12	1	.....	.....	169
Not reported	111	42	4	11	7	2	3	180
Total	1,255	426	178	137	19	10	19	2,044

PER CENT.[1]

Under 3 months	32.2	32.3	31.0	22.2	25.0	12.5	93.8	31.8
3 and under 6 months	13.5	13.3	17.2	19.9	16.7	12.5	6.3	14.2
6 and under 9 months	13.5	16.4	10.3	15.9	16.7	37.5	.....	13.9
9 and under 12 months	10.9	9.6	7.5	10.3	16.7	12.5	.....	10.2
12 and under 18 months	20.3	20.6	25.3	22.2	16.7	25.0	.....	20.8
18 months and over	9.7	7.8	8.6	9.5	8.3	.....	.....	9.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Based on number of girls whose length of attendance was reported.

TABLE 17.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL PUPILS WHO ATTENDED TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME, CLASSIFIED BY COURSES.

Period of attendance in trade school.	Girls attending trade school specified length of time.								
	Number.					Per cent.			
	Dressmaking.	Millinery.	Power-machine operating on cloth.	Not reported.	Total.	Dressmaking.	Millinery.	Power-machine operating on cloth.	Total.
Under 3 months	73	16	19	5	113	32.6	30.2	31.1	32.9
3 and under 6 months	32	2	13	.....	47	14.3	3.8	21.3	13.7
6 and under 9 months	17	7	5	.....	29	7.6	13.2	8.2	8.5
9 and under 12 months	35	5	12	.....	52	15.6	9.4	19.7	15.2
12 and under 18 months	15	4	3	.....	22	6.7	7.5	4.9	6.4
18 months and over	12	1	1	.....	14	5.4	1.9	1.6	4.1
Graduation	40	18	8	.....	66	17.9	34.0	13.1	19.2
Total	224	53	61	5	343	100.0	100.0	100.0	100.0

TABLE 18.—NUMBER AND PER CENT OF CAMBRIDGE TRADE SCHOOL PUPILS WHO ATTENDED TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME, CLASSIFIED BY COURSES.

Period of attendance in trade school.	Girls attending trade school specified length of time.							
	Number.				Per cent.			
	Dressmaking.	Millinery.	Cooking.	Total.	Dressmaking.	Millinery.	Cooking.	Total.
Under 3 months	36	4	3	43	46.1	19.0	21.4	38.1
3 and under 6 months	19	6	5	30	24.4	28.6	35.7	26.5
6 and under 9 months	13	.....	1	14	16.7	.....	7.1	12.4
9 and under 12 months	8	6	5	19	10.3	28.6	35.7	16.8
12 and under 18 months	1	5	.....	6	1.3	23.8	.....	5.3
18 months and over	1	.....	.....	1	1.3	.....	.....	.9
Total	78	21	14	113	100.0	100.0	100.0	100.0

Summarizing these figures for the pupils of each school, regardless of the trade they studied, omitting those for whom time is not reported, we have the following proportions for specified periods of attendance:

TABLE 19.—PER CENT OF GIRLS ATTENDING TRADE SCHOOL EACH SPECIFIED PERIOD OF TIME, IN THE THREE CITIES.

Period of attendance in trade school.	Per cent of girls attending trade school each specified period of time.		
	Boston.	Worcester.	Cambridge.
Under 3 months	31.8	32.9	38.1
3 and under 12 months	38.3	37.4	55.7
12 months and over	29.9	29.7	6.2
Total	100.0	100.0	100.0

The close similarity in the figures for Boston and Worcester is striking. The divergence shown by Cambridge is perhaps due to the fact that this school had been in existence, at the time of this investigation, only three years; that is, it was still in the early period in which the type of pupil has not become established. In Boston and Worcester approximately one-third of the pupils attend for less than three months, and this proportion holds good for each of the principal trades in which courses are given.

Reference has already been made to the tendency of pupils entering the Boston school during the second five years of its existence to spend a longer time in training than did those entering in the earlier period. The following table shows the change in this respect:

TABLE 20.—NUMBER AND PER CENT OF PUPILS ATTENDING BOSTON TRADE SCHOOL FOR SPECIFIED PERIODS UNDER PRIVATE MANAGEMENT, 1904 TO 1909, AND UNDER PUBLIC MANAGEMENT, 1909 TO 1914.

Period of attendance in trade school.	Number.			Per cent.[1]		
	1904 to 1909	1909 to 1914	Total.	1904 to 1909	1909 to 1914	Total.
Under 3 months	411	182	593	50.9	17.2	31.8
3 and under 6 months	113	151	264	14.0	14.3	14.2
6 and under 9 months	101	159	260	12.5	15.1	13.9
9 and under 12 months	70	121	191	8.7	11.5	10.2
12 and under 18 months	94	293	387	11.6	27.7	20.8
18 months and over	19	150	169	2.3	14.2	9.1
Not reported	.....	180	180	.....	.....	.....
Total	808	1,236	2,044	100.0	100.0	100.0

[1] Based on number whose length of attendance was reported.

The increase in the number taking the longer periods of training and the decrease in those taking the shorter are alike striking. Proportionately, nearly three times as many dropped out within three months during the first period as during the second, while the proportion remaining for 12 months and over was just three times as great during the second as during the first period—41.9 per cent against 13.9 per cent. An interesting corollary to this increasing length of attendance is the increasing proportion, 30.6 per cent of the first group and 43.8 per cent of the second group, who used their trade. (See Table 13, p. 32.)

DISTRIBUTION, BY LENGTH OF TRADE TRAINING, OF GIRLS USING THEIR TRADES.

Of the 2,500 trade-school pupils studied, 908 entered their trades. The distribution of these by time spent in the trade school is as follows:

TABLE 21.—NUMBER OF GIRLS IN THREE TRADE SCHOOLS ATTENDING FOR SPECIFIED PERIODS, AND NUMBER AND PER CENT IN EACH CLASS WHO ENTERED THEIR TRADES.

Period of attendance in trade school.	Number of pupils.	Number using trade.	Per cent in each class using trade.
Under 6 months	1,090	93	8.5
6 and under 12 months	565	249	44.1
12 and under 18 months	415	349	84.1
18 months and over	250	217	86.8
Not reported	180	.....	.....
Total	2,500	908	36.3

More than two-fifths of the total pupils (1,090, or 43.6 per cent) attended school for less than six months, but of these only 8.5 per cent used their trades. The per cent who used their trades shows

marked increases as the length of schooling increases. Thus in the group of those who had six months' and under 12 months' training 44.1 per cent entered their trades; of those who had 12 months' and under 18 months' training 84.1 per cent; while in the last group 86.8 per cent used their trades.

It has already been mentioned that two-thirds of the pupils whom the Boston Trade School sends out as accredited have been in training for over 12 months. This corresponds closely to the proportion in training for 12 months or over among those who used their trades.

These figures are for the girls of the trade school, regardless of the trade for which they were trained. The following table shows for the sewing trades the proportion using their trade in each group having a specified length of training:

TABLE 22.—NUMBER OF GIRLS TRAINED IN SEWING COURSES FOR SPECIFIED PERIODS IN BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOLS, AND PER CENT IN EACH CLASS WHO ENTERED TRADES.

Period of attendance in trade school.	Boston Trade School.[1]									
	Dressmaking.		Millinery.		Power-machine operating on—				Total.	
					Cloth.		Straw hats.			
	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.
Under 6 months	522	4.6	175	10.3	84	16.7	53	41.5	834	9.4
6 and under 12 months	279	43.0	100	49.0	31	64.5	33	66.7	443	47.6
12 and under 18 months	232	86.6	79	84.8	44	90.9	28	85.7	383	86.7
18 months and over	111	89.2	30	100.0	15	100.0	12	100.0	168	92.8
Total	1,144	38.8	384	42.7	174	51.1	126	63.5	1,828	42.5

Period of attendance in trade school.	Worcester Trade School.								Cambridge Trade School: dressmaking and millinery.		The three schools.	
	Dressmaking.		Millinery.		Power-machine operating on cloth.		Total.				Number trained.	Per cent using trade.
	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.	Number trained.	Per cent using trade.		
Under 6 months	105	2.9	18	.....	32	9.4	155	3.9	65	7.7	1,054	8.4
6 and under 12 months	52	13.5	12	16.7	17	52.9	81	22.2	27	37.0	551	43.4
12 and under 18 months	15	46.7	4	50.0	3	66.7	22	50.0	6	50.0	411	84.2
18 months and over	12	41.7	1	100.0	1	100.0	14	50.0	1	100.0	183	89.6
Graduation	40	70.0	18	88.9	8	100.0	66	78.8	.....	.....	66	78.8
Total	224	22.3	53	39.6	61	37.7	338	27.8	99	19.2	2,265	39.3

[1] Not including 167 whose length of attendance was not reported.

It appears from this table that in the Boston Trade School only 9.4 per cent of those enrolled in the sewing courses for less than six months entered their trades as compared with 86.7 per cent of those who attended for a period of 12 months but less than 18, and 92.8 per cent of those attending 18 months or more. There is some variation in the different trades in this respect. A girl has little chance to use the dressmaking trade unless she has attended trade school six months or more. Her chances are better in power-machine operating on cloth, as one-sixth (16.7 per cent) of the girls remaining less than six months in this course used their trade, and in power-machine operating on straw hats, where 41.5 per cent of the pupils who had attended less than six months used their trade. The belief that a course in power-machine work may be shorter than a course in dressmaking or in millinery seems to be substantiated by the large proportions, two-thirds, of the girls remaining in these courses from 6 to 12 months who were able to use their trade, while only two-fifths of the dressmakers in attendance for this length of time went into dressmaking.

In the way of equipment for entering the trade in Worcester, the girl taking a sewing trade who has graduated from the school has a great advantage over the nongraduate. Only 15.4 per cent of the nongraduates against 78.8 per cent of the graduates have used their training. One-fifth (19.2 per cent) of the girls choosing the sewing trades have graduated, and this one-fifth has supplied more than one-half (55.3 per cent) of the girls who have used these trades. In Worcester a girl taking a sewing trade and remaining in the school less than six months has 1 chance in 25 to enter her trade; in Boston she has 1 chance in 11. On the other hand, if she remains in the school for 12 months or more she has in Worcester 7 chances in 10 and in Boston nearly 9 chances in 10 of entering her trade.

Taking all the schools together, without distinction as to trade studied, a course of 12 months seems necessary to give a girl a reasonable chance of entering her trade. There may be some question, however, whether this expenditure of time is due to the present organization of the courses or whether most of the girls would, under any circumstances, find it necessary for the development of the requisite degree of skill.

So far the discussion has related to those who entered their trade without reference to the time they remained in it. The question naturally arises whether length of training has any effect upon permanence in the trade after entrance. To test this a study was made of the pupils from the Boston school who had used their trades for at least one week, excluding those whose total working experience had been less than one year. With these limitations the group numbered 633, of whom 515 remained in the trade for which they had

been trained one year or longer, and 118 remained less than a year. The following table shows the distribution of these two classes by length of training:

TABLE 23.—DISTRIBUTION, BY LENGTH OF TRADE TRAINING, OF BOSTON TRADE SCHOOL GIRLS USING THEIR TRADE LESS THAN ONE YEAR, AND FOR ONE YEAR OR MORE.

[This table includes all girls who used their trades for one week or more, but does not include those whose total working experience had been less than one year.]

Period of attendance in trade school.	Using trade less than one year.		Using trade one year or more.		Total.
	Number.	Per cent.	Number.	Per cent.	
Under 6 months	11	9.3	42	8.2	53
6 and under 12 months	28	23.7	147	28.5	175
12 and under 18 months	52	44.1	226	43.9	278
18 months and over	27	22.9	100	19.4	127
Total	118	100.0	515	100.0	633

It is impossible to discover in this table any particular relation between length of training and permanency in the trade. Of those who followed their trades less than one year, 33 per cent had less than 12 months in the school, while 67 per cent had 12 months or more; of those who followed their trade one year or more, 36.7 per cent had less than 12 months' training, and 63.3 per cent had 12 months or more. The percentages are so nearly the same that no conclusion can be drawn until more data upon the point can be obtained.

To sum up the situation, then, it appears that age, education, and length of trade training are important factors in determining whether or not a trade-school pupil will make use of her trade. Under 15, a girl has very little chance of entering her trade, and not until she is 16 are her chances even. From that age to 20 the likelihood of her using her training increases, but at 20 it begins to decrease, owing partly to the frequency with which she finds herself fit for better paying work. In regard to previous education, the girl who has completed the grammar grades has a far better chance of entering her trade than the one who leaves school before finishing the elementary grades. The length of trade training necessary for the best results varies widely, but in general the girl who wishes really to use her trade should take at least 12 months of training, while a longer period may or may not be advantageous, depending upon her natural aptitude, previous training, etc.

PLACEMENT BY BOSTON TRADE SCHOOL.

Another factor having an important bearing upon the girl's success is the manner of obtaining her first position. As has already been said, in Boston the school authorities try to place girls as soon as they are considered really qualified to enter their trades. Many of the pupils,

however, are unwilling to or can not wait for the school's indorsement. Relatively only a small proportion of these enter their trade. Of the 788 girls from the Boston Trade School recorded as having used their trades, 658 were placed originally by the school; that is, practically five-sixths of all who entered their trades were placed by the school, against one-sixth who found places for themselves. The pupils placed by the school show a wide variation in their length of training, since, owing to differences in previous training and natural aptitude, one

TABLE 24.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS ATTENDING TRADE SCHOOL EACH SPECIFIED PERIOD, CLASSIFIED ACCORDING TO TRADE AND WHETHER PLACED BY THE SCHOOL OR SELF-PLACED.

[This table includes all the girls visited who used their trade one week or more, irrespective of the length of their total working experience.]

NUMBER.

Occupation and how obtained.	Girls attending trade school each specified period.				
	Under 6 months.	6 and under 12 months.	12 and under 18 months.	18 months and over.	Total.
Placed by the school:					
Dressmaking	8	75	169	90	342
Millinery	7	41	55	24	127
Power-machine operating on—					
Cloth	11	11	32	15	69
Straw hats	12	18	21	12	63
Cooking	.....	3	1	1	5
Design	.....	3	2	.....	5
Total	38	151	280	142	611
Self-placed:					
Dressmaking	13	36	23	9	81
Millinery	6	8	12	4	30
Power-machine operating on—					
Cloth	.....	6	6	.....	12
Straw hats	5	2	2	.....	9
Design	.....	1	.....	.....	1
Total	24	53	43	13	133
Grand total	62	204	323	155	744

PER CENT.

Placed by the school:					
Dressmaking	2.3	21.9	49.4	26.3	100.0
Millinery	5.5	32.3	43.3	18.9	100.0
Power-machine operating on—					
Cloth	15.9	15.9	46.4	21.8	100.0
Straw hats	19.0	28.6	33.3	19.0	100.0
Cooking	.....	60.0	20.0	20.0	100.0
Design	.....	60.0	40.0	.....	100.0
Total	6.2	24.7	45.8	23.2	100.0
Self-placed:					
Dressmaking	16.0	44.4	28.4	11.1	100.0
Millinery	20.0	26.7	40.0	13.3	100.0
Power-machine operating on—					
Cloth	.....	50.0	50.0	.....	100.0
Straw hats	55.6	22.2	22.2	.....	100.0
Design	.....	100.0	.....	.....	100.0
Total	18.0	39.9	32.3	9.8	100.0
Grand total	8.3	27.4	43.4	20.8	100.0

girl may be prepared for a trade in half the time required by another, and the placement depends upon ability to meet industrial demands without regard to length of time spent in the school. In general, however, length of training aids in giving the qualifications for a successful worker. Table 24 shows for each trade the number of girls from the Boston school who have been placed by the school and who have placed themselves, classified by the length of time spent in the school.

This table shows a striking increase in the proportion of girls placed by the school as the length of training increases. Summarizing its figures with respect to this feature, we have the following:

TABLE 25.—NUMBER AND PER CENT OF GIRLS PLACED BY SCHOOL AND SELF-PLACED, BY LENGTH OF TRADE TRAINING IN BOSTON TRADE SCHOOL.

Period of attendance in trade school.	Total girls placed.	Girls placed by school.		Girls self-placed.	
		Number.	Per cent.	Number.	Per cent.
Under 6 months	62	38	61.3	24	38.7
6 and under 12 months	204	151	74.0	53	26.0
12 and under 18 months	323	280	86.7	43	13.3
18 months and over	155	142	91.6	13	8.4
Total	744	611	82.1	133	17.9

This table shows how much more generally the school indorses and finds places for the girls taking a longer training than for those leaving under 12 months, but it shows little as to how helpful the school is in finding places. From Tables 16 and 25 the following figures on this point are obtained:

TABLE 26.—NUMBER OF GIRLS NOT PLACED BY SCHOOL AND PER CENT OF THESE WHO WERE SELF-PLACED, BY LENGTH OF TRADE TRAINING IN BOSTON TRADE SCHOOL.

Period of attendance in trade school.	Total leaving school.[1]	Number placed by school.	Number not placed by school.	Pupils self-placed.	
				Number.	Per cent of number not placed by school.
Under 6 months	857	38	819	24	2.9
6 and under 12 months	451	151	300	53	17.7
12 and under 18 months	387	280	107	43	40.2
18 months and over	169	142	27	13	48.1
Total	1,864	611	1,253	133	10.6

[1] Not including 180 whose length of attendance was not reported.

This gives some idea of the handicap under which a girl labors who is not placed by the school. The probability that she will enter her trade is never great, although it increases with her length of

training. Still, even for the girl who has spent 18 months or more in the trade school, the chance that she will enter her trade, if she depends upon placing herself, is something less than 1 in 2, while for the girl who has had less than six months' training it sinks to about 3 in 100. It is worth noticing that the school's assistance seems more necessary in the less common trades than in dressmaking and millinery. The proportion of those entering each trade who were placed by the school and who placed themselves was as follows:

TABLE 27.—PER CENT OF BOSTON TRADE SCHOOL GIRLS ENTERING EACH SPECIFIED TRADE WHO WERE PLACED BY THE SCHOOL AND SELF-PLACED.

Trade.	Per cent placed by school.	Per cent self-placed.
Dressmaking	80.9	19.1
Millinery	80.9	19.1
Power-machine operating on—		
Cloth	85.2	14.8
Straw hats	87.5	12.5
Cooking	100.0	.....
Design	83.3	16.7

The cooking, it must be remembered, is practically catering, a difficult business for any young girl to get into unaided.

From the standpoint of permanence in the trade, the school's judgment in placing the girls seems to be justified. Considering only the 633 girls who have had at least a year's industrial experience, 105 had secured their own positions and 528 had been placed by the school. Of those placed by the school only 15.9 per cent failed to remain in their trades for at least a year, while of those who placed themselves 32.4 per cent dropped out within a year.

REASONS FOR LEAVING TRADE SCHOOLS.

Less than one-third of the pupils leaving the Boston Trade School were accredited by the school; less than one-fifth of those leaving the Worcester Trade School had graduated. The reasons for leaving the schools are suggestive to educators, particularly to teachers in vocational schools. The trade schools try to learn from each pupil her reason for leaving and to record this for future use. Table 28 gives the recorded reasons for leaving of 2,066 girls, the reasons not having been ascertained or at least not recorded for the remaining 434.

There is a discrepancy between the numbers shown on these records as having left school to go to work, and the numbers found by this investigation to have gone to work. Thus, the figures given in this table show that 32.9 per cent of the Boston Trade School pupils left to go to work in their own trades, while the figures of this investigation[1] show that 38.6 per cent used their trade a week or more; for

[1] See Table 10, p. 29.

Worcester the records show 22.7 per cent going into their own trades, while the investigation showed 27.4 per cent of the total of 343 girls had used their training. In Cambridge the investigation showed 23 per cent, instead of the 9.7 per cent reported, going into their trades. It is evident, then, that the schools have sent more pupils into their trade than the records indicate.

TABLE 28.—NUMBER AND PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL GIRLS LEAVING TRADE SCHOOL FOR EACH SPECIFIED REASON AS GIVEN IN THE TRADE-SCHOOL RECORDS.

Reason for leaving trade school.	Girls reported as leaving each trade school for specified reason.							
	Number.				Per cent.			
	Boston.	Worcester.	Cambridge.	Total.	Boston.	Worcester.	Cambridge.	Total.
Placed by the school	585	.....	8	593	28.6	.....	7.1	23.7
Self-placed	88	[1] 78	3	169	4.3	22.7	2.7	6.8
Other work:								
Manufacturing	50	24	6	80	.....	.....	.....	.....
Personal service	16	11	.....	27	.....	.....	.....	.....
Store	39	11	.....	50	.....	.....	.....	.....
Office	22	4	.....	26	.....	.....	.....	.....
Unclassified	[2] 3	.....	.....	3	.....	.....	.....	.....
Total	130	50	6	186	6.4	14.6	5.3	7.4
Work unknown	141	7	.....	148	6.9	2.0	.....	5.9
School reasons:								
Absence	82	6	.....	88	.....	.....	.....	.....
Vacation	22	17	.....	39	.....	.....	.....	.....
Expulsion	[3] 35	1	.....	36	.....	.....	.....	.....
Other	1	.....	.....	1	.....	.....	.....	.....
Total	140	24	.....	164	6.8	7.0	.....	6.5
Went to another school	237	25	1	263	11.6	7.3	.9	10.5
Personal:								
Incapacity	29	29	4	62	.....	.....	.....	.....
Incompatability	48	7	25	80	.....	.....	.....	.....
Married	9	2	.....	11	.....	.....	.....	.....
Total	86	38	29	153	4.2	11.1	25.7	6.1
Health	123	38	13	174	6.0	11.1	11.5	7.0
Home causes:								
Economic pressure	3	1	14	18	.....	.....	.....	.....
Needed	83	36	17	136	.....	.....	.....	.....
Other	8	4	3	15	.....	.....	.....	.....
Total	94	41	34	169	4.6	12.0	30.1	6.8
Moved	38	7	.....	45	1.9	2.0	.....	1.8
Died	1	.....	1	2	[4]	.....	.9	.1
Not reported	381	35	18	434	18.6	10.2	15.9	17.4
Grand total	2,044	343	113	2,500	100.0	100.0	100.0	100.0

[1] 36 said that the trade school helped them to get the first position.
[2] 1 taught kindergarten, 1 taught music, 1 went into dancing.
[3] 1 too old to enter trade school.
[4] Less than one-tenth of 1 per cent.

Taking the reasons as recorded, however, in Boston and Worcester the most influential reason was the desire to go to work, accounting for two-fifths of those leaving in Worcester and for almost one-half in Boston, while no other single cause accounts for as much as one-sixth of the group. A matter of interest is the small pro-

portion of cases in which economic pressure is the direct cause of leaving school, only three pupils in Boston and one in Worcester leaving on this account.[1] Another point of interest is the proportion of pupils who were deemed better fitted for the work of other schools and accordingly were transferred. In Boston 11.6 per cent of the trade-school pupils are reported to have returned to other schools. Of these, however, two-thirds (65 per cent) were pupils who enrolled in the summer course. Omitting these summer school pupils, 4.1 per cent of the whole Boston group returned to high or grammar school. The trade-school history thus throws some light on the much vexed school question of "drop-outs."

Summing up this study of the trade-school pupil, it appears that the type of pupil attending the Boston Trade School has changed somewhat in the 10 years covered by this investigation. Pupils are a little more mature at entrance than they were when the school began; they have reached a somewhat higher level of academic education, and they spend a longer time at the trade school. The change has been slow; but the conclusion that it has not been entirely due to changed conditions in industry seems to be supported by the discovery that the experience of the recently established schools in Worcester and Cambridge resembles the history of the Boston school from 1904 to 1909, rather than that of the succeeding five years. In general, however, the trade schools still attract the same kind of girl they attracted in the beginning—the girl who must enter industry at a comparatively early age, but who can afford a limited time for preparation.

There can be no doubt as to the public demand for training such as the girls' trade schools offer for this type of pupil, and the variations within the type seem fairly fixed. The future success of the trade school will depend on its ability to adapt its courses (1) to the type of pupil it has attracted in such numbers, and (2) to the changing demands of the trades for which it attempts to train.

PREVAILING MISCONCEPTIONS OF SCOPE OF TRADE-SCHOOL WORK.

The trade school for girls "seeks to direct them into better industries and to increase their wage-earning powers to such an extent that the wage lost by spending time at school is more than made up in the first year at the trade."[2] But from numerous directions come complaints that the school has not fulfilled its purpose. Says the social worker, "She was exceptionally bright but she hated to work with the needle, so the school did not help her at all." The com-

[1] The comparatively small part played by economic necessity in forcing children to go to work has been brought out in other investigations. See Report on conditions of woman and child wage earners in the United States, Vol. VII (S. Doc. No. 645, 61st Cong., 2d sess.); Report of Massachusetts Commission on Industrial and Technical Education, April, 1906; A trade-school for girls, U. S. Bureau of Education, Bulletin, 1913, No. 17; Helen T. Woolley: Charting childhood in Cincinnati, in Survey, Aug. 9, 1913.

[2] Third Annual Report of Boston Trade School for Girls, 1917, p. 19.

plaint comes from the parent, "She graduated at school as a dressmaker, but she could not cut or fit," and from the employer, "I supposed when I got a trade-school girl, I had an experienced worker." Another employer turned a trade-school girl off because "at the rate she was going she would earn about 19 cents a week, yet they recommended her at the school as a good worker."

All these criticisms are based on a misconception of what the trade school does and can do. In answer to the complaint of the social worker, the schools reply that they do not undertake to teach all trades, but have chosen a few which, they believe, offer opportunity for skilled work. Those who can not acquire the requisite skill or who do not like these trades are necessarily sifted out. The trade schools are, however, continuously seeking new fields which may offer good work for girls. In reply to the parent's complaint, the schools point out that they do not aspire to teach the whole trade in the short time they are able to hold the girl, but try instead to give her some of the fundamentals which she can utilize immediately. She does not, therefore, with one year's training cut and fit, though cutting and fitting are offered to former pupils of the Boston Trade School who return for further training.

The employer's complaint, likewise, is looked upon as due to a misunderstanding of what the school can do and what its indorsement of a pupil means. If it were possible to duplicate shop conditions exactly in the school, some of the difficulties of adjusting a pupil to trade conditions might be met. But believing this to be incompatible with the best interests of training, the school seeks to give the fundamental principles of each trade, and the ability to apply these principles to new problems must come with experience. While the girl thus gains a more extensive knowledge of the work than she would probably get during the same length of time in the shop, she can not be called an experienced worker in any one process. Nor can she always "see what to do next" or how to "keep busy" without direction, for she has been accustomed to close supervision in the school. The teacher can not always gauge correctly a pupil's trade proficiency, for the girl who is successful in school may be paralyzed by the rush and requirements of the shop, while the girl who in school is lackadaisical may respond with enthusiasm to the stimulus of the actual shop. The schools try, however, to give a training which will enable the girl to meet to some degree the demands of the shop. Before a pupil graduates from the Worcester school or is placed by the Boston school she must have attained a requisite minimum of speed, as well as a trade standard of finish. This speed is measured by time cards, kept by the girls, from which they must themselves estimate the wages they are worth. Each garment is marked with the cost of materials and the number of hours required by the girl for

its construction. By these means it is possible to form some idea of what a girl's industrial capacity is, but the difference between shop and school conditions prevents this idea from being more than a mere approximation. It is impossible to require actual trade speed in the school; the pupils must acquire this in the shop.

ADJUSTMENT OF TRADE-SCHOOL PUPILS TO THE TRADE.

Under any circumstances a worker coming into a factory or shop where she has never worked before has to go through a process of adjustment to the new conditions before she can gain her maximum productivity. How does the trade-school girl compare in this respect with the untrained worker, or with the worker who has gained her experience in the trade? The question is an important one, on which it is difficult to secure data. A curtain factory in Boston, however, has a very unusual and complete system of records which gives some light on this much-discussed question.[1] It pays a fixed minimum weekly wage with a bonus for all work produced in excess of a certain established standard; new workers are supposed to be able to reach this standard in eight weeks. The records of three girls employed here were taken for comparison. Case A was a young, untrained worker, aged 19 years, running a power machine at a minimum $6 rate.[2] Case B was a trade-school girl, aged 18, who had attended the dressmaking course in the trade school 22 months, worked for a dressmaker eight months, and then returned to the trade school for a six weeks' course in power-machine operating. She went into the curtain factory on a $6 weekly rate. Case C was an experienced worker who had been a machine operator on curtains for two years previous to entering this factory, and who worked at a weekly rate of $7. Table 29 shows the value of the work produced by each of these workers each week for the first eight weeks of her engagement.

Comparing the two young workers, it appears that, with the exception of the second week, the untrained girl exceeded the trade-school girl in value of product turned out for six weeks. During this time she twice turned out work to a value exceeding her weekly rate, while the trade-school girl never reached her rate. In the seventh week, however, the trade-school girl suddenly sprang to the lead with a productivity which not only earned her wage but a substantial bonus. In the eighth week her product was more than half as large again as the untrained girl's. During the whole eight weeks case A turned out product to the value of $45.24,

[1] Six trade-school girls appeared on the pay roll of this factory, and the experience of five of them is given. The sixth remained only four weeks, produced work to the value of $1.30, for which she was paid $20.70, and returned to the trade school. Physical conditions in this factory are unusually good, the attitude of the management is kindly, and all the trade-school girls were treated with great consideration.

[2] All the data as to wages in this factory were obtained from the pay roll. Data as to amount of product were obtained from the factory records of individual girls.

and case B to the value of $47.66. The trade-school girl appears to have been somewhat slower in getting used to the shop than the untrained girl, but the first period of adjustment over, gave indications of being a more even and reliable worker than the other. For the eight weeks regarded as a usual training period, her record is slightly better than that of the untrained girl. Case C shows that even an experienced worker is handicapped in a new position by the necessity for adjustment. For her first week she made a far worse showing than either of the two young girls, and it was not until the fifth week that she earned the minimum wage at which she entered.

TABLE 29.—COMPARATIVE PRODUCTIVITY DURING FIRST EIGHT WEEKS IN FACTORY OF AN UNTRAINED GIRL, A TRADE-SCHOOL PUPIL,[1] AND AN EXPERIENCED WORKER.

Week.	Value of work produced by—		
	Case A: Untrained worker.[2]	Case B: Trade-school girl.[2]	Case C: Experienced worker in a new factory.[3]
First	$3.99	$5.21	$2.54
Second	4.65	4.66	6.22
Third	5.53	4.21	5.39
Fourth	6.33	5.73	6.59
Fifth	6.16	[4] 5.78	7.11
Sixth	[5] 5.14	4.37	7.42
Seventh	8.00	8.62	6.78
Eighth	5.44	9.08	7.02

[1] Placed by the trade school in dressmaking September, 1913, December, 1913, and January, 1914, and in this position, August, 1914.
[2] Working on a $6 rate.
[3] Working on a $7 rate.
[4] Five days.
[5] Four days.

Since all these workers were being paid a fixed minimum wage with a bonus for production above a certain standard, the difference between this flat rate and the value of their production may be regarded as the employer's profit or loss, according to where the difference lies, on their work for the eight weeks, or as his cost of inducting them into the ways of his factory. The average value of product during the eight weeks was for the untrained girl $5.66, for the trade-school girl $5.96, and for the experienced worker $6.13. Since the two girls were being paid $6 and the experienced worker $7 a week, the employer's cost of training was for the untrained girl 34 cents, for the trade-school girl 4 cents, and for the experienced worker 87 cents a week. Apparently in this case, experience in the trade was of no benefit in falling into the ways of this particular factory.

Another illustration of the difficulty a young trade-school girl finds in meeting shop demands, and of the cost to the employer of inducting such girls, is shown in the following table:

TABLE 30.—WORK DONE AND AMOUNT PAID TO A TRADE-SCHOOL GIRL FOR 10 WEEKS IN HER FIRST POSITION, AS HEMSTITCHER, IN A CURTAIN FACTORY.[1]

Day.	Amount of work done (pairs).	Value of work done.	Amount paid.
First week	[2]		$3.24
Second week:			
1st day	29	$0.58	
2d day	[2]		
3d day	58	1.16	
4th day	29	.58	
5th day	36	.72	
6th day	18	.36	
Total	170	3.40	6.00
Third week:			
1st day	29	.58	
2d day	[2]		
3d day	50	1.00	
4th day	25	.50	
5th day	63	1.26	
6th day	37	.74	
Total	204	4.08	6.00
Fourth week:			
1st day	24	.48	1.08
[Returned to trade school for three months.]			
3d day [3]	129	.65	
4th day [3]	18	.09	
5th day [3]	131	.66	
6th day [3]	[4]		
Total	278	1.40	3.24
Fifth week: [3]			
1st day	[2]		
2d day	[2]		
3d day	[2]		
4th day	160	.80	
5th day	216	1.08	
6th day	210	1.05	
Total	586	2.93	6.13
Sixth week: [3]			
1st day	235	$1.18	
2d day	109	.54	
3d day	166	.83	
4th day	144	.72	
5th day	162	.81	
6th day	211	1.05	
Total	1,027	5.13	6.23
Seventh week: [3]			
1st day	257	1.28	
2d day	128	.64	
3d day	206	1.03	
4th day	216	1.08	
5th day	221	1.10	
6th day	49	.49	
Total	1,077	5.62	6.53
Eighth week: [3]			
1st day	[4]		
2d day	135	.67	
3d day	93	.47	
4th day	90	.45	
5th day	108	.54	
6th day	68	.34	
Total	494	2.47	6.07
Ninth week	[4]		
Tenth week: [5]			
1st day	16	.32	
2d day	[2]		
3d day	105½	2.11	
4th day	94	1.88	
5th day	90	1.80	
6th day	105	2.10	
Total	410½	8.21	8.68

[1] Placed in her position here by the trade school, July, 1914.
[2] Not recorded.
[3] Hemming tops.
[4] Absent.
[5] Hemstitching curtains.

This girl was placed in her position by the trade school, July, 1914, at an initial wage of $6 a week, and was supposed to hemstitch on the machine 50 pairs of curtains a day at 2 cents a pair to earn the $1 a day which she was being paid. For the first week her daily production was not recorded. The second week she turned out work to the value of $3.40 and the third to the value of $4.08, and at the beginning of the fourth week went back to the trade school for further training. Returning after three months she was set to hemming tops, the simplest of all the processes, and at this worked five weeks without once reaching the standard of production. Then the tenth week she was put back to hemstitching curtains, and like the trade-school girl shown in the preceding table, suddenly shot up to a productivity considerably in excess of the standard. During the eight

weeks of employment she turned out work to the value of $33.72, for which she was paid $49.96. Thus it cost the employer, without counting supervision, trouble, etc., $16.24 to induct her into the shop.

While a trade-school girl can not immediately do the full amount of work she is capable of, the training she has received should shorten the period of adjustment to factory conditions and make her induction less expensive to the employer than that of an untrained girl. This was actually so in the case of the two workers without trade experience shown in Table 29. The relative cost of adjustment of two other workers, one a trade-school girl, the other an inexperienced worker, is shown in the following table:

TABLE 31.—RELATIVE COST TO EMPLOYER OF TRAINING A TRADE-SCHOOL GIRL AND AN UNTRAINED GIRL IN POWER-MACHINE OPERATING.[1]

Date.	Trade-school girl.[2]				Untrained girl.			
	Amount of work done.	Value of work done.	Amount paid.	Loss to firm.	Amount of work done.	Value of work done.	Amount of work	Loss to firm.
	Pairs.				*Pairs.*			
Mar. 27	91	$0.91			35	$0.35		
Mar. 28	41	.41			6	.06		
Mar. 30	81	.81			32	.32		
Mar. 31	77	.77			14	.14		
Apr. 1	[3]	.....			12	.12		
Apr. 2	[3]	.....			50	.50		
Total	290	2.90	$6.00	[3]	149	1.49	$6.00	$4.51
Apr. 3	79	.79			39	.39		
Apr. 4	57	.57			34	.34		
Apr. 6	70	.70			30	.30		
Apr. 7	110	1.10			53	.53		
Apr. 8	90	.90			18	.18		
Apr. 9	91	.91			45	.45		
Total	497	4.97	6.00	$1.03	219	2.19	6.00	3.81
Apr. 10	86	.86			[3]	.....		
Apr. 11	50	.50			[4]	.....		
Apr. 13	83	.83			[5] 12	.12		
Apr. 14	100	1.00			[6] 55	.28		
Apr. 15	[7] 82	.73			90	.45		
Apr. 16	[8] 48	.42			55	.28		
Total	[9] 449	4.34	6.00	1.66	[10] 212	1.13	4.92	3.79
Apr. 17	[11] 78	.69			68	.34		
Apr. 18	50	.50			9	.05		
Apr. 19	[12]	.....			[12]	.....		
Apr. 21	99	.99			48	.24		
Apr. 22	98	.98			70	.35		
Apr 23	104½	1.05			55	.28		
Total	[11] 429½	4.21	4.92	.71	250	1.26	4.92	3.66

[1] Standard rate, 100 hems a day, one cent each, or 200 headings a day, one-half cent each. Minimum flat rate, $1 a day, $6 a week.
[2] Had attended trade school 17 months and had had 2 months' experience in machine operating. First placed by the trade school February, 1913; replaced February, 1914, and received her certificate April, 1914.
[3] Record not complete.
[4] Fixing poor work.
[5] Hems.
[6] From this time on this girl worked on headings.
[7] Including 19 pairs of headings.
[8] Including 12 pairs of tops.
[9] Including 19 pairs of headings and 12 pairs of tops.
[10] Including 12 hems.
[11] Including 18 pairs of tops.
[12] Holiday.

TABLE 31.—RELATIVE COST TO EMPLOYER OF TRAINING A TRADE-SCHOOL GIRL AND AN UNTRAINED GIRL IN POWER-MACHINE OPERATING—Concluded.

Date.	Trade-school girl.				Untrained girl.			
	Amount of work done.	Value of work done.	Amount paid.	Loss to firm.	Amount of work done.	Value of work done.	Amount paid.	Loss to firm.
	Pairs.				*Pairs.*			
Apr. 24	105	$1.05			85	$0.42		
Apr. 25	26	.26			39	.20		
Apr. 27	163	1.63			64	.32		
Apr. 28	111	1.11			89	.45		
Apr. 29	99	.99			71	.36		
Apr. 30	[1] 31	.15			78	.39		
Total	[2] 535	5.19	$6.79	$1.60	426	2.14	$6.00	$3.86
May 1	82	.82			61	.31		
May 2	43	.43			40	.20		
May 4	80	.80			60	.30		
May 5	[3] 105	.93			32	.16		
May 6	[4] 149	1.46			84	.42		
May 7	[1] 99	.50			383	1.92		
Total	[5] 558	4.94	6.46	1.52	660	3.31	6.00	2.69

[1] Headings.
[2] Including 31 pairs of headings.
[3] Including 24 pairs of headings.
[4] Including 6 pairs of headings.
[5] Including 129 pairs of headings.

In this case the first girl had spent 17 months in the trade school, and had also worked 2 months on a power machine in another factory, while the second girl was wholly inexperienced and untrained. They entered the factory at the same time. At the end of her fifth week in the factory the trade-school girl had come within 81 cents of producing the minimum amount of work for which she was paid.[1] Not until the thirteenth week did she produce the full amount, and she did not produce this amount regularly until she had been at work for five months. The inexperienced girl worked 12 weeks before she produced the $6 she was paid. During the first six weeks covered by the table, the employer, apart from cost of supervision, etc., lost $6.52 on the work of the trade-school girl and $22.32 on the work of the untrained girl. After 26 weeks he gave this second girl up as hopeless, and she was dismissed. The trade-school girl in April, 1914, received her certificate from the school.

There seems some reason for concluding that a trade-school girl reaches her full productivity in a factory in a shorter time than an untrained girl, i. e., that her shop training is less expensive for the employer. After this period of initiation does her school training give her any permanent advantage? The following table gives the weekly product for a number of weeks of two pairs of workers, each pair consisting of one trade-school and one trade-trained girl, the members of each pair having approximately the same amount of experience, and all having served their initiatory period in the factory in which they were employed when these records were kept.

[1] If the worker exceeds the standard rate of $1 a day on any particular day, this excess amount is paid as a bonus, even though she may fall below the standard amount of production on another day. Thus, this girl in her fifth week received $6.79, because she had exceeded the standard on three days, but her weekly output was below the standard rate.

TABLE 32.—COMPARATIVE PRODUCTIVE CAPACITY OF TRADE-SCHOOL AND TRADE-TRAINED GIRLS IN POWER-MACHINE OPERATING AFTER THREE AND AFTER FIVE YEARS OF EXPERIENCE.

Week.	Amounts earned each specified week in power-machine operating after—		Week.	Amounts earned each specified week in power-machine operating after—	
	Three years' experience by—			Five years' experience by—	
	Trade-school girl.[1] (Case D.)	Trade-trained girl. (Case E.)		Trade-school girl.[2] (Case F.)	Trade-trained girl. (Case G.)
September:			May:		
1st week	$7.62	$8.94	1st week	$6.60	$10.27
2d week	5.27	6.38	2d week	8.88	4.74
3d week	7.80	7.08	3d week	8.13	8.53
4th week	7.74	6.30	4th week	8.04	9.57
5th week	8.66	9.34	June:		
October:			1st week	6.48	7.50
1st week	7.00	7.73	2d week	8.00	9.15
2d week	6.86	6.16	3d week	6.64	7.65
3d week	7.58	8.87	4th week	4.80	5.74
4th week	6.13	10.21	July:		
November:			1st week	5.76	5.04
1st week	7.14	9.30	2d week	8.00	7.00
2d week	7.02	10.45	3d week	8.00	7.00
3d week	8.10	10.25	4th week	8.00	7.00
4th week	6.56	7.85	August:		
December:			1st week	8.25	6.37
1st week	8.98	11.20	2d week	6.56	7.00
2d week	9.42	8.28	3d week	8.14	9.15
3d week	8.90	8.91	4th week	8.21	10.98
4th week	9.05	7.00			
5th week	5.88	5.36			
Total	135.71	149.61	Total	118.49	122.69
Average wage for above period	7.54	8.31	Average wage for above period	7.41	7.67
Average weekly wage for the year	6.89	11.20	Average weekly wage for the year	7.49	7.85

[1] Placed by the trade school in straw stitching, December, 1912, and June, 1913; placed in this position November, 1913.
[2] Placed by the trade school April, 1911, in another curtain factory. Received her certificate, October, 1913.

Cases D and E were the same age, 21 years, and each received a flat rate of $7 a week, with a bonus for overproduction. Case D, the trade-school girl, had worked 18 months on handwork in a curtain factory before entering the trade school. After a ten months' course in power-machine operating on straw hats, she entered a hat factory for 5 months. She returned in the dull season to the school for a four months' course in power-machine operating on cloth, and when interviewed had been for a year and three months in the curtain factory. Case E, the trade-trained girl, had had three and a half years' experience in selling and office work, and three years' experience in power-machine operating. Case D, who had had three years and two months' working experience and 14 months in the trade school, earned during the last four months of 1914, as shown in the table, $135.71, and her average weekly wage for this period was $7.54. Case E earned during the last four months of 1914, $149.61, and her average weekly wage for this period was $8.31. If the trade-school training equals the trade experience, both had had about

three years' experience in power-machine operating, and they were the same age, but the trade-school girl earned, on an average, 77 cents per week less than the trade-trained girl.

In the second group, Case F, a trade-school girl who had spent two years in the dressmaking and machine-operating courses and had been working at power-machine operating for three years and three months, might be said to have had five years' experience. Comparing her productive capacity with that of a trade-trained girl (Case G) who had had five years' experience we find that while their production for any given week may vary rather widely, for the four months covered it averages very nearly the same—$7.41 against $7.67. Their average weekly wages for the whole year were also nearly the same, the trade-school girl's being $7.49 and the other's, $7.85. In both these instances, therefore, the trade-school girl falls a little below the trade-trained girl in productive capacity after an equal experience in the trade.

A few cases, of course, offer a wholly insufficient basis for any conclusion, but the pay roll of this factory gives further evidence in the same direction. Capable workers can earn a fair wage, about 60 per cent earning $7 or over per week. The trade-school girls in this particular factory do not show superior productive capacity. The chief advantage they gain from their trade-school work is greater ease in securing access to the factory, for comparatively few employers will take wholly inexperienced workers. The school aids its pupils in securing entrance and offers supplementary training to strengthen their deficiencies. But this limited data does show the trade school which has sought to train these girls, and educators, who after one glance, assume that power-machine operating is a simple process which can be acquired in a few hours, that there is a pressing need for a more careful analysis of the occupations in this industry and their requirements from the standpoint of trade knowledge, skill, maturity, and adjustment. The Boston Trade School, as has been shown by the enrollment in its courses, has given little emphasis to this factory industry. But the growth of the wholesale manufacturing and the decline of the hand trades will require that more attention be given to this branch of the sewing trades, and when the trade school attacks this problem in the same spirit as that in which it has taken up the custom trades, a better showing may be expected.

Returning to the length of time required for adaptation to actual trade conditions, it may be noted that this seems to be underestimated by most writers, who are inclined to think that "at the present day this mechanical skill is easily obtained. To the young schoolgirl whose muscles are all responsive and trained, a little practice on power machines in the schools would prepare her to be employed in the factory at once at the wage of an experienced worker. She

could sit down at a power machine and become a pieceworker without delay because she knows how to control her machine." [1] The pay roll data of production and the unanimous report of all the employers visited seem to indicate (1) that experienced workers require a month to adjust themselves to new conditions; (2) that untrained workers require from one month to two to reach even once the minimum standard of production, and a still longer time to maintain it continuously; and (3) that judgment, speed, and manual dexterity are the real basis of success, not merely "a little practice on power machines in the schools."

SCHOOL TESTS FOR ASCERTAINING TRADE ABILITY.

The trade school admits every girl between 14 and 25 years of age who applies, but since the trades for which it offers training require certain definite qualities, and since not all girls possess these qualities, it is most important that some devices should be evolved to ascertain as soon as possible the pupil's fitness for these trades. Three such devices are in use, preliminary conferences with child and parent, emphasis on the summer school session as an opportunity for testing out the pupil, and subsequent shifting from one course to another in order to find out for what the pupil is really adapted.

In Worcester the first device is emphasized. The applicant must register at the school and fill out a detailed application blank which requires some intelligence and thought and provides some index of the girl's capacity. Her parents are urged to come and discuss with the teachers the course she has chosen, that they may clearly understand what to expect of the girl and of the school, and they are kept informed of her progress by weekly or monthly reports.

In both Boston and Worcester the summer session of the school is used extensively as an opportunity for testing out applicants with less loss to both pupils and school. In Boston there has been a change of policy in this respect. From 1904 to 1909 pupils were allowed to enter the summer school in order to make their own clothes even though they had no intention of remaining for the regular term. Since 1909, however, the summer session has been conducted under the same rules as the regular term, and only pupils who have some intention of remaining are admitted. The Worcester Trade School definitely requires that all new pupils wishing to enroll in September shall enter in June; the Boston school does not make this course obligatory, but urges it. Those who enter have the opportunity of finding out during this short term whether the training is what they wish, and whether they are qualified to take it to advantage; if not, they can reenter the regular schools at the fall term without any loss of time such as they would incur if they entered the

[1] Anna C. Hedges: Wage worth of school training, p. 7.

trade school in September and later found themselves unsuited to it. The following table shows for each year what proportion of the pupils entering the summer session of the Boston and the Worcester trade schools remained for the fall term:

TABLE 33.—NUMBER AND PER CENT OF PUPILS ENTERING THE SUMMER SESSION OF THE BOSTON AND WORCESTER TRADE SCHOOLS WHO REMAINED AND WHO DID NOT REMAIN FOR THE FALL TERM.

BOSTON TRADE SCHOOL.

Summer of—	Girls enrolled in the summer session.[1]						
	Number.				Per cent.[2]		
	Remaining.	Not remaining.	Not reported.	Total.	Remaining.	Not remaining.	Total.
1904	15	16	.....	31	48.4	51.6	100.0
1905	14	22	.....	36	38.9	61.1	100.0
1906	25	39	.....	64	39.1	60.9	100.0
1907	36	42	.....	78	46.2	53.8	100.0
1908	45	96	.....	141	31.9	68.1	100.0
1909	37	49	.....	86	43.0	57.0	100.0
Total	172	264	.....	436	39.4	60.6	100.0
1911 [3]	26	10	24	60	72.2	27.8	100.0
1912	30	4	3	37	88.2	11.8	100.0
1913	22	20	.....	42	52.4	47.6	100.0
Total	78	34	27	139	69.6	30.4	100.0
Grand total	250	298	27	575	45.6	54.4	100.0

WORCESTER TRADE SCHOOL.

1912	7	15	.....	22	31.8	68.2	100.0
1913	3	11	.....	14	21.4	78.6	100.0
1914	9	25	.....	34	26.5	73.5	100.0
Total	19	51	.....	70	27.1	72.9	100.0

[1] Includes only girls entering trade school for the first time in the summer.
[2] Based on number for whom reports were received.
[3] No summer session was held in 1910.

In the Boston school the proportion remaining for the fall term has increased materially since 1909, when the summer session was put under the same rule as the regular sessions. This may be due to the fact that the earlier plan attracted a number who had no intention of remaining, or it may simply be a change similar to that found among the pupils of the school as a whole; it will be remembered that those entering during the last five years of the period studied were a less shifting group than those of the first period. In Worcester the proportion remaining for the fall session has been small for the whole period considered; no explanation of this fact is offered.

Classified by the reasons they give for not continuing in the trade school, the pupils of the trade schools in the two cities show a very different grouping. The following table gives the number and proportion leaving for each reason:

TABLE 24.—NUMBER AND PER CENT OF GIRLS WHO ENTERED THE SUMMER SESSION OF THE BOSTON AND WORCESTER TRADE SCHOOLS, GIVING EACH SPECIFIED REASON FOR NOT REMAINING FOR FALL SESSION.

Reason for not remaining for fall session.	Girls entering summer session of specified trade school but not remaining for fall session.							
	Number.					Per cent.[1]		
	Boston Trade School.			Worcester Trade School.	Total.	Boston Trade School.	Worcester Trade School.	Total.
	1904–1909	1909–1914	Total.					
Went to work:								
In her trade	4	.....	4	1	5	.....	.....	.....
In manufacturing	8	.....	8	1	9	.....	.....	.....
In personal service	1	.....	1	1	2	.....	.....	.....
In a store	1	1	2	.....	2	.....	.....	.....
In an office	2	.....	2	.....	2	.....	.....	.....
Work unknown	6	5	11	.....	11	.....	.....	.....
Total	22	6	28	3	31	10.3	9.7	10.2
Returned to school	154	17	171	10	181	62.6	32.3	59.5
School reasons:								
Absence	31	.....	31	.....	31	.....	.....	.....
Expulsion	4	.....	4	.....	4	.....	.....	.....
Vacation	10	.....	10	.....	10	.....	.....	.....
Total	45	.....	45	.....	45	16.5	.....	14.8
Personal reasons:								
Health	15	.....	15	4	19	.....	.....	.....
Incapacity	2	1	3	9	12	.....	.....	.....
Incompatability	2	.....	2	.....	2	.....	.....	.....
Total	19	1	20	13	33	7.3	41.9	10.9
Home causes:								
Economic pressure	1	.....	1	.....	1	.....	.....	.....
Needed	5	.....	5	3	8	.....	.....	.....
Moved	1	1	2	1	3	.....	.....	.....
Other reasons	1	.....	1	1	2	.....	.....	.....
Total	8	1	9	5	14	3.3	16.1	4.6
Not reported	16	9	25	20	45	.....	.....	.....
Grand total	264	34	298	51	349	100.0	100.0	100.0

[1] Based on number of girls whose reasons for leaving were known.

In Boston by far the largest proportion left in order to return to the regular schools, and the next largest for some school reason. These school reasons, however—absence, expulsion, and vacation—were given in the Boston school only during the first five years of its history, before its purpose and methods were thoroughly understood. In Worcester the largest number left for personal reasons, among which incapacity plays the most prominent part, and the number returning to the regular schools is, proportionately, only about one-third as large as in Boston. The proportion leaving in order to go to work is small in both cities, and so is the proportion leaving for home causes. Among these pupils economic pressure as a reason for leaving is even less important than among the pupils of the school as a whole.

The preliminary conference with pupils and parents and the summer sessions are both useful in discovering what aptitude a girl may possess for her chosen trade, but in addition both schools make use of the plan of changing a pupil from one course to another, if she does not seem suited to the first. In the Boston Trade School records 123 pupils, 6 per cent of the total group of 2,044, were reported as enrolled in two or more courses. The most frequent sequence seems to be from custom work in dressmaking or millinery to power-machine operating on hats or cloth. Of the 123 girls who changed from one course to another, two-fifths (40.7 per cent) never used either trade; this probably means that the pupils were unfitted to succeed in any of the trades taught by the school. In Worcester, 12 girls, 3.5 per cent of the whole number, took a part of two courses, beginning usually with dressmaking or millinery and then being tried on power-machine operating.

SPECIAL METHODS FOR ADAPTING PUPILS TO TRADE DEMANDS.

In addition to a general knowledge of the trade they have chosen, industry demands of the workers "common sense" or general intelligence, and trade skill, and an important part of the trade-school work consists of qualifying the pupil to meet these demands. The task of developing common sense, which is difficult because of the immaturity of the girls and the indefiniteness of the demand, devolves partly on the trade teachers and partly on the academic teachers in the trade schools. The academic teachers have reduced to as systematic a form as possible the general knowledge about the trades which the trade teachers have acquired by experience. As the pupils are too young to be taught theory alone, they are given such principles as they need to do their work intelligently. The teaching in arithmetic, art, and English is based on the trade work, and in the trade classes a constant demand for reasoning is made. As it is a manifest impossibility to develop resourcefulness in pupils by unsystematic means, the blending of theory and practice devised by trade schools in their supplementary courses is probably the best available substitute for actual shop experience as a training for meeting new problems.

The demand for trade skill is less indefinite than that for common sense, and is easier to meet, since skill can be given by repetition and variation of processes. The acquisition of skill requires practice on the actual product which the trade produces. For this reason, the production of salable articles has been the goal since the beginning of the trade-school experiment. The rooms used for trade work, the methods, standards, and materials resemble as closely as possible those of the trade, and the product of each school is sold at market prices to regular customers.

The making of a salable product holds two elements of danger, recognized as such by the schools themselves: First, the gauging of the success of the school by the money value of the product, and second, the subordinating of the training of the pupil to the production of standardized goods. As to the first, it must be borne in mind that trade schools can never hope to be even approximately self-supporting. The revenue derived from the sale of their products varies from 14.7 per cent to 29.5 per cent of their cost of operation.[1] The real test of the success of a trade school is the success of its pupils in their trades, and it is a menace to the fundamental conception of the school to apply any other test to its work.

The second danger is closely connected with the first. When a pupil has learned to perform a given process well and quickly there is a temptation to keep her on that process for the sake of the output, if the product is to be sold, and if, therefore, her skill and speed have a money value. In fact, parents are inclined to complain that their daughters are kept too long on processes in which they exhibit unusual skill, but the complaint does not seem well grounded. The figures already given (see Table 24) show that among the girls placed by the Boston Trade School there was a wide variation in the time spent in training; if the school were trying to keep a girl as long as possible in one process for the sake of utilizing her special skill, it would hardly have placed nearly 200 girls who have been in training for less than 12 months. In Worcester, it is true, no girl may graduate with less than two years of training, but the girl of unusual ability can complete in this time work much greater in amount and more varied in process than the girl of less capacity, and her time is spent in gaining this extra experience, not in repeating one process.

When the experiment in trade training was still new the possibility of a third danger was seen in the opportunity for competition between the trade school and the manufacturer in the disposal of their products, but this fear has proved unfounded. Trade schools sell at regular market prices, and produce a relatively small amount, which is not of uniform quality; hence employers do not fear them as competitors.

The production under trade-school conditions of salable goods, although a valuable means of training, does not give the pupil the familiarity with trade conditions which will enable her to fit easily and quickly into an actual shop or factory, and to supply this several devices have been tried. In Boston, trade shops, opened in 1907,[2] were established to "combine the necessity of earning a weekly wage with the opportunity of prolonging trade training."[3] The girl who

[1] See Table 140, p. 256.

[2] Second Annual Report of the Boston Trade School for Girls, 1906, p. 14.

[3] Third Annual Report of the Boston Trade School for Girls, 1907, p. 15.

had spent one year at the trade school was paid $4 to $7 a week in these shops, where she was taught new processes under trade conditions, and was acquainted with the items of shop expense, so that she could see her own place in the industry.[1]

A second experiment, part-time work, was tried later. The girls were to work in the shop and in the school on alternate weeks until their work was worth $6 a week to their employers.[2] This plan failed, because girls who had begun to earn were unwilling to return to the school.

A third method has been tried in Worcester in connection with the millinery courses. The school has not as yet enough orders for work to give girls the requisite training in meeting custom demands, so they are expected to spend from three weeks to five months before graduation in shops. Seventeen girls have had this training; their wages vary from $1.50 for part time to $6 for full time.

The schools have, then, tried in various ways to fit their pupils to meet the demands their trades will make upon them. By a combination of theory with trade work they have endeavored to develop "common sense" or general intelligence. By insisting that their trade work shall produce a salable product, and by trade tests, they have tried to give skill in the handling of materials and in the processes which their pupils will be required to use in industry; and they have also tried to make them familiar with the conditions under which they will have to work later, with a view to shortening the time required for "fitting in" to the actual shop or factory.

STABILITY OF TRADE-SCHOOL GIRLS IN TRADE POSITIONS.

The real test of the success of these devices comes when the pupils go into industry, or rather, when they go into industry with the approval of the school. The conditions under which this approval is given are different in the two leading schools. In Worcester the pupils are required to graduate before the school will pronounce them fit, and for graduation they must have had 1,700 hours of trade work with required supplementary work. When this has been satisfactorily completed the school will recommend girls for positions, but believing that they should have the discipline of finding positions for themselves the school refuses to place them. In Boston the pupils are placed as soon as the school believes that they have sufficient ability to succeed. The school has a list of cooperating employers who send to it when they need young workers, and thus it is usually able to send a girl to a position as soon as she is fitted for it. In lieu of diplomas, the Boston school grants certificates to girls

[1] Florence M. Marshall: Shops for trade training, Federation Bulletin, November, 1907.
[2] Trade School Bulletin, April, 1911.

placed in industry after they have worked, satisfactorily to their employer, for three months.[1]

Most studies of young workers emphasize their tendency to shift from one position to another especially in the first years after going to work. In this respect the trade-school pupils make a fairly good showing. Table 35 gives the number and proportion of pupils from the Boston Trade School remaining for specified periods in their first position, and for purposes of comparison similar figures are given for the 200 girls, discussed above, who had acquired their training in the trade.

Considering first the trade-school pupils, it appears that about one-half remained in their first position for six months or longer, about one-fifth remained longer than six months but less than one year, and about three-tenths for a year or more. The trade school, however, frequently moves a girl on its own initiative as better openings appear or as the placement agent learns of positions for which these young people are better equipped. The girls who found their own positions show a little more stability than those placed by the school, though the difference is small, and appears principally among those who made a very short stay in the first position, those who held it for less than a month being proportionately twice as numerous among the school-placed as among the self-placed pupils. There seems less stability among those placed by the school in the last five years than among those placed in the first period, and like the contrast between the school-placed and the self-placed this is most evident in those staying but a short time in the first position; those leaving within three months formed only 25.2 per cent of those placed in the period 1904–1909 against 32.8 per cent of those placed in the period 1909–1914. Since the school has now a much larger number of cooperating firms than in its earlier period it can use more care in its placements, and since it keeps its pupils for a longer time they should be better prepared to hold their first position; hence the increase in the proportion failing to do so is doubly curious. It is suggested, however, that the lesser stability may be due to changes in industry, particularly in the trades for which the school offers training, which militate against a long tenure of the initial position.

Turning to the second part of the table, it is evident that the girls who acquired their training in the trade excel the trade-school girls in the length of time spent in their first position. Only 28.8 per cent of the trade-trained girls left their first position in less than six months, as against 49.9 per cent of the whole group of trade-school girls. The proportion of the trade-trained girls holding their first position less than a month is almost negligible, and the proportion leaving it under three months is not quite one-eighth. It is to be remembered,

[1] Trade School Bulletin VII, November, 1913.

however, that these trade-trained girls are "survivors," girls who have worked their way up in the trade, and that there is no means of knowing how many others, starting out at the same time they did, failed to hold their first position or any subsequent one, and drifted out of the trades altogether.

TABLE 35.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS WHO USED THEIR TRADE AND OF TRADE-TRAINED GIRLS REMAINING IN THEIR FIRST POSITIONS FOR SPECIFIED PERIODS.

BOSTON TRADE SCHOOL GIRLS.

Length of time in first position.	Number remaining specified time in first position.						
	1901–1909		1909–1914		Total.		Grand total.
	Placed by the school.	Not placed by the school.	Placed by the school.	Not placed by the school.	Placed by the school.	Not placed by the school.	
Under 1 month	19	3	54	[1] 5	73	8	81
1 and under 3 months	27	9	[2] 84	[1] 14	111	23	134
3 and under 6 months	41	9	[1] 78	[1] 23	119	32	151
6 and under 9 months	26	3	50	[3] 16	76	19	95
9 and under 12 months	16	1	[4] 31	8	47	9	56
1 year and over	54	17	123	23	177	40	217
Not known	1	1	7	1	8	2	10
Total	184	43	427	90	611	133	744
	Per cent remaining specified time in first position.[5]						
Under 1 month	10.4	7.1	12.8	5.6	12.1	6.1	11.0
1 and under 3 months	14.8	21.4	20.0	15.7	18.4	17.6	18.3
3 and under 6 months	22.4	21.4	18.6	25.8	19.7	24.4	20.6
6 and under 9 months	14.2	7.2	11.9	18.0	12.6	14.5	12.9
9 and under 12 months	8.7	2.4	7.4	9.0	7.8	6.9	7.6
1 year and over	29.5	40.5	29.3	25.8	29.4	30.5	29.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TRADE-TRAINED WORKERS.

Time in first position.	Girls remaining specified time in first position: Dressmaking and cloth power-machine operating.					
	Number.			Per cent.[5]		
	Dressmaking.	Power-machine operating.	Total.	Dressmaking.	Power-machine operating.	Total.
Under 1 month	4	1	5	4.1	1.0	2.5
1 and under 3 months	8	11	19	8.2	11.0	9.6
3 and under 6 months	17	16	33	17.3	16.0	16.7
6 and under 9 months	11	4	15	11.2	4.0	7.6
9 and under 12 months	5	11	16	5.1	11.0	8.1
1 year and over	53	57	110	54.1	57.0	55.5
Not known	2	.....	2	.....	.....	.....
Total	100	100	200	100.0	100.0	100.0

[1] Including 1 still in initial position.
[2] Including 2 still in initial position.
[3] Including 3 still in initial position.
[4] Including 4 still in initial position.
[5] Based on number of girls whose time in first position was known.

In practice, it is not necessarily a misfortune for a Boston Trade School girl to fail to hold her first position, since it may mean betterment and also because the school encourages its accredited pupils to return for further training whenever they are out of work. At such times they may take advanced courses, such as cutting and fitting, or may gain speed on power machines, and are ready to be re-placed at the earliest opportunity. The crowded condition of the school, however, causes this plan to work some hardship to new pupils who desire trade training, as old pupils are given some preference. A special workroom in which girls may increase their efficiency while out of work has been suggested as a means of meeting this difficulty.

COOPERATION BETWEEN TRADE SCHOOL AND EMPLOYERS.

Since the Boston Trade School makes a point of placing its pupils it naturally strives to cultivate such relations with employers as will forward this work. Employers have proved willing not only to take trade-school girls, but to discuss with the school the points in their training which need improvement, a proceeding which is helpful to the school in its efforts to make its training really effective. In the matter of taking girls from the school, there has been a steady growth from the beginning in the number of employers willing to cooperate. The following table shows how many employers have taken pupils, and the number of girls to whom each employer has given positions:

TABLE 36.—NUMBER OF FIRMS WITH WHICH GIRLS TRAINED IN THE BOSTON TRADE SCHOOL HAVE BEEN PLACED, AND NUMBER OF GIRLS TAKEN BY EACH.

Number of girls placed with each firm.	Number of firms taking specified number of Boston Trade School girls.				
	1904–1909	1909–1914	1904–1914	Total.	Per cent of total.
One girl	39	102	.....	141	48.0
Two girls	10	37	15	62	21.1
Three girls	6	14	10	30	10.2
Four girls	2	10	5	17	5.8
Five girls	1	6	4	11	3.7
Six girls	.....	2	2	4	1.4
Seven girls	.....	1	4	5	1.7
Eight girls	.....	2	5	7	2.4
Nine girls	.....	2	1	3	1.0
Ten and under 15 girls	.....	.....	9	9	3.1
Fifteen girls and over[1]	.....	.....	5	5	1.7
Total	58	176	60	294	100.0

[1] One firm took 19 girls, another 23, another 29, and a fourth 34. The Women's Educational and Industrial Union, where the trade-school shops were conducted, took 86.

These firms have taken 849 girls either on original placements or on re-placements by the school; over two-fifths of these, 43.7 per cent, were taken by 31, or about 10 per cent, of the firms. Nearly half of the firms, 48 per cent, have taken only one girl. A list of 294 cooperating firms shows great activity on the part of the place-

ment agents, and it is encouraging to see that 60, or one-fifth of the total number, have cooperated with the school since the beginning of its work. There has naturally been some loss of firms cooperating in the earlier period, but this has been more than compensated by the new firms who have taken up the plan. Of the whole number, the cooperation of 176 firms, or 59.8 per cent, was gained during the second period of the school's history and 20 per cent held over from the first period, so that only about one-fifth of all the firms cooperating at any period have ceased cooperating.

METHODS BY WHICH TRADE-SCHOOL PUPILS SECURE POSITIONS.

Schools, particularly vocational schools, are constantly assuming more of the responsibility of finding positions for their pupils, and trade schools have not fallen behind in this part of their work. Nevertheless, while the school's placement is the most important single method by which its pupils have secured work, the school can not as yet claim credit for quite half of the positions secured by trade-school girls. The 744 Boston Trade School girls who were found by investigation to have used their trades for wage earning for at least a week reported their methods of securing an aggregate of 2,131 positions, and the 166 girls visited in Worcester reported for 203 positions. The methods used, and the number and proportion of positions secured by each, are shown in the following table:

TABLE 37.—NUMBER AND PER CENT OF PUPILS OF THE BOSTON AND WORCESTER TRADE SCHOOLS SECURING POSITIONS BY EACH SPECIFIED MEANS.

Means of securing positions.	Girls securing positions by specified means.							
	Number.				Per cent.			
	Boston Trade School.			Worcester Trade School.	Boston Trade School.			Worcester Trade School.
	1904–1909	1909–1914	Total.		1904–1909	1909–1914	Total.	
Placed by trade school	302	625	927	57	38.1	46.7	43.5	28.1
Relatives or friends	150	244	394	48	19.0	18.2	18.5	23.6
Former employer	29	23	52	.....	3.7	1.7	2.4	.....
Position offered	9	4	13	3	1.1	.3	.6	1.5
Application	125	238	363	76	15.8	17.8	17.0	37.4
Advertisement	69	85	154	4	8.7	6.3	7.2	2.0
Recalled	89	94	183	13	11.2	7.0	8.6	6.4
Agency	17	18	35	2	2.1	1.3	1.6	1.0
Other means	2	8	10	.....	.3	.6	.5	.....
Total	792	1,339	2,131	203	100.0	100.0	100.0	100.0

As mentioned before, the trade school in Worcester does not make any point of securing places for its graduates, believing that the practice in securing their own positions is good for them. Hence, the proportion securing positions by this method differs widely in the two cities. Nevertheless, even in Worcester, well over a fourth

of the positions were obtained through the school. In Boston the school is by far the most important single agency, but even so it does not account for one-half of the positions reported on. Ahead of the trade school in Worcester, and next but one to it in Boston, stands the oldest and simplest of methods, the personal application to employer after employer until one is found who needs the help the applicant can give. This method is looked upon with disfavor as wasteful and unsafe—wasteful because the applicant may spend days before happening upon the one employer who needs her, and unsafe because the applicant has no means of knowing the character of the employer whose service she enters or the conditions under which she will have to work. In Worcester, a smaller city in which all the firms are well known, this method holds a smaller element of danger than in Boston. It is also much more frequently used, the proportion of positions thus found being more than twice as great in Worcester as in Boston. The next most important means, the help of relatives and friends, is more commonly used in Worcester than in Boston, but the difference is not great. In both cities paid agencies play a very unimportant part.[1]

In Boston the second five-year period studied shows a considerable increase in the proportion of positions secured through the trade school. This is due to the attitude of the school, which is constantly assuming more of the burden of helping the pupils in their search for "jobs," and it seems likely that the proportion of places obtained by its agency will steadily increase.

SUMMARY.

Trade schools for girls in Massachusetts have grown rapidly in each of the three cities in which they have been established. They have faced a difficult problem, since their task has been to take girls ranging in age from 14 to 25 and in education from the third-grade pupil to the high-school graduate and prepare them for exacting trades. Nevertheless, they have been able to send into the trades 908 girls—36.3 per cent of the 2,500 girls who have entered the schools, or more than one-third. Because of the lack of comparable data it is impossible to say whether this is a very high or a low percentage. The High School of Practical Arts in Boston, which offers a four-year course in dressmaking, millinery, and cooking, has enrolled 1,243 pupils since it was established in 1907. Fifty-one of its graduates, or 4.1 per cent of its enrollment, have used their trade in a wage-earning capacity, either in industry or as teachers. The

[1] This is true for women in the sewing trades generally. See Mary Van Kleeck: Women in the bookbinding trades, p. 125; May Allinson: Dressmaking as a trade for women in Massachusetts, Bul. No. 193, United States Bureau of Labor Statistics.

New Bedford Independent Industrial School for Boys, with a four-year course, has enrolled 337 pupils since its foundation in 1909. Thirteen of its graduates and 72 boys who left the school before graduation have used their trades for wage earning, thus making 25.2 per cent of the total number enrolled who have gone into their trades. The girls' trade schools have sent a much larger proportion of their pupils into their trades than have either of these schools.

The girls' trade schools have evolved a system of individual instruction which allows rapid progress. They have not only prepared pupils to enter their trades, but have placed them in positions and assisted them in finding new positions. They have analyzed the trades which they teach, which in itself is an achievement, and have ascertained the normal sequence in which processes should be taught. They have also had to train their teachers.

The trade-school experience has, moreover, shown—

1. That a completed grammar-school education is a great help in gaining access to these skilled trades.

2. That a certain degree of maturity, 16 years at least, is essential to entering these trades at present in Massachusetts.

3. That the majority of girls require a trade-school course of at least a year in length in order to enter and remain in their trades.

The trade schools for girls have not yet succeeded in their endeavor—

1. To make a year in trade school equivalent to a year in the trade.

2. To find trades suitable for all pupils who apply for training.

3. To develop school incentives comparable to the incentive of the pay envelope in trade, leading to rapid and thorough work.

From an educational point of view the great achievement of the girls' trade schools has been the relating of school work to the actual industrial life of the community. There is a certain danger that trade schools may adopt an academic viewpoint, in which case this achievement will be lost. Trade schools must follow pedagogically sound methods of teaching, which have necessarily been evolved in connection with academic subjects. But to introduce academic subjects unrelated to trade work, or to encourage any atmosphere but that of the trade is to endanger the success of the whole enterprise. The insistent demand made by the public that schools should be related to present-day conditions can be proved to be or not to be worthy of attention by actual experiment. Trade schools for girls have already accomplished so much that they should be allowed unlimited freedom for development in their own line, unhampered by academic tradition.

CHAPTER III.—INDUSTRIAL EXPERIENCE OF BOSTON TRADE SCHOOL GIRLS.

DIFFICULTY OF DETERMINING EFFECTIVENESS OF TRADE-SCHOOL TRAINING.

Vocational schools of to-day are being subjected to a test new in the educational world; namely, the measure of their efficiency by the immediate as well as by the ultimate productive power of their pupils. Before such a test can be applied fairly to trade schools for girls a number of factors must be taken into consideration, in order to obtain a conception of what may reasonably be expected from this new type of training.

First, it must be remembered that trade training for girls is still in the experimental stage. Massachusetts, which is supposed to stand foremost in its solution of the problems involved in industrial education, maintains at present only three trade schools for girls, all of recent establishment. The Boston Trade School alone, with its 10 years' experience, provides a group of girls whose working career has been long enough to show more than immediate results. The Worcester Trade School with three and one-half years, and the Cambridge Trade School with but two years' experience, are more serviceable in their suggestion of new methods and ways of adaptation to local conditions than in the actual statistics they furnish as to the wage-earning capacity of their pupils.

Second, industrial training for girls has been a series of experiments in training for trades which are undergoing a tremendous industrial evolution. The schools train especially for the sewing trades, and in these the tendency has been toward a complete reorganization of methods of production. Consequently, the trade educators have met from the start a fundamental difficulty—that of adjusting their training to continually changing industrial needs. This difficulty is increased by the natural tendency of education to crystallize and develop along increasingly well-worn grooves, whereas the situation calls for continual changes corresponding to those taking place in the trades.

Third, the work of the trade school is hampered by the wide variation in the type of pupil who has applied for training, this variation being due in part to the fact that the trade school is new in the educational system and its purpose is little understood. Girls ranging from 14 to 25 years of age, regardless of previous education, are admitted for trial. Many girls drift in with no conception of the purpose of the school or with no real motive for coming. "Other girls were going." "Thought I would try it." "Went to trade school

to get out of home lessons," were some of the reasons given by the girls. "Mary never was bright in school, so we thought we would send her to trade school," said one mother. "There ought to be more schools for feeble-minded girls like Mabel, who couldn't learn any place else," said one grandmother. Unfortunately, a study of the records of the girls who have passed through the trade schools seems to bear conclusive evidence that "those who couldn't learn any place else" did not learn in the trade school.[1]

Fourth, the majority of the girls who have gone out from the trade school are still young, and their working experience has been brief. This investigation is based on a study of 849 pupils from the Boston school, 166 from the Worcester and 98 from the Cambridge school; 41.9 per cent of the Boston pupils, 86.7 per cent of the Worcester, and the same per cent of the Cambridge pupils were under 20. Naturally this immaturity is a serious factor in determining their ability to secure and maintain a foothold in their trades, since the effect of the industrial evolution going on in the clothing trades is to increase the proportion of mature workers required. As to length of working experience, none of the pupils from the Worcester and Cambridge schools have been out more than three years. One-fourth of the girls from the Boston school have been out less than three years, and more than one-half have been out less than five years. Evidently the body of experience available is insufficient for the formation of a final opinion as to the value of trade-school training.

When attempting, therefore, to draw conclusions as to the efficacy of trade-school training from the experiences of the trade-school pupils, all these facts must be borne in mind as affecting the decision to be reached: The small number of pupils who have as yet been instructed in the school, their youth and the brevity of their working experience, the difficulty the trade school faces in trying to adapt its training to constantly changing demands, and the wide variation in type of the pupils with whom it must work.

Giving due weight to these considerations, however, a study of the industrial experience of the girls trained in the trade schools of Massachusetts seems likely to be of value, for only by studying the experiences of its pupils can the school discover what parts of its training are strong or weak and what new measures must be taken to meet the requirements of the vocations for which it trains. Such a survey may be expected to show some significant facts relating to (1) the types and proportion of pupils surviving in the trade schools and in the trades for which they are trained, and the influences which seem to determine success or failure; (2) the rate of advancement and the time required to become self-supporting in the several trades for which the trade schools train; (3) the subsequent experience, stability and industrial advancement of those entering occupations other than those for

[1] See Tables 12 and 21, pp. 31 and 38.

which they were trained; (4) the relative efficiency of trade-school girls compared with those who have not been trained in the trade schools.

STATISTICAL BASIS OF STUDY OF INDUSTRIAL EXPERIENCE.

As already stated, the original intention was to follow up the careers of all girls from the Boston and Worcester schools who had either used their trades or taken a training of nine months or more, and all girls from the Cambridge school. But 74 of the Boston and 15 of the Cambridge girls could not be located. The group studied consists therefore of 1,113 girls, 44.5 per cent of the total number who have gone out from the three schools since their foundation. It includes 849 girls from the Boston school, 744 who used their trades, and 105 who did not; 166 from the Worcester school, of whom 94 used their trades and 72 did not; and 98 from Cambridge, of whom 26 used their trades and 72 did not. In order to compare the industrial experiences of these girls with those of girls without trade-school training, the records were obtained of 100 girls in dressmaking shops and of 100 girls operating power machines in factories who had worked their own way into the trades. In addition the industrial records of 46 girls employed in sewing trades in Worcester were obtained; these girls were all attending the Worcester Evening Trade School, and none were over 25.

Boston, it will be observed, furnishes three-fourths (76.2 per cent) of the total group of trade-school girls studied. The pupils going out from the other schools differ so widely from those of Boston in age, length of training, working experience, industrial opportunities, and the like, that they can not be merged fairly with the Boston group, whose numerical preponderance would bring the Boston experiences to the front at the cost of those of the other two. Consequently, each group of trade-school pupils will be discussed separately, the present chapter being devoted to the industrial experiences of the girls from the Boston Trade School. On the basis of the use they made of their trade training, those studied from this school were divided as follows:

TABLE 38.—NUMBER AND PER CENT OF GIRLS FROM BOSTON TRADE SCHOOL WHO HAD USED AND HAD NOT USED THEIR TRAINING, BY TRADES.

Trade followed.	Total.	Girls who had used their trade training.		Girls who had not used their trade training.	
		Number.	Per cent.	Number.	Per cent.
Dressmaking	498	423	84.9	75	15.1
Millinery	175	157	89.7	18	10.3
Power machine operating on—					
Cloth	87	81	93.1	6	6.9
Straw hats	77	72	93.5	5	6.5
Cooking	6	5	83.3	1	16.7
Design	6	6	100.0	.....	.....
Total	849	744	87.6	105	12.4

AGE AND LENGTH OF WORKING EXPERIENCE OF BOSTON TRADE SCHOOL GIRLS STUDIED.

The pupils from the Boston Trade School had a higher level of age, owing partly to the longer time the school has been in existence, than those from the other schools; nevertheless they were in the main decidedly young. The following table shows the age grouping, at the time of the investigation, of the 849 girls whose records were studied:

TABLE 39.—NUMBER AND PER CENT IN SPECIFIED AGE GROUPS AMONG BOSTON TRADE SCHOOL GIRLS WHO HAD USED AND WHO HAD NOT USED THEIR TRADES.

NUMBER.

Age.	Girls going out from the Boston Trade School.				
	Total.	Who had used their trades.	Who had not used their trades.		
			Total.	Working.	Not working.
16 and under 18 years [1]	132	115	17	14	3
18 and under 20 years	221	183	38	33	5
20 and under 25 years	419	371	48	37	11
25 years and over	70	69	1	1	.....
Not living	7	6	1	1	.....
Total	849	744	105	86	19

PER CENT OF EACH AGE.[2]

16 and under 18 years	15.6	15.6	16.3	16.5	15.8
18 and under 20 years	26.3	24.8	36.5	38.8	26.3
20 and under 25 years	49.8	50.3	46.2	43.5	57.9
25 years and over	8.3	9.3	1.0	1.2	.....
Total	100.0	100.0	100.0	100.0	100.0

[1] None under 16 years.

[2] Not including those not living.

It is apparent that while the whole group is young, the age level of those using their trades is somewhat higher than of those who did not. Very nearly three-fifths of those using their trades were 20 or over, against less than half of those not using them.

The length of time these girls had been out of school is shown, by trades for those who used their trades, and as a group for those who did not, in Table 40.

More than half of these students have been out of the school less than five years, and it is notable that those having been out this shorter term form a larger proportion among those who have not worked at their trade than among those who have—65.7 per cent against 53 per cent. The value of the two groups—those who have been out for five years or over and those who have been out for less than five years—for purposes of study, lies along different lines. The records of the older group show to what extent the trade-school girl has maintained herself in the trade for which she was trained, and the extent to which the survivors are able to meet present-day

conditions; the records of the younger group provide a basis for a study of the difficulties and the possibilities before the young, partially trained girl who is attempting to become established as a wage earner under present industrial conditions.

TABLE 40.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS OUT OF THE SCHOOL EACH SPECIFIED LENGTH OF TIME.

NUMBER.

Years out of trade school.	Girls using their trade.						Not using their trade.	Total.
	Dressmaking.	Millinery.	Power-machine operating on—		Cooking and design.	Total.		
			Cloth.	Straw hats.				
Under 2 years	46	20	7	14	6	93	13	106
2 and under 3 years	48	15	18	14	3	98	10	108
3 and under 4 years	52	26	12	14	2	106	21	127
4 and under 5 years	59	17	10	8	.....	94	25	119
5 and under 6 years	61	14	7	6	.....	88	16	104
6 and under 7 years	53	20	5	9	.....	87	3	90
7 and under 8 years	39	18	8	2	.....	67	7	74
8 years and over	62	27	12	4	.....	105	10	115
Not living	3	.....	2	1	.....	6	.....	6
Total	423	157	81	72	11	744	105	849

PER CENT.[1]

Under 2 years	11.0	12.7	8.9	19.7	54.5	12.6	12.4	12.6
2 and under 3 years	11.4	9.6	22.8	19.7	27.3	13.3	9.5	12.8
3 and under 4 years	12.4	16.6	15.2	19.7	18.2	14.4	20.0	15.1
4 and under 5 years	14.0	10.8	12.7	11.3	.....	12.7	23.8	14.1
5 and under 6 years	14.5	8.9	8.8	8.5	.....	11.9	15.2	12.3
6 and under 7 years	12.6	12.7	6.3	12.7	.....	11.8	2.9	10.7
7 and under 8 years	9.3	11.5	10.1	2.8	.....	9.1	6.7	8.8
8 years and over	14.8	17.2	15.2	5.6	.....	14.2	9.5	13.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not including those not living.

Dressmaking and millinery were taught from the first, and 51.2 per cent of the dressmakers and 50.3 per cent of the milliners have been out of the trade school for five years or over. Only two-fifths (40.4 per cent) of the cloth machine operators and less than one-third (29.6 per cent) of the straw machine operators have been out of the school for as long as five years, while none of the few who have taken cooking and design have been in the industrial world as long as four years.

The present chapter, then, deals with a group of 849 girls from the Boston Trade School, predominantly young, not quite three-fifths being over 20, and of limited industrial experience, approximately 55 per cent having been out of trade school for less than five years, and only a little over one-eighth (13.6 per cent) having been out as long as eight years.

These girls fall into two groups—those who had made some use of the trade for which they were trained and those who had not. The

former, by far the more important group, was at the time of the investigation distributed as follows:

TABLE 41.—NUMBER AND PER CENT EARNING AND NOT EARNING WAGES, AMONG BOSTON TRADE SCHOOL GIRLS WHO HAD MADE SOME USE OF THEIR TRADES.

Item.	Boston Trade School girls who had used their trades.	
	Number.	Per cent.
Earning wages:		
In their trade	352	47.3
In other occupations	207	27.9
Total	559	75.2
Not earning wages:		
Married	97	13.0
At home	63	8.4
At school	13	1.8
Not living	6	.8
Lost trace of	6	.8
Total	185	24.8
Grand total	744	100.0

GIRLS WHO DID NOT USE THE TRADE FOR WHICH THEY WERE TRAINED.

Before beginning the discussion of the industrial experiences of the girls who had used their trade training, it may be well to discuss briefly the 105 who had attended the trade school for nine months or more but had never used the trade for which they were trained. The following table shows their distribution at successive periods after leaving the trade school:

TABLE 42.—NUMBER AND PER CENT EARNING AND NOT EARNING WAGES WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME AMONG BOSTON TRADE SCHOOL GIRLS WHO ATTENDED THE SCHOOL 9 MONTHS OR OVER BUT HAD NOT USED THEIR TRADES.

Length of time out of trade school.	Number.								Per cent earning and not earning wages.		
	Grand total.	Earning wages.	Not earning wages.					Lost trace.	Earning.	Not earning.	Lost trace.
			Total.	Married.	At home.	At school.	Not living.				
At time of first leaving.	105	61	44	2	39	3	.....	.....	58.1	41.9	.....
At the end of—											
First year	105	59	46	2	40	4	.....	.....	56.2	43.8	.....
Second year	92	51	40	4	31	4	1	1	55.4	43.5	1.1
Third year	82	51	30	4	24	1	1	1	62.2	36.6	1.2
Fourth year	61	34	26	3	20	2	1	1	55.8	42.6	1.6
Fifth year	36	22	14	4	9	.....	1	.....	61.1	38.9	.....
Sixth year	20	12	8	2	5	.....	1	.....	60.0	40.0	.....
Seventh year	17	9	8	3	4	.....	1	.....	52.9	47.1	.....
Eighth year	9	4	5	3	1	.....	1	.....	44.4	55.6	.....

Nearly three-fifths of these girls entered wage-earning pursuits as soon as they left the trade school, and at times a larger proportion were gainfully employed, so that their failure to make use of their

trades was not due to their keeping out of industrial life altogether. Unless a girl goes directly into the trade for which she is trained, she is very unlikely to enter it later, for she has lost touch with the school which can vouch for her and has also lost her skill or speed.

TABLE 43.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS GIVING EACH SPECIFIED REASON FOR NEVER USING THEIR TRADES.

NUMBER.

Reason for never using trade.	Dress-making.	Millinery.	Power-machine operating on—		Cooking and design.	Total.
			Cloth.	Straw hats.		
Lack of adjustment:						
Not successful in school	5	2	1			8
Did not learn enough	10	2		1		13
Not long enough in school to learn	2	1		1		4
Disliked trade school			1			1
Unstable	1	1				2
Total	18	6	2	2		28
Physical incapacity:						
Not strong, nervous, weak eyes, etc	8	1	1	1		11
Color (Negro)	2					2
Total	10	1	1	1		13
Trade conditions:						
Dislike of work by the girl or her parents	12	1	1			14
Unable to get position—poor pay	2	1	1			4
Too far from home	1		1			2
"Got another job and kept it"	6	5		1		12
Total	21	7	3	1		32
Advancement (school)		1				1
Domestic reasons:						
Learned for home use	5					5
No need to work	4	2				6
Helping or needed at home	10	1		1		12
Married	2				1	3
Total	21	3		1	1	26
Unclassified	5					5
Grand total	75	18	6	5	1	105

PER CENT.[1]

Lack of adjustment	25.7	33.4	33.3	40.0		28.0
Physical incapacity	14.3	5.5	16.7	20.0		13.0
Trade conditions	30.0	38.9	50.0	20.0		32.0
Advancement (school)		5.5				1.0
Domestic reasons	30.0	16.7		20.0	100.0	26.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not including those unclassified.

Thus, although a number of these girls who did not work at first leaving school afterward became wage earners, none of them entered the trade for which they had been trained, while those who on leaving the school took up some other work at once, either kept it or, if they changed, went into some other trade for which they had

not been trained. Those who took up work for wages seem to have kept to it rather steadily, for the proportion gainfully employed, although it fluctuates in the successive years out of trade school, shows no serious decrease until the end of the seventh year, at which time the numbers are so small that little significance can be attached to the changes shown.

The reasons given by the girls themselves for their failure to use their trades are shown in Table 43.

It will be noticed that a lack of personal adjustment and physical incapacity both play important parts in keeping girls out of their trade. Over one-fourth (28 per cent) did not enter their trade because of failure or inability to get the good of their trade school training, and about one-eighth (13 per cent) because of some physical disability. The largest group ascribed their staying out to some condition connected with the trade, and the reason most frequently given under this classification was a dislike of the trade on the part either of the girl or her parents. It is rather curious to see that this dislike is a far more important reason among the dressmakers than among the girls who had studied other trades, in spite of the fact that dressmaking is a trade with which every woman has some acquaintance and the conditions of which should be familiar to both girls and parents before the training is undertaken.

This fact perhaps links itself with another. Comparing the proportions which the several trades furnish first to the whole group of 849 girls studied and then to the group who never used their trades, we have the following figures:

TABLE 44.—PER CENT IN EACH SPECIFIED TRADE OF TOTAL NUMBER OF BOSTON TRADE SCHOOL GIRLS STUDIED AND OF THOSE NOT USING THEIR TRADES.

Trade.	Per cent of number studied.	Per cent of number who did not use trade.
Dressmaking	58.7	71.4
Millinery	20.6	17.1
Power-machine operating on—		
Cloth	10.2	5.7
Straw hats	9.1	4.8
Cooking and design	1.4	1.0
Total	100.0	100.0

Dressmaking is the only one of the trades furnishing more than its proportionate share of those who never used their training. Coupling this with the number of those trained as dressmakers who failed to use their trade because they did not do well in school or did not like the trade, or because they took the first thing which they could get and let their trade go, it seems possible that dressmaking,

just because it is so well known, attracts an undue proportion of the girls who are unlikely to make a success of any trade. Millinery, which is also well known among women's trades, stands next to dressmaking in the proportion it contributes to those never using their trades, while the newer trades, machine operating and cooking and designing, fall considerably below the proportion which, numerically, they might fairly furnish to this group. Allusion has already been made to the fact that the machine-operating trades are looked upon with some distrust, because they involve work in a factory, while the cooking and designing have been taken by so few that the figures concerning them are not significant. Apparently, however, few girls take the machine-operating trades as a matter of course. If they decide to take them, their purpose is sufficiently serious for them at least to enter the trades and find out how they like them upon actual trial. It will be shown hereafter that the conditions of these trades are such that many of the girls give up their trades after having entered them, but at least they test their training by actual experience.

GIRLS WHO USED THE TRADE FOR WHICH THEY WERE TRAINED.

STABILITY IN INDUSTRY.

There is a popular belief that women's wage-earning careers are limited to five years or seven years as a general thing. This theory unquestionably tends to instill in the mind of a girl the belief that her industrial career is a temporary thing, or even to develop total indifference to the future. Employers complain of the lack of a professional attitude in women in all occupations, and the fact that no large proportion of women is found in the skilled and well-paid occupations is often lightly dismissed with the supposition that this may be ascribed to their short working career—short, because ended by marriage. How far does the experience of the trade-school pupils tend to confirm this theory?

SIFTING-OUT PROCESS IN SCHOOL.

The sifting-out process begins before these girls enter industry. There is necessarily a serious sifting out of pupils in any vocational school which offers a specific kind of training requiring fairly definite characteristics and capacities. Many who enter because they "thought they would like" a given vocation find they had small conception of its requirements, and recognizing this, drop out of their own volition. This is especially true in a vocational school catering primarily to girls of from 14 to 16 years of age, who have little or no conception of what they wish to do and little inclination or capacity to persist. Only a little more than one-third (38.6 per

cent)[1] of the 2,044 girls who have attended the Boston Trade School during its 10 years' existence entered and used for one week or more the trade for which they had been trained. The school sifts out those least fitted to succeed industrially—those who either lack some qualification necessary for the trade or have not the necessary application or perseverance to finish their training. Employers say that this sifting out of the ineligibles is one of the most valuable services the school renders, for it saves them the time and expense involved in trying out a large number of new workers who could not possibly succeed in the industry. Studies of the custom sewing trades usually emphasize the large number of beginners who are taken on, found unsuited for the work, and dropped within a short time. A study carried on in New York in 1914 dealing with 3,983 milliners showed that almost one-fifth (19.6 per cent) appeared on the pay roll for one week or less,[2] and a study of 600 dressmakers in Boston in 1910 showed 12 per cent appearing on the pay roll one week or less.[3] "You can tell in a few days whether a girl will make a good milliner or not," said the head designer in the millinery workroom of a large department store. "No use wasting time on her if she does not show the requisite qualities after a few days." The trade school, in numerous cases, saves the waste of even those few days or may discover latent talents which did not appear the first few days.

The girl who perseveres through the trade school and enters her trade is subjected to two influences tending to shorten her industrial career—industrial conditions and home demands. The first is a problem to be taken into account in all vocational training, while the second is peculiar to girls or women, the cases in which a man or boy is obliged to give up his trade in response to family demands being practically negligible. The first tends to make a girl drop out of her trade, the second, to drop out of wage-earning altogether. A girl who marries may utilize her training by sewing for friends and neighbors in a casual way, but she usually ceases to be a regular worker in the trade; and a girl who lives at home with her parents is frequently withdrawn from her wage-earning career for one year, two years, or permanently, to keep house in case of the illness of some other member of her family or for some other reason. Either of these influences may come into play at any time; a dull season may force a girl temporarily out of her trade, or a need for her services at home may develop, whether she has been at work four months or four years. But the effect of both is apt to be cumulative, when a group of girls is con-

[1] This proportion is based on the 783 girls entered on the records as having entered their trades; 44 of these could not be located in this investigation.

[2] Mary Van Kleeck: Wages in the millinery trade, p. 63.

[3] May Allinson: Dressmaking as a trade for women in Massachusetts, Bul. No. 193, United States Bureau of Labor Statistics, p. 106.

sidered as a whole. If a girl is dropped from her trade temporarily it is always possible that she may go permanently into whatever she takes up as a stop-gap, while if she is required at home, the difficulty of regaining her place in the industrial world, or home conditions, may keep her from returning. So that, as time goes on, an increasing proportion drops out of the trade for which training was secured, to go either into other wage-earning occupations or into household employment at home.

INDUSTRIAL DISTRIBUTION AT END OF SPECIFIED PERIODS OUT OF TRADE SCHOOL.

To show this double movement and its effect upon the industrial stability of trade-school girls, Table 45 has been made, giving the distribution at the end of each year's experience outside of the school of the 744 girls leaving the Boston Trade School before September, 1914, who were found by investigation to have used their trades. This table is made up by combining the reported experiences of the individual girls when out of school each specified length of time. Thus the figures for the end of the first year represent not the employment situation at the end of any calendar year, but the number of girls in the first class to go out from the school who at the end of their first year's experience were employed or not employed, together with the number of girls in each successive class who at the end of the first year they had been out were employed or not employed. Thus, although the total number out of the school differs with each year, the proportions are comparable.

TABLE 45.—NUMBER AND PER CENT EARNING AND NOT EARNING WAGES WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME AMONG BOSTON TRADE SCHOOL GIRLS WHO AT SOME TIME USED THE TRADES FOR WHICH THEY WERE TRAINED.

Length of time out of trade school.	Number.										Per cent earning and not earning wages.				
	Total.	Earning wages.			Not earning wages.					Lost trace.	Earning wages.			Not earning wages	Lost trace
		Total.	In their trade.	In other occupations	Total.	Married.	At home.	At school	Not living.		Total.	In their trade.	In other occupations.		
At first leaving	744	741	721	20	3	1	1	1	.....	.....	99.6	96.9	2.7	0.4	.....
At end of—															
1st year	744	716	619	97	27	2	18	7	.....	1	96.2	82.2	13.0	3.7	0.1
2d year	640	572	446	126	64	13	43	5	3	4	89.4	69.7	19.7	10.0	.6
3d year	554	465	313	152	82	33	41	4	4	7	83.9	56.5	27.4	14.8	1.3
4th year	447	354	239	115	86	37	41	4	4	7	79.2	53.5	25.7	19.2	1.6
5th year	352	278	176	102	67	33	29	1	4	7	79.0	50.0	29.0	19.0	2.0
6th year	264	194	122	72	64	38	21	1	4	6	73.5	46.2	27.3	24.2	2.3
7th year	175	117	66	51	52	34	15	1	2	6	66.8	37.7	29.1	29.8	3.4
8th year	107	64	32	32	41	31	8	.....	2	2	59.8	29.9	29.9	38.3	1.9
9th year	63	36	15	21	25	20	4	1	.....	2	76.2	33.3	42.9	20.6	3.2
10th year	30	16	4	12	14	11	3	.....	.....	.....	54.8	12.9	41.9	45.2	.....

Considering first the stability of girls in the industrial world, this table shows a steady but not very rapid shrinkage of the proportion engaged in wage-earning occupations. In the first four years about one-fifth have dropped out into the ranks of nonwage earners; in the next four years about one-fifth more disappear. So few have been out for more than eight years that the figures for the ninth and tenth years are probably abnormal, but such as they are, they show more than half of the group still engaged in wage-earning pursuits at the end of the tenth year.

It will be observed that these figures give little support to the idea that the wage-earning life of the average girl is only five or at most seven years long, being terminated by marriage within that period. At the end of the fifth year 79 per cent of the 352 girls who had been out so long were still wage earners, 9.4 per cent were married, 8.6 per cent were either at home or in school, and 3.1 per cent were either known to be dead, or could not be traced. Marriage, then, had withdrawn less than one-tenth of the group. At the end of the seventh year it was responsible for a larger proportion of the 175 who had been out so long. Of these, 66.8 per cent were still wage earners, nearly one-fifth (19.4 per cent) were married, 9.1 per cent were at home or in school, and 4.6 per cent had died or been lost sight of. A wage-earning career of only five or seven years, therefore, seems to be limited to a comparatively small proportion of these girls. Since those who are married and those who are at home may both return to the industrial world, it is impossible to say how short or how long the career will be, but at least it can be stated that four-fifths of the group have worked more than five, and two-thirds more than seven years.

STABILITY IN TRADE FOR WHICH TRAINED.

Turning to stability in the trade for which the girl has been trained, the situation differs somewhat. During the first three years the proportion going from their own trades to some other wage-earning occupations is considerably larger than the proportion dropping out of the industrial world into nonwage-earning occupations. By the end of the third year those unsuited to the trades they have chosen have apparently been sifted out to a considerable degree, and during the next few years the proportion leaving their own trade for another and the proportion dropping out of the industrial world altogether are more nearly approximate.

The relative stability within the trade for which they have been trained of the girls who have taken the different trade courses is a question of some interest. The following table shows the situation in this respect:

TABLE 46.—NUMBER AND PER CENT EARNING AND NOT EARNING WAGES WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME, AMONG BOSTON TRADE SCHOOL GIRLS WHO AT SOME TIME USED THE TRADES FOR WHICH THEY WERE TRAINED, BY SPECIFIED TRADES.

I. DRESSMAKING.

Length of time out of trade school.	Number.					Per cent earning and not earning wages.			
	Grand total.	Earning wages.			Not earning wages.	Earning wages.			Not earning wages.
		Total.	In their trade.	In other occupations.		Total.	In their trade.	In other occupations.	
At first leaving	423	421	415	6	2	99.5	98.1	1.4	0.5
At the end of—									
First year	423	415	380	35	8	98.1	89.8	8.3	1.9
Second year	366	335	286	49	31	91.5	78.1	13.4	8.5
Third year	329	279	218	61	50	84.8	66.3	18.5	15.2
Fourth year	277	222	169	53	55	80.1	61.0	19.1	19.9
Fifth year	217	173	127	46	44	79.7	58.5	21.2	20.3
Sixth year	156	112	85	27	44	71.8	54.5	17.3	28.2
Seventh year	102	67	46	21	35	65.7	45.2	20.5	34.3
Eighth year	62	39	22	17	23	62.9	35.5	27.4	37.1
Ninth year	40	23	11	12	17	57.5	27.5	30.0	42.5
Tenth year	20	10	4	6	10	50.0	20.0	30.0	50.0

H. MILLINERY.

At first leaving	157	156	153	3	1	99.4	97.5	1.9	0.6
At the end of—									
First year	157	144	118	26	13	91.7	75.1	16.6	8.3
Second year	137	122	82	40	15	89.1	59.9	29.2	10.9
Third year	122	101	52	49	21	82.8	42.6	40.2	17.2
Fourth year	96	72	41	31	24	75.0	42.7	32.3	25.0
Fifth year	79	59	30	29	20	74.7	38.0	36.7	25.3
Sixth year	65	46	23	23	19	70.6	35.4	35.4	29.2
Seventh year	45	30	14	16	15	66.7	31.1	35.6	33.3
Eighth year	27	13	7	6	14	48.1	25.9	22.2	51.9
Ninth year	12	4	2	2	8	33.4	16.7	16.7	66.6
Tenth year	3	.....	.....	.....	3	.....	.....	.....	100.0

III. POWER-MACHINE OPERATING: CLOTH.

At first leaving	81	81	73	8	.....	100.0	90.1	9.9	.....
At the end of—									
First year	81	78	53	25	3	96.3	65.4	30.9	3.7
Second year	74	63	40	23	11	85.2	54.1	31.1	14.8
Third year	56	46	22	24	10	82.2	39.4	42.8	17.8
Fourth year	44	33	15	18	11	75.0	34.1	40.9	25.0
Fifth year	34	28	10	18	6	82.3	29.4	52.9	17.7
Sixth year	27	24	9	15	3	88.9	33.3	55.6	11.1
Seventh year	21	15	5	10	6	71.4	23.8	47.6	28.6
Eighth year	13	9	2	7	4	69.2	15.4	53.8	30.8
Ninth year	11	9	2	7	2	81.8	18.2	63.6	18.2
Tenth year	7	.....	.....	6	1	85.7	.....	85.7	14.3

IV. POWER-MACHINE OPERATING: STRAW HATS.

At first leaving	72	72	70	2	.....	100.0	97.2	2.8	.....
At the end of—									
First year	72	68	57	11	4	94.4	79.1	15.3	5.6
Second year	58	47	33	14	11	81.0	56.9	24.1	19.0
Third year	44	36	18	18	8	91.8	40.9	40.9	18.2
Fourth year	30	27	14	13	3	90.0	46.7	43.3	10.0
Fifth year	22	18	9	9	4	91.8	40.9	40.9	18.2
Sixth year	16	12	5	7	4	75.0	31.2	43.8	25.0
Seventh year	7	5	1	4	2	71.4	14.3	57.1	28.6
Eighth year	5	3	1	2	2	60.0	20.0	40.0	40.0

For all these trades the first three years are a period of considerable shifting,[1] but the degree of stability within the dressmaking trade is much greater than in the other sewing trades for which the trade school trains. At the end of the third year out of school, two-thirds of the girls who had entered dressmaking were still in their trade, against about two-fifths in each of the other three trades. At the end of the fifth year nearly three-fifths of the dressmakers, against from less than one-third to about two-fifths in the other trades, were still in their own trade. After the fifth year the sifting out from the other trades is less rapid, and the divergence between the proportion remaining in dressmaking and in the other trades tends to decrease. The numbers in the machine-operating trades, however, by the end of the fifth year are so small that it is doubtful whether much significance can be attached to this apparent greater stability on the part of those who have survived so long in these trades.

Conditions within the different trades undoubtedly have much to do with the variations in stability of the girls trained for these trades. In the millinery trade, the short seasons constitute the greatest sifting influence. A girl who finds herself laid off because of the dull season naturally turns to some other occupation to fill in the interim, and very possibly becomes interested in this and fails to go back to her trade when the busy season begins. Up to the close of the seventh year, the proportion dropping out of the industrial world altogether is not much greater among the milliners than among the dressmakers. More than one-half (59.4 per cent) of the milliners who left their trade gave trade conditions as the cause, and "dull seasons" as the chief of these. (See Table 56, p. 94.)

In the power machine operating trades, also, trade conditions have much to do with the sifting out of the girls trained for them, although here the difficulty is one not so much met with in custom trades like millinery—the demand for ability to do independent work. A young girl who enters a millinery or dressmaking shop is usually put near an older and more experienced worker who may turn over to her the elementary work, or pin or baste a section which she gives to the young helper to finish under her immediate supervision. The girl can ask questions when in doubt, and in general has no large degree of responsibility. The trade, it is true, is going through an evolution which tends to the increasing exclusion of the young, inexperienced worker, and which is greatly decreasing these favorable opportunities for beginners in the custom dressmaking shops, but such opportunities still exist. But in a power machine operating factory the young girl is put down at a machine and is supposed to be able to stitch her dozen of sleeves, cuffs, or curtains with very little supervision or direction. Moreover, she is usually working on a piece wage,

[1] This table shows simply the shifting out of the trade for which the girl was trained, not out of the industrial world. For this latter aspect, see Tables 45 and 47.

and her small output and consequent small earnings during the first few weeks are very discouraging. There are other contributory factors. The working day is usually longer, the rush and whirr of machinery is at first confusing and wearing, and the necessity of quick and accurate work, if she is to earn at all, is discouraging. These, taken in connection with the degree of responsibility and power of self-direction required of the girl, constitute serious sifting influences for the young worker entering these trades.

As a further influence in the same direction, the training for power-machine sewing is not yet so well developed as for hand sewing. The fundamental principles of hand sewing have been taught and studied in the public schools for 40 or 50 years, and for many years past colleges and training schools of domestic arts have prepared instructors to teach this particular phase of the clothing trade. Training for power-machine sewing is relatively very new in the educational system, and if the practically unanimous reports of employers may be accepted, it is far from being adequately or correctly developed. In order to equip pupils to hold their places in the industry, this great and increasingly important branch of the sewing trades must be analyzed both from an industrial and a pedagogical standpoint and must be understood as intimately as are the hand-sewing trades.

The sifting out from the trades for which the girls are trained appears more clearly perhaps in a study of classes, if all leaving during a school year may be so called, since thus the cumulative effect is avoided which comes from grouping together all the girls in spite of varying lengths of experience. Taking the actual number of girls leaving the trade school in a school year and following them as a group through their whole period out of the trade school we have the result given in Table 47.

In comparing the degree of sifting out from the girls' own trades here shown, allowance must be made for some abnormal factors. Thus the class of 1904–5 shows a phenomenally rapid decrease; by the end of the third year only about a fourth, and by the end of the fourth year only a fifth of the class remain in the trade for which they were trained. This irregular movement seems due partly to the small number concerned, partly to the fact that the girls who first came to the school had a less definitely realized purpose than the later pupils, and partly to the shortness of their course of training. Those coming later were prevailed upon to spend more time in preparation and went out more adequately equipped to hold their places. One other group shows decided irregularity as compared with the rest—the class of 1911–12. It will be observed that a smaller proportion of these girls entered their trade than was the case with any other class except the first one sent out. During the first year in the industrial world the class of 1911–12 did not show any abnormal loss; in fact,

the classes of 1905–6, 1906–7, and 1910–11 all lost a larger proportion during this year; but during its second year the European war broke out, and the consequent disorganization in the clothing trades may be partly responsible for the remarkable falling off the class shows—a fall from 82.1 per cent to 57.3 per cent.

TABLE 47.—NUMBER OF GIRLS LEAVING BOSTON TRADE SCHOOL IN EACH SPECIFIED YEAR AND NUMBER AND PER CENT OF THOSE WHO WERE WAGE EARNERS AND NONWAGE EARNERS AT END OF EACH SPECIFIED YEAR OUT OF SCHOOL.

NUMBER.

Year of leaving trade school.	Total number leaving trade school.	Earning wages in their trade.										
		Leaving trade school.	At end of each year out of trade school.									
			1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
1904–1914	744	721	619	446	313	239	176	122	66	32	15	4
1904–5	15	14	9	8	4	3	3	4	3	4	3	3
1905–6	34	34	29	24	22	19	17	16	15	9	[1] 8	1
1906–7	44	44	37	31	26	25	22	21	19	[2] 14	4	.....
1907–8	56	55	51	41	34	35	31	29	21	5	.....	.....
1908–9	78	75	69	60	50	45	38	33	8	.....	.....	.....
1909–10	95	95	85	68	59	51	[2] 48	19	.....	.....	.....	.....
1910–11	92	88	76	67	51	48	17	.....	.....	.....	.....	.....
1911–12	117	110	96	67	53	13	.....	.....	.....	.....	.....	.....
1912–13	76	73	68	53	14	.....	.....	.....	.....	.....	.....	.....
1913–14	137	133	99	27	.....	.....	.....	.....	.....	.....	.....	.....
		Earning wages in other occupations.										
1904–1914	744	20	97	126	152	115	102	72	51	32	21	12
1904–5	15	.....	4	6	9	9	10	9	8	6	7	7
1905–6	34	.....	4	7	7	9	13	10	10	12	11	5
1906–7	44	.....	7	9	13	12	13	11	11	10	3	.....
1907–8	56	1	5	9	12	13	16	16	17	4	.....	.....
1908–9	78	3	7	11	14	15	18	[2] 19	5	.....	.....	.....
1909–10	95	.....	7	14	19	23	26	7	.....	.....	.....	.....
1910–11	92	3	11	17	27	24	6	.....	.....	.....	.....	.....
1911–12	117	6	12	34	[2] 42	10	.....	.....	.....	.....	.....	.....
1912–13	76	3	7	15	9	.....	.....	.....	.....	.....	.....	.....
1913–14	137	4	33	4	.....	.....	.....	.....	.....	.....	.....	.....
		Not earning wages.										
1904–1914	744	[3] 3	[3] 28	[4] 68	[5] 89	[5] 93	[5] 74	[6] 70	[7] 58	[7] 43	27	14
1904–5	15	1	2	1	2	3	2	2	4	5	5	5
1905–6	34	.....	1	3	5	6	4	8	9	13	13	9
1906–7	44	.....	.....	4	5	7	9	12	14	19	9	.....
1907–8	56	.....	.....	6	10	8	9	11	16	6	.....	.....
1908–9	78	.....	2	7	14	18	22	25	15	.....	.....	.....
1909–10	95	.....	3	13	17	21	20	12	.....	.....	.....	.....
1910–11	92	1	5	8	14	20	8	.....	.....	.....	.....	.....
1911–12	117	1	9	16	21	10	.....	.....	.....	.....	.....	.....
1912–13	76	.....	1	8	1	.....	.....	.....	.....	.....	.....	.....
1913–14	137	.....	5	2	.....	.....	.....	.....	.....	.....	.....	.....
Grand total	.....	744	744	640	554	447	352	264	175	107	63	30

[1] Not including 2 whose working experience did not round out another year. Certain cases will have a working experience not quite as long and others will have a working experience a little longer than the main group, because all leaving during the school year, September to August, inclusive, are included in the class, so girls leaving in September of a particular year may show practically a year's advantage over the girl leaving in June or July.

[2] Not including 1 whose working experience did not round out another year.

[3] Including 1 of whom no trace could be found.

[4] Including 4 of whom no trace could be found.

[5] Including 7 of whom no trace could be found.

[6] Including 6 of whom no trace could be found.

[7] Including 2 of whom no trace could be found.

TABLE 47.—NUMBER OF GIRLS LEAVING BOSTON TRADE SCHOOL IN EACH SPECIFIED YEAR AND NUMBER AND PER CENT OF THOSE WHO WERE WAGE EARNERS AND NONWAGE EARNERS AT END OF EACH SPECIFIED YEAR OUT OF SCHOOL—Concld.

PER CENT.

Year of leaving trade school.	At leaving trade school.	At end of each year out of trade school.									
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
Earning wages in their trade.											
1904-1914	96.9	83.2	59.9	42.1	32.1	23.7	16.4	8.9	4.3	2.0	0.5
1904-5	93.3	60.0	53.3	26.7	20.0	20.0	26.7	20.0	26.7	20.0	20.0
1905-6	100.0	85.3	70.6	64.7	55.9	50.0	47.1	44.1	26.5	23.5	.....
1906-7	100.0	84.1	70.5	59.1	56.8	50.0	47.7	43.2	31.8	.....	.....
1907-8	98.2	91.0	73.2	60.7	62.5	55.4	51.8	37.5	.....	.....	.....
1908-9	96.1	88.5	76.9	64.1	57.7	49.0	42.3	.....	.....	.....	.....
1909-10	100.0	89.5	71.6	62.1	53.7	50.5	.....	.....	.....	.....	.....
1910-11	95.6	80.0	72.8	55.4	52.2	.....	.....	.....	.....	.....	.....
1911-12	94.0	82.1	57.3	45.3	.....	.....	.....	.....	.....	.....	.....
1912-13	94.7	89.5	69.7	.....	.....	.....	.....	.....	.....	.....	.....
1913-14	97.0	72.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Earning wages in other occupations.											
1904-1914	2.7	13.0	16.9	20.4	15.5	13.7	9.7	6.9	4.3	2.8	1.6
1904-5	.....	26.7	40.0	60.0	60.0	66.7	60.0	53.3	40.0	46.7	46.7
1905-6	.....	11.8	20.6	20.6	26.5	38.2	29.4	29.4	35.3	32.4	.....
1906-7	.....	16.0	20.5	29.5	27.3	29.5	25.0	25.0	22.7	.....	.....
1907-8	1.8	8.9	16.1	21.4	23.2	28.6	28.6	30.4	.....	.....	.....
1908-9	3.8	9.0	14.1	18.0	19.2	23.1	24.4	.....	.....	.....	.....
1909-10	.....	7.4	14.7	20.0	24.2	27.4	.....	.....	.....	.....	.....
1910-11	3.3	12.0	18.5	29.3	26.1	.....	.....	.....	.....	.....	.....
1911-12	5.1	10.3	29.1	36.0	.....	.....	.....	.....	.....	.....	.....
1912-13	4.0	9.2	20.0	.....	.....	.....	.....	.....	.....	.....	.....
1913-14	2.9	24.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not earning wages.											
1904-1914	0.4	3.8	9.1	12.1	12.5	10.0	9.4	8.0	5.8	3.6	1.9
1904-5	6.7	13.3	6.7	13.3	20.0	13.3	13.3	26.7	33.3	33.3	33.3
1905-6	.....	2.9	8.8	14.7	17.6	11.8	23.5	26.5	38.2	38.2	.....
1906-7	.....	.....	9.1	11.4	15.9	20.5	27.3	31.8	43.2	.....	.....
1907-8	.....	.....	10.7	18.0	14.3	16.1	19.6	28.6	.....	.....	.....
1908-9	.....	2.6	9.0	18.0	23.1	28.2	32.1	.....	.....	.....	.....
1909-10	.....	3.2	13.7	17.9	22.1	21.1	.....	.....	.....	.....	.....
1910-11	1.1	5.4	8.7	15.2	21.7	.....	.....	.....	.....	.....	.....
1911-12	.9	7.7	13.7	18.0	.....	.....	.....	.....	.....	.....	.....
1912-13	.....	1.3	10.5	.....	.....	.....	.....	.....	.....	.....	.....
1913-14	.....	3.7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total	100.0	100.0	86.0	74.5	60.1	47.2	35.2	23.5	14.4	8.5	4.0

Discarding these two classes from consideration, as abnormal, the table seems to show a tendency toward a greater sifting out from the trade in the successive classes. Apparently, the classes of the first five years, with the exception noted, show greater stability than those of the second; thus, if the proportions remaining in their trade at the end of any given year be compared, those for the first five years are, on the whole, larger than those for the second. The difference is not marked, and the classes to be compared are few, so that much stress

can not be laid on this showing, but there seem indications that the tendency is increasing steadily.

This tendency agrees with what is known of the changing opportunities for young workers in the custom sewing trades, especially in the dressmaking trade, which was chosen by more than half of the 744 girls studied. It is known that in custom dressmaking opportunities for girls to enter the trade have decreased very considerably in the last five years. This suggests the importance for the trade school of making a careful study of the market and of following up the pupils sent out. Otherwise it is possible that the girl who has gone out a year or two previously may be supplanted by the young girl just sent out, who can meet the limited demand for young workers.

Corresponding with the decrease in the proportions remaining in their own trades, the table shows an increase in the number going into other trades. In other words, the tendency is not to leave the industrial world, but merely to enter some trade in which the young worker has better opportunity than in the sewing trades as they are now developing. There seems to have been an interesting conflict between increasingly better organization of trade training and decreasing trade opportunities. For instance, in the first and second years out of trade school a decreasing proportion have gone into other wage-earning occupations from the classes of 1905–6 down to 1909–10, after which the proportion increases again. In the third, fourth, and fifth years out of trade school the proportions going into other wage-earning occupations decreases from 1905–6 down to 1908–9 and then begins to increase again. The misfortune has been that as the training was developed and presumably became better organized and more nearly perfected for the custom sewing trades, the rapid growth of the manufacture of ready-made clothing has decreased the opportunities for young girls to profit by their training and neutralized the better preparatory work now being done.

AGE IN RELATION TO PERMANENCE IN TRADE.

The preceding tables have shown that there is a steady exodus from the trade trained for, beginning as soon as the girls enter the industrial world. The rate varies from year to year but the process is on the whole continuous, so that the proportion of any given group working at their own trade decreases as the time out of trade school increases. Since the increase in the period out of school means also an increase in the age of the former pupils, this movement from the trade bears a distinct relation to the age of the workers. The following table gives the distribution of the workers studied by age groups:

TABLE 48.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS WHO WERE WAGE EARNERS AND NONWAGE EARNERS AT EACH SPECIFIED AGE.

NUMBER.

Age.	Girls of specified age who were—								Grand total.
	Wage earners—			Nonwage earners—					
	In trade trained for.	In other occupations.	Total.	Married.	At home.	At school.	Lost trace.	Total.	
16 and under 18 years	77	27	104	2	3	6	.....	11	115
18 and under 20 years	102	56	158	9	13	3	.....	25	183
20 and under 25 years	156	102	258	62	43	3	5	113	371
25 years and over	17	22	39	24	4	1	1	30	69
Total	352	207	559	97	63	13	6	179	[1] 738

PER CENT.

16 and under 18 years	67.0	23.5	90.5	1.7	2.6	5.2	.....	9.5	100.0
18 and under 20 years	55.7	30.6	86.3	4.9	7.1	1.7	.....	13.7	100.0
20 and under 25 years	42.0	27.5	69.5	16.7	11.6	.8	1.4	30.5	100.0
25 years and over	24.6	31.9	56.5	34.8	5.8	1.5	1.4	43.5	100.0
Total	47.7	28.0	75.7	13.1	8.5	1.8	.8	24.3	100.0

[1] Not including 6 not living.

The proportion working at their own trade diminishes from two-thirds among those aged 16 but less than 18 to a little less than one-fourth among those aged 25 or over. While this decrease is going on, the proportion engaged in other wage-earning occupations rises from 23.5 per cent in the first group to 31.9 per cent in the last. This increase accounts for only a portion of those dropping out of their own trade, and the increase in the proportion of those not earning, which rises from 9.5 per cent in the first group to 43.5 in the last, shows that the drain from the trades for which the girls were primarily trained is due largely to domestic demands. Up to the age of 20 comparatively few girls dropped out as a consequence of marriage; a desire for further school training or a need for their services at home accounts for their leaving. After 20, the proportion marrying and dropping out increases rapidly, so that one-third of the whole group aged 25 or over has left on this account. The proportion "at home" increases steadily up to 25, after which age very few leave to stay at home, excepting, of course, those who have married and are staying in their own homes.

SHIFTING OF INDIVIDUAL TRADE-SCHOOL GIRLS.

The tables already given have shown a considerable sifting out of the trade trained for and eventually out of the wage-earning world within the group of girls who have at some time used the trade they were trained for. To show what this means to the individual girl,

the experiences are given of 12 girls who were trained for dressmaking and entered their trade. And to show the full significance of these facts, they are contrasted with the experiences of six untrained girls, taken from among the girls aged 16 to 21 years who have applied at the Boston school offices for educational certificates.

TABLE 49.—OCCUPATIONS FOLLOWED FROM YEAR TO YEAR OF 12 TRADE-SCHOOL GIRLS TRAINED IN DRESSMAKING.

[These cases represent an unusual amount of drifting on the part of trade-school girls. They have been selected to illustrate the variety of occupations into which these young girls may drift. When compared with the variety of occupations into which the young untrained girls sometimes drift (see Table 50), even these extremes are remarkably stable.]

Girl No.	Occupation at the end of each year after leaving trade school.					
	On first leaving.	First year.	Second year.	Third year.	Fourth year.	Fifth year.
1	Plain sewer	Plain sewer	Business college.	Bookkeeper		
2	General sewer.	General sewer.	Bundle girl	Clothing factory.	Embroidery	
3	General sewer.	General sewer.	Nurse girl	School	Nurse girl	Trade school.
4	Skirt finisher.	Waist finisher.	Waist finisher.	Business college.	Stenographer.	Stenographer.
5	Finisher	Finisher	Shop aid	Studying music.	Studying music.	Finisher.
6	Finisher	Finisher	Skirt girl	Teaching sewing.	Head, skirts	Teaching sewing.
7	General sewer.	General sewer.	General sewer.	Office girl	Ill	Married.
8	Plain sewer	Plain sewer	Skirt lining	Skirt lining	Plain sewer	Ill.
9	Finisher	Finisher	General sewer.	General sewer.	General sewer.	General sewer.
10	General sewer.	General sewer.	At home	At home	Artist's model.	Artist's model.
11	Sleeve finisher.	Sleeve finisher.	General sewer.	Finisher	Finisher	Shoe operator.
12	Plain sewer	Office girl	Office girl	Office girl	Office girl	Office girl.

Girl No.	Occupation at the end of each year after leaving trade school.				
	Sixth year.	Seventh year.	Eighth year.	Ninth year.	Tenth year.
1					
2					
3	Insane				
4	Stenographer				
5	Finisher	Office work			
6	Teaching sewing.	Teaching sewing.			
7	Married	Married			
8	Ill	Ill	Private dressmaker.		
9	Married	Married	General sewer		
10	At home	At home	At home	At home	
11	Plain sewer	Alterations	Married	Married	Married.
12	Office girl	Married	Married	Married	Independent dressmaker.

The trade-school girls were selected as showing an unusual amount of shifting about, yet compared with the untrained girls they seem stable. It is to be noted that none of the employments shown in Table 49 are secondary or "filling-in" occupations, such as a girl may take up during the dull season of her own trade, merely to busy herself during the interim, but with no idea of following permanently. Case No. 11, who has been out 10 years and had a more varied career than any of the others, has had only six different wage-earning occupations, and these have been closely related, only one being outside

of the dressmaking trade. No. 5, with seven years out of school, has made five changes, but has spent three years in one occupation and two in another. No. 9, who has been out eight years, has had only two wage-earning occupations.

By contrast, the untrained girls shown in Table 50, whose experience covers only one year or less, have held from 7 to 16 positions, often in entirely unrelated industries. No. 1, for instance, has held 16 positions, changing from department store to grocery store, from food product factory to a dressmaking shop, thence back to a department store, and then through a series of factories, no one position appearing to have the slightest relation to the next.

TABLE 50.—DATES OF APPLICATION FOR EMPLOYMENT CERTIFICATES, AT THE BOSTON SCHOOL OFFICES, OF SIX GIRLS AND KIND OF ESTABLISHMENT ENTERED, 1913–14.

[These cases were selected as illustrations of the aimless drifting of young untrained girls. All do not drift about so much, others may drift more.]

Girl No. 1.		Girl No. 2.		Girl No. 3.	
Date of application.	Kind of establishment entered.	Date of application.	Kind of establishment entered.	Date of application.	Kind of establishment entered.
Oct. 8	Department store.	Dec. 2	Department store.	Sept. 27	Wholesale drug house.
Oct. 30	Department store.	Dec. 11	Dry goods store.	Oct. 21	Paper-box factory.
Dec. 27	Women's furnishing store.	Feb. 7	Dressmaker.	Oct. 28	Department store.
		Feb. 21	Nail factory.	Jan. 20	Engraving establishment.
Jan. 2	Department store.	Mar. 10	Laundry.		
Jan. 30	Grocery store.	Mar. 16	Dressmaker.	Mar. 24	Fruit store.
Feb. 2	Shoe factory.	May 26	Garter factory.	Mar. 27	Candy factory.
Apr. 6	Food product factory.	June 12	Opticians.	Apr. 15	Women's clothing factory.
Apr. 27	Dressmaking shop.	June 16	Nail factory.		
May 5	Dressmaking shop.	July 10	Department store.	May 4	Department store.
June 3	Department store.	Aug. 11	Printing establishment	May 6	Embroideries.
June 23	Thermometer factory.	Sept. 9	Textile factory.	June 10	Electrical supplies.
July 29	Slipper factory	Sept. 10	Candy factory.	Aug. 21	Shoe factory.
July 30	Paper-cup factory.	Sept. 16	Candy factory.	Sept. 2	Embroideries.
Aug. 5	Bookbindery.	Sept. 23	Brush factory.	Sept. 11	Candy factory.
Sept. 8	Grocery store.				
Sept. 21	Speedometer factory.				

Girl No. 4.		Girl No. 5.		Girl No. 6.	
Feb. 2	Shoe factory.	Nov. 8	Razor factory.	Jan. 29	Soap factory.
Feb. 26	Women's furnishing store.	Nov. 26	Brush factory.	Feb. 29	Candy factory.
		Dec. 3	Paper-box factory.	Mar. 23	Shoe counter factory.
Mar. 2	Department store.	Mar. 23	Garter factory.	Mar. 31	Shoe findings factory.
Mar. 11	Millinery shop.	Apr. 23	Children's clothing factory.	May 7	Bottling company.
Mar. 14	Women's furnishing store.			May 21	Shoe factory.
		May 19	Supply company.	Sept. 17	Candy factory.
Apr. 29	Department store.	June 10	Printing office.		
June 8	Fancy boxes and cases.	Aug. 5	Food packing house.		
July 16	Thermometer factory.	Aug. 7	Slipper factory.		
July 29	Slipper factory.	Aug. 21	Glove fastener factory.		
July 30	Paper-cup factory.	Aug. 27	Confectionery packing.		
Aug. 5	Bookbindery.				
Aug. 13	Varnish factory.				

Among the trade-school girls shown in Table 49 several gave up an occupation for the sake of securing training for another, which was then followed steadily. For instance, No. 1 and No. 4 dropped their trades to take a course in a business college, after which one went to work as a bookkeeper and the other as a stenographer. The expe-

riences of the untrained girls do not show any parallels to this. No. 2, for example, would not find that her experience in a laundry would benefit her in the dressmaking establishment she next entered, nor would the few weeks in a department store in July increase her efficiency in the printing establishment she entered in August. The movement from one occupation to another appears to have been simply an aimless wandering about; presumably the girls had no training, could not do anything particularly well, and soon tired of the unskilled jobs, which were all they could secure, or, being inefficient, were soon laid off.

MOVEMENT OF TRADE-SCHOOL GIRLS FROM ONE TRADE TO ANOTHER, OR FROM ONE POSITION TO ANOTHER.

So far the discussion has dealt only with the stability of the trade-school girl in her own trade and in the industrial world. It is evident that this does not cover the whole question. A girl who has left her own trade may perhaps continue to make changes, and a girl remaining in her own trade may drift about from employer to employer with most unsatisfactory results. Table 51 shows the extent to which the first form of instability, the movement from one trade to another after leaving the primary trade, has prevailed among the 733 trade-school girls who entered the sewing trades:

TABLE 51.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS WHO FOLLOWED ONE TRADE ONLY AND WHO FOLLOWED TWO OR MORE TRADES AFTER ENTERING EACH SPECIFIED TRADE, BY NUMBER OF YEARS AT WORK.

NUMBER.

Years at work.	Girls who followed one trade only and two trades or more after entering the trade of—												Total in one trade only.	Total in two or more trades.	Total.
	Dressmaking.[1]			Millinery.[2]			Cloth machine operating.[3]			Straw machine operating.[4]					
	One only.	Two or more.	Total.	One only.	Two or more.	Total.	One only.	Two or more.	Total.	One only.	Two or more.	Total.			
Under 1.....	47	11	58	14	7	21	7	5	12	10	6	16	78	29	107
1 and under 3.	87	34	121	27	24	51	16	13	29	11	7	18	141	78	219
3 and under 5.	80	43	123	16	20	36	8	8	16	9	12	21	113	83	196
5 and under 7.	55	21	76	11	18	29	4	9	13	7	3	10	77	51	128
7 and over....	22	19	41	8	10	18	2	9	11	2	5	7	34	43	77
Not reported.	3	1	4	2	.....	2	.....	.....	.....	.....	.....	.....	5	1	6
Total...	294	129	423	78	79	157	37	44	81	39	33	72	448	285	733
PER CENT.[5]															
Under 1.....	81.0	19.0	100.0	66.7	33.3	100.0	58.3	41.7	100.0	62.5	37.5	100.0	72.9	27.1	100.0
1 and under 3.	71.9	28.1	100.0	53.0	47.0	100.0	55.2	44.8	100.0	61.1	38.9	100.0	64.4	35.6	100.0
3 and under 5.	65.0	35.0	100.0	44.4	55.6	100.0	50.0	50.0	100.0	42.9	57.1	100.0	57.7	42.3	100.0
5 and under 7.	72.4	27.6	100.0	37.9	62.1	100.0	30.8	69.2	100.0	70.0	30.0	100.0	60.2	39.8	100.0
7 and over....	53.7	46.3	100.0	44.4	55.6	100.0	18.2	81.8	100.0	28.6	71.4	100.0	44.2	55.8	100.0
Total...	69.5	30.5	100.0	49.7	50.3	100.0	45.7	54.3	100.0	54.2	45.8	100.0	61.1	38.9	100.0

[1] 13 had had three and 5 had had four primary trades.
[2] 16 had had three and 2 had had four primary trades.
[3] 4 had had two, 11 had had three, 1 had had five, and 1 had had six primary trades.
[4] 4 had had three and 2 had had four primary trades.
[5] Based on number whose time at work was not reported.

While the amount of changing from one trade to another differed with the length of time in the industrial world, it was not large. For the whole group, something over three-fifths (61.1 per cent) had had only one trade, though some of these girls had been out of the trade school for seven years and over. It has been pointed out before that those taking up dressmaking show a greater tendency to remain in their own trade than those who take up the other sewing trades. Coupled with this is a greater tendency on the part of the dressmakers to make few changes after leaving their own trade, if they do leave it. Only 30.5 per cent of the dressmakers had had two or more trades, against 50.3 per cent of the milliners, 54.3 per cent of the cloth power-machine operators and 45.8 per cent of the straw power-machine operators.

Turning to the question of instability within their own trades, the following table shows the extent to which the girls have changed employers during their experience after leaving the trade school:

TABLE 52.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS ENTERING SEWING TRADES WHO HAD WORKED FOR SPECIFIED NUMBER OF FIRMS, BY NUMBER OF YEARS AT WORK.

NUMBER.

Years at work.	Girls who entered sewing trades and worked for specified number of firms in primary trades.[1]						Total.
	One firm.	Two firms.	Three firms.	Four firms.	Five firms or more.	Not reported.	
Under 1	42	43	19	2	1	.....	107
1 and under 2	31	50	27	10	2	.....	120
2 and under 3	19	31	31	13	5	.....	99
3 and under 4	14	28	24	12	22	1	101
4 and under 5	11	23	27	19	14	1	95
5 and under 6	10	17	19	16	16	.....	78
6 and under 7	5	7	9	14	13	2	50
7 and under 8	2	6	10	6	8	.....	32
8 and over	8	6	10	7	13	1	45
Not reported	1	.....	2	.....	.....	3	6
Total	143	211	178	99	94	8	733

PER CENT.[2]

Under 1	39.3	40.2	17.8	1.8	0.9	.....	100.0
1 and under 2	25.8	41.7	22.5	8.3	1.7	.....	100.0
2 and under 3	19.2	31.3	31.3	13.1	5.1	.....	100.0
3 and under 4	14.0	28.0	24.0	12.0	22.0	.....	100.0
4 and under 5	11.7	24.5	28.7	20.2	14.9	.....	100.0
5 and under 6	12.8	21.8	24.4	20.5	20.5	.....	100.0
6 and under 7	10.4	14.6	18.7	29.2	27.1	.....	100.0
7 and under 8	6.2	18.8	31.2	18.8	25.0	.....	100.0
8 and over	18.1	13.6	22.9	15.9	29.5	.....	100.0
Total	19.7	29.1	24.5	13.7	13.0	.....	100.0

[1] Primary trade signifies the main or principal occupation of the worker. Thus, a milliner may be a waitress at a summer hotel, but she regards this occupation as merely a means of supplementing her income from her real or "primary" occupation, millinery. If she should decide to go south to the winter hotels instead of returning to the city for the fall season in millinery, domestic service would become her primary trade.

[2] Based on number whose time at work was reported.

In considering what these changes mean, the seasonal character of the sewing trades for which these girls were trained must be borne

in mind. Generally speaking, they would be laid off once, and frequently twice a year on account of the dull season. Remembering this, the extent to which they returned to their former employers is rather striking. Very nearly one-fifth had worked only for their first employer, although some had been in the industrial world for from 8 to 10 years. Only 26.7 per cent of the whole group had worked for more than three different employers in their primary trade. Naturally the proportion having had several employers was larger among those who had been out longest than among those who had recently left the school. Yet even among those who had been out for eight years or more, less than one-half (45.4 per cent) had had more than three employers, while among those who had been out less than five years only 19.2 per cent had worked for four or more firms.

SECONDARY EMPLOYMENTS.

The seasonal fluctuations of the sewing trades are pronounced, and the working seasons in millinery and the manufacture of straw hats are very short. Nevertheless, the girls do not resort to secondary occupations in any large degree. The following table shows the extent to which they have filled in the dull seasons with work at another trade or occupation.

TABLE 53.—NUMBER OF BOSTON TRADE SCHOOL GIRLS AT WORK EACH CLASSIFIED NUMBER OF YEARS WHO HAVE HELD SPECIFIED NUMBER OF SECONDARY POSITIONS TO FILL IN DULL SEASON.

Years at work.	Girls at work each classified number of years who have held specified number of secondary employments.[1]								Total.
	One position.	Two positions.	Three positions.	Four positions.	Five positions.	Six positions.	Seven positions.	Eight positions.	
Under 1	12	1	1						14
1 and under 2	18	1				1			20
2 and under 3	7	3							10
3 and under 4	17	6	3					1	27
4 and under 5	8	8	2	1	2				21
5 and under 6	7	1	1	2		1			12
6 and under 7	3	2	2	1	2	1	1		12
7 and under 8	1	4	1						6
8 and over	7	3						1	11
Total	80	29	10	4	4	3	1	2	133

[1] Secondary employment signifies temporary work regarded as a means of supplementing the income from the primary occupation and of filling in idle time.

It will be seen that less than one-fifth (17.9 per cent) of the 744 girls who had used their trades had filled in the dull season with secondary employments, and of these only two-fifths had had more than one secondary position. A study of the girls taking these other occupations show that the practice is more common among those engaged in straw machine operating than among those in the other three trades; the long unbroken stretch of five, six, or seven months

of unemployment in the straw-stitching industry probably accounts for this difference.

Although comparatively few resorted to this means of increasing their annual earnings, yet when there was real pressure at home a girl occasionally dovetailed occupations in a remarkable fashion. The following table shows the manner in which two girls avoided unemployment, as well as the wages they earned in their primary and secondary occupations:

TABLE 54.—OCCUPATIONS FOLLOWED IN SIX SUCCESSIVE YEARS BY TWO BOSTON TRADE SCHOOL GIRLS DURING FLUCTUATIONS IN SEASONAL WORK, WITH TIME EMPLOYED, WAGES, ETC.

GIRL NO. 1.

Year.	Month beginning—	Time employed.		Time idle.		Industry.	Occupation.	Last weekly wage.	Reason for leaving.
		Mos.	*Wks.*	*Mos.*	*Wks.*				
1st...	September, 1909.	3	.....	.....	.....	Millinery.....	Errands.....	$4.00	Employer married.
	December, 1909.	3	.....	.....	.....	Waist manufacture.	Hand finisher.	4.00	Recalled.
	March, 1910.....	3	.....	.....	.....	Millinery.....	Maker.....	4.00	Dull season.
	June, 1910.....	3	.....	.....	.....	Waist manufacture.	Waist finisher.	4.50	Recalled.
2d....	September, 1910.	3	.....	.....	.....	Millinery.....	Maker.....	4.50	Dull season.
	December, 1910.	3	.....	.....	.....	Waist manufacture.	Hand finisher.	5.00	Recalled.
	March, 1911.....	3	.....	.....	.....	Millinery.....	Maker.....	5.00	Dull season.
	June, 1911.....	3	.....	.....	.....	Dress manufacture.	Waist finisher.	6.00	Recalled.
3d....	September, 1911.	3	.....	.....	.....	Millinery.....	Maker.....	6.00	Dull season.
	December, 1911.	3	.....	.....	.....	Dress manufacture.	Hand finisher.	6.00	Recalled.
	March, 1912.....	4	.....	.....	.....	Millinery.....	Maker.....	7.00	Dull season.
	July, 1912.....	2	.....	.....	.....	Dress manufacture.	Hand finisher.	7.00	Recalled.
4th...	September, 1912.	3	.....	.....	.....	Millinery.....	Maker.....	7.50	Dull season.
	December, 1912.	3	.....	.....	.....	Dress manufacture.	Hand finisher.	7.00	Recalled.
	March, 1913.....	4	.....	.....	.....	Millinery.....	Maker.....	7.50	Dull season.
	July, 1913.....	2	.....	.....	.....	Dress manufacture.	Hand finisher.	6.00	Recalled.
5th...	September, 1913.	4	.....	.....	.....	Millinery.....	Maker.....	8.00	Dull season.
	December, 1913.	3	.....	.....	.....	Dress manufacture.	Hand finisher.	6.00	Recalled.
	March, 1914.....	4	.....	.....	.....	Millinery.....	Maker.....	8.00	Dull season.
	July, 1914.....	2	.....	.....	.....	Straw hat manufacture.	Hand finisher.	6.00	Return to millinery.
6th...	September, 1914.	.....	.....	.....	.....	Millinery.....	Maker.....	9.00	

GIRL NO. 2.

1st...	September, 1909.	8	2	1	2	Dressmaking..	Sleeve finisher.	$6.00	Dull season.
	July, 1910.....	2	.....	.....	.....	Settlement house.	Interpreter....	3.50	"To go back to work."
2d...	September, 1910.	9	.....	1	.....	Dressmaking..	Sleeve finisher.	7.00	Dull season.
	July, 1911.....	2	.....	.....	.....	Private home.	Housework...	3.00	"To go back to work."
3d....	September, 1911.	8	2	1	.....	Dressmaking..	Sleeve finisher.	8.00	Dull season.
	July, 1912.....	1	2	1	.....	Underwear manufacture.	Machine operating.	6.00	"To go back to work."
4th...	September, 1912.	9	.....	1	.....	Dressmaking..	Charge of sleeves.	9.50	Dull season.
	July, 1913.....	1	2	.....	2	.....do.....	General sewing.	9.50	End of season.
5th...	September, 1913.	9	.....	1	.....	.....do.....	Charge of sleeves.	12.00	Dull season.
	July, 1914.....	2	.....	.....	.....	Private home.	Child's nurse..	4.00	"To go back to work."
6th...	September, 1914.	.....	.....	.....	.....	Dressmaking..	Charge of sleeves.	12.00	

Girl No. 1 was an Italian girl, aged 20, who, with her two sisters, was supporting her mother and putting a younger sister through high school. The father was dead. She was a grammar school graduate who had attended the Boston Trade School for 15 months and had entered the millinery trade at the age of 15. For five years she maintained, she had never lost any time, dovetailing her millinery positions with work in women's ready-made clothing factories, in which she had practically as permanent a position as in her original trade. Girl No. 2, also an Italian girl of 20, was the main support of her family, her father being a teamster who was out of work all winter, and her brother an invalid. She alternated her work in her own trade, dressmaking, with housework, care of children, sewing for other dressmakers, and work in factories, but in spite of this versatility usually lost a month every summer.

Another trade-school girl, not included in the table, was a straw-machine operator, whose family were in fairly comfortable circumstances. She found that the long dull season of the straw-stitching trade which included the summer months set her free for work in the summer hotels during their busy season, and she went every year to the mountains for this purpose. Here she was obliged to work for $3.50 per week, "with board and tips," while in her own trade, making straw hats, she could average $20 a week and earn as high as $35 a week in the full season.

During the year preceding the investigation 352 of the trade-school girls studied were working at their primary trade, and of these 94 resorted at some time during the year to secondary employments. Table 51 shows in what industrial group the latter found employment and at what wages.

TABLE 55.—NUMBER OF BOSTON TRADE SCHOOL GIRLS WORKING IN SECONDARY EMPLOYMENTS DURING ONE YEAR WHO EARNED EACH CLASSIFIED WEEKLY AMOUNT AND PER CENT IN EACH KIND OF EMPLOYMENT.

Kind of secondary employment.	Girls employed during dull season in secondary employments who earned—					Total.	
	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not estimated.[1]	Number.	Per cent.
In primary trade	.....	2	.....	1	31	34	36.2
Manufactures	13	4	2	1	.....	20	21.3
Domestic and personal service	5	1	9	3	1	19	20.2
Trade	2	7	5	.....	.....	14	14.9
Clerical occupations	3	2	.....	1	.....	6	6.4
Professional service	1	.....	.....	.....	.....	1	1.0
Total	24	16	16	6	32	94	100.0

[1] Independent dressmakers and milliners who could not estimate their earnings.

Many of the girls have opportunity to make dresses for friends and neighbors in their idle time, but since the work is sporadic and the

price different for every dress and every customer the majority found it impossible to estimate the amount earned in this way.

The largest single group found employment within their own trade, most of them working independently and having very little idea of what their earnings had been. Manufactures and personal and domestic service were taken up by nearly equal numbers, about one-fifth of the group going into each. The earnings, it will be seen, are decidedly low. Of the 62 who could report definitely what they had made, over three-fifths (64.5 per cent) had earned less than $8 by their secondary activities. This would seem to indicate a short period of employment, as well as low wages. The data at hand indicate that the earnings in the secondary occupation are seldom equal to those in the original occupation. Girl No. 1 (Table 54) sometimes got her successive increases in wages first in her primary, sometimes in her secondary trade until she got up to $7 a week, after which she never got as high wages in her secondary as in her primary trade. Girl No. 2 found her primary trade the more profitable, sometimes getting three times as much in this as in the work she took up during its dull seasons. The relatively low wage earned by the straw-hat stitcher in the hotel work she took up during the summers has already been mentioned.

The small earnings secured by the interim work may be one reason why so few resort to secondary occupations. Other reasons of course come into play. Some do not wish or need to work 12 months in the year, some are unwilling to leave home, and some will not or can not take the kind of work available.[1] Others can not get positions. Some girls have tramped the streets for weeks, have applied at all kinds of establishments, in all kinds of industries, and yet have been unable to find work. When they do secure a position, they naturally hesitate to undertake the nerve-racking experience again, so that many who get another job "just keep it," even when the busy season in their own trade comes around again. In other cases the parents, unwilling to allow their young daughters to be subjected to this experience every year, send them to commercial schools for a new kind of training, to hospitals to train for nurses, or advocate their entering stores, telephone offices, etc.

REASONS FOR LEAVING PRIMARY TRADE.

Comment has already been made on the fact that conditions within the trade have a good deal to do with the stability within it of the girls going into it from the trade school. This fact is empha-

[1] See May Allinson: Dressmaking as a trade for women in Massachusetts, Bul. No. 193, United States Bureau of Labor Statistics, p. 88.

A very few of the men workers in the cloak, suit, and skirt industry filled in with secondary occupations. See wages and regularity of employment in the cloak, suit, and skirt industry, Bul. No. 147, United States Bureau of Labor Statistics, p. 135.

sized by the reasons given by the girls who have left their trades to account for their action. The following table gives these reasons, grouped according to the trade left:

TABLE 56.—NUMBER AND PER CENT OF GIRLS GIVING SPECIFIED REASON FOR LEAVING THEIR TRADE.

Reason for leaving the trade.	Number.						Per cent.[1]					
	Dressmaking.	Millinery.	Power-machine operating on—		Cooking and design.	Total.	Dressmaking.	Millinery.	Power-machine operating on—		Cooking and design.	Total.
			Cloth.	Straw hats.					Cloth.	Straw hats.		
Lack of personal adjustment:												
Not successful in work:	4	3	6	1	.....	14	2.0	3.0	13.6	2.5	.....	3.6
Not long enough in trade school to learn	2	.....	.....	1	.....	3	1.0	.....	.....	2.5	.....	.8
Wanted something else	6	.....	1	.....	.....	7	2.9	.....	2.3	.....	.....	1.8
Total	12	3	7	2	.....	24	5.9	3.0	15.9	5.0	.....	6.2
Physical incapacity:												
Illness, not strong, weak eyes, etc	21	6	6	3	.....	36	10.4	5.9	13.6	7.5	.....	9.2
Color (Negro)	.....	.....	.....	1	.....	1	.....	.....	.....	2.5	.....	.3
Total	21	6	6	4	.....	37	10.4	5.9	13.6	10.0	.....	9.5
Trade conditions:												
Dislike of work, too hard, long hours	21	2	8	5	.....	36	10.4	2.0	18.2	12.5	.....	9.2
Not recalled, poor position or pay	10	6	7	1	.....	24	5.0	5.9	15.9	2.5	.....	6.2
Dull seasons	23	39	1	13	.....	76	11.4	38.6	2.3	32.5	.....	19.5
Too far from home	1	1	1	1	.....	4	.5	1.0	2.3	2.5	.....	1.0
"Got another job and just kept it"	13	12	5	2	.....	32	6.4	11.9	11.3	5.0	.....	8.2
Total	68	60	22	22	.....	172	33.7	59.4	50.0	55.0	.....	44.1
Advancement:												
For further schooling	6	4	1	1	1	13	2.9	4.0	2.3	2.5	33.3	3.3
For more professional work	14	7	1	1	1	24	7.0	6.9	2.3	2.5	33.4	6.2
Total	20	11	2	2	2	37	9.9	10.9	4.6	5.0	66.7	9.5
Domestic reasons:												
Wished to be at home	7	4	.....	1	.....	12	3.4	4.0	.....	2.5	.....	3.1
Helping or needed at home	21	1	4	2	.....	28	10.4	1.0	9.1	5.0	.....	7.2
Married	46	13	3	5	1	68	22.8	12.8	6.8	12.5	33.3	17.4
Total	74	18	7	8	1	108	36.6	17.8	15.9	20.0	33.3	27.7
Died or moved and lost trade	7	3	.....	2	.....	12	3.5	3.0	.....	5.0	.....	3.0
Unclassified	1	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....
Grand total	203	101	44	41	3	392	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not including those unclassified.

Taking the group as a whole, more left on account of dull seasons than for any other single reason. With these might be included those who "got another job and just kept it," since so often their reason for getting the other job was that they had been laid off owing to the slack season in their own trade. If these are included, over one-fourth left on account of the seasonal character of their trade,

a condition which they were powerless to remedy, and which is quite apart from any tendency to instability in the girls themselves. The next largest group, a little over one-sixth, left on account of marriage; about one-tenth left on account of physical incapacity and another tenth because they wished to be at home or were needed there. Almost the same proportion left to secure more schooling or to take more professional work. Dislike of the work or failure to succeed in it account for about one-sixth.

The importance of these several reasons varies from trade to trade. Among the dressmakers, who constituted by far the largest group, marriage was the principal cause for leaving, over one-fifth leaving on this account. Dull seasons, even including in this those who left because they wished to keep another job they had secured, accounts for only a little over one-sixth, and no other single cause for as much as one-eighth. In millinery the dull season accounts for more departures than in any other of these trades, constituting by far the most important single cause. One-eighth left on account of marriage and one-tenth to advance themselves. In cloth machine operating the dull season counts for little, but a lack of adjustment between the girl and the work is a serious cause of displacement. Of the 44 girls who dropped this trade, 15.9 per cent either failed in it or wanted something else, 18.2 per cent disliked the work or some of its accompaniments, and 13.6 per cent were physically unfitted for it. Sixteen per cent more left either because they were not recalled, which would seem to indicate that their work was not satisfactory, or because they had poor positions or poor pay. Almost two-thirds, therefore, of those who left the trade, and nearly two-fifths of those who entered it, were unfitted either from a physical or an industrial standpoint for the work which they had undertaken. These power-machine operating trades offer good opportunities for the more mature worker, but the young girls find them difficult, both because of the physical strain involved, and because they are left to a large extent to their own resources in carrying on the work. In the straw machine-operating trades, the dull season again becomes the most important of all reasons for leaving. Dislike of the work, physical incapacity and the like do not seem to have much more importance as reasons for leaving than in dressmaking.

SUMMARY.

It appears that two influences, industrial conditions and domestic demands, are important in withdrawing girls from their trades, the first, contrary to popular belief, weighing most heavily. The greatest sifting out from the trade comes within the first three years for all trades, but varies in degree in the different trades. Almost one-half of the milliners and machine operators had sifted out of their trade

by the end of the second year. In the millinery trades, short seasons are the predominating influence in driving girls out. In the power-machine operating trades, the sifting out is largely due to the inability of the young girl to meet the demands for independent production with the requisite speed. There are some indications that this sifting out from the trades, instead of decreasing, as might be expected with the better organization of the trade-school training, has increased during the last five years; this situation is probably due to the industrial evolution going on in the sewing trades. In general, however, the trade-school girl has shown remarkable stability in comparison with the untrained worker, three-fifths having worked only at one trade, and only about one-fourth having worked for more than three employers. In spite of the seasonal fluctuations of the trades they have entered, comparatively few resort to secondary occupations, and they only occasionally. The indications of increasing instability discovered in the experience of the girls going out from the school during the last five years, however, raise the question whether this permanence in trade and in position will continue in the future.

CHAPTER IV.—WAGES OF BOSTON TRADE SCHOOL GIRLS.

INTRODUCTION.

The wages of the pupils trained in a vocational school are of particular interest for several reasons. First, it is desirable to know whether the time spent in training in a trade school is as profitable or more profitable than a similar length of time spent in the industry in which training is given. There are still well-known educators who are dubious as to the advantages of trade-school training.[1] Second, vocational education is expensive and it is desirable to know whether the pupil can secure commensurate advantages in the trade. Third, it is advantageous to know, for each of the several trades, how long it takes a girl trained in the trade school to command an adequate wage, so that girls who must earn quickly shall not be directed into a trade involving long apprenticeship. Fourth, an appreciation and understanding of the many influences which determine ability to advance or even to persist in the trade is essential for efficient vocational guidance and direction.

A most important point to be kept in mind in this study of wages in the sewing trades is that the wage reported here is the nominal wage or weekly rate which is (1) reduced by absence or holidays and (2) depends wholly on the number of weeks actually worked. A study of the sewing trades in 1910–11 showed that the nominal weekly wage was reduced 10 per cent in custom dressmaking and 14 per cent in factory dressmaking by short absences alone, such as occasional days out for illness or holidays.[2] Almost two-thirds of 533 trade-school girls in the trade for whom data on this point were obtained worked less than 10 months in their trade in a full year.[3] In the custom trades, which pay a weekly rate, the dull season means total unemployment. In the factory trades, which pay a piece rate, the girls may continue to do what work comes in, but their weekly earnings will be much smaller, as they are paid only for the actual work turned out.

The wages vary in significance in the several trades because of the difference in length of the working season and in methods of wage payment; also the number of girls in the several trades is very unequal, which again affects the significance of the wages reported. Accordingly, the wages for the different trades will in many cases be pre-

[1] Anna C. Hedges: Wage worth of school training (1915), p. 9.

[2] May Allinson: Dressmaking as a trade for women in Massachusetts. Bul. No. 193, United States Bureau of Labor Statistics.

[3] See Table 80, p. 143.

sented separately. The workers in the millinery trades, whether custom or wholesale millinery or the manufacture of straw hats, have very short seasons. Moreover, those working in the custom trades, dressmaking and millinery, are usually paid weekly rates, while those in the power-operating industries are usually pieceworkers. The dressmaking trade has been most emphasized in the trade school, and has received 56.9 per cent of the 774 girls studied who have utilized their training.

The attempt to secure a complete list of all positions held and of the wage received, both for all positions and, in the case of a permanent position, for each year, has been on the whole more successful than was anticipated, because the majority of the girls have not had a long working experience nor held a large number of positions. The heading "Not reported" or "Unclassified," however, may hide the story of a long series of unsuccessful efforts to get the truth. For instance, one girl who entered a dressmaking shop on leaving school soon went into a bookbindery, where she has been working 10 years on a piece wage. Obviously, she could not remember nor estimate her wages for the past 10 years. The investigator went to her employer, explained the purpose and importance of securing her wage for successive years, and after some persuasion he agreed to try to secure from the pay rolls the girl's weekly wage for each successive year. On the appointed day the investigator hopefully returned. The bookkeeper presented a neat tabulation of the girl's total earnings for each of the last three years, but said the books for the preceding four years had been burned. The first seven years' wages for this girl were thus returned "Not reported." The difficulty was not always with those receiving wages. The girls who did independent dressmaking were sometimes unable to estimate their weekly earnings, and where they were unwilling to venture the investigator feared to tread, so their wages for these years were left unclassified. In general, however, the girls, sometimes with the aid of their mother, father, or young sister, were able to remember their wages and positions with surprising clearness, for they have drifted about very little. A previous investigation of the larger portion of the older workers of this same group made in 1910 showed a comforting correspondence in the wages for the earlier years of their wage-earning career, and served as a check on these later returns.

AVERAGE WEEKLY WAGES IN SUCCESSIVE YEARS.

For a preliminary glimpse into the possibilities of wage advancement, the average wage earned in each successive year out of the trade school may be suggestive. As many girls drift into other occupations, the wages earned in the trades for which they were trained and in other occupations are presented separately, in order to show financial opportunities in those trades which the trade schools have adopted.

GIRLS REMAINING IN TRADE FOR WHICH TRAINED AND THOSE LEAVING IT FOR OTHER OCCUPATIONS.

The following table gives, by trades, the average wages for the girls who remained in the trades for which they had been trained, and also the average wages of those who left their trades, without distinction as to the occupation entered:

TABLE 57.—NUMBER AND AVERAGE WEEKLY WAGES, WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME, OF BOSTON TRADE SCHOOL GIRLS TRAINED FOR AND EMPLOYED IN SPECIFIED TRADES AND OF GIRLS TRAINED FOR BUT EMPLOYED IN OTHER THAN SPECIFIED TRADES.

[Table includes only those for whom wages were reported.]

I. GIRLS TRAINED FOR AND EMPLOYED IN SPECIFIED TRADES.

Length of time out of trade school.	Dressmaking.		Millinery.		Power-machine operating on—				Total.	
					Cloth.		Straw hats.			
	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.
At first leaving	414	$5.44	151	$5.15	70	$5.14	64	$8.23	699	$5.60
At the end of—										
1st year	375	6.15	117	6.11	51	6.44	56	9.59	599	6.48
2d year	279	7.07	80	7.24	39	7.12	33	12.47	431	7.51
3d year	213	7.94	50	8.63	22	8.27	18	14.56	303	8.47
4th year	162	8.75	39	9.72	15	8.23	13	14.96	229	9.23
5th year	123	9.35	30	10.62	9	9.06	9	16.94	171	9.95
6th year	83	10.63	23	11.54	9	9.96	5	17.20	120	11.03
7th year	44	11.24	14	11.44	5	10.30	1	20.00	64	11.34
8th year	21	11.88	7	11.64	2	11.50	1	20.00	31	12.06
9th year	11	11.95	2	10.50	2	11.50	.....	.....	15	11.70
10th year	3	10.17	.....	.....	.....	.....	.....	.....	3	10.17

II. GIRLS TRAINED FOR BUT EMPLOYED IN OTHER THAN SPECIFIED TRADES.

At first leaving	6	$4.42	3	$5.50	8	$7.38	2	$2.75	19	$5.61
At the end of—										
1st year	32	6.94	26	7.21	23	6.85	11	6.59	92	6.95
2d year	46	6.84	40	7.39	22	6.68	14	7.14	122	7.02
3d year	58	8.03	48	7.77	23	7.33	15	7.70	144	7.79
4th year	49	8.34	31	8.92	17	7.80	11	8.77	108	8.45
5th year	41	9.19	29	9.84	16	7.88	8	9.00	94	9.15
6th year	23	10.65	22	9.27	13	7.96	7	11.07	65	9.70
7th year	18	12.39	15	10.03	10	8.40	4	11.75	47	10.73
8th year	14	12.50	6	11.67	7	8.36	2	11.00	29	11.23
9th year	11	13.00	2	10.00	7	8.64	.....	.....	20	11.18
10th year	5	14.90	.....	.....	6	7.83	.....	.....	11	11.04

For the 699 whose initial wage was reported, the average received at beginning was $5.60. In considering the adequacy of this, the age of the young workers must be taken into account. Of the total group who used their trade, 25.7 per cent were under 16, and 51.5 per cent 16 but under 18 on leaving the trade school.[1] Since entrance into the trade usually follows promptly on leaving the school, these proportions probably apply in the main to the group under consideration. Nine-tenths (90.8 per cent) of the whole group entered the dressmaking, millinery, or cloth machine-operating trades, the

[1] See Table 9, p .28.

average initial wage for the three being $5.24. The straw machine operators began at a much higher average, $8.23; their busy season, however, is short.

The girls who entered other than their own trades show a much greater range of average initial wages, ranging from $2.75 to $7.38, but the numbers concerned are so small that there is little significance in this fact. For the whole group the initial wage—$5.61—is almost identical with that for those who went into their own trades. At the close of the first year out of the trade school the girls in other than their own trade have a slight advantage over those who remained in their own trade, their average wage being $6.95 as against $6.48, the average for the larger group. After that, however, the average wage for the girls in their own trade is higher than for those in other occupations, the difference being especially marked from the sixth year onward.

GIRLS WHO NEVER USED TRADE FOR WHICH TRAINED.

A similar difference, except that the divergence is greater, appears if the girls who at some time used their trade be compared with those who had spent nine months or more at the trade school and afterwards became wage earners, but who never used the trade they had been trained for. The following table shows the average wages for these two groups at the end of each year out of trade school:

TABLE 58.—NUMBER AND AVERAGE WEEKLY WAGES, WHEN OUT OF TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME, OF GIRLS TRAINED FOR SEWING TRADES IN BOSTON TRADE SCHOOL WHO ENTERED THEIR TRADE AND OF THOSE WHO DID NOT USE THEIR TRADE.

[This table does not include 11 girls trained in cooking and design and using their trade or girls not reporting their wage at each specified period.]

Length of time out of trade school.	Sewing-trades girls—			
	Who entered their trade.		Who attended trade school 9 months or more but did not use their trade.	
	Number.	Average weekly wage.	Number.	Average weekly wage.
At first leaving	718	$5.60	59	$5.74
At the end of—				
1st year	691	6.55	58	6.19
2d year	553	7.41	49	6.42
3d year	447	8.25	49	7.52
4th year	337	8.99	33	7.68
5th year	265	9.67	22	8.18
6th year	185	10.56	12	8.50
7th year	111	11.09	9	8.06
8th year	60	11.66	4	7.00
9th year	35	11.31	.....	.....
10th year	14	10.90	.....	.....

Those who did not use their trade began wage earning at a slightly higher average wage than those who did, but by the end of the first

year they had lost the advantage, and from that time on those using their trade show the higher average, the difference becoming considerable as the number of years out of trade school increases.

TIME REQUIRED BY DIFFERENT GROUPS TO REACH $8 A WEEK.

One of the purposes of the study of wages is to discover how soon after leaving trade school a girl may expect to earn a living wage. If $8 be accepted as a minimum living wage, then in general the trade-school girls who remain in their trades have reached economic independence, as expressed in an average wage of $8, by the end of the third year; those who leave their own trades reach this point by the end of the fourth year, and those who never use their own trades by the end of the fifth year. There is considerable difference in this respect among those following different trades. The straw machine operators begin at an average wage of over $8, and by the end of the third year are averaging $14.56; the milliners and cloth machine operators have reached and passed the $8 mark by the end of the third year, and the dressmakers reach it somewhere between the end of the third and the fourth years out. The girls trained for the sewing trades who have left them show a curious difference in their rate of advancement in the trades they take up. Those trained for dressmakers who go into other trades average $8 a week sooner than those who remain in their trade; those who go out from cloth machine operating take seven years instead of three to reach this average, while the milliners and the straw machine operators take four. The number leaving their own trades for others is small, and it is impossible to say definitely what is the significance of this difference. The preceding chapter, however, has shown that many of those who leave their trade do so because they are unfitted, either physically, mentally, or by lack of suitable training, to succeed there, and it is entirely likely that this same handicap accounts for their lack of rapid progress in other trades. The girls who have never used their own trades do not reach the average of $8 a week until the end of the fifth year out of trade school. Summing up the situation in this respect, it appears that the girls who remain in the trade for which they were trained first reach this minimum of economic independence, then the girls who have used their own trades but have left them for others, and last the girls who never have used their own trade.

RATE OF ADVANCE IN DIFFERENT GROUPS.

The rate of increase of wages in the different groups is shown by the Table 59. The table shows the rate of advance over the initial wage when the girls were out of school each specified number of years and the rate of advance of wages at the end of each year out of school over wages received at the end of the preceding year.

TABLE 59.—PER CENT OF INCREASE, OVER INITIAL WAGES AND OVER WAGES IN EACH PRECEDING PERIOD, IN AVERAGE WEEKLY WAGES PAID BOSTON TRADE SCHOOL GIRLS WHEN OUT OF SCHOOL EACH SPECIFIED NUMBER OF YEARS.

Years out of trade school.	Per cent of increase over initial wage.							
	Girls using their trade at specified period.					Girls working in other occupations at specified period.	All girls using their trade at some time.	Girls never using their trade.
	Dressmaking.	Millinery.	Power-machine operating on—		All girls using their trade.			
			Cloth.	Straw hats.				
At the end of—								
1st year	13.1	18.4	25.3	16.5	15.7	23.9	17.0	8.0
2d year	30.0	40.3	38.5	51.5	32.3	25.1	32.3	11.8
3d year	46.0	87.2	60.9	76.9	51.3	38.9	47.3	31.0
4th year	60.8	88.3	60.1	81.8	64.8	50.6	60.5	33.8
5th year	71.9	105.8	76.3	105.8	77.7	63.1	72.6	42.5
6th year	95.4	123.6	93.8	109.0	97.0	73.0	88.6	48.1
7th year	106.6	121.7	100.4	.....	102.5	91.3	98.0	40.4
	Per cent of increase in wages over those in preceding period.							
At the end of—								
1st year	13.1	18.4	25.3	16.5	15.7	23.9	17.0	8.0
2d year	15.0	18.5	10.6	30.0	15.9	1.0	13.1	3.7
3d year	12.3	19.2	16.2	16.8	12.8	11.0	11.3	17.1
4th year	10.2	12.6	[1]5.0	2.7	9.0	8.5	9.0	2.1
5th year	6.9	9.3	10.1	13.2	7.8	8.3	7.6	6.5
6th year	13.7	8.7	9.9	.9	10.9	6.0	9.2	3.9
7th year	5.7	[1].8	3.4	.....	2.8	10.6	5.0	[1]5.2

[1] Decrease.

It will be seen that the rate of increase is, on the whole, continuous; that it is at once greater and more regular among those using their own trade than among those who have left it for others, and that, as between the trades, millinery shows the greatest percentage of increase over the initial wage.

TABLE 60.—AVERAGE WAGES OF BOSTON TRADE SCHOOL GIRLS WHEN OUT OF TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME AND RANGE OF WAGES PAID MIDDLE 50 PER CENT.

Length of time out of trade school.	Average wages.[1]	Range of wages paid middle 50 per cent.[2]
At first leaving	$5.60	$4 but less than $7.
At the end of—		$5 but less than $7.
First year	6.48	$6 but less than $8.
Second year	7.51	$7 but less than $10.
Third year	8.47	$8 but less than $10.
Fourth year	9.23	$9 but less than $11.
Fifth year	9.95	

[1] See Table 57, p. 99.
[2] This column was derived from Table 63, p. 107. The expression "middle 50 per cent" includes those coming within the second and third quartiles and represents that half of the workers clustering about the median and the arithmetic average.

RELATION OF WAGES OF INDIVIDUAL WORKERS TO AVERAGE WAGE.

The wages of the individual workers naturally diverge from the average wage to an increasing extent with advancing years as individual capacity has an opportunity to assert itself. Up to the sixth

year the wages of the middle 50 per cent, as shown by Table 60, cluster very closely around the average wage.

From the sixth year the range widens with a rather irregular tendency to group more heavily on the lower side of the average wage. The wages of those working in occupations other than their own trade congregate less closely about the average, especially at the beginning and after the fifth year; at the beginning, because the wages represent a wide variety of occupations, and after the fifth year, because in addition to the variety of occupation some of the more mature workers have developed individual capacity and ability to take advantage of opportunities which may arise, while others remain where they started.

AVERAGE WAGES OF TRADE-TRAINED WORKERS.

The question naturally arises as to how this wage advancement compares with that of girls who have not received trade-school training. To secure a basis of comparison a study was made of 100 girls who had worked at custom dressmaking and 100 from the cloth power-sewing trades, who were of about the same age and length of working experience as the trade-school girls. Five were not in wage-earning occupations at the time of the investigation. Some had begun work in a foreign country, and their wages for those years were so incomparable with those of the trade-school girls that they were not included in the wage tables.

Before considering the question of wages, notice must be taken of one important difference in the industrial history of the trade-school girls and of these trade-trained girls. When the trade-school girl has received her training, she is placed directly in her trade, from which in time many drift out into other occupations. Many of the trade-trained girls, on the other hand, have begun in other occupations and drifted into the sewing trades, so the order of trade acquirement is just reversed. The variety of occupations through which the trade-trained girls have passed is shown for the 100 in factory sewing trades in Table 61.

Not far from one-half—42 per cent—of these girls began work in other occupations. About one-half of those who began in the manufacturing branch of the trade were first employed on hand processes, such as sewing on buttons, folding, cleaning, inspecting, marking, boxing, and keeping stock, preliminary stages which the young worker must often pass through before she has an opportunity to work on the machines. A few had sewed in custom shops before entering the factory and have been included with those in the trade because this experience provided the preliminary experience in handling cloth and materials which seems to be essential to the machine operator. From 42.9 per cent engaged on hand processes

in the factory at the end of the first year the proportion dropped to 26.5 per cent at the end of the second year and 15.2 per cent at the end of the third year. After the third year four-fifths or more were employed as power-machine operators. That is, it required three years of work at miscellaneous processes before four-fifths of the group were really employed in their trade.

TABLE 61.—OCCUPATIONS AT BEGINNING WORK AND AT END OF EACH SUCCESSIVE YEAR OF EMPLOYMENT OF 100 TRADE-TRAINED GIRLS EMPLOYED IN FACTORY SEWING TRADES AT THE TIME OF THE INVESTIGATION.

NUMBER.

Occupation.	At beginning work.	At end of— 1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
TRAINING ACQUIRED INSIDE THE TRADE.											
Custom shops	[1] 8	[2] 7	[2] 6	3	2	2	1	1	.....	.....	.....
Factories: Hand processes—											
Sewing, buttons, snaps, etc.	11	13	5	5	3	2	.....	.....	.....	.....	.....
Folding	6	8	4	.....	1	.....	1	1	.....	.....	.....
Cleaning	4	5	2	1	1	1	.....	.....	.....	.....	.....
Inspecting, examining	2	1	2	1	1	.....	.....	[3] 2	[3] 2	[3] 1	1
Drafting, designing	.....	.....	1	.....	.....	.....	.....	[4] 1	.....	.....	.....
Pressing	.....	3	2	.....	1	.....	1	.....	.....	.....	.....
Marking	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....
Boxing	1	.....	.....	1	1	1	1	.....	.....	.....	.....
Stock	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Total	24	30	18	9	8	4	3	4	2	1	1
Factories: Machine processes—											
Stitching, etc.	[5] 26	33	[5] 44	[5] 47	[5] 41	[5] 34	27	25	19	9	5
Total trained inside the trade (cloth workers)	58	70	68	59	51	40	31	30	21	10	6
TRAINING ACQUIRED OUTSIDE THE TRADE.											
Sewing, millinery goods:											
Custom	[6] 4	[2] 3	[2] 3	.....	.....	.....	.....	.....	.....	.....	.....
Factory, straw machine operating	.....	[7] 1	.....	.....	.....	.....	.....	.....	.....	1	.....
Total	4	4	3	.....	.....	.....	.....	.....	.....	1	.....
Sewing, shoe factory	[8] 3	[8] 3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other occupations	34	19	16	13	7	6	3	2	.....	.....	.....
Unclassified	1	1	1	.....	.....	.....	1	.....	.....	.....	.....
Total trained outside the trade earning wages	42	27	20	13	7	6	4	2	.....	1	.....
Not earning wages	.....	3	1	1	.....	.....	2	.....	.....	.....	.....
Grand total	100	100	89	73	58	46	37	32	21	11	6

PER CENT.

TRAINING ACQUIRED INSIDE THE TRADE.											
Custom shops	13.8	10.0	8.8	5.1	3.9	5.0	3.2	3.3	.....	.....	.....
Factories: Hand processes	41.4	42.9	26.5	15.2	15.7	10.0	9.7	13.3	9.5	10.0	16.7
Factories: Machine processes	44.8	47.1	64.7	79.7	80.4	85.0	87.1	83.4	90.5	90.0	83.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] 2 were apprentices.
[2] 1 was an apprentice.
[3] 1 gave out work also.
[4] Was a forewoman also.
[5] 1 did cutting on a rotary machine.
[6] Apprentices.
[7] Made feather stick-ups in a factory.
[8] 1 did handwork, cementing.

Taking the average wages of these trade-trained girls on first going to work and at the end of each successive year, we have the following figures:

TABLE 62.—NUMBER AND AVERAGE WEEKLY WAGE AT BEGINNING WORK AND AT END OF EACH SUCCESSIVE YEAR OF EMPLOYMENT OF DRESSMAKERS AND FACTORY SEWING GIRLS STUDIED WHO WERE NOT TRADE-SCHOOL TRAINED.

[This table does not include girls whose wages were not reported.]

Time out of trade school.	Dressmakers.						Factory sewers (cloth machine operators).					
	In the trade.		In other occupations.		Total.		In the trade.		In other occupations.		Total.	
	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.
At beginning work	84	$4.24	12	$5.75	96	$4.43	58	$4.96	[1] 41	$4.38	99	$4.72
At the end of—												
1st year	81	5.30	12	6.83	93	5.49	69	6.12	[1] 26	5.63	95	5.98
2d year	66	6.41	11	7.14	77	6.51	68	7.14	[1] 19	6.61	87	7.02
3d year	61	7.49	5	9.90	66	7.67	58	8.08	13	8.13	71	7.98
4th year	50	8.40	4	10.25	54	8.54	51	8.54	7	8.79	58	8.57
5th year	42	8.95	6	7.83	48	8.81	39	9.12	6	7.67	45	8.92
6th year	38	9.93	4	8.50	42	9.80	30	9.83	3	9.16	33	9.77
7th year	39	10.38	1	9.50	40	10.36	30	9.61	2	7.00	32	9.44
8th year	26	11.10	2	8.50	28	10.91	21	9.31	.....	.....	21	9.31
9th year	21	11.81	1	10.50	22	11.75	10	8.10	1	11.50	11	8.41
10th year	17	12.24	.....	.....	17	12.24	6	8.00	.....	.....	6	8.00

[1] Not including 1 in a foreign country whose wage was not comparable.

AVERAGE WAGES OF TRADE-SCHOOL GIRLS COMPARED WITH THOSE OF TRADE-TRAINED WORKERS.

Comparing these wages with those received by the trade-school girls, the greatest difference is found in the initial stage. This is easily accounted for, as the trade-school girl is usually a little older at beginning work, and her year in the trade school has given her some of the fundamental preparation, so that she generally commences as a worker instead of as an errand girl, stock girl, boxer, examiner, or cleaner. Comparing the two groups of dressmakers working at their trade, the initial wage of the trade-school girls, $5.44, exceeds that of the trade-trained girls by $1.20; by the end of the first year the difference has decreased to 85 cents and the approach continues until at the end of the fourth year the difference is only 35 cents. From this point onward both groups of wages move in rather irregular fashion, but the trade-school girls maintain the advantage up to the tenth year, when the trade-trained girls suddenly take the lead, showing at the end of this year an average wage of $12.24 against an average of $10.17 for the trade-school girls. As at this point there are only 3 of the trade-school girls against 17 of the trade-trained, it is probable that this reversal of the previous situation has but little if any significance.

In the factory branch of the trade likewise the trade-school girl has an immediate advantage, beginning work at an initial wage of $5.14 as compared with $4.96 for the untrained workers. After the first year, however, the wages of the two groups maintain a very close relation, sometimes one and sometimes the other being the higher, in spite of the immediate advantage of the trade-school girls in being able to begin on the machines at entrance. In view of this fact, the wages of the trade-school girls might reasonably be expected to make a more favorable showing in comparison with those of the untrained girls than they do, for almost three-fourths of the girls who have come up through the industry began work in other processes or in wholly unrelated trades, and so may be starting on the machines at a beginner's wage in the second, third, fourth, or fifth year of their working experience.

The wages of the trade-school and the trade-trained workers are not really comparable after the eighth year of working experience for the dressmakers and the sixth year for the factory sewers, because of the small numbers in one group or the other in later years. The average wages of the school-trained and trade-trained workers at the end of these periods were approximately the same, with some slight advantage for the trade-school girl. At the end of her eighth year out of trade school the trade-school girl in dressmaking earned an average wage of $11.88 and the trade-trained girl in her eighth year at work earned $11.10. The trade-school girl in the factory sewing trades at the end of her sixth year earned $9.96 while the trade-trained girl earned $9.83.

Both the school and the trade-trained girls are selected groups for both are "survivors" in the trades in which they are employed. Only a little over one-third[1] of the trade-school girls in the three schools persevered through the school course and entered the trades for which they were trained, and only one-half of those who had been out of trade school as long as five years or over were in their trades at the end of the fifth year.[2] No similar figures are available as to the degree of sifting represented by those who have come up through the industry itself. The chief difference in their experience is the way of approach; for the trade-school girl the way has been smoothed and the girl has been sheltered and protected until she was more mature, while the trade-trained girl has come up through unskilled industries and processes, acquiring her training wholly through her own efforts and initiative. The surprising thing is the similarity of financial advancement, which should provide an impetus to the school to gain an understanding of the requirements of these trades.

[1] See Table 13, p 32.

[2] See Table 45, p. 77.

CLASSIFIED WEEKLY WAGES IN SUCCESSIVE YEARS IN SEWING TRADES.

The average wage gives a general idea of the rate at which the girl has advanced in the industrial world, but for trade educators a knowledge of the actual numbers earning $8 or more in each year out of trade school, and of the length of time required to reach economic independence is vitally important. These facts can be obtained from the following tables, which give the classified wages of the trade-school girls for each year out of trade school by trades, and also for the whole group, omitting only the 11 who took cooking or designing. For purposes of comparison, similar tables are given for the trade-trained girls, the wages in their case being taken at the end of each year of working experience.

TABLE 63.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS TRAINED IN EACH OF FOUR SPECIFIED TRADES WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT SPECIFIED TIME OUT OF TRADE SCHOOL.

DRESSMAKING.

[Percentages in this table are based on the number of girls whose wages were reported.]

Classified weekly wages.	Number earning each classified weekly amount.										
	At beginning work.	At end of—									
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
IN THE TRADE.											
Under $3	10	1	1	.....	.....	.....	.....	.....	.....	.....	.....
$3 and under $4	38	19	5	3	1	1	1	.....	.....	.....	.....
$4 and under $5	86	42	8	2	2	1	1	.....	.....	.....	.....
$5 and under $6	114	83	31	8	1	.....	.....	.....	.....	.....	.....
$6 and under $7	156	165	96	39	21	6	1	.....	.....	.....	.....
$7 and under $8	7	45	83	74	29	21	3	1	.....	1	.....
$8 and under $9	3	13	31	41	38	22	13	6	1	.....	.....
$9 and under $10	.....	6	18	28	44	35	21	10	6	3	1
$10 and under $11	.....	.....	5	12	14	22	18	12	5	4	2
$11 and under $12	.....	.....	.....	1	4	6	7	5	1	.....	.....
$12 and under $15	.....	1	1	5	7	8	13	5	5	1	.....
$15 and under $20	.....	.....	.....	.....	1	1	4	4	3	.....	.....
$20 and over	.....	.....	.....	.....	.....	.....	1	1	.....	2	.....
Not reported	1	5	7	5	7	4	2	2	1	.....	1
Total	415	380	286	218	169	127	85	46	22	11	4
IN OTHER OCCUPATIONS.											
Under $3	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
$3 and under $4	1	.....	3	.....	1	.....	.....	.....	.....	.....	.....
$4 and under $5	2	6	3	4	2	.....	.....	.....	.....	.....	.....
$5 and under $6	1	10	10	2	.....	3	.....	.....	.....	1	.....
$6 and under $7	1	4	13	11	6	4	.....	.....	1	.....	.....
$7 and under $8	.....	4	7	15	13	6	2	.....	1	.....	.....
$8 and under $9	.....	4	7	14	12	10	4	3	.....	2	2
$9 and under $10	.....	2	2	5	8	6	5	4	3	2	.....
$10 and under $11	.....	.....	.....	2	4	7	6	2	2	1	.....
$11 and under $12	.....	.....	.....	2	1	2	3	.....	.....	.....	.....
$12 and under $15	.....	1	.....	.....	2	1	1	6	4	1	.....
$15 and under $20	.....	1	.....	.....	.....	1	1	1	1	1	1
$20 and over	.....	.....	1	2	.....	1	1	2	2	3	2
Not reported	.....	3	3	3	4	5	4	3	3	1	1
Total	6	35	49	61	53	46	27	21	17	12	6

TABLE 63.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS TRAINED IN EACH OF FOUR SPECIFIED TRADES WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT SPECIFIED TIME OUT OF TRADE SCHOOL—Continued.

DRESSMAKING—Concluded.

Classified weekly wages.	Per cent earning each classified weekly amount.									
	At beginning work.	At end of—								
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
IN THE TRADE.											
Under $8	99.3	94.7	80.3	59.2	33.3	23.6	7.2	2.2	.....	9.1	.....
$8 and over	.7	5.3	19.7	40.8	66.7	76.4	92.8	97.8	100.0	90.9	100.0
IN OTHER OCCUPATIONS.											
Under $8	100.0	75.0	78.3	56.9	44.9	31.7	8.7	.....	14.3	16.7	.....
$8 and over	.....	25.0	21.7	43.1	55.1	68.3	91.3	100.0	85.7	83.3	100.0

MILLINERY.

	Number earning each classified weekly amount.										
IN THE TRADE.											
Under $3	10	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
$3 and under $4	17	4	1	.....	.....	.....	.....	.....	.....	.....	.....
$4 and under $5	42	18	5	2	1	.....	.....	.....	.....	.....	.....
$5 and under $6	37	27	7	2	.....	1	1	.....	.....	.....	.....
$6 and under $7	38	49	26	7	1	1	.....	1	1	.....	.....
$7 and under $8	2	7	22	12	7	2	1	.....	.....	1	.....
$8 and under $9	3	6	13	18	13	5	2	2	.....	.....	.....
$9 and under $10	1	1	3	2	4	7	4	1	1	.....	.....
$10 and under $11	1	1	1	3	7	5	3	4	2	.....	.....
$11 and under $12	.....	1	.....	.....	1	3	2	.....	.....	.....	.....
$12 and under $15	.....	1	1	.....	2	3	8	5	2	1	.....
$15 and under $20	.....	.....	1	3	2	2	2	1	1	.....	.....
$20 and over	.....	.....	.....	1	1	1	.....	.....	.....	.....	.....
Not reported	2	1	2	2	2	.....	.....	.....	.....	.....	.....
Total	153	118	82	52	41	30	23	14	7	2	.....
IN OTHER OCCUPATIONS.											
Under $3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
$3 and under $4	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
$4 and under $5	1	.....	1	3	.....	.....	.....	.....	.....	.....	.....
$5 and under $6	.....	10	9	3	1	.....	1	1	.....	.....	.....
$6 and under $7	.....	6	10	15	6	1	2	.....	.....	.....	.....
$7 and under $8	.....	6	10	6	8	7	2	1	1	.....	.....
$8 and under $9	1	1	6	11	4	6	7	3	.....	.....	.....
$9 and under $10	.....	1	1	3	6	6	3	3	1	1	.....
$10 and under $11	.....	1	2	2	2	3	2	3	1	1	.....
$11 and under $12	.....	.....	.....	2	1	1	3	1	1	.....	.....
$12 and under $15	.....	.....	.....	1	1	3	2	3	1	.....	.....
$15 and under $20	.....	.....	.....	1	2	2	.....	.....	1	.....	.....
$20 and over	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Not reported	.....	.....	.....	1	.....	.....	1	1	.....	.....	.....
Total	3	26	40	49	31	29	23	16	6	2	.....
	Per cent earning each classified weekly amount.										
IN THE TRADE.											
Under $8	96.7	91.5	76.3	46.0	23.1	13.3	8.7	7.1	14.3	50.0	.....
$8 and over	3.3	8.5	23.7	54.0	76.9	86.7	91.3	92.9	85.7	50.0	.....
IN OTHER OCCUPATIONS.											
Under $8	66.7	84.6	75.0	58.3	48.4	27.6	22.7	13.3	16.7	.....	.....
$8 and over	33.3	15.4	25.0	41.7	51.6	72.4	77.3	86.7	83.3	.....	.....

TABLE 63.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS TRAINED IN EACH OF FOUR SPECIFIED TRADES WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT SPECIFIED TIME OUT OF TRADE SCHOOL—Continued.

CLOTH MACHINE OPERATING.

Classified weekly wages.	Number earning each classified weekly salary.										
	At end of—										
	At beginning work.	1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
IN THE TRADE.											
Under $3	6										
$3 and under $4	9										
$4 and under $5	14	6			1	1		1			
$5 and under $6	20	7	5	1	1		1				
$6 and under $7	18	28	16	5	2						
$7 and under $8	1	7	13	5	2	1	1				
$8 and under $9	1	2	3	4	3	2	1				
$9 and under $10			1	4	4	2	2	1	1	1	
$10 and under $11	1			2	1	1	1	1			
$11 and under $12		1			1	2	1				
$12 and under $15			1	1			2	2	1	1	
$15 and under $20											
$20 and over											
Not reported	3	2	1			1					
Total	73	53	40	22	15	10	9	5	2	2	
IN OTHER OCCUPATIONS.											
Under $3											
$3 and under $4		1		1							
$4 and under $5	1	5	6	2	2	1	1				
$5 and under $6	2	1	2	3	3	5	3	2	1	1	2
$6 and under $7	4	7	5	7	2	1	1	1	2	1	1
$7 and under $8		1	3	3	3	2	2	2			
$8 and under $9		4	4	4	4	4	4	1	1	2	1
$9 and under $10		3	1	1	1	1	1	2	1	1	
$10 and under $11		1	1	1	1			1	1	1	2
$11 and under $12						1			1	1	
$12 and under $15								1			
$15 and under $20	1			1	1	1	1				
$20 and over											
Not reported		2	1	1	1	2	2				
Total	8	25	23	24	18	18	15	10	7	7	6
	Per cent earning each classified weekly amount.										
IN THE TRADE.											
Under $8	97.1	94.1	87.2	50.0	40.0	22.2	22.2	20.0			
$8 and over	2.9	5.9	12.8	50.0	60.0	77.8	77.8	80.0	100.0	100.0	
IN OTHER OCCUPATIONS.											
Under $8	87.5	65.2	72.7	69.6	58.8	56.2	53.8	50.0	28.6	50.0	50.0
$8 and over	12.5	34.8	27.3	30.4	41.2	43.8	46.2	50.0	71.4	50.0	50.0

STRAW MACHINE OPERATING.

	Number earning each classified weekly amount.										
IN THE TRADE.											
Under $3											
$3 and under $4											
$4 and under $5	3	2									
$5 and under $6	6										
$6 and under $7	13	8									
$7 and under $8	15	12	3	2	1						
$8 and under $9	7	7	1								
$9 and under $10	6	5	5	1	1						
$10 and under $11	4	4	4								
$11 and under $12	5	7	4	1		1					
$12 and under $15	5	9	10	6	5	1	1				
$15 and under $20		2	4	6	4	5	3				
$20 and over			2	2	2	2	1	1	1		
Not reported	6	1			1						
Total	70	57	33	18	14	9	5	1	1		

TABLE 63.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS TRAINED IN EACH OF FOUR SPECIFIED TRADES WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT SPECIFIED TIME OUT OF TRADE SCHOOL—Concluded.

STRAW MACHINE OPERATING—Concluded.

Classified weekly wages.	Number earning each classified weekly amount.										
	At beginning work.	At end of—									
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
IN OTHER OCCUPATIONS.											
Under $3	1										
$3 and under $4	1										
$4 and under $5		1	2	1	1						
$5 and under $6		2	3	1							
$6 and under $7		5		5	1	2					
$7 and under $8		2	4	3	3	2	2	1			
$8 and under $9			3	1		1	1	1	1		
$9 and under $10		1	2	1	2						
$10 and under $11				2	2	1					
$11 and under $12				1	2	1	2				
$12 and under $15						1	1	1	1		
$15 and under $20							1	1			
$20 and over											
Not reported				3	2	1					
Total	2	11	14	18	13	9	7	4	2		
	Per cent earning each classified amount.										
IN THE TRADE.											
Under $8	57.8	39.3	9.1	11.1	7.7						
$8 and over	42.2	60.7	90.9	88.9	92.3	100.0	100.0	100.0	100.0		
IN OTHER OCCUPATIONS.											
Under $8		90.9	64.3	66.7	45.5	50.0	28.6	25.0			
$8 and over	100.0	9.1	35.7	33.3	54.5	50.0	71.4	75.0	100.0		

TOTAL IN THE FOUR SEWING TRADES.

	Number earning each classified weekly amount.										
IN THE TRADE.											
Under $3	26	3	1								
$3 and under $4	64	23	6	3	1	1	1				
$4 and under $5	145	68	13	4	4	2	1	1			
$5 and under $6	177	117	43	11	2	1	2				
$6 and under $7	225	250	138	51	24	7	1	1	1		
$7 and under $8	25	71	121	93	39	24	5	1		2	
$8 and under $9	14	28	48	63	54	29	16	8	1		
$9 and under $10	7	12	27	35	53	44	27	12	8	4	1
$10 and under $11	6	5	10	17	22	28	22	17	7	4	2
$11 and under $12	5	9	4	2	6	12	10	5	1		
$12 and under $15	5	11	13	12	14	12	24	12	8	3	
$15 and under $20		2	5	9	7	8	9	5	4		
$20 and over			2	3	3	3	2	2	1	2	
Total[1]	699	599	431	303	229	171	120	64	31	15	3
IN OTHER OCCUPATIONS.											
Under $3	2			1							
$3 and under $4	3	1	3	2	1						
$4 and under $5	4	12	12	10	5	1	1				
$5 and under $6	3	23	24	9	4	8	4	3	1	2	2
$6 and under $7	5	22	28	38	15	8	3	1	3	1	1
$7 and under $8		13	24	27	27	17	8	4	2		
$8 and under $9	1	9	20	30	20	21	16	8	2	4	3
$9 and under $10		7	6	10	17	13	9	9	5	4	
$10 and under $11		2	3	7	9	11	8	6	4	3	2
$11 and under $12				5	4	5	8	1	2	1	
$12 and under $15		1		1	3	5	4	11	6	1	
$15 and under $20	1	1		2	3	4	3	2	2	1	1
$20 and over		1	2	2		1	1	2	2	3	2
Total[1]	19	92	122	144	108	94	65	47	29	20	11

[1] Not including girls whose wages were not reported.

TABLE 64.—NUMBER AND PER CENT OF 100 TRADE-TRAINED GIRLS IN EACH OF TWO SPECIFIED TRADES WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT BEGINNING WORK AND AT THE END OF SUCCESSIVE YEARS AT WORK.

[Percentages in this table are based on the number of girls whose wages were reported.]

DRESSMAKING.

Classified weekly wages.	At beginning work.	At end of— 1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
	Number earning each classified weekly amount.										
IN THE TRADE.											
Under $3	25	7	2	1							
$3 and under $4	22	16	6	2							
$4 and under $5	10	18	10	2							
$5 and under $6	12	12	10	12	1			1			
$6 and under $7	6	13	14	8	9	2	1				
$7 and under $8	3	7	10	10	11	9	1	1			1
$8 and under $9	3	4	6	12	12	9	12	6	3	2	2
$9 and under $10	1	2	4	8	11	14	9	11	7	5	1
$10 and under $11	1	1	3	3	4	6	9	10	6	4	4
$11 and under $12	1	1	1	2	1	2	3	5	4	4	2
$12 and under $15				1	1		2	4	5	3	4
$15 and under $20										2	2
$20 and over							1	1	1	1	1
Not reported	3	4	4	3	3	3	1				
Total	87	85	70	64	53	45	39	39	26	21	17
IN OTHER OCCUPATIONS.											
Under $3	2										
$3 and under $4											
$4 and under $5	4	3	2	1							
$5 and under $6	1	3	4								
$6 and under $7	1	2	2	1	2	3	1		1		
$7 and under $8	2					1	1				
$8 and under $9	1	1									
$9 and under $10		2	1			1	1	1			
$10 and under $11				2	1	1	1		1	1	
$11 and under $12	1	1	1								
$12 and under $15			1								
$15 and under $20				1	1						
$20 and over											
Not reported	1										
Total	13	12	11	5	4	6	4	1	2	1	
	Per cent earning each classified weekly amount.										
IN THE TRADE.											
Under $8	92.9	90.1	78.8	57.4	42.0	26.2	5.3	5.1	7.1		5.9
$8 and over	7.1	9.9	21.2	42.6	58.0	73.8	94.7	94.9	92.9	100.0	94.1
IN OTHER OCCUPATIONS.											
Under $8	83.3	66.7	72.7	40.0	50.0	66.7	50.0		50.0		
$8 and over	16.7	33.3	27.3	60.0	50.0	33.3	50.0	100.0	50.0	100.0	

CLOTH MACHINE OPERATING.

	Number earning each classified weekly amount.										
IN THE TRADE.											
Under $3	2	1	1								
$3 and under $4	18	8	1					1			
$4 and under $5	15	8	3	3		1	1		1		
$5 and under $6	7	15	11	5	3	2			1	1	
$6 and under $7	10	16	22	11	9	5	1	1		1	
$7 and under $8	4	14	12	9	9	3	3	2	3	2	4
$8 and under $9		3	9	13	12	12	8	8	3	3	1
$9 and under $10	1	3	5	10	9	6	7	11	8	3	1
$10 and under $11	1	1	1	3	2	3	4	2	2		
$11 and under $12			1	1	5	4	2	1	2		
$12 and under $15			2	3	2	1	2	3			
$15 and under $20						2	2	1	1		
$20 and over											
Not reported		1		1		1	1				
Total	58	70	68	59	51	40	31	30	21	10	6

TABLE 64.—NUMBER AND PER CENT OF 100 TRADE-TRAINED GIRLS IN EACH OF TWO SPECIFIED TRADES WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT BEGINNING WORK AND AT THE END OF SUCCESSIVE YEARS AT WORK—Concld.

CLOTH MACHINE OPERATING—Concluded.

Classified weekly wages.	Number earning each classified weekly amount.									
	At beginning work.	At end of—								
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.	10th year.
IN OTHER OCCUPATIONS.											
Under $3	8	3	2	.....	.....	.....	.....	.....	.....	.....	.....
$3 and under $4	9	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
$4 and under $5	9	3	1	1	1	1	.....	.....	.....	.....	.....
$5 and under $6	8	4	4	3	1	2	.....	.....	.....	.....	.....
$6 and under $7	5	4	6	2	.....	.....	1	1	.....	.....	.....
$7 and under $8	2	5	3	4	2	1	1	1	.....	.....	.....
$8 and under $9	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
$9 and under $10	.....	.....	1	1	1	1	.....	.....	.....	.....	.....
$10 and under $11	.....	1	1	1	.....	.....	.....	.....	.....	.....	.....
$11 and under $12	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
$12 and under $15	.....	.....	1	1	2	1	1	.....	.....	.....	.....
$15 and under $20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
$20 and over	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not reported	1	1	1	.....	.....	.....	1	.....	.....	.....	.....
Total	42	27	20	13	7	6	4	2	.....	1	.....
	Per cent earning each classified amount.										
IN THE TRADE.											
Under $8	96.6	89.9	73.5	48.3	41.2	28.2	16.7	13.3	23.8	40.0	66.7
$8 and over	3.4	10.1	26.5	51.7	58.8	71.8	83.3	86.7	76.2	60.0	33.3
IN OTHER OCCUPATIONS.											
Under $8	100.0	88.5	84.2	76.9	57.1	66.7	66.7	100.0	.....	.....	.....
$8 and over	.....	11.5	15.8	23.1	42.9	33.3	33.3	.....	.....	100.0	.....

Considering the trade-school girls as a group, and omitting those whose wages were not reported, it appears that a considerable apprenticeship in the trade itself was necessary before the majority of them reached the degree of economic independence expressed in wages of $8 or more a week. Of those who followed their trade, at the end of the third year more than half—53.4 per cent—were earning less than $8. By the end of the fourth year, however, a good majority—69.4 per cent—had reached or passed the $8 wage, and from that time on the proportion earning less than this figure decreased rapidly. Those who left their own trade for others made slower progress; at the end of the third year, 60.4 per cent were still earning less than $8 a week, and at the end of the fourth year, only 51.9 per cent were earning $8 or more. Considerable differences appear among those trained for the different sewing trades. At the end of the third year nearly three-fifths (59.2 per cent) of the girls who went into dressmaking earned under $8, but in their fourth year, two-thirds of those who remained in their trade, and over one-

half (55.1 per cent) of those who had gone into other occupations were earning $8 or more. Of those who remained in the millinery trade, over one-half (54 per cent) earned $8 or more in the third year; the short working season, however, must be counted against this apparent advantage. Not until the end of the fourth year had 51.6 per cent of those who left millinery and were earning in other occupations reached $8 or more a week, though longer seasons may have equalized the actual income for the two groups. One-half of the cloth machine operators remaining in their trade earned $8 or more by the end of their third year, but not until their seventh year's experience had one-half of those who went into other occupations reached this wage. A comparatively small number of girls have gone into the straw machine operating and over two-fifths of these earned $8 a week or more from the beginning. While the wages here are better than in most sewing trades, the opportunity for the young girl is very limited, few employers wishing to take women under 21 years of age. The seasons also are short, causing a sifting out into other occupations. Not until the fourth year had one-half or more of those leaving the trade reached a wage of $8 or over.

Turning to the wages of the trade-trained girls, it is at once apparent that they show a wider range and less grouping about the average than those of the trade-school girls. This might be expected. The trade-school girls are a fairly homogeneous group, have had similar preparation and previous experience, and naturally show a similar rate of advancement in the trade. The difference is, however, marked. The wages of the trade-school girl in dressmaking cluster about the average wage, and the middle 50 per cent (except on first leaving school) come within a $2 range up to the fourth year. The wages of the girls who have acquired their training in the trade scatter much more from the average, and the wages of the middle 50 per cent scatter within a $4 range up to the fifth year. Larger numbers might show more grouping about the average wage, but the varied background and experiences of these girls must undoubtedly result in a wider wage range than that of the trade-school girls. More than one-half (58 per cent) of the trade-trained dressmakers, however, earned $8 or more by the end of the fourth year, and 73.8 per cent[1] by the end of the fifth year, as compared with 66.7 per cent and 76.4 per cent[2] of the trade-school dressmakers at the end of the fourth and fifth years, respectively. Similarly, in the factory sewing trades, one-half of both school and trade trained workers earned $8 or more by the end of the third year, and about three-fifths at the end of the fourth year.

[1] See Table 64, p. 111.

[2] See Table 63, p. 108.

INITIAL WAGE OF THE TRADE-SCHOOL GIRL.

POLICY OF SCHOOL IN RESPECT TO INITIAL WAGE.

The policy of the Boston Trade School authorities in recent years under public management has been to establish a $6 minimum placement wage for their accredited pupils. During the second five years covered by the investigation, the pupils leaving the school show as compared with those going out in the first five years an increase in average age, a higher level of previous school training, and a longer period spent in the trade-school training.[a] All these factors, combined with the better organization of the trade training and the increased efficiency due to increasing experience, naturally tended to bring about a higher initial wage, apart from the efforts of the management. The average initial wage for those going out during the first five years was $4.93, while during the last five years it was $5.82, an increase of 18.1 per cent. The advance in the initial wage varied in the several trades, being greatest in dressmaking and millinery, which showed increases, respectively, of 20.5 per cent and 22 per cent. The special emphasis which has been put on the training for these trades gives a probable explanation of this superiority in the increase of the initial wage. In the cloth power-machine operating trades the girls showed an increase of 14.6 per cent in initial wage, while for those entering the straw machine-operating trades there was a decrease of 13.4 per cent. This group also shows a falling off in average age at time of entering the trade, whereas all the others show an increase. Since the initial wage for these girls is based on the experiences of only 66 girls, and since only 13 of these had entered the trade during the first five-year period, not much significance can be attached to this decrease.

INITIAL WAGE FOR TWO FIVE-YEAR PERIODS.

Turning to the classified wages, Table 65 shows how the initial wage has varied in the two five-year periods.

It will be seen from this that the ideal of a $6 placement wage has been only partially realized, but that there has been a marked increase, nevertheless, in the proportion receiving this initial wage. During the first period 80.9 per cent of the girls began work at a weekly wage of less than $6; during the second period only 49.2 per cent began under that figure. During the first period a scant fifth of the number entering their trades began at as much as $6 or more; during the second period half entered at that wage or over. The proportion differs, however, according to the trade entered.

[a] See Tables 5, 6, and 20, pp. 22, 24, and 38.

During the second period, 49.8 per cent of those taking up dressmaking, 59.7 per cent of those in millinery, 57.3 per cent of those in cloth machine operating, and 18.9 per cent of those in straw machine operating began work at less than $6 a week.

TABLE 65.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS ENTERING THE FOUR SEWING TRADES DURING EACH OF TWO SPECIFIED 5-YEAR PERIODS WHO EARNED EACH CLASSIFIED INITIAL WAGE.

Weekly wages at beginning work.	Girls receiving specified initial wage.[1]			
	1904 to 1909		1909 to 1914.	
	Number.	Per cent.	Number.	Per cent.
Under $3	14	6.3	14	2.8
$3 and under $4	36	16.3	31	6.2
$4 and under $5	74	33.4	75	15.1
$5 and under $6	55	24.9	125	25.1
$6 and under $7	27	12.2	203	40.8
$7 and under $8	6	2.7	21	4.2
$8 and under $9	1	.5	13	2.6
$9 and under $10	3	1.4	4	.8
$10 and over	5	2.3	12	2.4
Total	[2] 221	100.0	[3] 498	100.0

[1] This table does not check with Table 63, because not all of these girls began work immediately on leaving trade school.
[2] Not including 6 who did not report wages.
[3] Not including 8 who did not report wages.

RATE OF WAGE ADVANCE COMPARED WITH INITIAL WAGE.

Has the young trade-school girl placed at a higher initial wage under the public-school system any permanent advantage over the girl placed by the private school in earlier years at a lower rate? To test this a comparison was made of the wages earned in the second year out by the girls going out in two successive years of each five-year period. The girls trained in dressmaking were selected for the test, since the school has put its best efforts and greatest emphasis on training for this trade. The girls going out in 1906–7 and 1907–8, the third and fourth years of the period when the school was under private management, and those of 1911–12 and 1912–13, the corresponding years of its experience under public management, were taken for the comparison. Table 66 shows the classified wages of these two groups of girls at the end of their second year out of trade school.

From the standpoint of previous preparation the earlier classes had a slight advantage, since four-fifths (83 per cent) of their number against two-thirds (69.4 per cent) of the two later classes had attended trade school nine months or more. At the end of the second year of wage earning the wage distribution of the two groups does not show a great variation. About one-fifth (21.4 per cent) of the first group against about one-sixth (15.4 per cent) of the second had not yet

reached $6 a week; 55.3 per cent of the first and 61.2 per cent of the second group were earning $6 but less than $8 a week, and the proportions who had reached the comparative independence of $8 or more a week were almost identical for the two groups—23.4 per cent for the first, and 23.6 per cent for the second. The average wage, likewise, shows very little difference. At the end of the second year out of school the average wage of the girls going out in the two earlier classes was $7.05, and in the two later classes, $7.18. Comparing the two classes of each period separately, there is still little difference. For the girls going out in 1906–7 the wage at the end of the second year averaged $7.18, for those going out in 1911-12, $7.20. For those going out in 1907–8 the wage at the end of the second year averaged $6.96, and for those going out in 1912–13, $7.15. From the standpoint both of the average wage and of the wage distribution of the workers, therefore, it is evident that the end of the second year finds the girls who went out in the later period but little ahead of those who went out in the earlier. The higher placement wage, thus, brings immediate financial advantages but does not insure automatic wage advance at the same rate.

TABLE 66.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS ENTERING DRESSMAKING TRADE IN SPECIFIED YEARS WHO EARNED EACH CLASSIFIED AMOUNT OF WEEKLY WAGES AT END OF SECOND YEAR.

Classified weekly wages.	Girls earning each classified weekly wage at end of second year at work.							
	Number.						Per cent.	
	1906–7[1]	1907–8[1]	1911–12[2]	1912–13[2]	1906–7 and 1907–8[1]	1911–12 and 1912–13[2]	1906–7 and 1907–8[1]	1911–12 and 1912–13[2]
Under $3	.....	.....	.....	1	.....	1	.....	1.2
$3 and under $4	1	1	1	1	2	2	4.3	2.4
$4 and under $5	1	1	.....	1	2	1	4.3	1.2
$5 and under $6	1	5	6	3	6	9	12.8	10.6
$6 and under $7	5	9	18	5	14	23	29.8	27.1
$7 and under $8	6	6	16	13	12	29	25.5	34.1
$8 and under $9	2	2	4	6	4	10	8.5	11.8
$9 and under $10	3	2	6	2	5	8	10.6	9.4
$10 and over	.....	2	1	1	2	2	4.3	2.4
Total	[3] 19	[4] 28	[5] 52	[6] 33	[7] 47	[8] 85	100.0	100.0
Average wage	$7.18	$6.96	$7.20	$7.15	$7.05	$7.18	.....	.....

[1] Under private management.
[2] Under public management.
[3] 14 or 73.7 per cent were in trade school 9 months or more.
[4] 25 or 89.3 per cent were in trade school 9 months or more.
[5] 28 or 53.8 per cent were in trade school 9 months or more.
[6] 31 or 94 per cent were in trade school 9 months or more.
[7] 39 or 83 per cent were in trade school 9 months or more.
[8] 59 or 69.4 per cent were in trade school 9 months or more.

WAGES AND OCCUPATIONS OF TRADE-SCHOOL GIRLS AT SPECIFIED PERIODS IN THEIR WORKING EXPERIENCE.

GIRLS REMAINING IN TRADE FOR WHICH TRAINED AND THOSE LEAVING IT FOR OTHER OCCUPATIONS.

Many girls, as has been seen, sift out of the trades for which they have been trained into other wage-earning occupations. A cross section of their working experience gained through a more intensive study of the first, third, and fifth years out of trade school shows both the kind of occupations into which they go and whether they gain or lose by going. The following table gives for the girls trained in each trade the percentage in each wage group at the end of the first, third, and fifth years, according to whether they remained in their own trade, entered some allied trade, or sought wholly unrelated occupations:[a]

TABLE 67.—NUMBER OF BOSTON TRADE SCHOOL GIRLS TRAINED FOR EACH OF FOUR SPECIFIED TRADES AND PER CENT EARNING EACH CLASSIFIED AMOUNT PER WEEK IN SPECIFIED OCCUPATION GROUPS AT END OF FIRST, THIRD, AND FIFTH YEARS OUT OF TRADE SCHOOL.

END OF FIRST YEAR.

Trade for which trained and group in which earning wages.	Number.[1]	Per cent of girls earning per week—				
		Under $6	$6 and under $8	$8 and under $10	$10 and over.	Total.
Dressmakers: Earning wages in—						
Own trade	375	38.7	56.0	5.1	0.3	100.0
Other needle trades	9	55.6	22.2	22.2	.....	100.0
Other occupations	23	47.8	26.1	17.4	8.7	100.0
Total	407	39.6	53.6	6.1	.7	100.0
Milliners: Earning wages in—						
Own trade	117	43.6	47.9	5.9	2.5	100.0
Other needle trades	7	28.6	57.1	14.3	.....	100.0
Other occupations	19	42.1	42.1	5.3	10.5	100.0
Total	143	42.7	47.6	6.3	3.5	100.0
Cloth machine operators: Earning wages in—						
Own trade	51	25.5	68.6	3.9	2.0	100.0
Other needle trades	7	14.3	57.1	14.3	14.3	100.0
Other occupations	16	37.5	25.0	37.5	.....	100.0
Total	74	27.0	58.1	12.2	2.7	100.0
Straw machine operators: Earning wages in—						
Own trade	56	3.6	35.7	21.4	39.3	100.0
Other needle trades	2	50.0	.....	50.0	.....	100.0
Other occupations	9	22.2	77.8	.....	.....	100.0
Total	67	7.4	40.3	19.4	32.8	100.0

END OF THIRD YEAR.

Dressmakers: Earning wages in—						
Own trade	213	6.1	53.0	32.4	8.5	100.0
Other needle trades	11	27.3	45.4	27.3	.....	100.0
Other occupations	47	8.5	44.9	34.0	12.8	100.0
Total	271	7.4	51.3	32.5	8.9	100.0

[1] Not including those whose wages were not reported.

[a] Full details as to earnings at the end of each year of working experience have already been given in Tables 57 and 58, pp. 99 and 100.

TABLE 67.—NUMBER OF BOSTON TRADE SCHOOL GIRLS TRAINED FOR EACH OF FOUR SPECIFIED TRADES AND PER CENT EARNING EACH CLASSIFIED AMOUNT PER WEEK IN SPECIFIED OCCUPATION GROUPS AT END OF FIRST, THIRD, AND FIFTH YEARS OUT OF TRADE SCHOOL—Concluded.

END OF THIRD YEAR—Concluded.

Trade for which trained and group in which earning wages.	Number.[1]	Per cent of girls earning per week—				
		Under $6	$6 and under $8	$8 and under $10	$10 and over.	Total.
Milliners: Earning wages in—						
Own trade	50	8.0	38.0	40.0	14.0	100.0
Other needle trades	7	.....	42.9	57.1	.....	100.0
Other occupations	41	17.1	43.9	24.4	14.6	100.0
Total	98	11.2	40.8	34.7	13.3	100.0
Cloth machine operators: Earning wages in—						
Own trade	22	4.5	45.5	36.4	13.6	100.0
Other needle trades	5	20.0	60.0	.....	20.0	100.0
Other occupations	18	27.8	38.9	27.8	5.6	100.0
Total	45	15.6	44.4	28.9	11.1	100.0
Straw machine operators: Earning wages in—						
Own trade	18	.....	11.1	5.6	83.3	100.0
Other needle trades	1	.....	100.0	.....	.....	100.0
Other occupations	14	14.3	50.0	14.3	21.4	100.0
Total	33	6.1	30.3	9.1	54.5	100.0

END OF FIFTH YEAR.

Dressmakers: Earning wages in—						
Own trade	123	1.6	22.0	46.3	30.1	100.0
Other needle trades	7	28.6	14.3	42.8	14.3	100.0
Other occupations	34	2.9	26.5	38.2	32.4	100.0
Total	164	3.0	22.6	44.5	29.9	100.0
Milliners: Earning wages in—						
Own trade	30	3.3	10.0	40.0	46.7	100.0
Other needle trades	4	.....	25.0	75.0	.....	100.0
Other occupations	25	.....	28.0	36.0	36.0	100.0
Total	59	1.7	18.6	40.7	39.0	100.0
Cloth machine operators: Earning wages in—						
Own trade	9	11.1	11.1	44.5	33.3	100.0
Other needle trades	2	50.0	50.0	.....	.....	100.0
Other occupations	14	35.7	14.3	35.7	14.3	100.0
Total	25	28.0	16.0	36.0	20.0	100.0
Straw machine operators: Earning wages in—						
Own trade	9	.....	.....	.....	100.0	100.0
Other needle trades	1	.....	100.0	.....	.....	100.0
Other occupations	7	.....	42.9	14.3	42.9	100.0
Total	17	.....	23.5	5.9	70.6	100.0

[1] Not including those whose wages were not reported.

Since $8 a week has been taken as the minimum wage which makes a girl self-supporting, the attainment of that wage may be regarded as a measure of a girl's success in her trade. The attainment of a bare living wage may not be considered much of a success, but certainly the girl who does not attain it has not succeeded, and as a modest standard it may pass. Taking this as the measure, then,

which fare better, the girls who remain in their own trade or who go into something else? The following summary shows the position for each group:

TABLE 68.—PER CENT OF BOSTON TRADE SCHOOL GIRLS EARNING $8 AND OVER PER WEEK IN SPECIFIED OCCUPATION GROUPS AT END OF FIRST, THIRD, AND FIFTH YEARS OUT OF TRADE SCHOOL.

Trade for which trained and occupation group.	Per cent earning $8 and over per week at end of specified year out of trade school.		
	1st year.	3d year.	5th year.
Dressmakers: Earning wages in—			
Own trade	5.4	40.9	76.4
Other needle trades	22.2	57.3	57.1
Other occupations	26.1	46.8	70.6
Milliners: Earning wages in—			
Own trade	8.4	54.0	86.7
Other needle trades	14.3	57.1	75.0
Other occupations	15.8	39.0	72.0
Cloth machine operators: Earning wages in—			
Own trade	5.9	50.0	77.8
Other needle trades	28.6	20.0	.....
Other occupations	37.5	33.4	50.0
Straw machine operators: Earning wages in—			
Own trade	60.7	88.9	100.0
Other needle trades	50.0	.....	.....
Other occupations	.....	35.7	57.2

The straw machine operators present a considerable contrast to the other three groups, since at each period those remaining in their own trade show a larger percentage earning $8 or more a week than do those who have gone into either allied trades or other occupations. In the other trades at the end of the first year those remaining in their own trade show a smaller proportion who have reached self-support than those who went into other wage-earning pursuits, but thereafter the position changes. At the end of the third year, the cloth machine operators remaining in their own trade show a considerably larger proportion in the $8 group than is found among those who have left their trade. Among the dressmakers, those who have gone into other occupations show a larger proportion earning $8 than those who have remained in their own trade, and these, in turn, show a larger proportion in this group than those who have gone into allied needle trades. By the end of the fifth year those who remained in their own trade show everywhere a larger proportion earning $8 than is found among either those who have gone into other needle trades or into other occupations. So far as this table can be taken as indicative it seems to show that while girls may in their first few years out of school do as well or even better in trades for which they have not been trained, in the long run the majority fare better by keeping to the line of work for which they have been prepared.

The table shows also that the girls who leave their own trades seem more inclined to go into something totally different than into related

trades. In general the proportion going into unrelated trades is greater at the end of the first year and increases more rapidly than the proportion going into other needle trades. The following summary shows this difference:

TABLE 69.—PER CENT OF BOSTON TRADE SCHOOL GIRLS TRAINED FOR SPECIFIED TRADES WHO WERE IN OTHER NEEDLE TRADES AND IN OTHER UNALLIED OCCUPATIONS AT END OF FIRST AND FIFTH YEARS OUT OF TRADE SCHOOL.

Trade for which trained.	In other needle trades.		In other unallied occupations.	
	1st year.	5th year.	1st year.	5th year.
Dressmaking	2.2	4.3	5.7	20.7
Millinery	4.9	6.8	13.3	42.4
Cloth machine operating	9.5	8.0	21.6	56.0
Straw machine operating	3.0	5.9	13.4	41.2

The proportion of those going into other occupations who reach a wage of $8 a week or more differs considerably with the trade from which they come. Thus at the end of the fifth year 70.6 per cent of those trained for dressmaking and 72 per cent of those trained for millinery who had gone from their own trade into other occupations had reached $8, while of those trained for cloth machine operating and straw machine operating who had gone into other occupations only 50 per cent and 57.2 per cent, respectively, had been equally successful. This difference, of course, is largely due to the kind of occupation into which they go, and that in turn depends to a considerable extent upon the type of girl who takes the training for the different trades. The following table shows the industries in which the girls trained for the four leading trades who had left their trades were found at the time of the investigation:

TABLE 70.—NUMBER OF BOSTON TRADE SCHOOL GIRLS IN SPECIFIED TRADES OTHER THAN THOSE FOR WHICH TRAINED, AT END OF FIRST, THIRD, AND FIFTH YEARS OUT OF TRADE SCHOOL.

Trade for which trained and unallied trade in which earning wages.	Number at end of specified year out of trade school.					
	First year.		Third year.		Fifth year.	
	Wages reported.	Wages not reported.	Wages reported.	Wages not reported.	Wages reported.	Wages not reported.
DRESSMAKING.						
Trade in which earning wages:						
Manufactures	8	1	9	1	2	1
Transportation	1	.....	5	.....	3	.....
Trade	2	1	6	.....	4	1
Professional service	2	1	5	1	6	2
Domestic service	1	.....	5	.....	3	.....
Clerical employment	9	.....	17	1	16	1
Total	23	3	47	3	34	5

TABLE 70.—NUMBER OF BOSTON TRADE SCHOOL GIRLS IN SPECIFIED TRADES OTHER THAN THOSE FOR WHICH TRAINED, AT END OF FIRST, THIRD, AND FIFTH YEARS OUT OF TRADE SCHOOL—Concluded.

Trade for which trained and unallied trade in which earning wages.	Number at end of specified year out of trade school.					
	First year.		Third year.		Fifth year.	
	Wages reported.	Wages not reported.	Wages reported.	Wages not reported.	Wages reported.	Wages not reported.
MILLINERY.						
Trade in which earning wages:						
Manufactures	1	.....	2	.....	2	.....
Transportation	2	.....	7	.....	2	.....
Trade	4	.....	8	.....	2	.....
Professional service	4	.....	2	.....	2	.....
Domestic service	1	.....	2	.....	3	.....
Clerical employment	7	.....	20	.....	14	.....
Total	19	.....	41	.....	25	.....
CLOTH MACHINE OPERATING.						
Trade in which earning wages:						
Manufactures	4	1	8	.....	6	.....
Transportation	.....	.....	.....	.....	.....	.....
Trade	2	.....	2	1	1	1
Professional service	1	.....	2	.....	3	1
Domestic service	6	.....	6	.....	4	.....
Clerical employment	3	.....	.....	.....	.....	.....
Total	16	1	18	1	14	2
STRAW MACHINE OPERATING.						
Trade in which earning wages:						
Manufactures	.....	.....	3	.....	1	.....
Transportation	2	.....	3	.....	2	.....
Trade	2	.....	.....	1	1	.....
Professional service	.....	.....	1	1	1	.....
Domestic service	3	.....	3	.....	1	.....
Clerical employment	2	.....	4	1	1	.....
Total	9	.....	14	3	7	.....
Grand total	67	4	120	7	80	7

The requirements made by these different occupations upon the girls entering them naturally differ widely. Probably professional and clerical service make higher demands than any other of the occupations into which the girls go, while manufactures and domestic service make lower. Table 71 shows the extent to which girls trained for the different trades went into these two significant groups of occupations.

At the end of the first year the milliners show the smallest proportion of girls in the unrelated manufactures and domestic service, and much the largest proportion in professional and clerical service. By the end of the fifth year the dressmakers and milliners have changed places in this respect, the dressmakers showing the smallest proportion in manufactures and domestic service, and the largest in professional and clerical service. The cloth and straw power-machine operators show relatively small proportions in professional and clerical service at the end of the first year, and, contrary to the situation among the groups trained for the other two trades, there is no notable

increase in this proportion by the end of the fifth year; in fact, among those trained for cloth machine operating, there is a decrease. Naturally, in view of the large proportion in unrelated manufactures and domestic service and the small proportion in the ranks of professional and clerical service, the wages of the power-machine operators who left their trade are considerably lower than of those who remained, and also lower than the wages of the girls who left dressmaking and millinery and went into other occupations.

TABLE 71.—PER CENT OF BOSTON TRADE SCHOOL GIRLS LEAVING TRADE FOR WHICH TRAINED WHO WERE FOUND IN SPECIFIED UNALLIED TRADES, AT END OF FIRST AND FIFTH YEARS OUT OF TRADE SCHOOL.

Trade for which trained.	Per cent in specified unallied trades.[1]			
	End of first year.		End of fifth year.	
	Manufactures and domestic service.	Professional and clerical service.	Manufactures and domestic service.	Professional and clerical service.
Dressmaking	39.1	47.8	14.7	64.7
Millinery	10.5	57.9	20.0	64.0
Cloth machine operating	62.5	25.0	71.4	21.4
Straw machine operating	33.3	22.2	28.6	28.6

[1] These percentages are based on the number going into other occupations who reported their earnings, and are thus comparable with the percentages given in Table 67.

The cloth machine operators, it will be observed, make a worse showing than any of the other groups in the matter of wage earning and wage opportunity. This is probably explained by the lower educational standard of the cloth machine operators, which is shown in their comparatively low standard of academic schooling. Seventy-one per cent of the dressmakers, 82 per cent of the milliners, and 71 per cent of the straw machine operators, as compared with 54 per cent of the cloth machine operators, were grammar-school graduates or had attended high school. The advantages of the higher educational background of the milliners are apparent in the larger proportion who enter trades requiring academic education. The table just given shows that at the end of the first year a larger proportion of the milliners than of any other group were in professional service or clerical occupations.

Trade educators sometimes say that it is a matter of indifference whether a girl uses her trade training in a wage-earning capacity, for she will be the better prepared by it for whatever she undertakes. But these figures raise the question whether it is the trade school, after all, which does or should be expected to provide the general training for whatever the girl may later choose. If, ultimately, she is going to enter business pursuits or has any particular capacity for such work, would she not be better prepared in the commercial high schools

which train directly for these lines? The decided advantage which the high-school graduate has in the business pursuits[1] suggests the advisability of urging those who are likely to go into this work to devote as long a time as possible to preparation.

TABLE 72.—NUMBER OF BOSTON TRADE SCHOOL GIRLS WHO NEVER USED THEIR TRADES FOUND IN SPECIFIED TRADES EARNING EACH CLASSIFIED WEEKLY AMOUNT OF WAGES AT END OF FIRST, THIRD, AND FIFTH YEARS OUT OF TRADE SCHOOL.

Year out of trade school and trades or occupations.	Number earning classified weekly wages.					
	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.
FIRST YEAR.						
In related trades:						
Custom clothing	1	1				2
Ready-made clothing	1	1				2
Boots and shoes	3	3				6
Total	5	5				10
In other occupations:						
Manufactures	4	2	2		1	9
Transportation	1	2				3
Trade	1	5	2			8
Professional service						
Domestic service	2	2	1			5
Clerical	10	12	2			24
Total	18	23	7		1	49
Total, first year	23	28	7		1	59
THIRD YEAR.						
In related trades:						
Custom clothing	1					1
Ready-made clothing	1	2				3
Boots and shoes	1	3				4
Total	3	5				8
In other occupations:						
Manufactures	3	3	3		1	10
Transportation		1	1			2
Trade	1	2	5			8
Professional service				1	1	2
Domestic service		2	1			3
Clerical	6	7	2	3		18
Total	10	15	12	4	2	43
Total, third year	13	20	12	4	2	51
FIFTH YEAR.						
In related trades:						
Custom clothing		1				1
Ready-made clothing		1				1
Boots and shoes	1	2				3
Total	1	4				5
In other occupations:						
Manufactures		1	2			3
Transportation	1			1		2
Trade		1	1			2
Professional service				1		1
Domestic service	1	1				2
Clerical	2	2	1	2		7
Total	4	5	4	4		17
Total, fifth year	5	9	4	4		22
Total, three years	41	57	23	8	3	132

[1] Department of Research, Women's Educational and Industrial Union: The public schools and women in office service, Ch. V.

GIRLS NEVER USING TRADE FOR WHICH TRAINED.

The girls who, although they had attended the trade school for nine months or more, never entered their trades are not as important for the purposes of this study as those who entered but afterwards left their trades, but still their industrial distribution is a matter of some interest. Table 72 shows what trades they entered and what wages they received, the data being given for the end of the first, third, and fifth years.

The majority of these girls, it will be seen, entered wholly unrelated occupations, the proportion going into sewing trades varying from 16.1 per cent at the end of the first year to 22.7 per cent at the end of the fifth. The wage level seems lower than for those who first entered their own trades but afterward drifted out into others. None of this group who went into related trades earned at any time as much as $8 a week, while of those who went into unrelated occupations, only 14.6 per cent at the end of the first year, 39 per cent at the end of the third, and 47.1 per cent at the end of the fifth [1] were earning as much or more than $8. Comparison with Table 67, pages 117 and 118, shows that these proportions are at each period smaller than for the corresponding group who had been trained for dressmaking and millinery, and for the end of the fifth year smaller than those of any of the girls trained for a trade who had gone into other occupations.

COMPARATIVE WAGES OF TRADE-SCHOOL AND TRADE-TRAINED DRESSMAKERS AND FACTORY SEWERS AT SPECIFIED PERIODS.

Whether a year spent in the trade school is more or less advantageous to a girl than the same period spent in the actual practice of her trade is a subject for discussion on which teachers have not yet come to an agreement.[2] To throw some light on this question the following table is presented, showing the wages of the trade-trained girls at the end of their second, fourth, and sixth years of experience. Since two-thirds of the trade-school girls using their trades have spent 12 months or more in the school, the figures in this table are comparable with those given in the preceding tables for the trade-school girls. In Table 73 the data for the trade-trained dressmakers and for the trade-trained factory sewers are presented separately, since the latter group of workers may more fairly be compared with the trade-school power-machine operators than with the trade-school dressmakers.

Comparing the figures here given for the trade-trained dressmakers with those given in Table 67 for the trade-school dressmakers, it appears that the trade-trained girls have larger proportions both in the low and the high wage groups, but smaller proportions in the

[1] In calculating these percentages those whose wages were not reported are omitted.
[2] See Anna C. Hedges: Wage worth of school training.

TABLE 73.—NUMBER AND PER CENT OF TRADE-TRAINED GIRLS EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF SECOND, FOURTH, AND SIXTH YEAR'S EXPERIENCE, BY OCCUPATIONS.

NUMBER.

Classified weekly wage.	Trade-trained dressmakers employed in—				Trade-trained factory sewers employed in—				
	Dressmaking.	Related trades.	Other occupations.	Total.	Cloth machine-sewing trades.	Related trades.	Other occupations.	Not reported.	Total.
Second year:									
Under $6	28	.....	6	34	16	2	5	.....	23
$6 and under $8	24	2	.....	26	34	.....	9	.....	43
$8 and under $10	10	.....	1	11	14	.....	1	.....	15
$10 and over	4	.....	2	6	4	1	1	.....	6
Not reported	4	.....	.....	4	.....	.....	.....	1	1
Total	70	2	9	81	68	3	16	1	88
Fourth year:									
Under $6	1	.....	.....	1	3	.....	2	.....	5
$6 and under $8	20	.....	2	22	18	.....	2	.....	20
$8 and under $10	23	.....	.....	23	21	.....	1	.....	22
$10 and over	6	.....	2	8	9	.....	2	.....	11
Not reported	3	.....	.....	3	.....	.....	.....	.....	.....
Total	53	.....	4	57	51	.....	7	.....	58
Sixth year:									
Under $6	.....	.....	.....	.....	1	.....	.....	.....	1
$6 and under $8	2	2	.....	4	4	.....	2	.....	6
$8 and under $10	21	.....	1	22	15	.....	.....	.....	15
$10 and over	15	.....	1	16	10	.....	1	.....	11
Not reported	1	.....	.....	1	1	.....	.....	1	2
Total	39	2	2	43	31	.....	3	1	35

PER CENT EARNING EACH CLASSIFIED AMOUNT.[1]

	Trade-trained dressmakers employed in—			Trade-trained factory sewers employed in—		
	Dressmaking.	Other occupations.[2]	Total.	Cloth machine sewing trades.	Other occupations.[2]	Total.
Second year:						
Under $6	42.4	54.5	44.2	23.5	36.8	26.4
$6 and under $8	36.4	18.2	33.8	50.0	47.4	49.5
$8 and under $10	15.2	9.1	14.3	20.6	5.3	17.2
$10 and over	6.0	18.2	7.7	5.9	10.5	6.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Fourth year:						
Under $6	2.0	.....	1.9	5.9	28.5	8.6
$6 and under $8	40.0	50.0	40.7	35.3	28.6	34.5
$8 and under $10	46.0	.....	42.6	41.2	14.3	37.9
$10 and over	12.0	50.0	14.8	17.6	28.6	19.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sixth year:						
Under $6	.....	.....	.....	3.2	.....	3.0
$6 and under $8	5.2	.....	9.5	13.3	66.7	18.2
$8 and under $10	55.3	50.0	52.4	50.0	.....	45.5
$10 and over	39.5	50.0	38.1	33.4	33.3	33.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Based on number of girls whose weekly wages were reported.
[2] Includes also figures for "related trades."

middle group. Thus, at the end of their first year out of school 38.7 per cent of the trade-school girls who were still working in the dressmaking trade earned less than $6 a week against 42.4 per cent of the trade-trained girls at the end of their second year. But on the other hand, 21.2 per cent of the trade-trained girls against 5.4 per cent of the trade-school girls earned $8 or over a week. Whatever advantage the trade-school girls may have in their smaller proportion in the low-wage group is lost by the end of their third and the trade-trained girls' fourth year, when the percentages earning less than $6 are, respectively, 6.1 and 2. At this period the proportion earning $8 or over is for the trade-school girls 40.9 per cent and for the trade-trained 58 per cent. In their fifth year out, 76.4 per cent of the trade-school dressmakers earned $8 or more as compared with 94.8 per cent of the trade-trained girls in their sixth year. Thirty per cent of the trade-school dressmakers earned $10 or more by the end of their fifth year, while 39.5 per cent of the trade-trained workers earned $10 or more at the end of their sixth year's experience. If the comparison be made between all members of the trade-school and the trade-trained groups, regardless of whether they remained in dressmaking or went into other pursuits, the results are much the same, though the advantage on the side of the trade-trained girl is not quite so marked.

The comparison of average wages year by year (see Tables 63 and 64, pp. 107 to 112) has shown that the trade-school group has a certain advantage over the trade-trained, but it is evident from this table that for the girls engaged in dressmaking the year spent in the trade school does not give a girl a year's advantage in wage return, except perhaps in the first year, any more than a higher initial wage seems to guarantee a continuously higher wage in succeeding years in the trade.

The number of girls trained in the trade school as cloth machine operators and the number of trade-trained workers in the factory sewing trades are much more nearly equal than are the two groups of dressmakers compared. Confining the comparison to those who remained in their trade it appears that of the trade-school girls 25.5 per cent earned less than $6 a week at the end of their first year out of school, while of the trade-trained girls 23.5 per cent were in this wage group at the end of their second year in the trade. Fifty per cent of the trade-school girls at the end of their third year and 58.8 per cent of the trade-trained girls at the end of their fourth year's experience earned $8 or more. A little more than three-fourths (77.8 per cent) of the trade-school girls earned $8 or more at the end of their fifth year, while something over four-fifths (83.4 per cent) of the trade-trained girls earned this at the end of their sixth year.

Like the study of average wages, this study of the wages, at specific periods of their working experience, of the trade-school and the trade-trained girl shows that the former has a real immediate advantage because she is lifted over the preliminary unskilled and sometimes unrelated processes, but in neither of the two important branches of the sewing trades studied here has she been able to maintain a marked wage advantage over the trade-trained girl.

FACTORS DETERMINING WAGE ADVANCEMENT.

LENGTH OF WORKING EXPERIENCE.

Of the many factors which may determine wage advancement three, maturity, length of working experience, and length of training may naturally be expected to have most weight, granting some natural capacity for the trade entered. A certain degree of maturity is requisite, and preliminary trade training is a real advantage, particularly in its immediate benefits, but length of working experience is perhaps the most important of the three in trades requiring, as the sewing trades do, (1) skill of hand which is attained through repetition of a process, and (2) a knowledge of construction. The effect of this factor is shown in the following tables giving the wage distribution, by length of industrial experience, of both the trade-school and the trade-trained girls studied.

TABLE 74.—NUMBER AND PER CENT OF BOSTON TRADE-SCHOOL GIRLS AND OF OF SPECIFIED

TRADE-SCHOOL GIRLS: NUMBER.

Present occupation.	Girls earning, after specified years' experience, each classified amount.											
	Under 3 years.						3 and under 5 years.					
	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.
In their trade:												
Dressmaking	11	63	17	2	1	94	.....	15	35	11	2	63
Millinery	3	21	3	.....	2	29	.....	2	6	1	.....	9
Machine operating on—												
Cloth	1	13	6	.....	.....	20	1	5	2	1	1	10
Straw hats	1	5	4	4	.....	14	.....	1	1	7	.....	9
Cooking and design	2	[1] 1	[1] 1	.....	[1] 1	5	2	.....	.....	[1] 1	.....	3
Total	18	103	31	6	4	162	3	23	44	21	3	94
In related trades:												
Custom clothing	1	1	3	.....	.....	5	.....	.....	1	.....	.....	1
Ready-made clothing	3	2	2	.....	.....	7	1	3	.....	2	.....	6
Boots and shoes	2	2	2	.....	1	7	.....	.....	1	1	.....	2
Total	6	5	7	.....	1	19	1	3	2	3	.....	9
In other occupations:												
Manufactures	3	6	.....	.....	.....	9	1	5	1	1	.....	8
Transportation	.....	3	.....	1	.....	4	.....	2	4	2	.....	8
Trade	2	5	3	.....	1	11	.....	3	4	.....	.....	7
Professional service	.....	.....	2	2	3	7	.....	.....	.....	4	.....	4
Domestic service	4	2	1	.....	.....	7	3	.....	1	2	.....	6
Clerical	9	12	3	.....	.....	24	1	2	9	3	1	16
Total	18	28	9	3	4	62	5	12	19	12	1	49
Grand total	42	136	47	9	9	243	9	38	65	36	4	152

TRADE-TRAINED GIRLS: NUMBER.

In their trade:												
Dressmaking	18	9	2	1	.....	30	1	3	9	3	.....	16
Machine operating on cloth	5	18	7	1	.....	31	2	7	7	4	.....	20
Total	23	27	9	2	.....	61	3	10	16	7	.....	36
In related trades	3	.....	.....	1	.....	4	.....	.....	.....	.....	.....	.....
In other occupations	3	3	1	.....	.....	7	1	1	1	.....	.....	3
Grand total	29	30	10	3	.....	72	4	11	17	7	.....	39

TRADE-SCHOOL GIRLS: PER CENT EARNING EACH CLASSIFIED AMOUNT.[3]

In their trade:												
Dressmaking	11.8	67.7	18.3	2.2		100.0	.....	24.6	57.4	18.0		100.0
Millinery	11.1	77.8	11.1	.....		100.0	.....	22.2	66.7	11.1		100.0
Machine operating on—												
Cloth	5.0	65.0	30.0	.....		100.0	11.1	55.6	22.2	11.1		100.0
Straw hats	7.1	35.7	28.6	28.6		100.0	.....	11.1	11.1	77.8		100.0
Cooking and design	50.0	[1] 25.0	[1] 25.0	.....		100.0	66.7	.....	.....	[1] 33.3		100.0
Total	11.4	65.2	19.6	3.8		100.0	3.3	25.3	48.3	23.1		100.0
In related trades	33.3	27.8	38.9	.....		100.0	11.1	33.3	22.2	33.4		100.0
In other occupations	31.0	48.3	15.5	5.2		100.0	10.4	25.0	39.6	25.0		100.0
Grand total	17.9	58.1	20.1	3.9		100.0	6.1	25.7	43.9	24.3		100.0

[1] Design.
[2] Not including 1 girl who is reported to be a nurse in a hospital in Philadelphia, but whose exact working experience and wage could not be obtained.

TRADE-TRAINED GIRLS EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END YEARS' EXPERIENCE.

TRADE-SCHOOL GIRLS: NUMBER.

Girls earning, after specified years' experience, each classified amount.												
5 and under 7 years.						7 years and over.						Total.
Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.	
2	2	16	23	3	46	.....	.....	6	11	.....	17	220
.....	.....	2	8	.....	10	.....	1	1	6	.....	8	56
1	.....	1	3	.....	5	.....	.....	1	1	.....	2	37
.....	.....	.....	6	.....	6	.....	.....	.....	2	.....	2	31
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
3	2	19	40	3	67	.....	1	8	20	.....	29	352
.....	2	2	.....	.....	4	.....	.....	2	.....	.....	2	12
.....	.....	3	2	.....	5	.....	.....	1	.....	.....	1	19
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
.....	2	5	2	.....	9	.....	.....	3	.....	.....	3	40
.....	1	.....	1	.....	2	1	3	1	.....	.....	5	24
.....	.....	.....	1	.....	1	.....	.....	.....	2	.....	2	15
.....	.....	3	.....	.....	3	.....	.....	1	1	1	3	24
.....	1	.....	3	1	5	.....	.....	.....	4	.....	4	20
.....	1	1	.....	.....	2	1	.....	2	3	.....	6	21
.....	1	8	3	.....	12	.....	1	5	3	1	10	62
.....	4	12	8	1	25	2	4	9	13	2	30	166
3	8	36	50	4	101	2	5	20	33	2	62	[2] 558

TRADE-TRAINED GIRLS: NUMBER.

.....	2	2	5	.....	9	1	2	7	23	.....	33	88
2	4	8	2	.....	16	.....	4	15	5	.....	24	91
2	6	10	7	.....	25	1	6	22	28	.....	57	179
.....	1	.....	.....	.....	1	.....	1	.....	.....	.....	1	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
2	7	10	7	.....	26	1	7	22	28	.....	58	195

TRADE-SCHOOL GIRLS: PER CENT EARNING EACH CLASSIFIED AMOUNT.[3]

4.7	4.7	37.2	53.4		100.0	.....	.....	35.3	64.7		100.0	.....
.....	.....	20.0	80.0		100.0	.....	12.5	12.5	75.0		100.0	.....
20.0	.....	20.0	60.0		100.0	.....	.....	50.0	50.0		100.0	.....
.....	.....	.....	100.0		100.0	.....	.....	.....	100.0		100.0	.....
4.7	3.1	29.7	62.5		100.0	.....	3.4	27.6	69.0		100.0	.....
.....	22.2	55.6	22.2		100.0	.....	.....	100.0	.....		100.0	.....
.....	16.7	50.0	33.3		100.0	7.2	14.3	32.1	46.4		100.0	.....
3.1	8.2	37.1	51.6		100.0	3.3	8.3	33.3	55.1		100.0	.....

[3] Based on number of girls whose wages were reported.

TABLE 74.—NUMBER AND PER CENT OF BOSTON TRADE-SCHOOL GIRLS AND OF OF SPECIFIED YEARS'

TRADE-TRAINED GIRLS: PER CENT EARNING EACH CLASSIFIED AMOUNT.[1]

Present occupation.	Girls earning, after specified years' experience, each classified amount.											
	Under 3 years.						3 and under 5 years.					
	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.
In their trade:												
Dressmaking	60.0	30.0	6.7	3.3		100.0	6.3	18.7	56.3	18.7		100.0
Machine operating on cloth	16.1	58.1	22.6	3.2		100.0	10.0	35.0	35.0	20.0		100.0
Total	37.7	44.3	14.8	3.2		100.0	8.3	27.8	41.5	19.4		100.0
In other occupations	54.5	27.3	9.1	9.1		100.0	33.3	33.4	33.3	.....		100.0
Grand total	40.3	41.7	13.9	4.1		100.0	10.3	28.2	43.6	17.9		100.0

[1] Based on number of girls whose wages were reported.

The effect of experience in raising the general level of wages received is very evident here. The proportion in the lower wage groups steadily sinks and in the higher wage groups rises as the length of experience increases. Taking the trade-school girls as a whole, the proportion receiving less than $6 a week falls from 17.9 per cent among those with an industrial experience of less than three years to 3.3 per cent among those with an industrial experience of seven years or over; for the trade-trained girls the corresponding proportions are 40.3 per cent and 1.7 per cent, respectively. The proportion earning $10 or over per week rises among the trade-school girls from 3.9 per cent in the group with less than three years' experience to 55.1 per cent in the group with seven or more years of experience, and for the trade-trained girls from 4.1 per cent to 48.3 per cent. The decrease in the low-wage groups and the increase in the high-wage groups is, on the whole, continuous, although there are a few irregularities in the distribution of those with seven or more years of experience, as compared with those having five but under seven years. Thus among the trade-school cloth machine operators, 60 per cent of those with an experience of five years but under seven, and only 50 per cent of those with seven or more years of experience were earning $10 or over a week. There were, however, only five girls in the first of these groups and two in the second, so that this irregularity is negligible.

Taking $8 per week as the minimum required for self-support, it appears that for the trade-school group as a whole, among those who had been at work for less than three years not quite one-fourth were self-supporting; among those who had been working from three to five years, nearly seven-tenths had reached or passed this

TRADE-TRAINED GIRLS EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END EXPERIENCE—Concluded.

TRADE-TRAINED GIRLS: PER CENT EARNING EACH CLASSIFIED AMOUNT.[1]

Girls earning, after specified years' experience, each classified amount.											
5 and under 7 years.						7 years and over.					Total.
Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and under $10	$10 and over.	Not reported.	Total.	
.....	22.2	22.2	55.6		100.0	3.0	6.1	21.2	69.7		100.0	.....
12.5	25.0	50.0	12.5		100.0	.....	16.7	62.5	20.8		100.0	.....
8.0	24.0	40.0	28.0		100.0	1.8	10.5	38.6	49.1		100.0	.....
.....	100.0	.....	.....		100.0	.....	100.0	.....	.....		100.0	.....
7.7	26.9	38.5	26.9		100.0	1.7	12.1	37.9	48.3		100.0	.....

point, and among those who had been working five years but under seven nearly nine-tenths were independent. At this point, apparently all those capable of reaching self-support have done so, for the next group, those having worked seven years or more, shows practically the same proportion earning less than $8 a week—11.6 per cent against 11.3 per cent. Among those earning $8 a week or over, however, the group with seven years of experience shows a larger proportion earning $10 or over than is found among any of the groups with less experience. Apparently, therefore, it takes about five years of working experience before the trade-school girl has certainly found herself and before it can be definitely known whether or not she can earn a living wage.

A comparison of the wages earned by the trade-school and the trade-trained girls according to their length of working experience affords an interesting contrast. Table 75 shows the percentage of trade-school and trade-trained girls in certain wage groups classified by length of experience.

Whether the comparison be made between the trade-school and the trade-trained girls as a whole, or between the trade-school and the trade-trained girls in a given trade, or those who have left their own trade for other occupations, the trade-school girls have a marked advantage. With the exception of the cloth machine operators with three but less than five years of experience, the trade-school girls in every group show a smaller proportion earning less than $8 a week and a larger proportion earning $8 or over than appears among the trade-trained girls. For those with less than three years of experience, the trade-trained girls show a larger proportion earning $10 or over; for those in the other experience groups, the advantage in this respect

shifts from trade-school to trade-trained girls rather irregularly, the situation on the whole being favorable to the trade-school girls.

TABLE 75.—PER CENT OF BOSTON TRADE SCHOOL GIRLS AND OF TRADE-TRAINED GIRLS EARNING EACH CLASSIFIED WEEKLY AMOUNT AFTER SPECIFIED YEARS' EXPERIENCE.

Classified weekly earnings.	Per cent of girls earning each classified weekly amount after specified years' experience.							
	Under 3 years.		3 and under 5 years.		5 and under 7 years.		7 years and over.	
	Trade-school girls.	Trade-trained girls.	Trade-school girls.	Trade-trained girls.	Trade-school girls.	Trade-trained girls.	Trade-school girls.	Trade-trained girls.
Total workers earning—								
Under $8	76.0	82.0	31.8	38.5	11.3	34.6	11.6	13.8
$8 and over	24.0	18.0	68.2	61.5	88.7	65.4	88.4	86.2
$10 and over	3.9	4.1	24.3	17.9	51.6	26.9	55.1	48.3
Dressmakers in own trade earning—								
Under $8	79.5	90.0	24.6	25.0	9.4	22.2	.....	9.1
$8 and over	20.5	10.0	75.4	75.0	90.6	77.8	100.0	90.9
$10 and over	2.2	3.3	18.0	18.7	53.4	55.6	64.7	69.7
Cloth machine operators in own trade earning—								
Under $8	70.0	74.2	66.7	45.0	20.0	37.5	.....	16.7
$8 and over	30.0	25.8	33.3	55.0	80.0	62.5	100.0	83.3
$10 and over	.....	3.2	11.1	20.0	60.0	12.5	50.0	20.8
Workers in other than own trade earning—								
Under $8	75.0	81.8	36.8	66.7	18.2	100.0	19.4	100.0
$8 and over	25.0	18.2	63.2	33.3	81.8	.....	80.6	.....
$10 and over	3.9	9.1	26.3	.....	30.3	.....	41.9	.....

The trade-school and the trade-trained dressmakers afford perhaps the most satisfactory comparison, since their work is similar and their numbers are more nearly equal than is the case with some of the other groups. In every experience group the trade-school dressmakers show a larger proportion earning $8 a week or over. Among those having less than three years of experience, one-fifth of the trade-school against one-tenth of the trade-trained dressmakers earn $8 or more a week; among those having three but under five years of experience the proportions are almost identical for the two groups, but what advantage exists is on the side of the trade-school girl. In the next experience group nine-tenths of the trade-school against a little more than three-fourths of the trade-trained girls earn $8 or more, while in the last group, those with seven or more years of experience, nearly one-tenth of the trade-trained girls fall below $8 but not a single trade-school girl fails to earn that minimum. On the other hand, in every experience group a slightly larger proportion of the trade-trained than of the trade-school girls earn $10 or over per week. The difference here, however, is so small that it does not offset the advantage on the side of the trade-school girls in the matter of earning a living wage. When the two classes of workers are compared by length of experience, the systematic training received by the trade-school girl shows its effect in the higher level of her earnings.

It will be remembered that when the earnings at the end of specific years were compared, the trade-school girl did not show a year's advantage over the trade-trained girl in dressmaking. This comparison, however, makes it evident that her training has a very real effect upon her wage-earning capacity, and that while this effect is most apparent, as would be expected, among those who enter their own trade and remain in it, it is found also among those who go into other pursuits.

AGE AT BEGINNING WORK.

EFFECT ON WAGES OF TRADE-SCHOOL GIRLS.

Since the girl under 16 years of age is increasingly excluded from the sewing trades, and since the advocates of raising the age limits maintain that the girl entering at 16 years or more really earns a better wage, it is of interest to discover to what extent this is true in immediate as well as in later returns. For this purpose a comparison is made of the wage distribution, at the end of the first and third years out of trade school, of those beginning work under 16, between 16 and 18, and 18 and over. Reports were obtained showing wages and age at beginning work for 701 girls who were still working at the end of the first year and for 450 still working at the end of the third year. Of the group working at the end of the first year, 25 per cent had begun under 16, 53.6 per cent between 16 and 18, and 21.4 per cent aged 18 or over. Of those still working at the end of the third year, 27.1 per cent had begun under 14 years old, 53.6 per cent between 16 and 18, and 19.3 at 18 or over. The age distribution of the two groups at beginning work is, therefore, very nearly the same. Table 76 shows the wage distribution at the end of the first and of the third year.

At the end of the first year the group beginning at 18 or over shows an advantage over those beginning at 16 but under 18, and these, in turn, have an advantage over those who began under 16. The oldest group makes the best showing in wages, whether it be considered as a whole or according to its trade distribution. There are some irregularities in the latter case. Those in dressmaking and millinery show a fairly steady improvement in wage level as the age at beginning increases; among the cloth machine operators the improvement is still more regular and more marked, and it is also marked among those who have gone into other occupations; but those engaged in straw machine operating and in cooking and design do not show this steady progression. The number engaged in cooking and design, however, is too small to be significant. The straw machine operators show a very curious distribution; those beginning under 16 years of age have none in the lowest wage group, and a larger proportion receiving $8 or over than is found among any of those beginning at a higher age.

TABLE 76.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS BEGINNING WORK AT SPECIFIED AGE IN SPECIFIED OCCUPATIONS, AND EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF FIRST AND THIRD YEAR'S EXPERIENCE.

NUMBER.

Years of experience, age at beginning work, and classified weekly wages.	In trade for which trained.						In other occupations.	Total.
	Dressmaking.	Millinery.	Power-machine operating on—		Cooking and design.	Total.		
			Cloth.	Straw hats.				
END OF FIRST YEAR.								
14 and under 16 years, earning—								
Under $6	42	14	3	.....	.....	59	13	72
$6 and under $8	49	12	14	2	1	78	7	85
$8 and over	6	.....	.....	9	.....	15	3	18
Not reported	1	.....	.....	.....	.....	1	1	2
Total	98	26	17	11	1	153	24	177
16 and under 18 years, earning—								
Under $6	76	28	8	.....	3	115	20	135
$6 and under $8	118	29	14	13	2	176	21	197
$8 and over	8	6	1	20	.....	35	9	44
Not reported	2	1	2	.....	1	6	2	8
Total	204	64	25	33	6	332	52	384
18 years and over, earning—								
Under $6	27	9	2	2	1	41	3	44
$6 and under $8	43	15	7	5	1	71	7	78
$8 and over	6	4	2	5	2	19	9	28
Not reported	2	.....	.....	1	.....	3	2	5
Total	78	28	11	13	4	134	21	155
Grand total	380	118	53	57	11	619	97	716
END OF THIRD YEAR.								
14 and under 16 years, earning—								
Under $6	5	1	.....	.....	.....	6	4	10
$6 and under $8	32	8	4	.....	.....	44	17	61
$8 and over	24	8	3	4	[1] 1	40	11	51
Not reported	2	.....	.....	.....	.....	2	1	3
Total	63	17	7	4	[1] 1	92	33	125
16 and under 18 years, earning—								
Under $6	3	2	1	.....	.....	6	11	17
$6 and under $8	54	7	4	2	2	69	37	106
$8 and over	54	13	5	10	.....	82	36	118
Not reported	1	1	.....	.....	.....	2	5	7
Total	112	23	10	12	2	159	89	248
18 years and over, earning—								
Under $6	5	1	.....	.....	.....	6	7	13
$6 and under $8	27	4	2	.....	.....	33	11	44
$8 and over	9	6	3	2	.....	20	10	30
Not reported	2	1	.....	.....	.....	3	2	5
Total	43	12	5	2	.....	62	30	92
Grand total	218	52	22	18	3	313	152	465

PER CENT EARNING EACH CLASSIFIED AMOUNT.[2]

END OF FIRST YEAR.								
14 and under 16 years, earning—								
Under $6	43.3	54.0	17.6	.....	.....	38.8	56.6	41.1
$6 and under $8	50.5	46.0	82.4	18.2	.....	51.3	30.4	48.6
$8 and over	6.2	.....	.....	81.8	100.0	9.9	13.0	10.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Design.

[2] Based on number of girls whose wages were reported.

TABLE 76.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS BEGINNING WORK AT SPECIFIED AGE IN SPECIFIED OCCUPATIONS, AND EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF FIRST AND THIRD YEAR'S EXPERIENCE—Concluded.

PER CENT EARNING EACH CLASSIFIED AMOUNT—Concluded.

Years of experience, age at beginning work, and classified weekly wages	In trade for which trained.						In other occupations.	Total.
	Dressmaking.	Millinery.	Power-machine operating on—		Cooking and design.	Total.		
			Cloth.	Straw hats.				
END OF FIRST YEAR—concluded.								
16 and under 18 years, earning—								
Under $6	37.6	44.5	33.3	.....	60.0	35.3	40.0	35.9
$6 and under $8	58.4	46.0	58.4	39.4	40.0	54.0	42.0	52.4
$8 and over	4.0	9.5	8.3	60.6	.....	10.7	18.0	11.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
18 years and over, earning—								
Under $6	35.5	32.1	18.2	16.6	25.0	31.3	15.8	29.3
$6 and under $8	56.6	53.6	63.6	41.7	25.0	54.2	36.8	52.0
$8 and over	7.9	14.3	18.2	41.7	50.0	14.5	47.4	18.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
END OF THIRD YEAR.								
14 and under 16 years, earning—								
Under $6	8.2	5.8	.....	.....	.....	6.7	12.5	8.2
$6 and under $8	52.5	47.1	57.1	.....	.....	48.9	53.1	50.0
$8 and over	39.3	47.1	42.9	100.0	100.0	44.4	34.4	41.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 and under 18 years, earning—								
Under $6	2.8	9.1	10.0	.....	.....	3.8	13.1	7.0
$6 and under $8	48.6	31.8	40.0	16.7	.....	44.0	44.0	44.0
$8 and over	48.6	59.1	50.0	83.3	100.0	52.2	42.9	49.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
18 years and over, earning—								
Under $6	12.2	9.1	.....	.....	.....	10.1	25.0	15.0
$6 and under $8	65.9	36.4	40.0	.....	.....	56.0	39.3	50.6
$8 and over	21.9	54.5	60.0	100.0	.....	33.9	35.7	34.4
Total	100.0	100.0	100.0	100.0	.....	100.0	100.0	100.0

It seems probable that a girl entering a difficult trade like this at such an early age does not persist in it for a year unless she has either a natural aptitude for it, or an amount of energy and persistence which would be likely to bring her to the front. Those entering it at a more mature age do not require so much of these qualities to remain in it, and hence are not a picked group, as these earlier ones seem to be.

At the end of the third year those who entered between the ages of 16 and 18 show the most favorable wage distribution. This is true for the group as a whole, for those as a whole who have remained in their own trades, and for those who have entered other occupations, but when those remaining in their own trades are considered trade by trade some irregularities appear. It is true of the dressmakers and milliners, but for the cloth and straw machine operators this group makes a poorer showing than either of the others. On the whole,

the table seems to bear out the contention of those who hold that it is better for a girl not to enter her trade until she is at least 16.

EFFECT ON WAGES OF TRADE-TRAINED GIRLS.

Turning to the trade-trained girls, the following table shows that reports as to wages and age at beginning work were obtained for 187 still working at the end of the first year after entering the industrial world and for 136 working at the end of the third year. These two groups show a somewhat greater divergence in the proportions beginning work at each age than appeared between the similar groups of trade-school girls. Of those working at the end of the first year 40.6 per cent had begun under 16 years of age, 40.1 per cent at 16 but under 18, and 19.3 per cent at 18 or over. Of those working at the end of the third year, 48.5 per cent had begun work while in the youngest age group, 38.2 per cent in the second, and 13.2 per cent in the third.

TABLE 77.—NUMBER AND PER CENT OF TRADE-TRAINED GIRLS BEGINNING WORK AT SPECIFIED AGE IN SPECIFIED OCCUPATIONS AND EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF FIRST AND THIRD YEAR'S EXPERIENCE.

NUMBER.

Years of experience, age at beginning work, and classified weekly wages.	In trade for which trained.			In other occupations.	Total.
	Dress-making.	Cloth machine operating.	Total.		
END OF FIRST YEAR.					
14 and under 16 years, earning—					
Under $6	29	13	42	13	55
$6 and under $8	4	9	13	3	16
$8 and over	1	1	2	3	5
Not reported	2	.....	2	1	3
Total	36	23	59	20	79
16 and under 18 years, earning—					
Under $6	17	11	28	6	34
$6 and under $8	8	13	21	7	28
$8 and over	5	5	10	3	13
Not reported	1	1	2	.....	2
Total	31	30	61	16	77
18 years and over, earning—					
Under $6	7	8	15	1	16
$6 and under $8	8	8	16	.....	16
$8 and over	2	1	3	1	4
Not reported	1	.....	1	.....	1
Total	18	17	35	2	37
Grand total	85	70	155	[1] 38	[1] 193
END OF THIRD YEAR.					
14 and under 16 years, earning—					
Under $6	13	5	18	4	22
$6 and under $8	9	10	19	7	26
$8 and over	7	9	16	2	18
Not reported	2	.....	2	.....	2
Total	31	24	55	13	68

[1] Not including 1 earning $6 and under $8 whose age at beginning work was not reported.

TABLE 77.—NUMBER AND PER CENT OF TRADE-TRAINED GIRLS BEGINNING WORK AT SPECIFIED AGE IN SPECIFIED OCCUPATIONS AND EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF FIRST AND THIRD YEAR'S EXPERIENCE—Concluded.

NUMBER—Concluded.

Years of experience, age at beginning work, and classified weekly wages.	In trade for which trained.			In other occupations.	Total.
	Dressmaking.	Cloth machine operating.	Total.		
END OF THIRD YEAR—concluded.					
16 and under 18 years, earning—					
Under $6	2	3	5	.....	5
$6 and under $8	6	7	13	.....	13
$8 and over	14	16	30	4	34
Not reported	1	1	2	.....	2
Total	23	27	50	4	54
18 years and over, earning—					
Under $6	2	.....	2	1	3
$6 and under $8	2	3	5	.....	5
$8 and over	5	5	10	.....	10
Not reported	.....	.....	.....	.....	.....
Total	9	8	17	1	18
Grand total	[1] 63	59	122	18	[1] 140

PER CENT EARNING EACH CLASSIFIED AMOUNT.[2]

END OF FIRST YEAR.					
14 and under 16 years, earning—					
Under $6	85.3	56.6	73.7	68.4	72.4
$6 and under $8	11.8	39.1	22.8	15.8	21.0
$8 and over	2.9	4.3	3.5	15.8	6.6
Total	100.0	100.0	100.0	100.0	100.0
16 and under 18 years, earning—					
Under $6	56.7	37.9	47.5	37.5	45.3
$6 and under $8	26.7	44.8	35.6	43.8	37.4
$8 and over	16.6	17.3	16.9	18.7	17.3
Total	100.0	100.0	100.0	100.0	100.0
18 years and over, earning—					
Under $6	41.2	47.1	44.1	50.0	44.4
$6 and under $8	47.1	47.1	47.1	.....	44.4
$8 and over	11.7	5.8	8.8	50.0	11.2
Total	100.0	100.0	100.0	100.0	100.0
END OF THIRD YEAR.					
14 and under 16 years, earning—					
Under $6	44.9	9.1	34.0	30.8	33.3
$6 and under $8	31.0	27.3	35.8	53.8	39.4
$8 and over	24.1	63.6	30.2	15.4	27.3
Total	100.0	100.0	100.0	100.0	100.0
16 and under 18 years, earning—					
Under $6	9.1	11.5	10.4	.....	9.6
$6 and under $8	27.3	26.9	27.1	.....	25.0
$8 and over	63.6	61.6	62.5	100.0	65.4
Total	100.0	100.0	100.0	100.0	100.0
18 years and over, earning—					
Under $6	22.2	.....	11.8	100.0	16.7
$6 and under $8	22.2	37.5	29.4	.....	27.8
$8 and over	55.6	62.5	58.8	.....	55.5
Total	100.0	100.0	100.0	100.0	100.0

[1] Not including 1 earning $5 and under $8 whose age at beginning work was not not reported.
[2] Based on number of girls whose wages were reported.

Comparing the wage distribution at the end of the first year, those entering at 16 but under 18 years of age show a marked advantage over those entering under 16, and a less marked but still apparent advantage over those entering at over 18 or over. Those in other occupations who began work at 18 or over are an exception to this general statement, but as there are only two in this group, they are not fairly comparable with the 20 who entered under 16, and the 16 who entered at 16 but under 18. At the end of the third year, the same general situation is found. Those entering at 16 but under 18 have a more favorable wage distribution than those who entered either earlier or later. Here, again, there is one exception to the general rule: The cloth machine operators who began work at 18 or over have a better wage level than either of the other two groups in this trade. Only eight, however, began work in this age group, against 24 who began before they were 16, and 27 who began at 16 but under 18, so that the comparison is not a very satisfactory one. More emphatically even than was the case with the trade-school girls, the experience of the trade-trained girls seems to indicate that the most favorable age for entering the sewing trades is between 16 and 18 years of age. Since these trades are practically closed to the girl under 16 years of age in Massachusetts, the evidence afforded by the experience of both the trade-school and the trade-trained girls as to the best age for entering may provide some comfort to those regretting the situation.

ACADEMIC EDUCATION.

Preliminary education seemed to be an important factor in determining a girl's ability to survive in the trade school, and the selective process which went on there resulted in the formation of a really selected group from an educational standpoint, for the largest proportion were grammar-school graduates.[1] Moreover, it determines to a large extent the kind of occupation which the girl enters if she leaves her trade. In addition to the preliminary education, the year, more or less, spent in the trade school has an important influence in the girl's wage-earning career. The work done in the unspecialized public schools and the work done in the trade school are alike preparatory, and a consideration of both is necessary to make clear the relation of educational equipment and wage advancement.

WAGES OF TRADE-SCHOOL DRESSMAKERS, CLASSIFIED ACCORDING TO PREVIOUS SCHOOLING.

To simplify the combination of three factors affecting wage advancement—that is, previous schooling, length of trade training, and length of working experience—this particular discussion will be limited to the wages of trade-school dressmakers at the end of their first and third years out of trade school, considered in their relation to academic schooling. The following table shows the wages at these two periods for the trade-school dressmakers, classified by their school grade and the length of time spent in the trade school:

[1] See Table 6, p. 24.

TABLE 78.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL TRAINED DRESSMAKERS EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF FIRST AND THIRD YEARS AT WORK, AFTER SPECIFIED MONTHS OF ATTENDANCE AT TRADE SCHOOL, BY GRADE OF PREVIOUS SCHOOLING.

NUMBER.

Years at work, months of attendance at trade school, and classified weekly wages.	Grammar school.				High school.	Total.
	Graduates.	Nongraduates.	Unclassified.	Total.		
END OF FIRST YEAR.						
Under 6 months, earning—						
Under $6	5	2	.....	7	4	11
$6 and under $8	3	2	.....	5	.....	5
$8 and over	.....	.....	.....	.....	.....	.....
Not reported	1	2	.....	3	.....	3
Total	9	6	.....	15	4	19
6 and under 12 months, earning—						
Under $6	28	13	.....	41	9	50
$6 and under $8	20	10	1	31	18	49
$8 and over	.....	1	1	2	3	5
Not reported	1	.....	.....	1	1	2
Total	49	24	2	75	31	106
12 and under 18 months, earning—						
Under $6	42	13	2	57	13	70
$6 and under $8	62	19	1	82	21	103
$8 and over	7	7	.....	14	3	17
Not reported	1	.....	.....	1	.....	1
Total	112	39	3	154	37	191
18 months and over, earning—						
Under $6	14	15	1	30	.....	30
$6 and under $8	31	15	.....	46	15	61
$8 and over	3	1	.....	4	2	6
Not reported	2	.....	.....	2	.....	2
Total	50	31	1	82	17	99
Grand total	220	100	6	326	89	415
END OF THIRD YEAR.						
Under 6 months, earning—						
Under $6	.....	.....	.....	.....	.....	.....
$6 and under $8	2	2	.....	4	2	6
$8 and over	3	1	.....	4	1	5
Not reported	2	1	.....	3	.....	3
Total	7	4	.....	11	3	14
6 and under 12 months, earning—						
Under $6	5	1	.....	6	.....	6
$6 and under $8	23	11	.....	34	10	44
$8 and over	11	7	2	20	11	31
Not reported	1	.....	.....	1	.....	1
Total	40	19	2	61	21	82
12 and under 18 months, earning—						
Under $6	7	1	1	9	1	10
$6 and under $8	30	12	1	43	10	53
$8 and over	31	14	.....	45	11	56
Not reported	1	1	.....	2	.....	2
Total	69	28	2	99	22	121
18 months and over, earning—						
Under $6	2	1	.....	3	1	4
$6 and under $8	21	8	1	30	6	36
$8 and over	11	7	.....	18	2	20
Not reported	2	.....	.....	2	.....	2
Total	36	16	1	53	9	62
Grand total	152	67	5	224	55	279

TABLE 78.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL TRAINED DRESSMAKERS EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF FIRST AND THIRD YEARS AT WORK, AFTER SPECIFIED MONTHS OF ATTENDANCE AT TRADE SCHOOL, BY GRADE OF PREVIOUS SCHOOLING—Concluded.

PER CENT EARNING EACH CLASSIFIED AMOUNT.[1]

Years at work, months of attendance at trade school, and classified weekly wages.	Grammar school.				High school.	Total.
	Graduates.	Nongraduates.	Unclassified.	Total.		
END OF FIRST YEAR.						
Under 6 months, earning—						
Under $6	62.5	50.0	.....	58.3	100.0	68.7
$6 and under $8	37.5	50.0	.....	41.7	.....	31.3
$8 and over	.....	.....	.....	.....	.....	.....
Total	100.0	100.0	.....	100.0	100.0	100.0
6 and under 12 months, earning—						
Under $6	58.3	54.2	.....	55.4	30.0	48.1
$6 and under $8	41.7	41.7	50.0	41.9	60.0	47.1
$8 and over	.....	4.2	50.0	2.7	10.0	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
12 and under 18 months, earning—						
Under $6	37.9	33.3	66.7	37.3	35.1	36.8
$6 and under $8	55.9	48.6	33.3	53.6	56.8	54.2
$8 and over	6.3	17.9	.....	9.2	8.1	8.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
18 months and over, earning—						
Under $6	29.2	48.4	100.0	37.5	.....	30.9
$6 and under $8	64.6	48.4	.....	57.5	88.2	62.9
$8 and over	6.2	3.2	.....	5.0	11.8	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
END OF THIRD YEAR.						
Under 6 months, earning—						
Under $6	.....	.....	.....	.....	.....	.....
$6 and under $8	40.0	66.7	.....	50.0	66.7	54.5
$8 and over	60.0	33.3	.....	50.0	33.3	45.5
Total	100.0	100.0	.....	100.0	100.0	100.0
6 and under 12 months, earning—						
Under $6	12.8	5.3	.....	10.0	.....	7.4
$6 and under $8	59.0	57.9	.....	56.7	47.6	54.3
$8 and over	28.2	36.8	100.0	33.3	52.4	38.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
12 and under 18 months, earning—						
Under $6	10.3	3.7	50.0	9.3	4.5	8.4
$6 and under $8	44.1	44.4	50.0	44.3	45.4	44.5
$8 and over	45.6	51.9	.....	46.4	50.0	47.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
18 months and over, earning—						
Under $6	5.8	6.2	.....	6.0	11.1	6.7
$6 and under $8	61.8	50.0	100.0	58.0	66.7	60.0
$8 and over	32.4	43.8	.....	36.0	22.2	33.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Based on number of girls whose wages were reported.

Almost one-half (46 per cent) of the 415 girls employed at the end of the first year had attended trade school 12 months but less than 18. Almost three-fourths (71.6 per cent) had attended not less than 6 nor more than 18 months, and these girls constitute the normal or characteristic type. Of those attending trade school 6 months and less than 12, more than one-half the grammar-school pupils and less than one-third of the high-school pupils earned less than $6 at the end of their first year. Of those attending trade school 12 months but less than 18, a little more than one-third of the girls of all degrees of education, with some slight disadvantage for the grammar-school graduate, earned less than $6. No really direct or convincing evidence of relation between previous schooling and success is obvious, therefore, by the end of the first year out of trade school.

By the end of the third year wage groupings have changed considerably, and of those girls attending trade school 6 months but less than 18, which is the normal group, the high-school girl now has a somewhat more obvious advantage. One-third of the grammar-school pupils and more than one-half of the high-school pupils who attended trade school 6 months but less than 12 earned $8 or more. Forty-six (46.4) per cent of the grammar-school pupils and 50 per cent of the high-school pupils who attended trade school 12 months but less than 18 earned $8 or more. The difference in educational background seems to be of less importance on first entering the trade, for the primary demand made on the young worker is necessarily for perfection in manual skill, and all who have not this skill enter on very much the same basis. By the end of the third year, however, the girl has acquired the necessary manual skill, and then the requisite for advancement is the capacity to assume responsibility, to use judgment, to plan, to think, to adapt what she knows to new problems. The girl who is equipped with this power, whether through education or through other kinds of experience, is the one who succeeds. The large proportion of girls among those who have not graduated from grammar school who are earning the higher wages suggests that it is not previous education alone which develops this power.

WAGES OF TRADE-TRAINED DRESSMAKERS, CLASSIFIED ACCORDING TO PREVIOUS SCHOOLING.

The situation in regard to the effect of academic training upon the wage advancement of the trade-trained dressmakers differs in some respects from that just discussed among the trade-school dressmakers. The following table shows the wage grouping, at the end of the second and fourth years at work, of the trade-trained dressmakers classified according to their previous schooling.

TABLE 79.—NUMBER AND PER CENT OF TRADE-TRAINED DRESSMAKERS EARNING EACH CLASSIFIED WEEKLY AMOUNT AT END OF SECOND AND FOURTH YEARS AT WORK, BY GRADE OF PREVIOUS SCHOOLING.

NUMBER.

Previous schooling.	Girls earning classified wages at end of specified year.									
	Second year.					Fourth year.				
	Under $6	$6 and under $8	$8 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and over.	Not reported.	Total.
Grammar school:										
Graduates	20	13	4	.....	37	1	11	15	.....	27
Nongraduates	7	3	6	[1] 1	17	.....	5	5	[2] 1	11
Unclassified	[1] 3	.....	1	.....	4	.....	1	1	.....	2
Total	30	16	11	1	58	1	17	21	1	40
High school	4	9	5	1	19	.....	4	9	.....	13
Uncertain schooling	.....	1	1	[3] 2	4	.....	1	1	[3] 2	4
Grand total	34	26	17	4	81	1	22	31	3	57

PER CENT EARNING EACH CLASSIFIED AMOUNT.[4]

Previous schooling.	Under $6	$6 and under $8	$8 and over.	Total.	Under $6	$6 and under $8	$8 and over.	Total.
Grammar school:								
Graduates	54.1	35.1	10.8	100.0	3.7	40.7	55.6	100.0
Nongraduates	43.8	18.7	37.5	100.0	.....	50.0	50.0	100.0
Unclassified	75.0	.....	25.0	100.0	.....	50.0	50.0	100.0
Total	52.6	28.1	19.3	100.0	2.6	43.6	53.8	100.0
High school	22.2	50.0	27.8	100.0	.....	30.8	69.2	100.0
Grand total	44.1	33.8	22.1	100.0	1.9	40.7	57.4	100.0

[1] One in Scotland.
[2] One in Italy.
[3] One in Russia.
[4] Based on the number of girls whose wages were reported.

Both at the end of the second and of the fourth years the high-school students have an advantage over the grammar-school girls in the matter of wages. Less than one-fourth of the high-school pupils against one-half of the grammar-school pupils earned less than $6 a week at the end of their second year. Practically seven-tenths (69.2 per cent) of the high-school pupils against 53.8 per cent of the grammar-school pupils earned $8 or more at the end of the fourth year. In this trade-trained group the previous schooling seems to have a more pronounced effect upon wages than among the trade-school girls, a fact which suggests that the trade school may play an important part in supplementing the inadequate preparation of the girls of a lower educational standard. In general, among both trade-trained and trade-school dressmakers, the girl with more preliminary education appears to have an advantage, though the comparatively small number in the trades who have gone beyond the grammar school provide small basis for conclusions.

WAGES AND LENGTH OF WORKING SEASON.

The real significance of weekly wages, however, lies in the number of weeks in the year they are received. The sewing trades for which the school trains are highly seasonal, and unemployment or irregularity of employment constitutes one of the most vigorous sifting influences. Less seasonal trades, even at a lower weekly rate, not only may provide a larger annual income, but do not subject their workers to the strain and uncertainty of irregular employment or none at all.

LENGTH OF SEASON, BY TRADES, FOR 533 TRADE-SCHOOL GIRLS.

The following table shows for 533 [1] trade-school girls employed at the time of the investigation the number of months of employment they had had during a year.

TABLE 80.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS EMPLOYED IN SPECIFIED TRADES EACH CLASSIFIED NUMBER OF MONTHS DURING A FULL YEAR.

NUMBER.[2]

Months at work during a full year.	Sewing trades.					Other trades.	Total.
	Dress-making.	Milli-nery.	Power-machine operating on—		Total.		
			Cloth.	Straw hats.			
Under 3 months	3	3	2	1	9	6	15
3 and under 4 months	1	1	1	2	5	10	15
4 and under 5 months	2	3	.....	6	11	2	13
5 and under 6 months	5	7	1	9	22	7	29
6 and under 7 months	10	5	1	4	20	8	28
7 and under 8 months	5	4	2	.....	11	7	18
8 and under 9 months	39	5	1	.....	45	9	54
9 and under 10 months	67	2	5	2	76	9	85
10 and under 11 months	40	6	3	3	52	11	63
11 and under 12 months	22	9	8	2	41	33	74
12 months	8	3	9	3	23	95	118
Not reported	11	2	.....	.....	13	8	21
Total	213	50	33	32	328	205	533

PER CENT AT WORK EACH SPECIFIED NUMBER OF MONTHS.[3]

Under 3 months	1.5	6.3	6.1	3.1	2.9	3.0	2.9
3 and under 4 months	.5	2.1	3.0	6.3	1.6	5.0	2.9
4 and under 5 months	1.0	6.3	.....	18.7	3.5	1.0	2.5
5 and under 6 months	2.5	14.6	3.0	28.0	7.0	3.6	5.6
6 and under 7 months	5.0	10.4	3.0	12.5	6.4	4.0	5.5
7 and under 8 months	2.5	8.1	6.1	.....	3.5	3.6	3.8
8 and under 9 months	19.3	10.4	3.0	.....	14.3	4.6	10.5
9 and under 10 months	33.1	4.2	15.2	6.3	24.0	4.6	16.6
10 and under 11 months	19.8	12.5	9.1	9.4	16.5	5.6	12.3
11 and under 12 months	10.9	18.8	24.2	6.3	13.0	16.7	14.5
12 months	3.9	6.3	27.3	9.4	7.3	48.2	22.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] 26 of the 559 employed at the time of the investigation had not been out of trade school a full year.
[2] Including only those who were out of trade school a full year.
[3] Based on number of girls whose time at work during the year was reported.

The seasonal character of the sewing trades appears very plainly here. Thirty-six (36.8) per cent of those remaining in the sewing trades, against 70.5 per cent of those who had gone into other occupations worked 10 months or more—most excellent evidence as to why the girls go into other occupations. Forty per cent of the girls in the sewing trades worked 9 but less than 11 months, while 48.2 per cent of those in other occupations worked 12 months. Among the sewing trades, the millinery trades have the shortest seasons, 58.2 per cent of the custom milliners working less than nine months and 68.6 per cent of the straw machine operators not exceeding seven months. Those of the straw machine operators having longer seasons have usually been in factories which made velvet hats in the summer, and owing to this combination a few worked most of the year. Some of the milliners who worked nine months or more were employed in department stores or wholesale houses and were shifted from one department to another where most needed. More than one-half of the cloth machine operators worked 11 months or more in the factory, but for them dull seasons mean less work and smaller wages, not necessarily absolute unemployment. Among the dressmakers one-third worked 9 months but less than 10, and more than one-third (34.6 per cent) worked 10 months or more.[1]

WAGES OF TRADE-SCHOOL GIRLS TRAINED FOR SEWING TRADES, CLASSIFIED ACCORDING TO LENGTH OF WORKING SEASON AND TRADES.

Table 81 shows the wage grouping of the girls, classified according to the number of months worked.

Preceding discussions have shown that girls in the millinery trades earned higher average wages than those in the clothing trades. This table shows the same situation, but also shows how heavily these higher wages are discounted by the shorter seasons. Of the girls following their own trades, 58.8 per cent in the clothing trades against 65 per cent in the millinery trades earned $8 or more a week,[2] but 86.3 per cent in the clothing trades against 43.8 per cent in the millinery trades had a working season of eight months or more. Thirty per cent of those in the millinery trades against 9 per cent of those in the clothing trades earned $12 or over a week, but only 41.7 per cent of this wage group in the millinery trades worked 10 months or more against 61.9 per cent of those in the clothing trades. Real earnings can not be deduced with certainty from this table, since, as already mentioned, in many of the clothing trades there may be slack work and lower wages without absolute unemployment, but taking the figures of this table at their face value, those in the millinery trades can hardly be said to have much advantage over those in the clothing trades, in spite of the lower nominal wages paid in the latter.

[1] For further discussion, see Bul. No. 193, United States Bureau of Labor Statistics.

[2] Percentages based on the number for whom both length of season and wages are reported.

TABLE 81.—NUMBER OF BOSTON TRADE SCHOOL GIRLS TRAINED FOR SEWING TRADES EMPLOYED EACH CLASSIFIED NUMBER OF MONTHS DURING FULL YEAR, AND EARNING CLASSIFIED WAGES.

GIRLS TRAINED FOR CLOTHING TRADES.[1]

Months at work during a full year.[2]	Girls whose weekly wages were—						Total.
	Under $6	$6 and under $8	$8 and under $10	$10 and under $12	$12 and over.	Not reported.	
Working in their trade—							
Under 6 months	3	8	3	.....	.....	1	15
6 and under 8 months	1	8	7	2	.....	.....	18
8 and under 10 months	2	43	44	15	8	.....	112
10 and under 12 months	3	21	26	12	11	.....	73
12 months	2	5	6	1	2	1	17
Not reported	1	1	1	1	1	6	11
Total	12	86	87	31	22	8	246
Working in other occupations—							
Under 6 months	3	6	5	.....	3	2	19
6 and under 8 months	6	1	5	.....	.....	.....	12
8 and under 10 months	1	4	2	.....	2	.....	9
10 and under 12 months	3	13	3	2	4	.....	25
12 months	5	14	17	8	8	3	55
Not reported	2	1	2	.....	.....	.....	5
Total	20	39	34	10	17	5	125
Grand total	32	125	121	41	39	13	371

GIRLS TRAINED FOR MILLINERY TRADES.[3]

Working in their trade—							
Under 6 months	2	14	6	1	9	.....	32
6 and under 8 months	.....	4	3	2	4	.....	13
8 and under 10 months	.....	3	2	3	1	.....	9
10 and under 12 months	.....	4	6	3	7	.....	20
12 months	.....	1	1	1	3	.....	6
Not reported	1	.....	.....	.....	.....	1	2
Total	3	26	18	10	24	1	82
Working in other occupations—							
Under 6 months	1	3	.....	.....	1	1	6
6 and under 8 months	1	1	1	.....	.....	.....	3
8 and under 10 months	.....	2	5	2	.....	.....	9
10 and under 12 months	1	6	9	3	.....	.....	19
12 months	3	9	15	5	7	1	40
Not reported	.....	1	.....	.....	.....	2	3
Total	6	22	30	10	8	4	80
Grand total	9	48	48	20	32	5	162

[1] That is, custom dressmaking and cloth machine-sewing trades.
[2] The past year has been used to insure a more nearly correct statement of the length of time actually worked.
[3] That is, millinery and straw machine operating.

The girls who have gone out from their own trades seem, on the whole, to have improved their situation by doing so, when the number of weeks worked is taken into consideration. Those who have left the clothing trades show a larger proportion in both the lowest and the highest wage groups than is found among those remaining in their trade, but the percentage receiving less than $8 is slightly larger among those who have left. On the other hand those who

have left have the advantage in length of working season, 67 per cent having been employed for 10 months or more against 38.2 per cent of those remaining in their trades. Among the girls who have left the millinery trades the proportion earning $8 or over is almost the same as among those who have remained in the trades, 64 per cent and 65 per cent, respectively, but those remaining in the trades show a much larger per cent earning $10 or over. The girls who have left the trades, however, have a very decided advantage in the length of working season; more than half (52 per cent) were employed for 12 months and 25.3 per cent were employed for 10 months but less than 12. Among the girls remaining in their trades these proportions were, respectively, 7.5 per cent and 25 per cent.

SUMMARY.

In summarizing this survey of the wages earned by the girls trained in the trade school, two important considerations must be kept in mind. The weekly wage reported is a nominal weekly wage decreased (1) by absence and occasional days out and (2) by seasonal fluctuation. With this in mind, it appears that an average weekly wage of $8 is reported by the end of the third year out of trade school by the girls who have used their training. The time of reaching this average varies for the different trades. Not until the fourth year did one-half or more of the dressmakers trained in the trade school, as well as of those who acquired their training in the trade, reach a weekly wage of $8 or more, but both trade-school and trade-trained workers in the cloth power-machine operating trades reached this standard in their third year. The trade-school dressmaker maintains a slight advantage over the trade-trained worker, but the power-machine operators show very similar wage returns regardless of their training. The year spent in the trade school, while undoubtedly of great advantage to the girl, can not be translated into terms of money as a year's advantage over the girl who has come up through the trade, a condition which is true of many other forms of education. The real advantage enjoyed by the trade-school girl is in her early experience—she is lifted over the unskilled, unrelated processes paying a low wage, and put at once on the processes which lead directly to advancement in skill and wage. However, the recent development of secondary-trade training must be kept in mind, and even a slight advantage should prove a stimulus to industrial educators for greater efforts and accomplishments. The regulation of the placement wage of the girls trained in the Boston Trade School during the last few years gives them an initial financial advantage but does not insure an automatic advance over that placement wage until they have developed the maturity and skill to justify advancement.

In general, the girls who remain in their trades show better wage returns than the girls who leave them for other occupations, but the shorter seasons in the sewing trades doubtless neutralize the apparent advantage. The kind of occupation entered by the girls leaving their own trades provides an interesting index to personal types and also to wage opportunities. About one-half the dressmakers and milliners leaving their trade went into clerical and professional service. Two-fifths of the dressmakers and one-tenth of the milliners went into manufactures and domestic service, which drew the majority of the cloth machine operators who had left their trades. Search for the cause of this difference reveals that the milliners rank first in educational equipment, the dressmakers second, and the power-machine operators third.

The relation of education to advancement in the sewing trades is not very obvious, perhaps because comparatively few of the workers have more than a grammar-school education. From available data, the high-school girl seems to start on much the same wage basis as the girl with less education, because the primary requisite is manual skill. By the end of the third year, however, when the opportunity for original thought and action is opened up for the girl who has the ability to utilize it, the high-school girl shows some advantage over the grammar-school graduate. The success of the grammar-school nongraduate, however, raises the question of how far the high-school girl's success may be credited to academic schooling. Comparison of the relation between schooling and the wages earned by the trade-school and the trade-trained girls seems to suggest that the trade school performs an important service in supplementing the equipment of the girl of lower educational standard, turning out a homogeneous group which shows much less variation in wages than is found in the trade-trained group.

Experience and maturity are important factors in determining wages in trades involving manual skill and "common sense," as employers term it, and the correlation between these and wages is obvious. At the time of beginning work greater maturity showed correspondingly higher wage returns, but by the end of the third year the girl beginning at 18 years or more had not maintained her precedence over the girl beginning work at 16 years. The girl beginning work under 16 years, however, is a laggard in regard to wages at the end of both the first and the third year, a fact which yields interesting support to the argument in favor of raising the present age limit for beginning work.

CHAPTER V.—INDUSTRIAL EXPERIENCE AND WAGES OF WORCESTER AND CAMBRIDGE TRADE-SCHOOL GIRLS.

WORCESTER GIRLS' TRADE SCHOOL.

Since the Worcester Trade School was not established till September, 1911, and since its course requires two years for completion, the working experience of its pupils at the time of the investigation (February-March, 1915) was necessarily too short to throw much light on their industrial efficiency. The study of the Worcester Trade School, therefore, is valuable chiefly because of the school's peculiar problems and its method of solving them; for Worcester has established a trade school to train girls primarily for the custom sewing trades, and yet, so far as trade opportunities for any large number of girls are concerned, these trades are practically nonexistent in the city. Moreover, this is a situation likely to confront the new trade schools established in practically any medium-sized city. The Worcester school, taking the general plan of a trade school established to meet the needs of a particular large city, has striven to adjust it to the local needs of a community with very different conditions and trade opportunities. Its effort to make this adjustment is the chief matter of interest in the school's history.

AGE AND INDUSTRIAL DISTRIBUTION OF GIRLS STUDIED.

At the time of the investigation, 166 pupils of the Worcester Trade School had either made use of their trade, or had attended the school for at least nine months, although after leaving it they had not used their trade. The following table shows the age distribution of these girls, classified as to whether or not they were earning wages, and if they were, whether in their own trade or in some other occupation:

TABLE 82.—NUMBER AND PER CENT IN SPECIFIED AGE GROUPS AMONG WORCESTER TRADE SCHOOL GIRLS WHO WERE EARNING AND NOT EARNING WAGES.

Age group.	Number and per cent in specified age groups of girls who were—							
	Earning wages in their own trades.		Earning wages in other occupations.		Not earning wages.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 16 years	4	6.5	2	3.5	6	12.8	12	7.2
16 and under 18 years	23	37.1	25	43.9	22	46.8	70	42.2
18 and under 20 years	25	40.3	20	35.1	17	36.2	62	37.3
20 years and over	10	16.1	10	17.5	2	4.3	22	13.3
Total	62	100.0	57	100.0	47	100.0	166	100.0

Considering the whole group, it is at once apparent that the age level is lower than among the girls of the Boston Trade School who were studied; 58 per cent of the latter were aged 20 or over, as against 13.3 per cent of these, and only 15.6 per cent of the Boston girls were under 18 as against 49.4 per cent of the Worcester girls. Comparing the different groups of the Worcester girls it appears that the age level of those in their own trades and those in other occupations is nearly the same, and in both cases is higher than among the girls who are not earning wages.

This distribution is given as it was at the time of the investigation. Ninety-four girls had at some time or other worked in their trades, 39 had worked but not in the trades trained for, and 33 had never been employed. Something over two-fifths (43.4 per cent), therefore, had never worked in the trade for which they had been trained. In studying the Boston group the girls who had not used their training were excluded from most of the wage tables because they seemed to be below standard, and because the trade opportunity was open to them if they had wished to avail themselves of it, or had had the capacity to do so. In Worcester, however, the trade opportunities in the custom trades, on which the school has laid most emphasis, were so limited that failure to use the trade by no means indicated incapacity; it was more likely to mean a lack of any opportunity to enter the trade after the training had been acquired. Because of this difference in condition and because of the small number using their training, the total group of 166 in Worcester is studied together.

As mentioned before, the industrial experience of these girls was necessarily limited. The whole group, 166, had been out of trade school for at least one year; 86 had been out as much as two years, and 20 as much as three years. Three years, therefore, is the outside limit of possible experience, and only about one-eighth (12 per cent) could possibly have had so long an experience. When it is remembered that among the Boston Trade School girls the proportion earning a living wage steadily increased with experience up to at least five years, and that in most of the trades not half reached $8 a week until they had been working from three to four years, it is evident that the brief experience of the Worcester girls hampers seriously any attempt to determine the efficacy of their trade training. At the time of the investigation, 119 were found to be at work. Of these, 115 reported their wages, of whom 40.9 per cent earned less than $6, 39.1 per cent $6 and under $8, 13 per cent $8 and under $10, and 7 per cent $10 or over.

EMPLOYMENT IN SUCCESSIVE YEARS.

The following table shows the number and proportion of the Worcester Trade School girls who were working at the end of specified periods after leaving the school:

TABLE 83.—NUMBER AND PER CENT OF GIRLS TRAINED IN THE WORCESTER TRADE SCHOOL EARNING AND NOT EARNING WAGES WHEN OUT OF TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME.

Length of time out of trade school.	Number.							Per cent earning and not earning wages.			
	Grand total.	Earning wages.			Not earning wages.			Earning wages.			Not earning wages.
		Total.	In their own trades.	In other occupations.	Total.	Married.	At home.	Total.	In their own trades.	In other occupations.	
At first leaving	166	126	84	42	40	.....	40	75.9	50.6	25.3	24.1
At end of—											
First year	166	118	66	52	48	2	46	71.1	39.8	31.3	28.9
Second year	86	73	36	37	13	.....	13	84.9	41.9	43.0	15.1
Third year	20	18	8	10	2	1	1	90.0	40.0	50.0	10.0

The proportions employed in their own trade and in other occupations show a curious change of position as the time after leaving school increases. On first leaving school 50.6 per cent of the total group entered their own trade, while 25.3 per cent entered other occupations; at the end of the first year, the proportion in their own trade still exceeded the proportion in other occupations, but the difference was much less. Of the girls reporting as to their condition at the end of the second year out of school, the proportion in other occupations slightly exceeded the proportion in their own trade, and of those reporting as to the end of the third year, those in other occupations were 50 per cent of the group, practically the proportion which on first leaving school went into the trade for which trained. Of course, the numbers in these groups decreases steadily, but the proportion in other occupations increases with equal steadiness.

An interesting difference appears in the proportions earning and not earning wages at specified times after leaving the trade schools of Boston and Worcester. In Boston the great majority, 99.6 per cent,[1] entered wage-earning occupations on leaving trade school, but in Worcester almost one-fourth failed to do so. In Boston the proportion of those earning decreases as the time after leaving school lengthens, while the proportion of those not earning increases. Just the reverse is true in Worcester. While 28.9 per cent were not earning at the end of the first year after leaving school, 15.1 per cent of those out of school as much as two years were not earning at the end of the second year, and only 10 per cent of those out three years were not earning at the end of the third year. The large amount of idleness at the end of the first year is due largely to the group going out within the most recent year, who have found it extremely difficult to secure employment in the sewing trades for two reasons:

[1] See Table 45, p. 77.

First, the previous classes have practically supplied the demand for young workers in the custom trades, and, second, the factory sewing trades, which in Worcester are mostly the manufacture of corsets and underwear, had at the time of this investigation been suffering severe industrial depression for several years. As the girls grow older, new opportunities become available, and a decreasing proportion is found at home. Marriage has scarcely affected the situation, only three girls having been married at the time of the investigation.

Some variation is found within the different trades in the utilization of the training in a wage-earning capacity. The following table shows the distribution at specified times after leaving the trade school of the girls trained for the different trades:

TABLE 84.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS TRAINED FOR THE SEWING TRADES WHO WERE EARNING AND NOT EARNING WAGES WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME.

Length of time out of trade school.	Number.					Per cent earning and not earning wages.			
	Grand total.	Earning wages.			Not earning wages.	Earning wages.			Not earning wages.
		Total.	In their trade.	In other occupations.		Total	In their trade.	In other occupations.	
DRESSMAKING.									
At first leaving	108	70	46	24	38	64.8	42.6	22.2	35.2
At end of—									
First year	108	67	34	33	41	62.0	31.5	30.5	38.0
Second year	44	37	16	21	7	84.1	36.4	47.7	15.9
Third year	10	9	4	5	1	90.0	40.0	50.0	10.0
MILLINERY.									
At first leaving	29	28	18	10	1	96.6	62.1	34.5	3.4
At end of—									
First year	29	26	15	11	3	89.7	51.7	38.0	10.3
Second year	20	18	7	11	2	90.0	35.0	55.0	10.0
Third year	4	4	.....	4	.....	100.0	.....	100.0	.....
CLOTH MACHINE OPERATING.									
At first leaving	29	28	20	8	1	96.6	69.0	27.6	3.4
At end of—									
First year	29	26	17	9	3	89.7	58.6	31.0	10.3
Second year	21	18	13	5	3	85.7	61.9	23.8	14.3
Third year	6	5	4	1	1	83.3	66.6	16.7	16.7

Nearly two-thirds (65.1 per cent) of these girls had been trained for dressmaking, and in this group were found the smallest proportions utilizing their training, for the trade can not assimilate such a large number of young, partially equipped workers. The power-machine operators show the largest proportion entering their trade on leaving school, more than two-thirds doing so, as against over two-fifths of the dressmakers, and over three-fifths of the millinery.

At the end of the first year after leaving school, less than one-third of the dressmakers, over one-half of the milliners, and less than three-fifths of the power-machine operators were still in their trade. The dressmakers and the power-machine operators who had been out of school as much as two years both showed a larger proportion working in their own trade at the end of the second year after leaving school than were working at the end of the first year, while the milliners showed a much smaller proportion. Of the girls who had been out of school three years, the dressmakers and power-machine operators showed a still larger proportion in their own trades at the end of the third year, while there were none of the milliners working in their trade. The fact that none of the milliners had continued in their trade seems due to two causes, the seasonal character of the trade and the small opportunity it offers for steady workers. The young girls just leaving trade school sometimes displace the girls who have been out in the trade for a year or two, because in the shops of a small city the employer does most of the skilled work, and the young girl who can do the simple processes nearly as well as the girl who has been at them for a year or two will work for smaller wages. As only four milliners had been out for three years, much significance can not be attached to this showing.

LENGTH OF WORKING EXPERIENCE AND EMPLOYMENT.

When the length of working experience is considered instead of length of time out of trade school, the situation does not change essentially. According to the time they had been at work the 133 girls who had worked at all were, at the time of the investigation, distributed as follows:

TABLE 85.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS WITH SPECIFIED EXPERIENCE WHO WERE EARNING AND NOT EARNING WAGES.

Length of experience.	Total.	Earning wages in their own trade.		Earning wages in other occupations.		Not earning wages.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 1 year	60	24	40.0	24	40.0	12	20.0
1 and under 2 years	51	27	52.9	22	43.1	2	3.9
2 years and over	22	11	50.0	11	50.0	.....	.....
Total	133	62	46.6	57	42.9	14	10.5

Among those who had worked less than one year, precisely half of those earning wages were in their own trade and half in other occupations, and exactly the same division was found among those who had worked for two years or more. Those working one and under two years show a larger proportion in their own trade than in other occupations. The real difference which length of experience brings

seems to lie in the proportion unemployed; the longer the working experience the smaller is the proportion not at work.

AGE AND EMPLOYMENT.

Maturity, as has been suggested, is of great importance in determining the girl's ability to secure employment, since in Worcester the number of places in the custom sewing trades open to young girls is strictly limited. At the time of the investigation the industrial distribution, by age, of the whole group of 166 girls was as follows:

TABLE 86.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS OF SPECIFIED AGE WHO WERE EARNING AND NOT EARNING WAGES.

Age group.	Total.	Earning wages in own trades.		Earning wages in other occupations.		Not earning wages.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 16	12	4	33.3	2	16.7	6	50.0
16 and under 18 years	70	23	32.9	25	35.7	22	31.4
18 and under 20 years	62	25	40.3	20	32.3	17	27.4
20 years and over	22	10	45.5	10	45.5	2	9.0
Total	166	62	37.4	57	34.3	47	28.3

The increase in the proportion employed as age increases is shown strikingly here. One-half of the 12 girls under 16 years of age, two-thirds of the 70 girls of 16 and under 18 years, and over three-fourths of the 84 girls aged 18 and over were working for wages. About equal proportions of the girls who were earning wages were in the trades for which they were trained and in other occupations. The proportion not working for wages decreases from one-half in the youngest group to less than one-tenth in the group aged 20 and over, a fact which shows clearly the importance of maturity in securing employment in Worcester.

REASONS FOR NOT USING TRADE.

Because of the different trade conditions in the two cities, the reasons given by the girls from the Worcester Trade School show a greater emphasis on industrial conditions than was the case among the girls from the Boston Trade School. Table 87 gives the reasons assigned by the 72 Worcester girls who had never used their trade training for their failure to do so.

Thirty-nine per cent of the Worcester girls, against 32 per cent of the Boston girls, failed to use their trade because of trade conditions; in the group giving this reason the two cities show almost the same proportion assigning their own or their parents' dislike to the trade, but Worcester shows much the larger proportion who were unable to get a job. The proportion who did not use their trade training because of home demands is practically the same in the two cities—

in Worcester 27.8 per cent and in Boston 26 per cent. Lack of personal adjustment was a more important cause in Boston than in Worcester, accounting for 28 per cent of the Boston group as against 19.4 per cent of the Worcester girls, and physical incapacity accounted for 13 per cent in Boston as against 5.5 per cent in Worcester.

Of the 33 girls who left their trade after having entered it, by far the largest proportion, 25, or 75.8 per cent, gave trade conditions as their reason for doing so. Five, or 15.2 per cent, left on account of domestic reasons, and only 3, or 9 per cent, because of physical incapacity or lack of adjustment to the work.

TABLE 87.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS GIVING EACH SPECIFIED REASON FOR NEVER USING THEIR TRADES.

Reason for never using trade.	Number.				Per cent.
	Dress-making.	Millinery.	Cloth machine operating.	Total.	
Lack of adjustment:					
Not successful in school	2	1	.....	3	4.2
Did not learn enough	6	2	1	9	12.5
Unstable	2	.....	.....	2	2.8
Total	10	3	1	14	19.4
Physical incapacity	1	1	2	4	5.5
Trade conditions:					
Dislike of work by parents or girl	10	.....	2	12	16.7
Unable to get position	6	2	.....	8	11.1
Dull seasons	1	.....	.....	1	1.4
"Got another job"	3	2	1	6	8.3
Too far from home	1	.....	.....	1	1.4
Total	21	4	3	28	38.9
Advancement (school)	6	.....	.....	6	8.3
Domestic reasons:					
No need to work	1	.....	.....	1	1.4
Needed at home	17	.....	.....	17	23.6
Married	1	.....	.....	1	1.4
Economic pressure	1	.....	.....	1	1.4
Total	20	.....	.....	20	27.8
Grand total	58	8	6	72	100.0

AVERAGE WAGES AT SPECIFIED PERIODS.

Wages in the sewing trades are lower in Worcester than in Boston, so the wages of the trade-school girls in the two cities can not be used as a test of their comparative efficiency. The test of success should be advancement in wage and the ability to continue in the trade when once placed. Table 88 shows for the Worcester girls the average wages on first entering the trade and at the end of each year after leaving school.

TABLE 88.—NUMBER AND AVERAGE WEEKLY WAGES OF WORCESTER TRADE SCHOOL GIRLS IN THEIR OWN TRADES AND IN OTHER OCCUPATIONS WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME.

IN THEIR OWN TRADE.[1]

Length of time out of trade school.	Dressmaking.		Millinery.		Cloth machine operating.		Total.	Average weekly wage.
	Number.	Average weekly wage.	Number.	Average weekly wage.	Number.	Average weekly wage.		
At first leaving	46	$4.48	18	$4.53	20	$3.92	84	$4.36
At end of—								
First year	32	5.48	15	5.70	17	6.14	64	5.71
Second year	15	7.03	7	6.79	13	6.87	35	6.92
Third year	4	8.19	1	6.00	3	6.83	8	7.41

IN OTHER OCCUPATIONS.[1]

At first leaving	24	$4.48	10	$4.53	8	$3.92	42	$4.53
At end of—								
First year	31	5.48	11	5.70	9	6.14	51	5.65
Second year	21	7.03	10	6.79	5	6.87	36	6.66
Third year	5	8.19	3	6.00	2	6.83	10	5.79

[1] Not including girls whose wages were not reported.

In Worcester, as in Boston, the cloth power-machine operator gets the lowest initial wage, but in Worcester this wage falls somewhat further below the average for the whole group than it does in Boston. This is probably due to the difficulty of the power-machine sewing done in the corset factories, where most of them have been placed. The young untrained worker in dressmaking or millinery begins on unskilled hand processes either at a fixed weekly rate, or if on piece rates, on work sufficiently simple to enable her to earn a higher wage than the young inexperienced machine operator. When, however, the young machine operator has become accustomed to her work and has developed her speed she is likely to outstrip the girls working on hand processes. The average wage of the 17 trade-school girls in power-machine operating at the end of their first year out of school was $6.14, an increase of 56.6 per cent over the average wage of the 20 girls at the time of leaving school, and the average wage at the end of their second year of the 13 girls out of school as long as two years was $6.87, an increase of 11.9 per cent over the average wage of the 17 girls at the end of the first year. The average wages of the dressmakers, beginning with a higher initial wage, showed for the end of the first year an increase of 22.3 per cent, not quite half of the increase gained by the power-machine operators. For the end of the second year, however, the average wages of the 15 dressmakers showed an increase over the average wages of the 32 dressmakers at the end of the first year of 28.3 per cent, and the four still in this trade at the end of their third year were earning average wages of

$8.19 a week, a higher average than was shown by the few girls still in either of the other trades, whereas in Boston at the end of the third year the average wages of both the milliners and the cloth-machine operators were higher than those of the dressmakers. The average wage of the dressmakers in Worcester, however, is large because three girls were able to do independent dressmaking at which they earned from $2 to $2.50 a day. They maintained that they had all the work they could do. One of these girls was 17 years old when she began work, and the other two were 18, their age at beginning work thus being higher than for most of the girls. Their success illustrates the opportunity for a very limited number of dressmakers in Worcester.

The girls who went into occupations other than the trade for which they had been trained showed a higher initial wage than those following their trades—$4.53 against $4.36—but thereafter the wages of the girls in the sewing trades were, on the whole, higher.

CLASSIFIED WAGES AT SPECIFIED PERIODS.

A study of the classified wages of the girls from the Worcester Trade School adds little to the knowledge of the situation, owing to the very small numbers in the different wage groups. Nevertheless, the classified wages for those remaining in each trade and for those leaving each trade are given for the sake of completeness in Table 89.

WAGES AND OCCUPATIONS AT SPECIFIED PERIODS.

Table 90 shows the wages and occupations of girls from the Worcester Trade School when out of school each specified length of time.

In considering the advancement of the Worcester girls a wage of $6 a week has been taken as the standard of comparison instead of $8, the basis of comparison in Boston. This difference is considered fair, because of the immaturity and short working experience, as compared with the Boston girls, of the majority of the Worcester girls. By this standard the girls trained for millinery made the best showing, not only on entering the trade, but also at the end of the first and second years after leaving school. Less than one-fifth of the 46 dressmakers earned $6 or more on leaving the trade school, but at the end of the first year two-fifths of the 34 dressmakers out of school one year and at the end of the second year four-fifths of the 16 dressmakers who had been out of school as long as two years had reached that wage. Less than one-sixth of the 20 power-machine operators earned $6 or more on first leaving school, while almost one-half of the 17 power-machine operators out of school one year at the end of the first year, and more than two-thirds of the 13 power-machine operators out of school as long as two years at the end of the second year earned that amount. But more than one-fourth of the 18 milliners earned $6 or more on first leaving, two-thirds of

the 15 milliners out of school one year at the end of the first year, and all of the 7 milliners out of school as long as two years at the end of the second year earned $6 or over. The short seasons in this trade, however, diminish this apparent advantage.

TABLE 89.—NUMBER OF WORCESTER TRADE SCHOOL GIRLS TRAINED FOR SEWING TRADES WHO RECEIVED SPECIFIED WEEKLY WAGES IN THEIR OWN TRADES OR IN OTHER OCCUPATIONS WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME.

DRESSMAKING.

Classified weekly wages.	Number.							
	In their own trades.				In other occupations.			
	At first leaving.	At end of first year.	At end of second year.	At end of third year.	At first leaving.	At end of first year.	At end of second year.	At end of third year.
Under $3	8	4			2	1		
$3 and under $4	9	3	1	1	5	3	1	
$4 and under $5	8	4			5	1	4	1
$5 and under $6	13	8	2		5	10	2	1
$6 and under $7	5	9	9	1	4	8	7	1
$7 and under $8					2	5	3	
$8 and over	3	4	3	2	1	3	4	2
Not reported		2	1			1		
Total	46	34	16	4	24	32	21	5

MILLINERY.

Under $3	1				2			
$3 and under $4	3	2			1			
$4 and under $5	6	2			2	2	1	1
$5 and under $6	3	1			2		1	1
$6 and under $7	5	7	3	1	2	7	4	1
$7 and under $8		1	3					
$8 and over		2	1		1	2	4	
Not reported							1	
Total	18	15	7	1	10	11	11	3

CLOTH MACHINE OPERATING.

Under $3	5					2		
$3 and under $4	3	1			3	1		1
$4 and under $5	4	2	1		1			
$5 and under $6	5	6	3		1	1	1	
$6 and under $7	3	2	3	2	1	3	2	
$7 and under $8		1	2		1	2		1
$8 and over		5	4	1			2	
Not reported					1			
Total	20	17	13	3	8	9	5	2
Grand total	84	66	36	8	42	52	37	10

TABLE 90.—OCCUPATIONS AND WEEKLY WAGES OF WORCESTER TRADE SCHOOL GIRLS TRAINED FOR THE SEWING TRADES WHEN OUT OF SCHOOL EACH SPECIFIED LENGTH OF TIME.

AT FIRST LEAVING SCHOOL.

Occupation.	Girls trained for—												
	Dressmaking.				Millinery.				Cloth machine operating.				
			Total.				Total.				Total.		Grand total.
	Under $6	$6 and over.	Number.	Per cent in each occupation.	Under $6	$6 and over.	Number.	Per cent in each occupation.	Under $6	$6 and over.	Number.	Per cent in each occupation.	
Sewing trades	38	8	46	65.7	13	5	18	64.3	17	3	20	71.4	84
Related trades	3	.....	3	4.3	2	.....	2	7.1	1	.....	1	3.6	6
Other occupations:													
Manufactures	9	.....	9	12.9	1	.....	1	3.6	.....	1	1	3.6	11
Trade, transportation, clerical work	3	4	7	10.0	2	2	4	14.3	2	.....	[1] 3	10.7	[1] 14
Domestic service	2	3	5	7.1	2	1	3	10.7	2	1	3	10.7	11
Total	14	7	21	30.0	5	3	8	28.6	4	2	[1] 7	25.0	[1] 36
Grand total	55	15	70	100.0	20	8	28	100.0	22	5	[1] 28	100.0	[1] 126

AT END OF FIRST YEAR.

Sewing trades	19	13	[2] 34	51.5	5	10	15	57.7	9	8	17	65.4	[2] 66
Related trades	3	2	[1] 6	9.1	1	1	2	7.7	.....	1	1	3.8	[1] 9
Other occupations:													
Manufactures	3	3	6	9.1	.....	2	2	7.7	.....	1	1	3.8	9
Trade, transportation, clerical work	5	6	11	16.7	.....	5	5	19.2	4	3	7	27.0	23
Domestic service	4	5	9	13.6	1	1	2	7.7	.....	.....	.....	.....	11
Total	12	14	26	39.4	1	8	9	34.6	4	4	8	30.8	43
Grand total	34	29	[3] 66	100.0	7	19	26	100.0	13	13	26	100.0	[3] 118

AT END OF SECOND YEAR.

Sewing trades	3	12	[1] 16	43.2	.....	7	7	38.9	4	9	13	72.2	[1] 36
Related trades	.....	4	4	10.8	1	.....	1	5.6	.....	.....	.....	.....	5
Other occupations:													
Manufactures	2	1	3	8.1	.....	1	1	5.6	1	2	3	16.7	7
Trade, transportation, clerical work	5	6	11	29.7	2	5	[1] 8	44.4	.....	2	2	11.1	21
Domestic service	.....	3	3	8.1	.....	1	1	5.6	.....	.....	.....	.....	4
Total	7	10	17	45.9	2	7	[1] 10	55.6	1	4	5	27.8	32
Grand total	10	26	[1] 37	100.0	3	14	[1] 18	100.0	5	13	18	100.0	[1] 73

[1] Including 1, wages not reported.
[2] Including 2, wages not reported.
[3] Including 3, wages not reported.

The girls who went into either related trades or other occupations show at first a larger proportion getting $6 or over than appears among those remaining in their trades. This is true also at the end of the first year out of trade school, but at the end of the second, in dressmaking and in millinery the situation is reversed, the larger proportion in the higher wage group being found among those who have remained in their trade. Among the cloth machine operators, however, at the end of the second year, 80 per cent of those out of school that long who had left the trade as against 69.2 per cent of those remaining in it were earning $6 or more.

The opportunities for skilled work are very much more limited in Worcester than in Boston, so the girls who do not go into their own trades, or who do not remain there, have a comparatively limited field from which to choose. One-eighth of the dressmakers on first leaving the trade school went into manufactures, and one-tenth into trade, transportation, and clerical occupations. Four of the 28 milliners leaving trade school went into trade, transportation, and clerical occupations, and three (10.7 per cent) into domestic service. Only 5.6 per cent of the milliners in Boston had gone into domestic service and the great majority who left their trade had entered the business occupations, but openings even in these lines are limited in Worcester, and are usually secured by girls more mature and better equipped than those who are just out of trade school. At the end of the first year out of trade school one-sixth of the dressmakers, almost one-fifth of the milliners and more than one-fourth of the power-machine operators were in trade, transportation, and clerical work, showing the better opportunities which come with increasing maturity. At the end of the second year about three-fifths of the dressmakers and milliners and over one-fourth of the power-machine operators who had been out of school as long as two years had left their trades. Trade, transportation, and clerical occupations took larger proportions than any other occupations of those going out from the dressmakers and milliners, while from the cloth machine operators the largest group went into other manufactures.

FACTORS AFFECTING WAGES.

LENGTH OF WORKING EXPERIENCE.

Length of working experience, perhaps the most important factor in determining wage-earning capacity, is too limited among the 119 Worcester Trade School girls employed at the time of the investigation to be very conclusive. In Table 91 there is shown the number and proportion of girls, classified according to occupation and length of experience, in different wage groups.

TABLE 31.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS IN DIFFERENT WAGE GROUPS, CLASSIFIED BY OCCUPATIONS AND LENGTH OF WORKING EXPERIENCE.

NUMBER EARNING EACH CLASSIFIED AMOUNT.

Occupation.	Girls in specified occupations with working experience of—														
	Under 1 year.					1 and under 2 years.					2 years and over.				
	Under $6	$6 and under $8	$8 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and over.	Not reported.	Total.	Under $6	$6 and under $8	$8 and over.	Total.	Total.
Sewing trades:															
Dressmaking	10	2	2	1	15	2	8	2	1	13	2	1	2	5	33
Millinery	4	1	1	.....	6	.....	4	.....	.....	4	.....	4	.....	4	14
Cloth machine operating	2	1	.....	.....	3	4	3	3	.....	10	.....	1	1	2	15
Total	16	4	3	1	24	6	15	5	1	27	2	6	3	11	62
Related trades	2	.....	.....	1	3	.....	1	.....	.....	1	2	.....	2	4	8
Other occupations:															
Manufactures	.....	6	.....	.....	6	1	1	1	.....	3	2	1	.....	3	12
Trade, transportation, clerical work	6	1	1	1	9	5	4	6	.....	15	1	1	.....	2	26
Domestic service	4	2	.....	.....	6	.....	2	1	.....	3	.....	1	1	2	11
Total	10	9	1	1	21	6	7	8	.....	21	3	3	1	7	49
Grand total	28	13	4	3	48	12	23	13	1	49	7	9	6	22	119

PER CENT EARNING EACH CLASSIFIED AMOUNT.[1]

Occupation.	Girls in the specified occupations with a working experience of—											
	Under 1 year.				1 and under 2 years.				2 years and over.			
	Under $6	$6 and under $8	$8 and over.	Total.	Under $6	$6 and under $8	$8 and over.	Total.	Under $6	$6 and under $8	$8 and over.	Total.
Sewing trades	69.6	17.4	13.0	100.0	23.1	57.7	19.2	100.0	18.2	54.5	27.3	100.0
Other occupations	54.6	40.9	4.5	100.0	27.2	36.4	36.4	100.0	45.4	27.3	27.3	100.0
Total	62.2	28.9	8.9	100.0	25.0	47.9	27.1	100.0	31.8	40.9	27.3	100.0

[1] Based on number of girls whose wages were reported.

Forty-one per cent of the girls employed at the time of the investigation had worked one and under two years, and only 18.4 per cent had worked two years or over, so that the field in which the effect of experience might be seen is obviously small. Nevertheless, the effect is visible. Taking the whole group of 119 girls, the proportion earning $8 or over increases with each successive period, while the proportion earning under $6 decreases from 62.2 per cent among those with less than one year's experience to 25 per cent among those with one and under two years of experience; among those with two years or more of experience, however, this proportion increases again to 31.8 per cent. Among the girls who entered the sewing

trades, this irregularity does not appear; among them the proportion in the $8 a week group steadily increases and the proportion in the $6 a week group steadily decreases as time goes on.

AGE AT BEGINNING WORK.

Maturity at the time of beginning work is also an important factor in determining wage advancement. More than four-fifths of those beginning work under 18 years of age earned less than $6 a week against one-half of those who began at 18 or over. By the end of the first year almost one-half (45.2 per cent) of those beginning work under 16 years of age, more than one-half (55.2 per cent) of those beginning between 16 and 18 years, and two-thirds (67.9 per cent) of those beginning at 18 years or over earned $6 or more a week. By the end of the second year the girls beginning at 16 but under 18 had the advantage over the girls beginning at 14 or 15 years old, 82.9 per cent of the former and only 57.9 per cent of the latter earning $6 or more, but the girls beginning at 18 or over had not maintained their precedence, 82.4 per cent earning $6 or more. In Boston, also, the girl beginning at 18 years or over did not maintain her advantage over the girl beginning at 16.

TABLE 92.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS IN DIFFERENT WAGE GROUPS, CLASSIFIED BY AGE AND PREVIOUS SCHOOLING.

Previous schooling.	Number earning each specified wage.									Per cent earning each specified wage.[1]			
	Under 18 years of age.				18 years of age and over.				Grand total.	Under 18 years of age.		18 years of age and over.	
	Under $6	$6 and over.	Not reported.	Total.	Under $6	$6 and over.	Not reported.	Total.		Under $6	$6 and over.	Under $6	$6 and over.
Grammar school:													
Graduates	16	5	1	22	4	12	2	18	40	76.2	23.8	32.2	67.8
Nongraduates	10	10	.....	20	5	11	1	17	37	50.0	50.0	25.0	75.0
Total	26	15	1	42	9	23	3	35	77	63.4	36.6	28.1	71.9
High school	6	6	.....	12	6	24	.....	30	42	50.0	50.0	23.3	76.7
Grand total	32	21	1	54	15	47	3	65	119	60.4	39.6	25.8	74.2

[1] Based on number of girls whose wages were reported.

ACADEMIC AND TRADE-SCHOOL TRAINING.

In the study of the Boston Trade School girls it appeared that the girls with a high-school education had some advantage over those who had not gone so far, and that length of trade training tended to increase earning capacity. The number studied in Worcester was so small that it is practically impossible to classify them by these two standards without ignoring the classification by length of working experi-

ence. But the latter is such an important factor in determining wages that a classification which omitted it would be of dubious value. Consequently, no attempt is made to show how far the wages of the Worcester girls are affected by either their preliminary schooling or the length of time spent in the trade school. Tables 92 and 93 present the wage grouping of the girls according to these two points as it existed at the time of the investigation, February to March, 1915, but conclusions can not be drawn from them.

TABLE 93.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS IN DIFFERENT WAGE GROUPS, CLASSIFIED BY PREVIOUS SCHOOLING AND LENGTH OF TIME IN TRADE SCHOOL.

Previous schooling.	Number earning each specified wage.								Per cent earning each specified wage.[1]			
	Attending trade school less than 18 months.			Attending trade school 18 months and over.				Grand total.	Attending trade school less than 18 months.		Attending trade school 18 months and over.	
	Under $6	$6 and over.	Total.	Under $6	$6 and over.	Not reported.	Total.		Under $6	$6 and over.	Under $6	$6 and over.
Grammar school:												
Graduates	10	6	16	11	10	3	24	40	62.5	37.5	52.4	47.6
Nongraduates	10	15	25	4	7	1	12	37	40.0	60.0	36.4	63.6
Total	20	21	41	15	17	4	36	77	48.8	51.2	46.9	53.1
High school	6	11	17	6	19	.....	25	42	35.3	64.7	24.0	76.0
Grand total	26	32	58	21	36	4	61	119	44.9	55.1	36.9	63.1

[1] Based on number of girls whose wages were reported.

WAGES AND LENGTH OF WORKING SEASON.

The two following tables show the length of the working season by trades, and by weekly wages earned by those working each specified number of months, as reported by 78 Worcester Trade School girls:

TABLE 94.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS WORKING SPECIFIED NUMBER OF MONTHS IN YEAR, BY OCCUPATION.

NUMBER.

Present occupation.	Girls working specified number of months in year.							
	Under 6 months.	6 and under 8 months.	8 and under 10 months.	10 and under 11 months.	11 and under 12 months.	12 months.	Not reported.	Total.
Sewing trades:								
Dressmaking	2	2	3	5	2	4	1	19
Millinery	1	6	.....	1	.....	.....	.....	8
Cloth machine operating	3	1	.....	1	.....	8	.....	13
Total	6	9	3	7	2	12	1	40
Other trades	6	4	3	5	2	18	.....	38
Grand total[1]	12	13	6	12	4	30	1	78

[1] Not including those out of trade school less than 1 year and those not working for wage.

TABLE 94.—NUMBER AND PER CENT OF WORCESTER TRADE SCHOOL GIRLS WORKING SPECIFIED NUMBER OF MONTHS IN YEAR, BY OCCUPATION—Concluded.

PER CENT.[1]

Present occupation.	Girls working specified number of months in year.							
	Under 6 months.	6 and under 8 months.	8 and under 10 months.	10 and under 11 months.	11 and under 12 months.	12 months.	Not reported.	Total.
Sewing trades:								
Dressmaking	11.1	11.2	16.6	27.8	11.1	22.2	.....	100.0
Millinery	12.5	75.0	.....	12.5	.....	.....	.....	100.0
Cloth machine operating	23.1	7.7	.....	7.7	.....	61.5	.....	100.0
Total	15.4	23.1	7.7	17.9	5.1	30.8	.....	100.0
Other trades	15.8	10.4	7.9	13.2	5.3	47.4	.....	100.0
Grand total	15.6	16.9	7.8	15.6	5.2	38.9	.....	100.0

[1] Based on number of girls reporting as to number of months in year worked.

TABLE 95.—NUMBER OF WORCESTER TRADE SCHOOL GIRLS WORKING SPECIFIED NUMBER OF MONTHS IN YEAR, BY WEEKLY WAGES.

IN THEIR OWN TRADES.

Weekly wage group.	Girls working specified number of months in year.						
	Under 6 months.	6 and under 8 months.	8 and under 10 months.	10 and under 12 months.	12 months.	Not reported.	Total.
Under $6	2	2	1	1	4	.....	10
$6 and under $8	3	7	1	7	3	.....	21
$8 and over	1	.....	1	1	5	.....	8
Not reported	.....	.....	.....	.....	.....	1	1
Total	6	9	3	9	12	1	40

IN OTHER OCCUPATIONS.

Under $6	2	1	2	2	3	.....	10
$6 and under $8	4	1	.....	4	7	.....	16
$8 and over	.....	2	1	1	8	.....	12
Total	6	4	3	7	18	.....	38

As to relative length of working seasons, the trades take much the same rank as in Boston, the millinery seasons being shortest and the power-machine operating seasons longest. But the seasons are longer for all the trades in Worcester than in Boston, so that the lower wages prevailing in Worcester do not indicate so much lower an annual income as might be inferred. In Worcester 30.8 per cent of the trade-school girls employed in the sewing trades had a working season of 12 months against 7.3 per cent of those in the same trades in Boston. Of the sewing girls in Worcester 53.8 per cent, against 36.8 per cent of those in Boston worked 10 months or more. The length of the working year for those who entered other occupations is better

than among those who remained in their own trades, almost one-half working 12 months and practically two-thirds working 10 months or more.

Turning to a consideration of wages, it appears in general that the better-paid girls show a smaller proportion working less than six months than the girls earning lower wages, but the converse is not altogether true; of those earning less than $6 a week, 50 per cent worked 10 months or more against 47.6 per cent of those earning $6 and under $8 and 75 per cent of those earning $8 and over. Among those working in other occupations the irregularity appears in the highest wage group; 50 per cent of those earning less than $6 worked 10 months or more against 68.7 per cent of those earning $6 and under $8, and 75 per cent of those earning $8 and over. The numbers in these groups are too small, however, to allow much significance to be attached to these proportions.

Very few of the girls studied in Worcester fill in their dull time with any other wage-earning occupation. Four of the dressmakers found positions in their own trade, two working two months and two four months and over. Two earned less than $5 a week, and the other two were unable to estimate their actual earnings. Five milliners had a secondary occupation. Three were saleswomen in stores, two working one month but less than two and earning less than $6, and the third working between two and three months and earning $7 a week. The two other milliners found places as domestic servants. They worked three months, one earning less than $5 and one $7. One power-machine operator worked one month as a saleswoman, earning $6 a week.

TRADE-TRAINED SEWING GIRLS IN WORCESTER.

Only 123 of the 704 women attending the Worcester Evening Trade School during the winter of 1914–15 were gainfully employed in sewing during the day. Only 46 of those attending at the time of the investigation were not over 25 years of age. These were taken for study. They represented a variety of industries, 34 working in corset factories, 5 in the manufacture of underwear, 2 in a slipper factory, 1 in a millinery store, and 2 in custom dressmaking. Eleven were under 20 years and 35 were 20 or over. Eighteen had been at work less than 5 years and 28 for 5 years or over. At the time of the investigation 29, or 63 per cent, were earning less than $8 a week and 17 (37 per cent) were earning $8 or over. While the group is limited in number the experience of its members provides a basis for comparison with the trade-school girls and gives some index to trade opportunities.

The following table shows the occupations through which these 46 girls had passed to their present work:

TABLE 96.—NUMBER AND PER CENT OF TRADE-TRAINED GIRLS IN WORCESTER IN EACH OCCUPATION AT SPECIFIED TIMES AFTER BEGINNING WORK.

NUMBER.

Occupation.	Girls employed in specified occupation.									
	At beginning work.	At the end of—								
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.
Custom hand sewing	2	2	3	2	2	1	.....	.....	.....	.....
Factory—hand processes:										
Boning	14	12	9	6	4	.....	.....	.....	.....	.....
Hand shaping	.....	.....	.....	1	1	2	2	1	1	1
Folding	1	3	3	2	.....	.....	.....	.....	.....	.....
Pressing	1	1	1	.....	.....	.....	.....	.....	.....	.....
Examining	3	2	2	1	1	1	.....	.....	.....	.....
Hand stamping	.....	1	1	1	1	1	.....	.....	.....	.....
Hand sewing	2	2	2	4	4	3	2	1	.....	.....
Pinning girdles	.....	.....	1	1	.....	.....	.....	.....	.....	.....
Fringing	1	1	1	.....	.....	.....	.....	.....	.....	.....
Orders	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	23	22	20	16	11	7	4	2	1	1
Factory—machine processes	5	8	14	23	27	24	19	19	12	8
Total, sewing trades	30	32	37	41	40	32	23	21	13	9
Other occupations	16	14	8	3	2	3	2	1	1	.....
Grand total	46	46	45	44	42	35	25	22	14	9

PER CENT.

Custom—hand sewing	6.6	6.2	8.1	4.9	5.0	3.1	.....	.....	.....	.....
Factory—hand processes	76.7	68.8	54.1	39.0	27.5	21.9	17.4	9.5	7.7	11.1
Factory—machine processes	16.7	25.0	37.8	56.1	67.5	75.0	82.6	90.5	92.3	88.9

At the time of the investigation practically all were engaged in the factory sewing trades, but more than three-fourths had begun work in the hand processes in the factory, such as boning (in the corset factory), folding, and examining. Not until the end of the fourth year were as many as two-thirds or more employed in the machine processes. For the girls without training these hand processes provide a kind of apprenticeship, not in training for machine work, but in handling materials, speed, endurance, and application. The young girl trained in the trade school is usually able to skip these preliminary unrelated processes. In the corset factories, which employ the largest number of women in the sewing trades in Worcester, the power-machine operating is very difficult, involving the joining of curved edges, the use of complicated two, three, four, five, and six needle machines, and requires great speed as well as accuracy and skill. A few of the young trade-school girls have been placed directly on the simple power-machine sewing processes after experience in "one-needle and two-needle joining" in the school, but the more mature workers are usually given the preference on the machines.

The average and the classified weekly wages in successive years after beginning work of 46 trade-trained girls are given in Tables 97 and 98.

TABLE 97.—AVERAGE WEEKLY WAGES AT SPECIFIED TIMES AFTER BEGINNING WORK OF TRADE-TRAINED GIRLS IN WORCESTER.

Length of time at work.	Girls working at specified times in—			
	Sewing trades.		Other occupations.	
	Number.	Average weekly wage.	Number.	Average weekly wage.
At beginning work..	29	$4.34	17	$3.69
At end of—				
First year.....	31	5.36	15	5.02
Second year.....	35	6.81	10	5.54
Third year.....	37	6.89	7	6.02
Fourth year.....	38	7.33	4	6.38
Fifth year.....	31	7.83	4	6.88
Sixth year.....	23	7.96	2	6.45
Seventh year....	21	7.89	1	.....
Eighth year.....	12	7.75	2	7.50

TABLE 98.—NUMBER AND PER CENT OF WORCESTER TRADE-TRAINED GIRLS IN CLASSIFIED WAGE GROUPS, AT SPECIFIED TIMES AFTER BEGINNING WORK.

NUMBER.

Weekly wage.	Girls earning specified wage.									
	At first leaving.	At the end of—								
		1st year.	2d year.	3d year.	4th year.	5th year.	6th year.	7th year.	8th year.	9th year.
SEWING TRADES.										
Under $3	10	3	1	2	1	.....	.....	.....	.....	.....
$3 and under $4	2	2	.....	.....	1	.....	.....	1	.....	.....
$4 and under $5	3	4	1	1	2	.....	.....	.....	.....	.....
$5 and under $6	5	7	6	5	3	1	.....	2	.....	.....
$6 and under $7	4	8	8	10	9	8	4	3	3	2
$7 and under $8	4	5	10	7	7	8	8	5	4	3
$8 and under $9	1	2	6	6	7	7	5	4	3	1
$9 and under $10	.....	.....	3	5	4	3	3	2	1	.....
$10 and over	.....	.....	.....	1	4	4	3	4	1	3
Total	29	31	35	37	38	31	23	21	12	9
OTHER OCCUPATIONS.										
Under $3	4	1	1	.....	.....	.....	.....	.....	.....	.....
$3 and under $4	5	2	1	.....	.....	.....	.....	.....	.....	.....
$4 and under $5	6	6	3	2	1	1	.....	.....	.....	.....
$5 and under $6	1	1	.....	.....	1	.....	1	.....	.....	.....
$6 and under $7	1	3	2	3	.....	.....	.....	.....	1	.....
$7 and under $8	.....	1	2	2	1	2	1	.....	.....	.....
$8 and under $9	.....	.....	.....	.....	1	1	.....	1	.....	.....
$9 and under $10	.....	1	1	.....	.....	.....	.....	.....	1	.....
$10 and over	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	17	15	10	7	4	4	2	1	2	.....

PER CENT.

SEWING TRADES.										
Under $6	69.0	51.6	22.9	21.6	18.4	3.2	.....	14.3	.....	.....
$6 and over	31.0	48.4	77.1	78.4	81.6	96.8	100.0	85.7	100.0	100.0
Under $8	96.6	93.6	74.3	69.4	63.9	56.7	52.2	55.0	58.3	62.5
$8 and over	3.4	6.4	25.7	30.6	36.1	43.3	47.8	45.0	41.7	37.5
OTHER OCCUPATIONS.										
Under $6	94.1	66.7	50.0	28.6	50.0	25.0	50.0	.....	.....	.....
$6 and over	5.9	33.3	50.0	71.4	50.0	75.0	50.0	100.0	100.0	.....
Under $8	100.0	93.3	90.0	100.0	66.7	66.7	100.0	.....	50.0	.....
$8 and over	.....	6.7	10.0	.....	33.3	33.3	.....	100.0	50.0	.....

Comparing the average wage of the trade-trained girls in the sewing trades with those of the trade-school girls in the same kind of work, the power-machine operators, it appears that the trade-trained girls began at a slightly higher average, $4.34 against $3.92, but by the end of the first year the advantage was on the side of the trade-school girls, who were earning an average wage of $6.14 against the $5.36 of the trade-trained girls. At the end of the second year the trade-school girl still had the advantage, though the difference between the average wages of the two groups was less than at the end of the first year. As there were only three girls in the trade-school group who had worked three years the comparison can hardly be carried beyond the second year.

A comparison of these wages with those received by the trade-trained factory sewers in Boston shows the lower wage scale prevailing in Worcester. Throughout their working experience these Worcester workers never averaged $8; in Boston by the end of the third year the corresponding group averaged $8.08. (See Table 62, p. 105.) Up to the fourth year in Worcester almost two-thirds of those employed in the sewing trades earned less than $8 and of those working from five to nine years more than one-half earned less than $8. At the end of the fourth year in Boston only two-fifths (41.2 per cent) earned less than $8, and of those working from five to nine years only a little over one-fifth (22 per cent) failed to reach $8.

The majority of these girls were 20 years of age or over, and had worked five years or more. They do not, therefore, afford a satisfactory comparison with the trade-school girls, the majority of whom were under 20 and none of whom had a working experience of more than three years. The younger girls offer a more satisfactory basis for comparison, but there were only 11 under 20 years of age, three of whom earned less than $6 and four earned less than $7. Only four had worked less than three years, two of whom earned less than $6 while two earned $7. The young worker occupies a very small place in the skilled sewing trades, either in custom or wholesale manufacturing, and particularly is this true outside of the large cities. Since these girls in the Worcester Evening Trade School come for training in making their own clothes and not for trade training, they are probably fairly typical of the workers in the sewing trades of Worcester, and their experiences give a glimpse into industrial opportunities in this type of city.

CAMBRIDGE GIRLS' TRADE SCHOOL.

The Cambridge Trade School has been in existence too short a time to throw any light on the question of the industrial efficiency of trade-school girls. It was established February, 1913, and up to the time of the investigation 113 girls had gone out from the school.

AGE, INDUSTRIAL DISTRIBUTION, AND WAGES OF GIRLS STUDIED.

Tables 99, 100, 101, and 102 show the age, wage, and experience of the 51 girls who were earning wages, the distribution as to occupation of the 98 who were located, and the age at beginning work.

TABLE 99.—NUMBER OF CAMBRIDGE TRADE SCHOOL GIRLS IN SPECIFIED WAGE GROUPS, BY AGE AND LENGTH OF WORKING EXPERIENCE.

Wage group.	Number of girls earning specified wage.							Total.
	Present age.			Length of experience.				
	Under 16 years.	16 and under 18 years.	18 years and over.	Under 6 months.	6 and under 12 months.	12 and under 18 months.	18 months and over.	
Under $5	6	13	6	8	13	3	1	25
$5 and under $6	1	7	3	1	5	1	4	11
$6 and over	.....	8	6	2	7	3	2	14
Not reported	.....	1	.....	1	.....	.....	.....	1
Total	7	29	15	12	25	7	7	51

TABLE 100.—NUMBER AND PER CENT OF CAMBRIDGE TRADE SCHOOL GIRLS TRAINED IN SPECIFIED COURSES WHO WERE EARNING AND NOT EARNING WAGES.

Condition as to earning wages.	Number.				Per cent.			
	Dress-making.	Milli-nery.	Cook-ing.	Total.	Dress-making.	Milli-nery.	Cook-ing.	Total.
Earning:								
In their own trades	8	3	4	15	11.9	15.8	33.3	15.3
In other trades	27	7	2	36	40.3	36.8	16.7	36.7
Total	35	10	6	51	52.2	52.6	50.0	52.0
Not earning:								
Married	2	1	1	4	3.0	5.3	8.3	4.1
At home	17	4	3	24	25.4	21.0	25.0	24.5
At home—housework	6	1	2	9	9.0	5.3	16.7	9.2
At school	4	3	.....	7	6.0	15.8	.....	7.2
Dead	2	.....	.....	2	3.0	.....	.....	2.0
Lost position	1	.....	.....	1	1.4	.....	.....	1.0
Total	32	9	6	47	47.8	47.4	50.0	48.0
Grand total	67	19	12	98	100.0	100.0	100.0	100.0

TABLE 101.—NUMBER OF CAMBRIDGE TRADE SCHOOL GIRLS IN SPECIFIED WAGE GROUPS, BY AGE AND OCCUPATION AT TIME OF INVESTIGATION.

Occupation at time of investigation.	Number of girls earning specified wages who were—												Grand total.
	Under 16 years.			16 and under 18 years.					18 years and over.				
	Under $5	$5 and under $6	Total.	Under $5	$5 and under $6	$6 and over.	Not reported.	Total.	Under $5	$5 and under $6	$6 and over.	Total.	
In their own trades:													
Dressmaking	1	.....	1	.....	1	1	1	3	1	1	2	4	8
Millinery	.....	.....	.....	1	.....	1	.....	2	.....	.....	1	1	3
Cooking	.....	.....	.....	1	1	.....	.....	2	2	.....	.....	2	4
Total	1	.....	1	2	2	2	1	7	3	1	3	7	15
In related trades	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1
In other occupations:													
Manufactures	4	1	5	2	3	4	.....	9	.....	.....	.....	.....	14
Trade, transportation, clerical work	1	.....	1	6	3	1	.....	10	2	.....	3	5	16
Domestic service	.....	.....	.....	3	.....	.....	.....	3	1	1	.....	2	5
Total	5	1	6	11	6	5	.....	22	3	1	3	7	35
Grand total	6	1	7	13	8	8	1	30	6	2	6	14	51

TABLE 102.—NUMBER OF CAMBRIDGE TRADE SCHOOL GIRLS IN SPECIFIED WAGE GROUPS, BY AGE AT BEGINNING WORK, AND INITIAL OCCUPATION.

Initial occupation.	Number of girls earning specified wages who, at beginning work, were—								Grand total.
	Under 16 years.				16 years and over.				
	Under $5	$5 and under $6	$6 and over.	Total.	Under $5	$5 and under $6	$6 and over.	Total.	
In their own trade:									
Dressmaking	2	1	.....	3	3	4	3	10	13
Millinery	.....	.....	.....	.....	1	1	1	3	3
Cooking	2	.....	.....	2	5	.....	1	6	8
Total	4	1	.....	5	9	5	5	19	24
In related trades	2	.....	.....	2	.....	.....	1	1	3
In other occupations:									
Manufactures	7	2	1	10	1	2	1	4	14
Trade, transportation, clerical work	4	1	.....	5	7	2	5	14	19
Domestic service	2	.....	.....	2	3	1	.....	4	6
Total	13	3	1	17	11	5	6	22	39
Grand total	19	4	1	24	20	10	12	42	66

It will be seen that more than two-thirds of the 51 girls who were employed at the time of the investigation were under 18 years of age and almost three-fourths had been at work less than one year. One-half of those reporting their wages earned less than $5 a week, and nearly three-fourths (72 per cent) earned less than $6.

Only a little over one-half of the girls located were earning, and of those who were gainfully employed not one-third (29.4 per cent)

were working at the trade for which they had been trained. Of the 47 who were not earning, 33 (70.2 per cent) were at home, not married. The immaturity of many of these girls makes it difficult for them to secure profitable employment. Of the seven girls under 16 only one was employed in the trade for which she had been trained, while five were in manufactures. One-fourth of the girls aged 16 and under 18, and one-half of those aged 18 and over were in the trades for which they had been trained, showing the relation of maturity to success in securing employment in the trades for which the school trains. Maturity also has an important relation to the wage, none of those under 16 years, two-sevenths of those aged 16 but under 18, and two-fifths of those aged 18 or over earning $6 or more a week.

Sixty-six of the 98 girls located went to work on leaving trade school, a few more than one-third entering the trade for which they were trained. Almost four-fifths of these were 16 years of age or over, and four-fifths earned an initial wage of less than $6. About three-fifths entered wholly unrelated occupations. More than one-half of these were 16 years of age or over, and more than four-fifths earned an initial wage of less than $6.

The skilled sewing trades hold a very small place in Cambridge, and the local dressmakers and milliners have little or no need for the young, partially equipped worker. For opportunity to exercise her trade, therefore, the young trade-school girl trained in sewing would usually have to go to the shops of Boston. The large factories in Cambridge, which have a considerable demand for unskilled or medium skilled young girls, draw many of these young workers because of their proximity. The stores of Boston and Cambridge offer them opportunities as cash girls and bundle girls. It appears, therefore, that there is but little opportunity for the girls trained in the custom sewing trades to enter their trades after leaving school. The cooking courses which the school is developing may lead to more promising opportunities, but the extreme youth of the girls on leaving handicaps them seriously in this work.

SUMMARY.

The trade experience of the pupils trained in the Worcester and Cambridge trade schools is of interest in showing very concretely the necessity for an intimate understanding and recognition by trade educators of industrial needs and opportunities. The preliminary surveys of the industrial opportunities in Worcester and Cambridge in 1911 [1] pointed out the very limited number of opportunities, especially for the young girl, in the custom sewing trades in these cities, and urged that the emphasis be put on the power-machine sewing trades. The rapid development of the ready-made clothing trade

[1] Department of Research, Women's Educational and Industrial Union: A trade school for girls, a preliminary investigation in a typical manufacturing city, Worcester, Mass., United States Bureau of Education, Bulletin, 1913, No. 17. The Cambridge report was not published.

during the past five years has made the situation even less favorable for the young girl trained in the sewing trades. The increasing regulation of the work of children under 16 years old has also helped to diminish the opportunities open to the young trade-school girl. Extremely limited trade opportunities to begin with, and increasing limitations due to industrial evolution and legal regulation of child labor, therefore, explain the small proportion of girls who have used their trades in these two smaller cities. The Cambridge Trade School, moreover, because of its very recent establishment, is in much the same position as the Boston Trade School during its first years—that is, it is the last resort of many pupils who have little conception of its purpose, "but thought they would try it." These soon find themselves little adapted to the requirements of the particular trade chosen and drop out. Because of their immaturity and lack of training they are then either unemployed or find work in unskilled employment.

Both schools fully appreciate the situation and are seeking to solve the problem in different ways.

In Worcester the plan is to limit the number trained for the custom sewing trades and to urge a four years' course. With a background of four years' experience in the school and the maturity of 18 years or more it is believed these few girls can meet the trade requirements in this particular locality. The department of power-machine sewing is to be expanded to several times its present size, since the only large opportunity in the sewing trades is found in the factory sewing trades, the manufacture of corsets and muslin underwear predominating. A domestic arts course of four years is to be offered to the girl who can spend four years in school but need not prepare directly for wage earning, since there is no high school of this type in Worcester.

Although the girls from the Worcester Trade School have been in the industrial world too short a time to afford the basis for a satisfactory study of industrial efficiency, they compare favorably with those trained in the trades. Their wage scale is somewhat lower than that prevailing among the Boston girls, but their longer working season probably neutralizes this disadvantage. Moreover, many of the same tendencies can be discovered in their experience that were found in the experience of the Boston girls. The relation between wage and increasing maturity and wage and length of experience is obvious.

In Cambridge, as in Worcester, the necessity of limiting the numbers trained for custom sewing is recognized. The millinery department has been given up. Emphasis is being put on trade cooking, but in this line also the extreme youth of the girls seriously limits wage-earning opportunities. Effort is also being made to familiarize parents with the real motive of the school, that there may be less waste due to a misunderstanding of its purpose.

CHAPTER VI.—THE GIRL WHO HAS BEEN TRAINED IN THE TRADE SCHOOL.

LOCATION IN REGARD TO SCHOOL.

AREA FROM WHICH BOSTON TRADE SCHOOL GIRLS ARE DRAWN.

The 2,044 girls who have gone out from the Boston Trade School for Girls during its 10 years of existence represent a wide range of social and economic environments. In this respect, it is not different from the ordinary public school, but it is unique in the wide geographical area from which it draws its pupils. These girls have come from 88 different sections of the city and surrounding country. Since it was the only school of its kind in Massachusetts from 1904 to 1911, and since it offered a new type of specialized instruction, with an immediate, practical end in view, it attracted a relatively large proportion, 15.8 per cent, from suburbs. The majority, 80.1 per cent, naturally came from the city of Boston, but even these girls represented 18 widely different sections of the city, from the congested foreign quarters of the North and West Ends, to the semisuburban districts of Roslindale and Forest Hills.

More than one-third, 35 per cent, lived in the South End and Roxbury, the immediate neighborhood of the school. This proximity to the school may account for the large proportion who "thought they would try it," for almost one-third of these girls living in the immediate neighborhood remained in the trade school less than three months. The outlying sections of the city, however, for the most part beyond walking distance, furnished an even larger proportion of the attendance (45.1 per cent) than came from the immediate neighborhood.

Although the trade school is not located in the center of the city, it is very accessible to many outlying sections through the Boston Elevated System. Its favorable position near a junction of the elevated system has doubtless helped to make possible the attendance of the comparatively large proportion, 15.8 per cent, who came from suburbs lying within a 10-mile circuit of Boston. Almost three-fourths, 72.7 per cent, of these suburban girls, however, lived within the 5-cent car-fare limit. Of the total attendance, 2.9 per cent came from outside towns and cities, almost one-half of these from within a 15-mile circuit of Boston, although 36 girls came from a greater distance. For 22 girls (1.1 per cent) location was not reported. Almost two-thirds, 63.9 per cent, therefore, came from such a distance that they would ordinarily be dependent on the

cars. The immaturity of these young girls, 62.6 per cent entering the trade school before the age of 16,[a] together with the expense involved for car fares and luncheons, while attending school, makes it seem remarkable that so many make the effort at all.

DISTANCE FROM SCHOOL AND PERSISTENCE IN ATTENDANCE.

The following tables show the relation between the distance from which the girls come to the school and both their persistence in the school and their tendency to make use of their training after leaving:

TABLE 103.—NUMBER AND PER CENT OF GIRLS ATTENDING BOSTON TRADE SCHOOL EACH SPECIFIED LENGTH OF TIME, BY LOCALITY OF RESIDENCE.

NUMBER.

Locality of residence.	Girls attending each specified number of months—							Total.
	Under 3	3 and under 6	6 and under 9	9 and under 12	12 and under 18	18 and over.	Not reported.	
Boston	499	204	201	142	299	146	146	1,637
Suburbs	78	51	42	37	72	17	26	323
Outside towns	10	8	12	8	13	4	4	59
Outside of State	1	.....	.....	1	1	.....	.....	3
Not reported	5	1	5	3	2	2	4	22
Total	593	264	260	191	387	169	180	2,044

PER CENT.[1]

Boston	33.5	13.7	13.4	9.5	20.0	9.8	.....	100.0
Suburbs	26.3	17.2	14.1	12.5	24.2	5.7	.....	100.0
Outside towns	18.2	14.5	21.8	14.5	23.6	7.3	.....	100.0
Outside of State	33.3	.....	.....	33.3	33.3	.....	.....	100.0
Not reported	27.8	5.6	27.8	16.7	11.1	11.1	.....	100.0
Total	31.8	14.2	13.9	10.2	20.8	9.1	.....	100.0

[1] Based on number of girls whose length of attendance was reported.

TABLE 104.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS USING AND NOT USING THEIR TRADE, BY LOCALITY OF RESIDENCE.

Locality of residence.	Number.				Per cent.			
	Using their trade.	Not using their trade but attending the school—		Total.	Using their trade.	Not using their trade but attending the school—		Total.
		9 months or more.	Less than 9 months.			9 months or more.	Less than 9 months.	
Boston	602	109	926	1,637	36.8	6.6	56.6	100.0
Suburbs	144	17	162	323	44.6	5.3	50.1	100.0
Outside towns	35	4	20	59	59.3	6.8	33.9	100.0
Outside of State	2	.....	1	3	66.7	.....	33.3	100.0
Not reported	5	4	13	22	22.7	18.2	59.1	100.0
Total	788	131	1,122	2,044	38.6	6.6	54.9	100.0

[a] See Table 5, p. 22.

Evidently the distance from school and the consequent effort involved in coming have a direct bearing on the girls' persistence in their courses. One-third of the girls living in Boston who reported on this subject remained less than three months, as compared with 26.3 per cent from the suburbs, and 18.2 per cent from outside cities and towns. Inversely, an increasing proportion remained nine months or more, with the increasing distance from the school. Only 39.3 per cent of the girls living in Boston remained nine months or more, as compared with 42.4 per cent from the suburbs, and 45.4 per cent from the outside towns and cities.

DISTANCE FROM SCHOOL AND USE OF TRADE.

Again, an obvious relation between effort involved in securing the training and seriousness of purpose appears in the proportions entering the trade for which they were trained. A little more than one-third, 36.8 per cent, of the girls living in Boston used their training in a wage-earning capacity; 44.6 per cent of those living in the suburbs and 59.3 per cent of those in outside cities and towns entered the trade for which they were trained.

The location of the girl's home may determine her opportunity to use her trade. Those living at a considerable distance from the city are handicapped because they must either find openings in the vicinity of their homes, or be at considerable expense to take advantage of the wider opportunities in the city itself. The sewing trades, for instance, are but little developed outside the city and very few suburban and country dressmakers employ young girls. As most of these trade-school girls are quite young on leaving the school (42.9 per cent were under 16 and 68.1 per cent under 17 [1]), they are usually too immature and inexperienced to do the independent dressmaking and millinery, which is the characteristic method of production outside a large city,[2] and comparatively few factories making ready-made clothing or straw hats are now found in the suburbs, though there is a tendency recently to build such factories in the suburban sections of Boston.

Some girls have been able to secure positions in the vicinity of their homes, but others are in the position of the girl who "must remain at home at least one year because she was too young to live in the city among strangers and if she had worked in her trade she would have had to board in town in order to get to work on time in the morning." The most successful girl trained in millinery in the Boston Trade School lived near Worcester and has never worked in Boston, but she

[1] See Table 11, p. 30.

[2] For further discussion of the different types of production, see Dressmaking as a trade for women in Massachusetts, Bul. No. 193, United States Bureau of Labor Statistics.

was a high-school graduate, and although only 16 years of age on leaving school, was able to take a $10 position as milliner in a general store in a small town on first leaving the trade school. This was, of course, unusual and may have been partially due to her early training in sewing with her mother, who was a dressmaker.

NATIVITY OF TRADE-SCHOOL GIRLS.

Since the tendency of a secondary school is to attract a selected group, that is, from families which do not have to send their girls to work at 14 years of age, it is important to discover how far the type of girl coming for trade training conforms to the type already in the trade; for her subsequent stability in the trade will probably depend largely on the extent to which she finds her surroundings congenial.

The following tables show how, in the matter of nativity, the girls trained in the Boston and Worcester schools for the sewing trades compare with the total women in those trades, as shown by United States census figures:

TABLE 105.—NUMBER AND PER CENT OF WOMEN OF SPECIFIED NATIVITY IN THE SEWING TRADES IN BOSTON AND WORCESTER ACCORDING TO THE CENSUS OF 1910.

NUMBER.

Nativity.	Boston.[1]				Worcester.[2]			
	Dressmaking.	Millinery.	Machine operating.	Total.	Dressmaking.	Millinery.	Machine operating.	Total.
Native white:								
Native parentage	1,465	545	537	2,547	247	88	352	687
Foreign parentage	1,801	803	1,348	3,952	296	177	1,129	1,602
Total	3,266	1,348	1,885	6,499	543	265	1,481	2,289
Foreign-born white	3,016	474	2,167	5,657	246	42	645	933
Negro	283	17	8	308	11	.....	6	17
All other	3	1	3	7	.....	.....	.....	.....
Grand total	6,568	1,840	4,063	12,471	800	307	2,132	3,239

PER CENT OF EACH NATIVITY.

Native white:								
Native parentage	22.3	29.6	13.2	20.4	30.9	28.7	16.5	21.2
Foreign parentage	27.4	43.6	33.2	31.7	37.0	57.6	53.0	49.5
Total	49.7	73.2	46.4	52.1	67.9	86.3	69.5	70.7
Foreign-born white	45.9	25.8	53.3	45.3	30.7	13.7	30.2	28.8
Negro	4.3	.9	.2	2.5	1.4	.....	.3	.5
All other	.1	.1	.1	.1	.....	.....	.....	.....
Grand total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] From Thirteenth Census of the United States, 1910, Vol. IV, Population, p. 540.
[2] Idem, p. 607.

TABLE 106.—NUMBER AND PER CENT OF WOMEN OF SPECIFIED NATIVITY AMONG THOSE TRAINED IN THE SEWING TRADES IN BOSTON AND WORCESTER TRADE SCHOOLS AND USING THEIR TRADES.

NUMBER.

Nativity.	Women using their trades after training in—							
	Boston Trade School.				Worcester Trade School.			
	Dressmaking.	Millinery.	Machine operating.	Total.	Dressmaking.	Millinery.	Machine operating.	Total.
Native white:								
Native parentage	104	56	51	211	75	25	26	126
Foreign parentage	228	79	80	387	118	22	31	171
Total	332	135	131	[1] 598	193	47	57	297
Foreign-born white	37	12	16	65	16	2	3	21
Negro	36	3	3	42	7	1	.....	8
All others [2]	18	7	3	28	8	3	1	12
Grand total	423	157	153	[3] 733	224	53	61	[4] 338

PER CENT OF EACH NATIVITY.

Native white:								
Native parentage	24.6	35.7	33.3	28.8	33.5	47.1	42.6	37.3
Foreign parentage	53.9	50.3	52.3	52.8	52.7	41.5	50.8	50.5
Total	78.5	86.0	85.6	81.6	86.2	88.7	93.4	87.8
Foreign-born white	8.7	7.6	10.4	8.9	7.1	3.8	4.9	6.2
Negro	8.5	1.9	2.0	5.7	3.1	1.9	.....	2.4
All others	4.3	4.5	2.0	3.8	3.6	5.7	1.7	3.6
Grand total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not including 21 whose fathers' birthplaces were not reported.
[2] These are girls whose birthplace or whose fathers' birthplace was not reported.
[3] Not including 11 others visited who were employed in cooking and design, of whom 7 were native-born white of native parentage, 1 native-born white of foreign parentage, and 3 Negroes.
[4] Not including 5 for whom no data were secured as to courses taken.

Almost one-half, 45.9 per cent, of all the dressmakers and seamstresses in Boston are foreign-born white as compared with only 8.7 per cent of the 423 trade-school girls who have been sent from the school into this trade. That is, the trade school is training a highly selected group, from the standpoint of nativity, so that a girl frequently leaves her position or the trade because "I didn't like the class of girls" or "Mother didn't want me to be with those girls." More than three-fourths, 78.5 per cent, of the trade-school girls going out into the dressmaking trade are native-born white as compared with less than one-half, 49.7 per cent, already in the trade who are native-born white. The proportion of girls who are native white of native parentage is practically the same in both groups, but while the predominant type in the trade is foreign born, the predominant type going out from the trade school is one generation Americanized, being native born but with foreign-born parents. A disproportionately large number of Negroes also came to the trade school for

dressmaking, 8.5 per cent, as compared with 4.3 per cent in the trade. These colored girls find themselves seriously handicapped in securing positions in dressmaking, and it is practically impossible for them to secure work in the power-machine sewing trades.

The girls trained in millinery approach more nearly to the type already in the trade, although the proportion of Negroes is larger (1.9 per cent trained in the school and 0.9 per cent in the trade) and the foreign-born white in the trade constitute a much larger proportion (25.8 per cent) than is true of the trade-school group, in which they form 7.6 per cent.

The girls trained in power-machine operating show the largest proportion (10.4 per cent) of foreign born of any of the trade groups in the school, but even this proportion is very small in comparison with the 53.3 per cent of foreign born in the machine-operating trades. While 33.3 per cent of the trade-school girls trained and going out into the operating trades were native born of native parentage, only 13.2 per cent in the trade itself were of this group.

In Worcester also girls coming to the trade school for training in the sewing trades show a higher proportion of native born, 87.8 per cent, than is discovered in these trades as a whole, where they form 70.7 per cent. More than four-fifths, 86.2 per cent, of the girls trained in dressmaking were native-born white as compared with 67.9 per cent in the trade. The pupils in millinery, 88.7 per cent native white, however, are typical of the trade of the city with 86.3 per cent native white. The greatest difference appears in the power-machine operators, 93.4 per cent who took the training in the school as compared with 69.5 per cent in the trade being native white. Forty-two (42.6) per cent of the sewing-machine operators in the school and only 16.5 per cent of those in the trade had native-born parents.

For the girls of the Cambridge Trade School, the comparison of nativity is necessarily limited to those trained for dressmaking, for the census table used does not give the nativity data for milliners in Cambridge, and though it does give them for women engaged in "personal and domestic service," this group does not correspond to the group of girls trained for cooking. But for the women engaged in dressmaking in Cambridge, and for the girls trained in dressmaking in the Cambridge Trade School, the number and proportion in the different nativity groups are as follows:

TABLE 107.—NUMBER AND PER CENT OF EACH SPECIFIED NATIVITY AMONG WOMEN IN THE DRESSMAKING TRADE IN CAMBRIDGE AND AMONG GIRLS TRAINED IN DRESSMAKING IN THE TRADE SCHOOL.

Nativity.	Women in dressmaking in Cambridge.[1]		Girls trained in dressmaking in Cambridge Trade School.	
	Number.	Per cent.	Number.	Per cent.
Native white:				
Native parentage..	154	20.2	31	46.3
Foreign parentage.	197	26.2	21	31.3
Total.....	351	46.4	52	77.6
Foreign-born white..	324	42.8	6	9.0
Negro.....	80	10.6	7	10.4
All others.....	2	.2	2	3.0
Grand total.....	757	100.0	67	100.0

[1] From Thirteenth Census of the United States, 1910, Vol. IV, Population, p. 544.

The variation between the two groups approaches more nearly to that found in Boston than in Worcester. Forty-six (46.4 per cent) in the trade and 77.6 per cent in the school group are native born; 42.8 per cent in the trade and 9 per cent in the school group are foreign born. In Cambridge Negroes form a much larger proportion of the trade group than in Boston—10.6 per cent against 4.3 per cent—and they are correspondingly more numerous among the trade-school dressmakers, where they form almost exactly the same proportion as in the trade, 10.4 per cent.

Comparison of the three cities seems to show that it is a "trade-school type" rather than a "trade type" which is attracted for the training offered by the trade school. While but 52.1 per cent of the women engaged in the sewing trades in Boston and 70.7 per cent in Worcester were native white, more than four-fifths of the girls attending the two trade schools, 81.6 per cent in Boston and 87.8 per cent in Worcester, were native white. Almost one-half, 45.3 per cent, of the women in the sewing trades in Boston and more than one-fourth, 28.8 per cent, in Worcester were foreign born, but both schools drew a decidedly small proportion (8.9 per cent in Boston and 6.2 per cent in Worcester) from the foreign born, probably on account of the economic pressure in the family of the recent immigrant. The larger proportion of Negroes than is characteristic of the trade likewise appeared in both schools.[1]

Combining all born in this country (regardless of color), about nine-tenths of the girls in each of the three trade schools were native born and about one-tenth foreign born. The largest proportion of the foreign born came from non-English speaking countries. About two-fifths of the girls had native-born parents, a larger proportion

[1] Nativity by occupations is not given for Cambridge.

in Cambridge and a smaller proportion in Boston. Over 63 (63.7) per cent in Boston, 58.9 per cent in Worcester, and 41.5 per cent in Cambridge had foreign-born parents. About equal proportions of the parents came from English and non-English speaking countries.

TABLE 108.—NUMBER AND PER CENT OF EACH NATIVITY IN TOTAL POPULATION 15 TO 20 YEARS OF AGE, AMONG CHILDREN OF THESE AGES IN SCHOOLS, AND AMONG TRADE-SCHOOL GIRLS IN BOSTON, WORCESTER, AND CAMBRIDGE.

NUMBER.

Nativity.	Boston.[1]					Worcester.			Cambridge.		
	Population 15 to 20 years of age.		Girls going out from the trade school.			Population 15 to 20 years of age.		Girls going out from the trade school.	Population 15 to 20 years of age.		Girls going out from the trade school.
	Total.	Attending school.	Total.	Using trade.	Not using trade.[2]	Total.	Attending school.		Total.	Attending school.	
Native white:											
Native parentage	8,169	3,567	263	218	45	4,330	1,835	126	2,633	1,217	46
Foreign parentage	17,528	5,729	438	388	50	7,970	2,152	170	5,614	1,728	28
Not reported	.....	.....	21	21	.....	.....	.....	8	.....	.....	3
Total	25,697	9,296	722	627	95	12,300	3,987	304	8,247	2,945	77
Foreign-born white	9,287	1,647	70	65	5	3,551	492	22	2,199	318	9
Negro	613	193	47	45	2	112	26	8	475	171	11
All others	.....	.....	10	7	3	.....	.....	9	.....	.....	16
Grand total	[3]35,597	[3]11,136	849	744	105	[4]15,963	[4]4,505	343	[5]10,921	3,434	113

PER CENT OF EACH SPECIFIED NATIVITY.[6]

Native white:											
Native parentage	22.9	32.0	31.3	29.6	44.1	27.1	40.7	37.7	24.1	35.4	47.4
Foreign parentage	49.3	51.5	52.2	52.6	49.0	50.0	47.8	50.9	51.4	50.4	28.9
Not reported	.....	.....	2.5	2.8	.....	.....	.....	2.4	.....	.....	3.1
Total	72.2	83.5	86.0	85.0	93.1	77.1	88.5	91.0	75.5	85.8	79.4
Foreign-born white	26.1	14.8	8.4	8.9	4.9	22.2	11.0	6.6	20.1	9.3	11.3
Negro	1.7	1.7	5.6	6.1	2.0	.7	.5	2.4	4.4	4.9	9.3
Grand total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] United States Census, 1910, Vol. I, Population, pp. 1160, 1171, 1173.
[2] After attending trade school 9 months or more.
[3] Totals in census report are 35,600 and 11,137, respectively.
[4] Totals in census report are 15,964 and 4,506, respectively.
[5] Total in census report is 10,924.
[6] Excluding "All others."

Since the trade schools in two quite different cities draw a similar type of pupil from the standpoint of nativity, it is of interest to discover to what extent these girls who come for trade training are characteristic of the total group of about the same age who are attending school. The Boston Trade School records did not state nativity, so the comparison is restricted to the 849 girls personally visited, including all who used their training in a wage-earning capacity and all others who attended nine months or more. On the other hand, while the nativity of all the girls going out from the Worcester and Cambridge trade schools [1] is available, the census

[1] Not including 15 not located.

statistics of the nativity of the children 15 to 20 years of age attending school in these cities are not given separately for boys and for girls, but as about an equal number of boys and girls are reported the proportions are probably approximately correct. In the three cities the statistics for the whole group are those for 1909, while those from the school cover a period of several years grouping about this date. Under these conditions Table 108 gives the nativity of the children 15 to 20 years old in the general population of those in this age group attending school and of the trade-school girls studied.

The girls attracted to the trade school are predominantly native white, this class being characteristic of the cities in which these schools are located; but, as might be expected, the trade school attracts a selected group. Thus, while 72.2 per cent of the children 15 to 20 years old in Boston are native white, 86 per cent of those going out from the trade school are in this group. In Worcester, 77.1 per cent of the children 15 to 20 years old are native white, but 91.0 per cent of the trade-school girls fall within this classification, showing also a selected group. In Cambridge, however, the trade-school group is more nearly typical of the whole 15 to 20 year old population, 75.5 per cent in the city and 79.4 per cent in the school being native white.

The question then arises: How representative of the school population of 15 to 20 years is the type attracted to the trade school? In respect to the native-born whites, the two groups are very similar in Boston and Worcester. In Boston, 83.5 per cent of the 15 to 20 year old children attending school and 86 per cent of the girls going out from the trade school are native white. In Worcester, 88.5 per cent of the children 15 to 20 years of age attending school and 91 per cent of the trade-school girls are native white. Similar proportions having native and foreign-born parents are also found in the two school groups in both cities. In Cambridge, however, while 85.8 per cent of the 15 to 20 year old school population are native-born white, only 79.4 per cent of the trade-school group fall within this classification. This difference is due partly to the proportionately large group of Negroes in the trade school.

An interesting difference appears between the 744 girls who used their training and the 105 who attended the Boston Trade School nine months or more and did not use the trade, 85 per cent of the former and 93.1 per cent of the latter being native born. Forty-four (44.1) per cent of those not using their training were native born of native parentage and only 4.9 per cent foreign born. Their reasons for never using their training suggest their incompatibility with the trade group; 28 per cent of those who gave their reasons ascribed their failure to enter the trade to lack of personal adjustment, 32 per cent to trade conditions, and 26 per cent to domestic causes.[1]

[1] See Table 43, p. 73.

ECONOMIC STATUS OF FAMILIES OF TRADE-SCHOOL GIRLS.

OCCUPATIONS OF FATHERS OF TRADE-SCHOOL GIRLS.

The father's occupation provides a rough index to the economic pressure at home, determining to some extent the girl's ability to attend school after the age of 14, and also her ability to continue in a skilled trade which, because of the small beginning wage, involves semidependence for some years. The census classification of occupations has been used, although this is rather broad. The following table shows the occupations, so far as they were learned, of the fathers of the girls in the four trade schools:

TABLE 109.—NUMBER AND PER CENT OF BOSTON, WORCESTER, CAMBRIDGE, AND SOMERVILLE TRADE-SCHOOL GIRLS WHOSE FATHERS WERE IN EACH SPECIFIED OCCUPATION.[1]

NUMBER.

Occupation of the father.	Boston.	Worcester.	Cambridge.	Somerville.	Total.
Unskilled labor	201	32	10	20	263
Personal and domestic service	164	20	7	5	196
Agriculture	28	8	1	2	39
Manufacturing industries	649	179	40	64	932
Transportation	71	8	2	13	94
Public service	34	11	1	4	50
Trade and business	177	21	9	20	227
Clerical occupations	69	8	1	5	83
Professional service	28	3	1	5	37
Retired	13	2	2	1	18
Not living or deserted	380	39	30	18	467
Not reported	230	12	9	15	266
Total	2,044	343	113	172	2,672

PER CENT WITH FATHERS IN SPECIFIED OCCUPATION.[2]

Unskilled labor	11.1	9.7	9.6	12.7	10.9
Personal and domestic service	9.0	6.0	6.7	3.2	8.2
Agriculture	1.5	2.4	1.0	1.3	1.6
Manufacturing industries	35.8	54.1	38.5	40.8	38.7
Transportation	3.9	2.4	1.9	8.3	3.9
Public service	1.9	3.3	1.0	2.5	2.1
Trade and business	9.8	6.4	8.6	12.7	9.4
Clerical occupations	3.8	2.4	1.0	3.2	3.5
Professional service	1.5	.9	1.0	3.2	1.5
Retired	.7	.6	1.9	.6	.8
Not living or deserted	21.0	11.8	28.8	1.15	19.4
Total	100.0	100.0	100.0	100.0	100.0

[1] The Somerville school was established in 1911 as a trade school but in 1913 was changed to a "vocational school for girls."

[2] Based on the number of girls the occupations of whose fathers were reported.

The occupational distribution shown here is about what one would expect. There is a small representation of the daughters of professional men and of men engaged in either clerical occupations or trade; for the most part such men can afford to give their daughters a longer training and to prepare them for professional or clerical work. There is rather a small representation of the daughters of unskilled laborers; presumably in these families the need for immediate returns makes it necessary for the girls to begin wage earning as soon as they reach the legal age. By far the largest group in all the cities comes

from families in which the father is engaged in manufacturing industries, these apparently representing the stage of well-being in which, while it is necessary for the daughter to become a wage earner at an early age, it is still possible to give her some preparation and to allow her to enter a trade at which she must practically serve an apprenticeship. The next largest group, those whose fathers are dead or have deserted their families, is rather puzzling; it is not surprising that under these circumstances the daughters should find it necessary to become wage earners, but the natural supposition would be that they, like the daughters of the unskilled laborers, would be obliged to seek occupations which they could enter without preliminary training.

Comparing the type of family, as indicated by the father's occupation, from which the trade school draws its pupils, a surprising uniformity is discovered in the four cities. Almost two-fifths (38.7 per cent) of the 2,672 girls going out from the four schools (including the Somerville Vocational School, which was established as a trade school) had fathers engaged in manufactures, and with the exception of Worcester, where a larger proportion is engaged in this occupation, this is the prevalent situation in all the schools. About one-fifth (19.4 per cent) came from homes where there was no father as a wage earner, though this proportion was smaller in Worcester and Somerville. In this connection it is interesting to note that these schools are finding it possible to emphasize the home-making or practical arts form of training rather than equipment for immediate wage earning. In all other respects practically the same proportions are drawn from the several occupations. Not only, therefore, is the trade-school group as a whole similar in nativity, but also in social and economic background.

The extent to which vocational schools of particular types draw from a characteristic type of family is illustrated by comparing the father's occupation of the girls attending the trade school, involving only one or two years' training, and of those attending the high schools in Boston, requiring four years. This comparison is made in Table 110.

The manufacturing industries predominate for both, since they occupy more than one-third of the male population of Boston, but 30.6 per cent of the high-school girls and 37.1 per cent of the trade-school girls came from families whose fathers were engaged in this division of industry. A similar proportion, 31 per cent, of the high-school girls, but only 11.1 per cent of the trade-school girls came from families where the father was engaged in trade, public service, or professional occupations. Over 20 per cent of the trade-school girls and only 9.7 per cent of the high-school girls came from the homes of unskilled laborers and men engaged in personal and domestic service. The large proportion of trade-school girls (18.8 per cent) and the small proportion of high-school girls (4.9 per cent) who came from homes where there was no father show the necessity for a short preparation for wage earning.

TABLE 110.—NUMBER AND PER CENT OF GIRLS ATTENDING THE HIGH SCHOOLS AND THE TRADE SCHOOL IN BOSTON WHOSE FATHERS WERE IN SPECIFIED OCCUPATIONS.

Occupation of the father.	Number.		Per cent.	
	High school.[1]	Trade school.	High school.	Trade school.
Unskilled labor	20	101	6.5	11.9
Personal and domestic service	10	72	3.2	8.5
Agriculture	6	12	1.9	1.4
Manufacturing industries	95	315	30.6	37.1
Transportation	11	34	3.5	4.0
Public service	17	10	5.5	1.2
Trade and business	70	73	22.6	8.6
Clerical occupations	6	32	1.9	3.8
Professional service	9	11	2.9	1.3
Retired	15	11	15.2	1.3
Not living or deserted	47	160	4.9	18.8
Not reported	4	18	1.3	2.1
Total	310	849	100.0	100.0

[1] Department of Research, Women's Educational and Industrial Union: The public schools and women in office service, p. 163. Five of the nine high schools in five different type neighborhoods were taken as a basis for this study.

GIRLS EMPLOYED DURING INTERVAL BETWEEN GRAMMAR-SCHOOL AND TRADE-SCHOOL ATTENDANCE.

The economic status of the families from which the pupils come is indicated to some extent by the method by which an interval, when one exists, between the grammar-school and the trade-school attendance is occupied. In both Boston and Worcester the majority of the girls have gone directly from the grammar school to the trade school, as is usual in the case of any secondary school. In both cities, however, a certain number did not attend the trade school until some time after they had left the grammar school. The following table shows for Boston the number who did not enter the trade school on leaving the grammar school, and whether or not they were gainfully employed in the interval:

TABLE 111.—NUMBER OF BOSTON TRADE SCHOOL GIRLS WHO WORKED AND WHO DID NOT WORK IN THE INTERVAL BETWEEN GRAMMAR AND TRADE SCHOOL ATTENDANCE, BY COURSES TAKEN IN TRADE SCHOOL.

Course.	Girls taking specified courses—			
	Not going directly to trade school—		Going directly to trade school.	Total.
	Who worked.	Who did not work.		
Dressmaking	54	60	384	498
Millinery	16	19	140	175
Power-machine operating (cloth and straw hats)	24	27	113	164
Cooking and design	1	1	10	12
Total[1]	95	107	647	849

[1] These figures do not agree with those given in Table 2, as those are based on the number who had not gone to trade school for four months or more after leaving the grammar school, while this table includes those who worked during summer vacation between attendance at grammar school and at trade school.

Very nearly one-half (47 per cent) of the girls who did not go directly to the trade school were gainfully employed in the interval, and of these more than one-fourth had no father. Almost an equal proportion of those who had not gone directly to the trade school but had not worked in the interval had no fathers, the majority of these probably keeping house while the mother worked. A little more than one-third (37.9 per cent) of the 95 girls who had worked before entering trade school were enrolled in the school during its first five years of existence, and 62.1 per cent during the second period of five years, contrary to the common opinion that a trade school draws back from industry a larger proportion of its pupils in its first years than later. The larger proportion drawn from industry during the second five-year period may be partially due to the more stringent regulation of child labor in Massachusetts during recent years, which may have thrown some of the girls out of work.

A little more than one-half of the girls who had been employed previous to entering the trade school had worked less than six months, and more than two-thirds (70 per cent) had worked less than one year. At the other extreme nine had worked more than three years. The 95 girls reported 140 previous positions. The industrial distribution and earnings of those who had worked are shown in the following table:

TABLE 112.—NUMBER OF BOSTON TRADE SCHOOL GIRLS WHO HAD EARNED SPECIFIED WAGE IN SPECIFIED OCCUPATIONS BEFORE ENTERING TRADE SCHOOL.

Occupation.	Number of girls in specified occupations earning specified wage.[1]					
	Under $2	$2 and under $4	$4 and under $6	$6 and over.	Not reported.	Total.
Manufactures	[2] 8	13	15	21	4	61
Trade, clerical occupations, and transportation	.....	14	7	2	3	26
Domestic and personal service	.....	1	3	1	.....	5
Professional service	.....	.....	.....	3	.....	3
Total	8	28	25	27	7	95

[1] The last wage is used except in a few cases, where only first wage was given.
[2] Five of these girls worked as apprentices without pay.

In general, there was little correlation between the previous work, as shown here, and the trade training chosen, although one-fifth of the 54 girls who came for training in dressmaking, 3 of the 16 milliners and 6 of the 12 cloth power-machine operators had previously worked in some capacity in the trade for which they came to secure training. Two of the 12 straw power-machine operators had previously worked in millinery. The majority of the girls, however, had worked in manufactures, and a little more than one-fourth had been employed in business pursuits, mostly as errand girls, cash girls, or bundle girls.

The majority of these girls worked at low wages, two-fifths (40.9 per cent) of those who reported their wages earning less than $4 a week, and a little more than two-thirds (69.3 per cent) earning less than $6.

Among the Worcester girls 70 had not gone directly to the trade school after leaving the grammar school, and of these 44 had worked for wages. Eighteen (40.9 per cent) of these were engaged in trade, clerical occupations, or transportation, 15 (34.1 per cent) in manufactures, and 11 (25 per cent) in domestic and personal service. Five earned under $2 a week, 21 earned $2 and under $4, 9 earned $4 and under $6, 8 earned $6 and over, and for 1 earnings were not reported.

Among the girls of the Cambridge Trade School more than one-fourth (28.6 per cent) had not come directly from the grammar schools. The majority of these, however, had been at home during the interval, and only 7.2 per cent had been at work.

AGE AT BEGINNING WORK.

The following table shows the age at beginning work of 1,029 girls (comprising those who worked in their own trade and those who, having attended trade school for nine months or more, did not use their trade training but worked in some other occupation):

TABLE 113.—NUMBER AND PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOL GIRLS WHO BEGAN WORK AT SPECIFIED AGES.

Trade school.	Age at beginning work.						Total
	Under 16 years.		16 and under 18 years.		18 years and over.		
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
Boston	204	24.1	444	53.9	182	22.0	830
Worcester	33	24.8	71	53.4	29	21.8	133
Cambridge	24	36.4	33	50.0	9	13.6	66
Total	261	25.4	548	53.4	220	21.4	1,029

The age grouping at time of beginning work is almost identical in Boston and Worcester. The larger proportion beginning at an early age in Cambridge is accounted for by the brief existence of the school and the short time of attendance, rather than by any greater economic pressure at home. Taking the pupils of the three schools as a whole, three-fourths were 16 or over before commencing work. There are two reasons for this: First, the majority had attended trade school one year or more, which naturally raised the age at beginning work; and, second, the trades for which they were trained are showing an increasing tendency to exclude the younger girls.

The age at which the girl goes to work seems to vary considerably according to the nativity of the girls and of their parents. The following table shows the relation between nativity and age at beginning work:

TABLE 114.—NUMBER AND PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL GIRLS WHO BEGAN WORK AT SPECIFIED AGES, BY NATIVITY.

NUMBER.

Nativity of girl.	Girls beginning work at specified age.											
	Boston.				Worcester.				Cambridge.			
	Under 16	16 and under 18	18 and over.	Total.	Under 16	16 and under 18	18 and over.	Total.	Under 16	16 and under 18	18 and over.	Total.
Native-born white:												
Native parentage	37	141	74	252	6	30	18	54	10	12	5	27
Foreign parentage	127	238	66	431	24	38	8	70	11	10	.....	21
Not reported	6	9	7	22	.....	.....	.....	.....	1	1	.....	2
Total	170	388	147	705	30	68	26	124	22	23	5	50
Foreign-born white	24	34	11	69	3	2	.....	5	2	5	.....	7
Negro	6	20	22	48	.....	1	3	4	.....	5	4	9
Not reported	4	2	2	8	.....	.....	.....	.....	.....	.....	.....	.....
Grand total	204	444	182	[1]830	33	71	29	133	24	33	9	66

PER CENT. [2]

Native-born white:												
Native parentage	14.6	56.0	29.4	100.0	11.1	55.6	33.3	100.0	37.0	44.5	18.5	100.0
Foreign parentage	29.2	55.6	15.2	100.0	34.3	54.3	11.4	100.0	52.4	47.6	.....	100.0
Not reported	27.3	40.9	31.8	100.0	.....	.....	.....	.....	50.0	50.0	.....	100.0
Total	23.9	55.2	20.9	100.0	24.2	54.9	20.9	100.0	44.0	46.0	10.0	100.0
Foreign-born white	34.8	49.2	16.0	100.0	60.0	40.0	.....	100.0	28.6	71.4	.....	100.0
Negro	12.5	41.7	45.8	100.0	.....	25.0	75.0	100.0	.....	55.6	44.4	100.0
Grand total	24.1	53.9	22.0	100.0	24.8	53.4	21.8	100.0	36.4	50.0	13.6	100.0

[1] Not including 1 whose age was not reported.
[2] Based on the number of girls whose nativity was reported.

The greater economic pressure in the families with foreign parents, and also a difference in the point of view seem to account for the earlier age at which the foreign-born girls and girls with foreign parents go to work. This difference is marked. Of the Boston girls who were native-born white 23.9 per cent began work before the age of 16, but only 14.6 per cent of the girls with native-born parents as against 29.2 per cent of those with foreign-born parents began work before 16 years of age. Of the foreign-born white girls 34.8 per cent began work before the age of 16. In Worcester and Cambridge even larger proportions of the native white girls with foreign parents began work under 16. Since the majority of the trade-school girls in Boston and Worcester have foreign-born parents, this group characterizes the situation, more than one-half beginning work between the ages of 16 and 18,

regardless of nativity. At the other extreme, however, the difference again becomes apparent. Of the Boston girls who were native-born white, 20.9 per cent began work at the age of 18 or over, but those of native-born parentage had 29.4 per cent in this group, against 15.2 per cent of those with foreign-born parents. Only 16 per cent of the foreign-born girls began work at the age of 18 or over. A surprisingly large proportion (45.8 per cent) of the Negro girls did not begin work until 18 or over. The difficulty usually experienced by young Negro girls in securing work in the ordinary juvenile employments in stores and factories probably explains their later entrance into industry.

FAMILY CONDITION OF TRADE-SCHOOL GIRLS.

The following table shows the number of the trade-school girls in the three cities who lived at home and elsewhere.

TABLE 115.—NUMBER AND PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL GIRLS HAVING SPECIFIED LIVING CONDITIONS.

BOSTON.

Age at time of investigation.	Living at home.			Boarding.			Receiving board as part of wage.[1]	All others.	Total.
	With family.	With relatives	Total.	With relatives.	With others.	Total.			
Number of girls—									
Under 18 years	107	4	111	1	3	4	.....	.....	115
18 and under 20 years	165	12	177	4	1	5	1	.....	183
20 and under 22 years	167	7	174	2	9	11	3	2	190
22 and under 24 years	116	9	125	5	10	15	.....	1	141
24 years and over	86	4	90	2	12	14	2	3	109
Not living	4	1	5	.....	.....	.....	.....	1	6
Total	645	37	682	14	35	49	6	7	744
Per cent	86.7	5.0	91.7	1.9	4.7	6.6	0.8	0.9	100.0

WORCESTER.

Age at time of investigation.	Living at home.			Boarding.	Receiving board as part of wage.	Total.
	With family.	With relatives.	Total.			
Number of girls—						
Under 16 years	11	1	12	.....	.....	12
16 and under 18 years	64	4	68	2	.....	70
18 and under 20 years	57	2	59	3	.....	62
20 years and over	17	3	20	1	1	22
Total	149	10	159	[1] 6	1	166
Per cent	89.8	6.0	95.8	3.6	0.6	100.0

[1] Two boarded with relatives.

TABLE 115.—NUMBER AND PER CENT OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE-SCHOOL GIRLS HAVING SPECIFIED LIVING CONDITIONS—Concluded.

CAMBRIDGE.

Age at time of investigation.	Living at home.			Boarding.	Receiving board as part of wage.	Not reported.	Total.
	With family.	With relatives.	Total.				
Number of girls—							
Under 16 years	20		20				20
16 and under 18 years	41	4	45	1	1	2	49
18 and under 20 years	13	2	15	1			16
20 years and over	9	1	10			1	11
Not reported						2	2
Total	83	7	90	2	1	5	98
Per cent	84.7	7.1	91.8	2.0	1.0	5.2	100.0

The great majority were living at home, the proportion in this group being in Boston 91.7 per cent, in Worcester 95.8 per cent, and in Cambridge 91.8 per cent. This large proportion at home is what is to be expected in so youthful a group; that it is due to the immaturity of the girls seems to be shown by the variation in the proportion in Boston, where the larger group gives an opportunity for tendencies to make themselves apparent. Here the proportion living at home decreases from 96.5 per cent among those under 18 to 82.6 per cent among those aged 24 or over.

In general the families from which the girls came seemed to be in fairly comfortable circumstances. In Boston 38.5 per cent of the girls, and in Worcester 30.1 per cent came from homes in which there were no other dependents, classing as dependents nonwage-earning brothers and sisters, invalids, or nonproducers of any kind. Nor was there any very serious need that the young trade-school girl should begin work at an early age, since more than one-half in the two cities came from families in which there were one or two other wage earners besides the father. On the other hand, in the families of 11.4 per cent of the 744 Boston girls the mother was employed in wage-earning occupations. While some of these young trade-school girls bore heavy responsibilities, and some, at times of illness or unemployment of others at home, became the main support of their families, in the majority of cases the families were not in extremely straitened circumstances, as evidenced by the very fact that they were able to give the girls a year or more of trade training, as well as to permit the period of apprenticeship and small earnings required in skilled and seasonal industries, such as the clothing trades.

CONTRIBUTION TO FAMILY INCOME.

The following table shows, by age, and by nativity of parents, the number of the trade-school girls studied in the three cities who gave all, part, or none of their earnings to the family:

TABLE 116.—NUMBER OF BOSTON, WORCESTER, AND CAMBRIDGE TRADE SCHOOL GIRLS CONTRIBUTING SPECIFIED PARTS OF THEIR EARNINGS TO THE FAMILY, BY AGE GROUP, AND NATIVITY OF PARENTS.

BOSTON.

Age group.	Girls with native-born parents and contributing—					Girls with foreign-born parents and contributing—					Nativity of parents not reported.	Total.
	All of their earnings.	Part of their earnings.	None of their earnings.	Not reported.	Total.	All of their earnings.	Part of their earnings.	None of their earnings.	Not reported.	Total.		
Under 18 years	16	5	5	.....	26	68	10	3	7	88	[1] 1	115
18 and under 20 years	27	23	6	3	59	82	27	6	6	121	[2] 3	183
20 and under 22 years	22	23	16	5	66	68	31	11	9	119	[3] 5	190
22 and under 24 years	20	22	14	8	64	28	32	7	5	72	[4] 5	141
24 years and over	8	16	8	11	43	16	24	10	4	54	[5] 12	109
Not living	.....	.....	.....	2	2	1	.....	.....	1	2	[6] 2	6
Total	93	89	49	29	260	263	124	37	32	456	28	744

WORCESTER.

Under 16 years	.....	.....	.....	4	4	3	.....	3	2	8	.....	12
16 and under 18 years	11	3	3	9	26	22	4	9	9	44	.....	70
18 and under 20 years	7	10	6	9	32	15	5	6	4	30	.....	62
20 years and over	3	7	4	.....	14	3	.....	1	.....	4	.....	18
Not living	.....	1	2	1	4	.....	.....	.....	.....	.....	.....	4
Total	21	21	15	23	80	43	9	19	15	86	.....	166

CAMBRIDGE.

Under 16 years	2	1	.....	8	11	4	.....	.....	5	9	.....	20
16 and under 18 years	11	.....	1	10	22	16	2	1	5	24	3	49
18 and under 20 years	5	1	3	4	13	1	.....	.....	2	3	.....	16
20 years and over	4	.....	.....	4	8	1	.....	.....	1	2	1	11
Not living	.....	.....	.....	1	1	.....	.....	.....	1	1	.....	2
Total	22	2	4	27	55	22	2	1	14	39	4	98

[1] All earnings contributed.
[2] 2 contributing all earnings and 1 not reported.
[3] 1 contributing all earnings and 4 not reported.
[4] All not reported.
[5] 2 contributing part of their earnings, 3 none, and 7 not reported.
[6] 2 not reported.

These figures do not show so large a proportion of the girls turning in all their earnings as was found in some previous investigations. Of the 654 Boston girls who had entered their trades and from whom full data as to age, nativity of parents, and contributions to the family were received, 54.3 per cent gave all their earnings to the family, 32.6 per cent contributed a definite and substantial portion, and 13.1 per cent gave none. The United States Bureau of Labor found in 1910 that in Boston of 243 women employed in stores 55.6 per cent, and of 489 women in factories 61.7 per cent contributed all their earnings to the family fund.[1] On the other hand, in a recent

[1] Report on woman and child wage earners in the United States (S. Doc. 645, 61st Cong., 2d sess.), Vol. V, pp. 18 and 19.

investigation in Boston covering 310 office workers, two-thirds of whom were high-school graduates, it was found that 39.7 per cent contributed all their earnings, 51.6 per cent part, and 8.7 per cent none.[1] The proportion of trade-school girls in Boston contributing all their earnings is almost the same as the proportion of store employees studied in 1910, but much larger than that of the high-school graduates studied in the later investigation. Some of the girls reported as giving part of their earnings paid board, ranging from $3 to $6, but the majority gave most of their wage, keeping enough for car fare and lunch, with perhaps a little margin for spending money. Excluding girls who were not living and those for whom full data on all points were not given, Worcester shows a smaller proportion turning in all their earnings than either of the other cities; 51.2 per cent contributed all, 23.2 per cent part, and 25.6 per cent none. In Cambridge 83 per cent of the girls turned in all their earnings.

The amount contributed varies both with the girl's age and her parentage, the daughters of foreign-born parents turning in all their earnings more generally than the daughters of native-born parents. The following table shows this difference for the Boston girls:

TABLE 117.—PER CENT OF BOSTON TRADE SCHOOL GIRLS CONTRIBUTING SPECIFIED PARTS OF THEIR EARNINGS TO THE FAMILY, BY AGE GROUP, AND NATIVITY OF PARENTS.

Age group.	Girls with native-born parents.					Girls with foreign-born parents.				
	Number.	Contributing all their earnings.	Contributing part of their earnings.	Contributing none of their earnings.	Total.	Number.	Contributing all their earnings.	Contributing part of their earnings.	Contributing none of their earnings.	Total.
Under 18 years	26	61.5	19.2	19.2	100.0	81	84.0	12.3	3.7	100.0
18 and under 20 years	56	48.2	41.1	10.7	100.0	115	71.3	23.5	5.2	100.0
20 and under 22 years	61	36.1	37.7	26.2	100.0	110	61.8	28.2	10.0	100.0
22 and under 24 years	56	35.7	39.3	25.0	100.0	67	41.8	47.8	10.4	100.0
24 years and over	32	25.0	50.0	25.0	100.0	50	32.0	48.0	20.0	100.0
Total	231	40.3	38.5	21.2	100.0	423	61.9	29.3	8.7	100.0

In this table the connection between age and control of earnings shows clearly. For both the daughters of native and of foreign parents, the girls under 18 show much the largest proportion contributing all their earnings, and thereafter this proportion decreases rather uniformly with increasing age. Among the daughters of the foreign-born there is a sudden fall in this proportion at the age of 22 and under 24; this marks, perhaps, the age at which the girls begin to insist on paying board, for it is not accompanied by any increase in

[1] Department of Research, Women's Educational and Industrial Union: The public schools and women in office service, p. 168.

the proportion keeping all their earnings for themselves. This appears in the next group, those aged 24 and over. Among the daughters of native parents the decrease in the proportion contributing all their earnings is slow after the girls have reached 20 years of age, while from that age onward the proportion keeping all their earnings for themselves remains practically stationary.

As between the daughters of foreign and of native parents, the former show a much larger proportion in the three younger age groups turning over all their earnings; by the time the girls have reached 22, however, the difference is not very great. The proportion retaining all their earnings remains considerably smaller among the daughters of foreign parents up to the age of 24; then it suddenly increases and among those aged 24 or over is nearly as large as among the daughters of native parents.

Not only does the girl give from her earnings, but she contributes her services to her family, and home demands play an important part in the interruption of her wage-earning career. Among the 392 Boston girls who left their trades, 10.3 per cent [1] did so on account of domestic reasons other than those involved in their own marriage, and 21.9 per cent [2] of the 105 who never used their trade gave similar reasons for their failure to do so. More than one-fourth (26.4 per cent)[3] of the 72 Worcester girls who never used their trade were kept from doing so by home reasons other than their marriage, and in 17 of these 19 cases the girls were helping at home. Illness at home or pressure of domestic duties frequently results in the withdrawal of the girl from her work. Sometimes she keeps house while the mother, who can command a higher wage, goes out and works.

The girl who has been trained for the sewing trades also contributes valuable assistance in making clothes for the family in the evenings after work and in the dull season, if not otherwise employed. In Boston 229 of the girls studied filled in the dull season "making clothes for self and family," 25.1 per cent of the 744 girls who used their trade and 40 per cent of the 105 who did not, thus utilizing their time.

MARRIAGE AS AN INTERRUPTION TO WORKING CAREER.

Marriage also constitutes an interruption in the girl's wage-earning career, though in less degree than is generally supposed. Of the 849 girls studied in Boston, 135 were married at the time of the investigation. The following table shows the distribution of these, by trade and by nativity of parents:

[1] See Table 56, p. 94. [2] See Table 43, p. 73. [3] See Table 87, p. 155.

TABLE 118.—NUMBER AND PER CENT OF BOSTON TRADE SCHOOL GIRLS WHO WERE MARRIED, BY NATIVITY OF PARENTS AND BY OCCUPATION.

Occupation.	Total number of girls.	Girls who were married and whose parents were—					
		Native born.	Foreign born.		Nativity of parents not reported.	Total.	
			In English speaking countries.	In non-English speaking countries.		Number.	Per cent of all girls in each occupation.
Using trade:							
Dressmaking	423	23	21	18	6	68	16.1
Millinery	157	15	7	8	3	33	21.0
Cloth machine operating	81	2	6	2	.....	10	12.3
Straw machine operating	72	4	2	4	1	11	15.3
Cooking and design	11	1	.....	.....	.....	1	9.1
Total	744	45	36	32	10	123	16.5
Not using trade	105	5	2	3	2	12	11.4
Grand total	849	50	38	[1] 35	12	135	15.9

[1] 16 of the 35 were of German parentage.

This shows that 15.9 per cent of the total group had married. Among the 744 girls who worked at their trade, the proportion marrying was slightly larger, 16.5 per cent. More than one-half, 59.3 per cent, of the girls who had married were of foreign parentage, about one-half of these parents being from non-English speaking countries, German predominating. One-third (33.3 per cent) of the girls who married were 22 years of age or over, and more than one-half (54 per cent) were aged 20 or over. Thirty-three and four-tenths per cent married between 18 and 20 years, and 12.8 per cent were under 18 years of age.

More than one-half had been out of trade school four years or more, and one-fourth (26.7 per cent) six years or more before marriage. One-half had worked for four years or more previous to their marriage. Twenty-eight worked after marriage, but 20 of these were so engaged for less than one year. Sometimes the gainful occupation was entered upon immediately after marriage, because the girl "wished to finish the season" and sometimes not until several years after marriage, when her babies were old enough to allow her time to sew or trim hats for friends and neighbors. In some cases the young husband died or proved worthless, and the girl became a regular wage earner again.

SUMMARY.

The trade schools in the three cities seem to be drawing a fairly definite trade-school type similar in nativity and economic status. These girls, from the standpoint of nativity, are similar to the 15 to 20 year-old school population, but very different

from those in the trades for which they are trained. The majority begin work at 16 years or over, though this differs with the standing of the family, since economic pressure may oblige the girl to go to work at an earlier age. In general the trade-school girls in Massachusetts come from homes of a higher degree of comfort than has been supposed. Their contribution to the family income does not show the existence of great economic pressure in the home; in the majority of cases there were few dependents (young brothers or sisters, invalids, or nonproducers of any kind), and usually, also, there were other wage earners besides the father in the family. A little more than one-tenth in Boston and one-fourth in Worcester had worked before entering the trade school. In Boston one-eighth (12.6 per cent) and in Worcester nearly one sixth (15.7 per cent) had stayed at home for a time after leaving the public schools, but the majority had gone directly from the ordinary schools to the trade school, as is true in regard to any secondary school.

CHAPTER VII.—INDUSTRIES FOR WHICH TRADE SCHOOLS TRAIN.

BASIS OF TRADE TRAINING.

Trade training for girls, which was first established in the two traditional and primary home arts—the making of clothing and the preparation of food—is, after 10 years of experimentation in Massachusetts, still confined to these two occupations. The chief emphasis from the beginning in the three trade schools has been on the hand-sewing trades, custom dressmaking, and millinery. Electric power-machine operating has not been introduced in the Cambridge school and occupies a relatively small place in the Boston and Worcester trade schools.

Both friends and critics are beginning to query (1) to what extent does the trade school understand and correlate its training with trade needs and demands; and (2) to what degree does the school meet the needs of the trade for young workers? Some light is thrown on these questions through the experience of the girls who go out from the trade school. But there is still much to be learned through study of these industries themselves, to discover why a comparatively small proportion utilize their training and why certain types of girls do not succeed. An appreciation of the trend of the industry for which training is offered is fundamental. A personal knowledge of the opportunities for initiation of young partially equipped workers and of their opportunities for advancement with increasing experience is necessary to avoid oversupply. Only through intimate acquaintance with the local industries and shops can the school develop the educational possibilities within the trade, and successfully direct and adjust individual pupils to the industries for which they have the requisite qualifications.[1]

WOMEN'S CLOTHING TRADES.

The women's clothing trades which constitute the basis for trade training have been undergoing a tremendous industrial reorganization during the last 25 years with two results: (1) New York has practically monopolized the trade, controlling about two-thirds of the

[1] Three studies made by the Department of Research of the Women's Industrial and Research Union, aiming to accomplish this end have already been published, as follows: Dressmaking as a trade for women in Massachusetts, Bul. No. 193, United States Bureau of Labor Statistics; Boot and shoe making in Massachusetts as a vocation for women, Bul. No. 180, United States Bureau of Labor Statistics; and Millinery as a trade for women, by Lorinda Perry. This discussion is presented in order to set forth the changing conditions since these studies were made, and their relation to trade-school problems.

output, capital invested, and wage earners, though Boston, for instance, seriously competes with surrounding cities in New England; (2) The manufacture of ready-made clothing continues to become an increasingly formidable competitor of the custom and hand-sewing trades.

DECREASE IN NUMBER OF CUSTOM WORKERS.

During the 10 years from 1890 to 1900, custom dressmaking showed a decline in practically every aspect except capital invested, and number and wages of men, while "factory product" increased more than 100 per cent in practically every phase. From 1900 to 1910 the factory product continued its phenomenal growth, and while there are no comparable official figures from custom shops for this period, everything seems to indicate an even greater decline in the custom-dressmaking trade.

For official statistics on custom dressmaking after 1900, we are dependent on the census of occupations, from which the following table is derived:

TABLE 119.—NUMBER OF WOMEN EMPLOYED AS DRESSMAKERS AND SEAMSTRESSES, AND IN ALL MANUFACTURES, FROM 1900 TO 1910.

Locality.	Number of women.				Per cent of increase (+) or decrease (−) of women in 1910.	
	All manufactures.		Dressmakers and seamstresses.		All manufactures.	Dressmakers and seamstresses.
	1900	1910	1900	1910		
United States	1,312,668	1,820,980	[1] 490,899	[2] 453,749	+38.7	−7.6
New York	132,535	207,959	[3] 55,622	[4] 39,762	+56.9	−28.5
Boston	20,250	27,260	[5] 8,552	[6] 6,645	+34.6	−22.3
Worcester	4,937	7,099	[7] 1,691	[8] 815	+43.8	−51.8

[1] United States Census, 1900, Occupations, p. lii.
[2] United States Census, 1910, Vol. IV, Occupations, p. 91. 447,760 dressmakers, and 5,989 dressmakers' apprentices. See United States Census, 1910, Vol. IV, Occupations, p. 312.
[3] United States Census, 1900, Occupations, p. 640.
[4] 38,850 dressmakers and 912 apprentices. United States Census, 1910, Vol. IV, Occupations, pp. 180, 182.
[5] United States Census, 1900, Occupations, p. 498.
[6] 6,568 dressmakers and 77 apprentices. United States Census, 1910, Vol. IV, Occupations, pp. 152, 154.
[7] United States Census, 1900, Occupations, p. 762.
[8] 800 dressmakers and 15 apprentices. United States Census, 1910, Vol. IV, Occupations, pp. 194, 196. Since the number of dressmakers' apprentices enumerated for the United States as a whole (see United States Census, Vol. IV, Occupations, p. 312) was just half the number enumerated under "Dressmakers' and milliners' apprentices," the assumption has been made that this division would be approximately true in the several cities and one-half the number quoted has been added to the number of dressmakers reported.

This table shows a decline of 7.6 per cent in the number of women dressmakers and seamstresses in the United States, compared with an increase of 38.7 per cent in all manufacturing and mechanical industries. In New York City, the center of the women's clothing trade in the United States, dressmakers and seamstresses decreased 28.5 per cent, in Boston 22.3 per cent, and in Worcester 51.8 per cent, while there was a large increase of women in all manufactures.

A glance at the growth of the factory product in the women's clothing trade during the same period (as shown in the following table) provides the explanation.

TABLE 120.—GROWTH OF WOMEN'S FACTORY-MADE CLOTHING INDUSTRY FROM 1900 TO 1910 IN THE UNITED STATES AND IN NEW YORK CITY AND BOSTON.

Locality and year.	Establishments.		Wage earners.		Wages paid.		Capital invested.		Value of product.	
	Number.	Per cent of increase over 1900.	Average number.	Per cent of increase over 1900.	Amount.	Per cent of increase over 1900.	Amount.	Per cent of increase over 1900.	Amount.	Per cent of increase over 1900.
United States:[1]										
1900	2,701	.....	83,739	.....	$32,586,000	.....	$48,432,000	.....	$159,340,000	.....
1910	4,558	68.8	153,743	83.6	78,568,000	141.1	129,301,000	167.0	384,752,000	141.5
New York City:[2]										
1900	1,607	.....	44,715	.....	20,929,000	.....	27,389,000	.....	102,712,000	.....
1910	2,995	86.4	94,258	110.8	53,518,000	155.7	80,762,000	194.9	266,477,000	159.4
Boston:[2]										
1900	88	.....	1,760	.....	625,000	.....	731,000	.....	3,258,000	.....
1910	122	38.6	3,540	101.2	1,649,000	163.8	2,409,000	229.5	7,842,000	140.7

[1] United States Census, 1910, Manufactures, Vol. VIII, p. 574. [2] Idem, Vol. IX, pp. 523, 859.

The average number of wage earners both in New York and Boston increased during the decade more than 100 per cent, and the wages and value of product about 150 per cent. The tendency toward the development of larger establishments in Boston is observed in the increase of 38.6 per cent in the number of establishments as compared with an increase of 101.2 per cent in the number of wage earners, and 229.5 per cent increase in capital invested. The production of a higher class product is suggested by the increase of 140.7 per cent in value of product, 163.8 per cent in wages paid, as compared with 101.2 per cent increase in the number of wage earners. The increased production of women's ready-made clothing in Boston during the ten years since the Boston Trade School was established suggests that here is a desirable line of development in trade training. Yet the proportion of girls enrolled in the courses in power-machine operating shows a decrease instead of an increase.[1]

DECREASE IN PROPORTION OF YOUNG WORKERS EMPLOYED.

This industrial evolution in the women's clothing industry is bringing about fundamental changes in the sewing trades—not only in the reduction of numbers engaged in the custom branches of the trade, for which the schools train the largest proportion of their workers, but also in the organization and the methods of production. This change leaves small opportunity for admission of the young workers, because (1) practically every kind of clothing is now made in the factory,[2] and the custom shop is increasingly limited to expensive house

[1] See Tables 3 and 4, pp. 20 and 21.

[2] See definition of women's clothing, factory product, in the United States Census, 1910, Manufactures, Vol. VIII, p. 398.

dresses of perishable and rich materials, which provide little or no opportunity for the employment of young inexperienced workers: and (2) the development of the large custom shop,[a] which is one consequence of the competition of the factory, means subdivision of labor under paid heads who are under obligation to make their department pay and who consequently have little time or inclination to bother with young workers since the keen competition necessitates immediate returns.

The effect is obvious in the marked decrease in the number of dressmakers and seamstresses reported under the age of twenty-one years. The following table shows, by age groups, the changes during the decade 1900–1910 in the number of women employed in all occupations, and as dressmakers and seamstresses:

TABLE 121.—NUMBER AND PER CENT OF WOMEN IN EACH AGE GROUP IN ALL OCCUPATIONS AND IN DRESSMAKING, 1900 AND 1910.

Age.	Number.				Per cent.				Per cent of increase or decrease over 1900.	
	All occupations.[1]		Dressmakers and seamstresses.[2]		All occupations.		Dressmakers and seamstresses.		All occupations.	Dressmakers and seamstresses.
	1900	1910	1900 [3]	1910 [2]	1900	1910	1900	1910		
Under 16 years	485,767	637,086	14,031	4,697	9.1	7.9	2.9	1.0	+31.2	−66.5
16 and under 21 years	1,237,967	1,847,600	89,714	48,534	23.3	22.9	18.2	10.8	+49.2	−45.9
21 years and over	3,595,663	5,591,086	387,154	396,677	67.6	69.2	78.9	88.2	+55.5	+ 2.5
Total	5,319,397	8,075,772	490,899	[4] 449,908	100.0	100.0	100.0	100.0	+51.8	− 8.4

[1] United States Census, 1910, Vol. IV, Occupations, p. 69.
[2] Idem, p. 312, number found by combining figures for dressmakers, dressmakers' apprentices, and seamstresses.
[3] Compiled from United States Census, 1900, Occupations, pp. cxxxiv and cxliii.
[4] Figures given in United States Census, 1910, Vol. IV, Occupations, p. 312. These do not agree with totals given on p. 91 and used in Table 119.

While the total number employed as seamstresses decreased about 8 per cent from 1900 to 1910, those under 16 years of age showed a decrease of 66.5 per cent and from 16 to 20 years a decrease of 45.9 per cent. On the other hand, the number of women under 16 years of age in all occupations increased 31.2 per cent and of those from 16 to 20 years increased 49.2 per cent. Women under 21 years of age constituted 21.1 per cent of the dressmakers and seamstresses in the United States reported in 1900 and but 11.8 per cent in 1910. Similar tendencies may be observed in different cities.[b]

[a] Dressmaking as a trade for women in Massachusetts. Bul. No. 193, United States Bureau of Labor Statistics.

[b] The United States Census returns on age groups in particular occupations in cities are not comparable, since those for 1900 combine 16 years and under 24 and those for 1910 combine 16 years and under 20, and 21 years and under 44.

The tendency to abandon the employment of girls under 16 years of age has increased with the passage of the Massachusetts law of 1913, limiting their working-day to eight hours and requiring attendance at continuation schools. In a fashionable shop in Boston in 1910, 11 of the total number, 99, appearing on the pay roll during the year were under 18 years of age. In 1914, 3 of the total number, 89, employed during the year were under 18 years. Nineteen shops on Boylston and Tremont Streets and Massachusetts Avenue were visited to discover the proportion of young workers employed. More than two-thirds, 69.1 per cent, of the 537 women employed were over 25 years of age. (Table 122.) The keen competition and the small opportunities for the young partially equipped workers are obvious in the experience of the recent trade-school girls. Only 80 per cent of the 75 girls who went out from the Boston Trade School in 1913–14 into the dressmaking trade were still in the trade at the end of their first year's experience, while for no previous year had the proportion fallen below 91 per cent.

The managers of the Worcester Trade School say it is not possible to place permanently more than 10 newly trained girls each year, and there is a danger that these will displace the girls sent out into the trade the year before. This is illustrated in the experience of the girls who have gone out of the trade school. Nine girls trained in dressmaking nine months [1] or more went out from the school during 1911–12, five entering the trade, and three persisting at the end of the first year. In 1912–13, 19 of the 30 girls trained for dressmaking [2] entered the trade, and 11 still remained at the end of their first year. Fifty-five [3] went out from the school in 1913–14 and only 21 used their training in a wage-earning capacity. This situation was predicted in the report of the investigation preliminary to the establishment of the school in 1911,[4] and the opportunity has grown even less favorable during the past four years with the increasing production and use of ready-made wear and the legal restrictions imposed on the young workers. In the spring of 1915 one dressmaker employing 10 to 15 girls reported two under 25; the largest shop employing 25 girls in rush season reported all over 20 years of age and most of them over 25 years of age.

There are practically no openings for the young sewers in Cambridge, though they have access to the Boston shops. Only 15 of the 78 girls trained in dressmaking in the Cambridge Trade School during its two years' existence entered the trade and were still working in it at the time of the investigation.

[1] 1 attended less than 9 months.
[2] 2 attended less than 9 months.
[3] 3 remained less than 9 months.
[4] A trade school for girls, United States Bureau of Education Bulletin, 1913, No. 17, p. 43.

CUSTOM SEWING TRADES.

EVOLUTION OF CUSTOM DRESSMAKING.

Custom dressmakers in Boston in their efforts to compete with the factory product are developing along three distinct lines, all of which mean continually decreasing opportunities for the young, unskilled workers. First, certain employers, custom dressmakers, tailors, and milliners, are forming partnerships and developing large, high-class shops in which they combine the production of custom and stock dresses made in their own shop, sale of good quality factory-made dresses, and production and sale of custom and wholesale millinery.[1] Such a shop on Boylston Street is owned by a firm consisting of a tailor and two dressmakers, each of whom 10 years ago had a shop of his own, but who, by combining, have a large, attractive store opening off the street and occupying two floors. Since much of their stock is factory made, they need only a comparatively small force of 32 women in the workroom, of whom 46.9 per cent are over 25 years of age. Second, certain custom dressmakers are attempting to offer the advantages of the factory product, i. e., a completed gown with little expenditure of effort and time—with the additional advantages of originality and individual adaptation provided by custom-made clothing—by so organizing their working force of "experienced workers only" that they can take the customer's measurements and, with one fitting, deliver the dress completely and satisfactorily made. Third, a new and as yet unique tendency has been discovered in another Boylston Street dressmaking shop, which is adopting wholesale methods of production on a small scale. This firm of two dressmakers is, in addition to doing custom work for their more fastidious patrons, planning models which are displayed to the buyers of department stores and making up individual dresses or dozens of dresses as ordered. A small force of 20 women was employed in this shop, three-fourths of whom were over 25 years of age.

The dressmakers of the smaller cities like Worcester and Cambridge, however, are unable to compete successfully with these two formidable competitors, the ready-made clothing and the large commercialized custom shop, and continue, if at all, on a decreasing scale with smaller output.[1]

The custom trade has been slow and unwilling to adjust itself to the changes necessitated by the rapid growth of the factory product and has suffered seriously by its competition. These illustrations suggest the development of the future, but do not promise larger opportunities for the young, inexperienced worker.

[1] For more detailed description, see Dressmaking as a trade for women in Massachusetts. Bull. No. 193, United States Bureau of Labor Statistics.

ATTITUDE OF EMPLOYERS TOWARD BEGINNERS.

The opportunity for the young worker is also largely determined by the attitude of the employer toward training wholly inexperienced or partially equipped workers from the trade schools. Conferences with 21 dressmakers, representing the several types of production in Boston, and two of the largest employers in Worcester in the spring of 1915, corroborated the findings of the study made in 1910–11.[1]

No employers would take "apprentices" because they cost more than they are worth. Five preferred to take in new girls as errand girls. Combining their reports, the method employed in this pseudo-apprenticeship, as M. Alfassa has termed it,[2] seems to be "to take a young girl who dusts in the morning and sweeps at night and answers the door and telephone during the day." Gradually she is sent on errands down town to match thread, silk, or trimmings, and during her spare moments she is "turned over to the waist or skirt girls, whichever need her most, and is taught to do the thing needed at the time. She sits and watches, and soon learns to do the simple work, making fringe, tassels, covering buttons, and sewing on trimming which has been basted. Then she may be allowed to overcast seams on linings, put braid on the bottom of skirts, sew on hooks and eyes, work on collars and sleeves, and gradually become a 'finisher.'" Dressmakers admit, however, that it is becoming increasingly difficult "to get teachable young girls," as the legal limit is raised.

A second and larger group of employers (15 in Boston and 2 in Worcester) who "haven't time to teach" or "don't take apprentices because they cost more than they are worth" will take young girls who can do plain sewing and train them or allow them to "pick up" the more advanced processes by working under the "head girl." These plain sewers may be trade-school girls, young European girls who have "always known how to sew," or older women of some experience, gained either in the trade or at home. Seven of these employers depended almost entirely on the trade school for their young workers.

The large commercialized shop which makes and completes a custom gown with one fitting employs "experienced workers only."

Some idea of the limited extent to which younger women are employed and also of the proportionate representation of the trade-school girls among these younger women was gained by an inquiry carried on in 19 Boston shops in the center of the city. The following table shows the results obtained:

[1] For description of the types of shops in the several cities, see Dressmaking as a trade for women in Massachusetts. Bul. No. 192, of United States Bureau of Labor Statistics.

[2] Georges Alfassa: La crise de l'apprentissage, in Annales des Sciences Politiques, July, 1905.

TABLE 122.—NUMBER OF GIRLS OVER 25 AND 25 YEARS AND UNDER EMPLOYED IN EACH OF 19 DRESSMAKING SHOPS IN BOSTON.

Locality.	Number of women wage earners employed.					Locality.	Number of women wage earners employed.				
	Total.	Over 25 years of age.	25 years of age and under.				Total.	Over 25 years of age.	25 years of age and under.		
			Total.	Trade-school girls.	Non-trade-school girls.				Total.	Trade-school girls.	Non-trade-school girls.
Boylston Street:						Tremont Street:					
Shop No. 1	69	47	22	16	6	Shop No. 18	10	1	9	9	.....
Shop No. 2	50	35	15	9	6	Washington Street:					
Shop No. 3	45	41	4	2	2	Shop No. 19—					
Shop No. 4	35	21	11	9	2	Costume department	23	11	12	4	8
Shop No. 5	32	15	17	4	13	Tailoring department	1	1	.....	.....	.....
Shop No. 6	28	28	.....	.....	.....	Busheling	9	8	1	.....	1
Shop No. 7	25	23	2	2	.....	Alterations	34	31	3	.....	3
Shop No. 8	25	14	11	2	9						
Shop No. 9	25	23	2	1	1						
Shop No. 10	25	10	15	1	14						
Shop No. 11	25	7	18	15	3						
Shop No. 12	20	15	5	2	3						
Shop No. 13	17	6	11	8	3						
Shop No. 14	8	8	.....	.....	.....						
Massachusetts Avenue:											
Shop No. 15	16	13	3	1	2						
Shop No. 16	8	5	3	.....	3						
Shop No. 17	7	5	2	.....	2						
						Total Washington Street shop	67	51	16	4	12
						Grand total	537	371	166	85	81
						Per cent	100.0	69.1	30.9	15.8	15.1

There seems to be no relation between the size of the shop and the number of younger women employed. No. 1, with 69 employees, had 31.9 per cent aged 25 or under, while the Washington Street shop, No. 19, with a total of 67, had only 23.9 per cent in this age group. Five of the Boylston Street shops had 25 employees each, but the proportion of those aged 25 or under in these shops varied from 8 per cent in No. 7 and No. 9 to 72 per cent in No. 11. Taking the whole group of employees, 537, those aged 25 or under formed less than one-third (30.9 per cent).

The 85 trade-school girls employed in these shops formed 15.8 per cent of the total working force, and also constituted more than one-third (38.6 per cent) of the 220 trade-school girls at work in dressmaking.[1]

ATTITUDE OF EMPLOYERS TOWARD TRADE SCHOOLS AND TRADE-SCHOOL GIRLS.

All of these shops had employed trade-school girls in the past, if not at the time of the visit. These were the largest and highest class of shops in the several districts, and consequently the criticisms and suggestions the employers here made concerning the trade-school girls are worth consideration. The criticisms vary widely, because they are formed as a result of experience with particular girls, but some may yield suggestions for constructive development. These

[1] 423 had gone into dressmaking previous to September, 1914, and 220 were still employed in the trade when visited in the fall of 1914.

criticisms may be grouped in two classes—(1) those covering the school and (2) those relating to the girls.

1. "The school should be in closer touch with the trade," is the universal statement. "Employers are not consulted about what they require or need." "The teachers should know the latest styles and teach them." The question of teaching and spending time on making a boned lining, for instance, when no dressmaker uses them, is a point of disagreement between school and employer.

"Trade atmosphere" is another subject of discussion. This is, of course, not an easy thing to develop in a school. "It is not necessary to keep trade hours," said one employer, "but trade conditions for a specific period, perhaps three or four hours a day." "Trade atmosphere," as explained by employers, means (1) appreciation that time is money and that every moment should count in results, whether the teacher is in or out of the room; (2) continuous application for a sufficiently long period to provide the prospective worker with some appreciation of pressure of work, the method of procedure in a business shop, rather than that of a classroom. "Girls are not kept steadily enough at work." "The school spends too much time on other things." "The girls never seem to know what to do next. They always wait to be told."

2. The general complaint from practically all employers is that "The trade-school girls aren't worth $6 at first," which is the placement wage asked by the Boston Trade School. The reasons advanced may be classified on the basis of speed, responsibility, technique, and attitude.

a. Speed.

"They are too slow."

"They waste too much time waiting to be told what to do next."

"They draw their needle through in such an exasperatingly leisurely fashion."

b. Responsibility.

"They need too much supervision."

"They can't do anything unless it is pinned for them, then they are likely to do it wrong."

"They can't be left to work alone. They are constantly asking for directions, so I prefer older and more experienced workers."

"They lack a conscientious and responsible trade attitude."

"Their idea of workroom discipline is little developed."

c. Technique.

"Their technique is inadequate."

"They are not adequately skilled in manipulation."

"They have not enough training in up-to-date methods and on materials in vogue."

d. Attitude.

"The girls think they are worth too much."

"They are constantly thinking of more money instead of better work."

"The girls consider themselves worth too much, and do not realize that the school can not teach them everything. They are constantly quoting what the teacher did and said at school, which is very irritating."

"They demand increase in wage before they are earning what they are paid."

"They lack professional pride in giving the worth of their wages. For instance, they say if work is wrong, 'I can take it out,' not realizing that I am paying them for their time at double rates when they have to do work twice."

Summing up these complaints, it appears that the qualifications required by employers—speed with accuracy, responsibility, and adequate technique—are developed only with maturity and experience. As one employer expressed it, "these are faults due to immaturity perhaps as much as inadequate training," but the employer's complaint is based on the requirement of a $6 wage for this immaturity, and its accompanying disadvantages. It is economy and good business, they maintain, to pay a little more for older and more experienced workers.

Several questions are raised for consideration, therefore. Is the establishment of a fixed minimum placement wage advisable or ultimately beneficial to the school and the girl? The study of wage advancement shows that the wages have a tendency to cluster about the initial $6 wage during the first two years out of the school,[1] and those placed in recent years at a higher beginning wage do not show a corresponding advantage over the girls placed under earlier management at lower rates. In other words, the wage seems to advance in accordance with capacity to earn it, rather than on an automatic basis. Again, the experience in the shop for the first six months or year should be recognized as a valuable part of the training. Girls are sometimes handicapped in securing this experience because of the requirement of the $6 wage which the employer may refuse to pay on the basis that they are not worth this much. Might it not be a plan worth trying, to establish a requisite wage at the end of six months or a year, thus enabling the girl to become initiated and worth her wage? Such a scheme would have two advantages: (1) The employer would be in a more sympathetic, helpful attitude, more willing to show the girls how to do things and to answer questions; (2) the girl would be put on her mettle to prove her worth and perhaps be less overconfident of her capacity.

[1] See Table 63, p. 107.

The Worcester Trade School has not attempted to establish a minimum placement wage.

The increasing maturity and experience required in the trade places the school in a troublesome dilemma. The trade is continuously and increasingly discriminating, first, against the girls under 16, then against those under 20 years of age. On the other hand, the school was founded to meet the needs of the young girl who must go to work early. As soon as it lengthens its course it puts its training beyond the reach of the girl for whom it was established. The solution for the situation in Massachusetts, if the school would maintain its original motive, seems to be that dressmaking must be increasingly recognized as a trade for the more mature girl who can afford longer training, and something else must be introduced for the young girl who can afford only a short time for training.

EVOLUTION OF MILLINERY TRADE.

The millinery trade [1] is undergoing an industrial evolution very similar to that in the women's clothing trade, though this is less obvious and less easily proved by official statistics for two reasons—(1) there are no comparable statistics from custom and wholesale shops in 1910, and (2) the census occupations returns do not separate custom and wholesale milliners, so it is impossible from this source to show the trend of the trade from custom to wholesale production, as can be done with regard to dressmaking.

GROWTH OF FACTORY AND DECREASE OF CUSTOM WORK.

The abnormal growth of wholesale millinery in the statistics of manufactures, however, indicates that factory-made millinery, like factory-made clothing, is monopolizing the production. In the United States as a whole, between 1900 and 1910, the capital invested in wholesale "millinery and lace goods" increased 231.7 per cent.[2] A glance at the situation in 1900 when statistics on the custom and wholesale branches of the trade can be compared, throws some light on this situation. Custom millinery, then, still occupied a large place in the United States as a whole, controlling about two-thirds of the wages paid and more than two-thirds of the capital invested and of the product from the standpoint of value.

Wholesale millinery and lace goods in New York City in 1900, however, occupied by far the largest place in the millinery trade (including custom work), controlling 80.6 per cent of the capital invested, 77.7 per cent of the value of the product, and 78.7 per cent

[1] For detailed description of the custom millinery trade, see Lorinda Perry: Millinery as a trade for women; also Mary Van Kleeck: Wages in the millinery trade (New York Factory Investigating Commission).

[2] United States Census, 1910, Vol. VIII, Manufactures, p. 618.

of the wages paid.[a] The wholesale trade of New York City largely controlled the situation in the United States, 66.4 per cent of the wage earners, 71.2 per cent of the value of product and 68.9 per cent of the wages paid in this branch of the trade centering in New York. The extraordinary increase in the millinery and lace goods trade reported in 1910 for the United States and such cities as Boston[b] as shown in the following table, seems to give official verification to the obvious evolution which may be observed in this trade—the increasing use of factory-made hats.

TABLE 123.—GROWTH OF MILLINERY AND LACE GOODS INDUSTRIES FROM 1900 TO 1910 IN THE UNITED STATES AND IN NEW YORK CITY AND BOSTON.

Locality and year.	Establishments.		Wage earners.		Wages paid.		Capital invested.		Value of product.	
	Number.	Per cent of increase over 1900.	Number.	Per cent of increase over 1900.	Amount.	Per cent of increase over 1900.	Amount.	Per cent of increase over 1900.	Amount.	Per cent of increase over 1900.
United States:[1]										
1900	591	.....	16,871	.....	$5,818,000	.....	$10,765,000	.....	$29,469,000	.....
1910	1,579	167.2	39,201	132.4	16,308,000	180.3	35,705,000	231.7	85,894,000	194.9
New York City:[2]										
1900	383	.....	11,213	.....	4,014,000	.....	7,692,000	.....	20,984,000	.....
1910	886	131.3	20,561	83.4	9,419,000	134.7	19,413,000	152.4	51,239,000	144.2
Boston:[2]										
1900	18	.....	319	.....	152,000	.....	151,000	.....	716,000	.....
1910	65	261.1	1,454	355.8	580,000	281.6	1,254,000	730.5	3,425,000	378.4

[1] United States Census, 1910, Manufactures, Vol. VIII, p. 618.
[2] Idem, Vol. IX, pp. 524, 862. None reported for Worcester and Cambridge.

"We don't touch a less-than-$10 hat in our workroom," said a trimmer in the millinery workroom of a department store in Boston. "Those selling for less than that come direct from the factory." "We don't need a designer any more," said an employer of an exclusive millinery shop. "We get our hats from New York. The machine is monopolizing the millinery trade." "I go to New York every month and the buyer goes every week," said the designer of the millinery department of a women's clothing store. "We buy models which I have the makers copy." "We don't employ as many trimmers the last year or two," was the remark of an employer of a large fashionable hat and gown shop.

Three competitors in the millinery trade are driving out the custom milliner—the straw and velvet hat factories, the wholesale houses, and the department stores. The straw-hat factories used to be content with a six months' season, some dovetailing with the manufacture of felt hats. But present-day manufacturers are unwilling to allow their factories to lie idle half the year. A good many em-

[a] United States Census, 1900, Manufactures, Vol. VIII, p. 624.
[b] United States Census, 1910, Manufactures, Vol. VIII, p. 618; Vol. IX, p. 862.

ployers, therefore, are making velvet hats in the summer. When the custom milliner returns to town in the fall, she finds the people on the street all equipped with velvet hats. "I suppose your factory is closing now," said the investigator in May to the designer in a straw-hat factory. "Oh, no, we are beginning to make up some chiffon, net, and velvet hats now," was the response. The wholesale stores, together with the department stores, supply a large number of the women with hats. Frames in all colors, shapes, and sizes can be bought at any price. Bows will be made free of charge by a special "bow maker," who has many samples from which the customer may choose, and in some stores this trimming will be put on the hat free of charge. Flowers, feathers, and all kinds of trimming are displayed for sale at all prices, and the women who patronize these stores can buy their hats at a small fraction of the price charged by the custom milliner. For this reason the custom milliner is doomed. It is useless to talk about educating the public up to higher standards of taste and appreciation of custom work when the great majority of women must get the best values possible for the least money.

The factories and department stores have two powerful weapons in the struggle for supremacy—lower prices for the hats and longer seasons, because of dovetailing of duties for the workers. The girls in the millinery department of the stores are frequently shifted to the sales departments and clerical offices during the dull seasons. Seven of the straw-machine operators from the trade school lengthened their seasons by working on velvet hats in the summer.

The custom milliner, like the custom dressmaker, is attempting to maintain her place in the trade by offering both ready-made and custom hats and by combining with dressmakers and tailors to equalize the seasons, but she, like the custom dressmaker, is increasingly restricted to the wealthy and fastidious clientele who buy of her only to secure individuality and exclusiveness of style.

The evolution in the millinery trade has an important significance for trade educators. The increasing growth of the wholesale at the expense of the custom branch at once decreases the opportunity for the young worker to acquire or supplement her training in the shop and decreases the opportunity at the top by diminishing the number of trimmers and designers required. The trade does not, however, show the great decline in the proportion of young girls employed which appears in the dressmaking trade. The following table shows the distribution by age of milliners and milliners' apprentices in 1900 and in 1910:

TABLE 124.—NUMBER AND PER CENT, IN EACH AGE GROUP, OF MILLINERS EMPLOYED IN THE UNITED STATES, 1900 AND 1910.

Age.	Milliners of each specified age employed each year.				
	Number.		Per cent.		Increase over 1900.
	1900 [1]	1910 [2]	1900	1910	
Under 16 years	3,184	3,539	3.7	2.7	+11.2
16 and under 21 years	22,401	34,897	26.0	27.2	+55.8
16 years and over	60,535	90,002	70.3	70.1	+48.7
Total	86,120	128,438	100.0	100.0	+49.2

[1] United States Census, 1900, Occupations, cxxxiv.
[2] United States Census, 1910, vol. iv, Occupations, p. 312.

While the proportion of girls under 16 in the trade decreased between 1900 and 1910, the actual number increased slightly. The proportion under 21 apparently differs considerably from place to place, and from one branch of the trade to another. Thus, this table shows that the proportion in that age group was, in 1910, for the United States as a whole 30 per cent, but a survey of the trade made in New York City in 1914 [1] showed that 40 per cent of the 1,355 women studied were under 21 years of age. This proportion differed in the three branches of the trade, 47 per cent in retail shops, 33.2 per cent in retail-wholesale, and 30.7 per cent in wholesale shops being under 21 years of age. The workers under 18 years of age, who constituted 12 per cent of the total number, show a somewhat similar distribution. In the retail shops they formed 15.5 per cent, in the retail-wholesale shops 11.2 per cent, and in the wholesale shops 11.5 per cent of the total number of workers.

ATTITUDE OF EMPLOYERS TOWARD TRADE-SCHOOL GIRLS.

The attitude of employers toward beginners in millinery was less favorable even than it was toward those in dressmaking. "Do you take green girls of 14 to 18?" was asked of an employer in a high class shop. "We don't like to, but they do get in," he said. "How does a new worker learn?" a young woman in the shop was asked. "You sit down beside another girl and she tells you what to do. If you are not quick or she does not like you, you do not learn much. The trimmer is not expected to teach you."

The question, "How does the trade-school girl meet the needs of the employer?" brought a variety of answers which illustrate the difficult problems confronting the trade schools. "Oh, we just think of them as mere babies," said some; "we don't depend on them at all; we put them with a maker as a helper." In general, the grounds of complaint against the trade-school girls were somewhat as follows:

[1] Mary Van Kleeck: Wages in the millinery trade. New York Factory Investigating Commission, p. 64.

"Lack of personal responsibility. They are accustomed to lean on the teacher too much."

"Lack of confidence and initiative."

"Incapacity for realizing that a thing must be done in a definite time."

"Lack of accuracy and appreciation of necessity for absolutely exact measurements."

SUMMARY OF EFFECT OF CHANGES IN CUSTOM SEWING TRADES UPON OPPORTUNITIES FOR TRADE-SCHOOL GIRLS.

Here again, as in the case of the girls trained for dressmaking, the criticisms relate rather to immaturity than to training. And this immaturity is the tremendous problem confronting the trade school, which has been established to train young girls for trades which are demanding increasing maturity, skill and experience from their workers.

A second serious problem grows out of the need for experience in handling the materials used in the trade. This is a more serious problem in teaching millinery than dressmaking, for in dressmaking the learner can get preliminary experience on cheap cotton materials, while in millinery the use of such materials simply does not give the experience required. To give practical training, the hats must be made of straw, velvet, silk or net, such as is used in the trade, for it is the manipulation, stretching, and "making" of these materials in which the girls must be skilled. Many complaints were directed against the inexperience of the trade-school girls in this particular: "If the trade-school girls were accustomed to work with good materials they would make a better showing." "A trade school can't afford to keep up with the latest, and millinery changes every year, so if you don't know the latest things you aren't much good." "The reason trade schools can't succeed is because they can't afford good materials. Silk and velvet of the best quality are too expensive."

Summarizing the situation, the trades on which the trade schools of Massachusetts have laid most emphasis have undergone great changes during this 10-year period, and as a result make different demands and requirements of their workers, while the motive and the methods of the schools have changed very little. The schools have trained the great proportion of their pupils in custom dressmaking (Boston 62 per cent, Worcester 66.3 per cent, and Cambridge 69 per cent) and the latest returns, January, 1915, show a still larger proportion training for this trade. (Tables 3 and 4.) Statistics, however, show a tremendous decline in this custom branch of the women's clothing trade, and increasing discrimination against the young worker under 21 years of age. While the millinery trade also is being rapidly monopolized by the wholesale branch of the trade,

the proportion of young workers remains about the same, and with the growth of the trade, shows an increase of 50.2 per cent in the workers under 21 years of age. The trade schools recently have shown a tendency to restrict the number of pupils who are being trained for this trade, largely as a result of two difficulties which have been encountered by the school: (1) the problem of meeting the trade demands for maturity and technical ability through these young and immature girls and (2) the inability of the young workers from an economic standpoint to maintain themselves in a trade with employment seldom exceeding half the year.

Owing largely to this second difficulty, the sifting out from this trade has been exceptionally heavy. The following table shows the number of girls who, having entered the trades for which they had been trained, have left them after a longer or shorter experience:

TABLE 125.—NUMBER OF GIRLS WHO USED EACH SPECIFIED TRADE AND NUMBER AND PER CENT OF THESE WHO LEFT THE TRADE.

Trade entered.	Number of girls using their trade.	Girls dropping out of the trade for which they were trained.	
		Number.	Per cent.
Dressmaking	423	203	48.0
Millinery	157	101	64.3
Machine operating on—			
Cloth	81	44	54.3
Straw hats	72	41	56.9
Cooking and design	11	3	27.3
Total	744	392	52.7

Very nearly two-thirds of the girls trained for millinery have definitely left the trade. In only one previous year was the sifting as great as during the last year studied, 1913–14. Sixty per cent of those who went into the millinery shops during the year had left the trade by the end of the first year's experience.

POWER MACHINE SEWING TRADES.

The trades depending on the electric-power sewing machines have not yet received much attention in the trade schools of Massachusetts, although the Boston Trade School introduced cloth power-machine operating during its first year. Only 81 girls have gone out from the school into the trade and remained one week or more, and more than one-half of these have left it. Power-machine operating on straw hats was introduced in the year 1905–6, and nearly the same number of girls (72) have gone out into the industry, although it is a much smaller trade than cloth power-machine operating from the standpoint of number of establishments and women employed. More than one-half these girls also have left the trade.

NEED OF TRAINING FOR THESE TRADES.

The rapid monopoly of the production of women's clothing and millinery by the wholesale manufacturing branches of these trades, and the small attempts of the two trade schools to train for these manufacturing industries suggest the need for a study of their educational and industrial opportunities in Boston and Worcester. Curiously, the stigma of the factory from a social standpoint still survives in the twentieth century,[1] and trade educators find this prejudice a difficult obstacle to overcome in the minds of girls and parents. May not the emphasis of the school on the custom sewing trades give strength to this popular prejudice? Yet published reports of these trades in New York City [2] show opportunity for satisfactory working conditions, wages and seasons, and a tendency toward continuous improvement, with the establishment of better sanitary conditions and higher wage scales through organized and cooperative efforts of employers and employees. Finally, in addition to the increasing numbers employed and the generally satisfactory working conditions offered, these manufacturing trades are worthy of study from the standpoint of trade training, because of the difficulty of access for the young girl without some equipment in (1) the knowledge of the operation of the machines and (2) the ability to do the simple processes of straight stitching.

Without a personal study of the enormous industry "women's clothing, factory product," the educator could have little conception of its many divisions based on type of product and involving varying degrees and kinds of skill of the women workers. As a suggestive list for purposes of study for trade training, these many subtrades might be grouped as follows:

Women's clothing:

a. Light-weight product (employing women primarily and ranked in order of skill required)—

1. Dresses and waists (silk, woolen, linen, and cotton).
2. Petticoats (silk and cotton).
3. Neckwear.
4. Children's clothing.
5. Muslin underwear.
6. Shirts, middy blouses, kimonos, house dresses, bath robes, bathing suits.
7. Aprons.

b. Heavy-weight product (employing men primarily)—

1. Cloaks, suits, and skirts.

c. Still other large industries involving the electric-power sewing machines provide good opportunities for employment and trade training—

1. Scrim, lace, and net curtains—Light-weight product.
2. Corsets—Medium-weight product.
3. Raincoats and overalls—Heavy-weight product.

[1] Katherine Anthony: Mothers who must earn, p. 51.

[2] Buls. Nos. 146 and 147, United States Bureau of Labor Statistics.

There seems to be a rather general opinion that "power-machine operating" is nothing more than operating a power machine and that mastery of the power and some knowledge of the machine will enable a girl to work with equal ease and adaptation on any one of these numerous products. "With a little practice on power machines * * * she could sit down at a power machine and become a piece-worker without delay because she knows how to control her machine," writes one educator.[1] "School training for specific operations is not necessary, for these operations are simple and can be learned in a few days or weeks at most in the factory itself." [2] But this is not true of power sewing-machine operating, as a study of the various branches of the industry and of the experience of the girls shows. A girl who has worked on aprons, on which the chief requisites are straight stitching and speed, might find it impossible to stitch chiffon waists, which require a knowledge of how to hold flimsy materials without stretching or mussing, how to put in sleeves, how to put together shoulder seams, underarm seams, etc., or to stitch corsets, which are usually made of heavy materials but require much shaping in joining the rounded and curving edges.

The fundamental basis on which trade training for the power-machine sewing trades must be developed is that of product. The type of product manufactured in the city in which the trade schools are established, therefore, determines the opportunities for skill and the character of the training which will prove valuable to the prospective worker.

Unfortunately, it is impossible to discover from official statistics the number of firms and workers engaged in the manufacture of these many products, as they are grouped under "men's clothing, factory product," or "women's clothing, factory product." The Massachusetts Bureau of Statistics reported 148 firms and 4,353 employees (1,181 men and 3,172 women) employed in the manufacture of women's clothing in metropolitan Boston in 1913.[3] An investigation by the United States Bureau of Labor Statistics of the cloak, suit, and skirt industry in Boston, covering the period from August, 1912, to July, 1913, estimated the total working force of this branch of the industry in Boston to be about 3,000 workers,[4] employed in 40 shops. If the returns secured by the two bureaus are comparable the cloak, suit, and skirt industry of Boston accounts for more than one-fourth of the firms and employs 69 per cent of the workers in the women's clothing industry in this city. Fairchild's Directory of Men's and

[1] Anna C. Hedges: Wage worth of school training, p. 7.

[2] Idem, p. 3.

[3] Massachusetts Bureau of Statistics: Twenty-eighth Annual Report on the Statistics of Manufactures, 1913.

[4] Wages and regularity of employment in the cloak, suit, and skirt industry, Bul. No. 147, United States Bureau of Labor Statistics, p. 70.

Women's Wear in Boston for 1915 reported 475 manufacturers of women's wear, 54 per cent producing light-weight product, such as dresses, waists, petticoats, neckwear, children's clothing, underwear, and aprons, and 46 per cent producing heavy-weight product, such as cloaks, suits, skirts, and raincoats.

EXTENT AND CHARACTER OF THESE TRADES IN BOSTON AND WORCESTER.

The virtual monopoly of the women's clothing trade by New York City largely determines the types of manufacture found in Boston and Worcester. The dress and waist industry, offering the highest opportunities for skill and wage advancement for women and most dependent on changing styles and fashions, naturally centers in New York, the fashion center of the United States. The study of the industry in New York in 1913 disclosed 707 shops employing 36,858 workers, the proportions being a little over four-fifths women and less than one-fifth men.[1] As a result only a comparatively few dress and waist factories are found in Boston. The majority of these are small and with two exceptions their product is limited to medium and cheap grade dresses ranging at wholesale from $3 to $16.50 each. These factories cater in general to a limited market, largely New England, and to a large extent outside Boston.

One large waist factory in Worcester, employing a maximum of 125 workers, manufactures silk and cotton waists at a wholesale price of $9, $16.50, and $18 a dozen. Because of the competition of New York, this firm is developing a western market for its product. One or two smaller dress factories manufacture medium and cheap grade products in Worcester.

Other light-weight products, such as underwear, neckwear, etc., seem to be about the same grade and the majority of factories are comparatively small.

The cloak, suit, and skirt industry is best organized from the standpoint both of labor and of manufacturers and represents the highest grade of product of the women's clothing trade in Boston. The men, however, practically monopolize the skilled occupations in this branch of the trade, because of their greater strength and physical endurance, and their skill in garment construction acquired through the apprenticeship system abroad.

The manufacture of corsets is the predominant industry in Worcester and is primarily a women's industry.[2] The power-machine operating processes are difficult to acquire and many of the machines are complex.

[1] Wages and regularity of employment in the dress and waist industry, Bul. No. 146, United States Bureau of Labor Statistics, p. 29.

[2] For description of processes and wages, see First Annual Report of the Minimum Wage Commission of Massachusetts, 1914.

The United States Census reported 4,063 power sewing machine operators (women) in Boston in 1910, one-third (33.4 per cent) of whom were under 21 years of age, and 2,132 in Worcester, 41.5 per cent of whom were under 21 years of age.[1] That the demand for skilled power-machine operators is difficult to fill, is practically a universal complaint in Boston. This is not true in Worcester at present because of the industrial depression in the manufacture of underwear.

ANALYSIS OF CHARACTERISTICS OF PRODUCTION IN FACTORIES MAKING LIGHT-WEIGHT PRODUCTS.

Study of product, as has been pointed out, must be the basis of trade training, for four reasons: First, it determines the method and characteristics of production, deciding (1) whether it is characterized by specialization of processes and subdivision of labor and (2) what processes are done by women. Second, it determines the requisites of the workers. Dresses and waists require technical skill and knowledge of construction necessary to make a waist throughout. Neckwear, corsets, and straw hats all need a very different kind of manipulative skill in handling difficult materials. Aprons, underwear, kimonos, and house dresses require more knowledge of and skill in the use of special machines, together with capacity for speed. Cloaks, suits, skirts, raincoats, and overalls require in varying degrees knowledge of garment construction and physical strength. Third, the type of product determines the opportunities to acquire and supplement trade training, for the better the product, the less willing is the manufacturer to train new workers. Fourth, the product determines wage-earning capacity in relation to the amount of skill required and in relation to the regularity and length of working seasons.

An intimate understanding of the requirements of the product ought to forearm the school against misfits, such as reported by one indignant mother, "No, she made a failure of it. The school placed her in a chiffon waist factory. She would have been more successful on overalls."

Since there seems to be little conception on the part of the public of the wide variation in the necessary qualifications of the workers in the different branches of the factory sewing trades, a suggestive analysis of the characteristics of production discovered in the factories making light-weight product is offered for consideration.

[1] United States Census, 1910, Vol. IV, Occupations, pp. 540, 607.

MACHINE OPERATING ON LIGHT-WEIGHT PRODUCTS.

A. Complete products.
  1. Garments made.
    a. Dresses.
    b. Waists.
    c. Petticoats.
    d. Skirts.
  2. Materials used.
    a. Silk of all kinds.
    b. Expensive cotton and linen goods.
    c. Chiffon and nets.
    d. Woolens and velvets.
  3. Characteristics of production.
    a. A complete product as distinguished from one process.
    b. Expensive materials.
    c. Simple power machines.
    d. Little or no subdivision of work.
    e. Selling qualities lie chiefly in its excellence and conformity to the most recent styles.
  4. Organization.
    a. Large amount of handwork. Small investment in special machines. Hemstitching, felling, and cutting machines sometimes used. Frequently all special stitching is sent out to other factories. Cutting of expensive materials frequently done with hand shears and only two or three layers cut at one time.
    b. Organization of work for practically independent production. General supervision of workers. Little subdivision of labor.
    c. A sample of each kind of garment completed to serve as a model from which each operator must be able to work.
    d. Predominance of women workers—few men.
  5. Requirements of worker.
    a. Knowledge of dress construction:
      1. Knowledge of how to put a dress together by seeing sample.
      2. Ability to work with little or no supervision.
      3. Interest in complete product.
    b. Manipulative skill—deftness in handling difficult materials.
    c. Accuracy and good work.
    d. Speed in so far as compatible with good work.
      1. Experience.
      2. Understanding of textiles.
      3. Knowledge of tricks of the trade.
    e. Knowledge of simple power-machine operating.
  6. System of teaching (inexperienced workers can not be used and are seldom taught in the factory).
    a. New or difficult manipulations shown by forewoman.
    b. Waist maker can learn skirts, or vice versa.
    c. Forewoman gives out work with necessary directions and is sometimes responsible for certain processes.
    d. Little supervision because of skilled workers.

B. Simple product.
1. Materials used.
a. Firm cotton material, used in—
1. Aprons.
2. Kimonos and bath robes.
3. Rompers.
4. Men's shirts.
5. Petticoats.
6. House dresses.
7. Athletic waists and middy blouses.
b. Lace, scrim, net, and light-weight cotton used in—
1. Curtains.
2. Underwear (with lace trimming).
3. Neckwear (men's and women's).
4. Wash waists and dresses.
2. Characteristics of production.
a. Highly specialized processes.
b. Inexpensive materials.
c. Special machines.
d. Made in quantities.
e. Selling qualities lie chiefly in its cheapness and utility.
3. Organization.
a. Primarily machine work—large investment of capital in special machines, such as—
1. Hemstitching—picot attachment.
2. Tucking—1 to 6 needle machines.
3. Button sewing.
4. Buttonhole.
5. Pleating.
6. Felling.
7. Embroidery cutting.
8. Union Special for finishing raw edges of seams (overcasting).
9. Putting on bands and running elastic.
10. Attachments.
a. Hemmer.
b. Ruffler.
c. Cutter to make picot edge, to cut edges any width from seam.
d. Apron belt maker.
11. Two-needle machine sewing bias bands, setting in sleeves.
b. Detailed plan of organization to secure rapid movement of work and accurate check in all workers—
1. High specialization of process—subdivision of labor.
2. Large amount of supervision of workers.
3. Elaborate system of checking workers to trace mistakes.
c. Predominance of women.
4. Requirements of worker.
a. Accuracy.
1. Edges together straight.
2. Straight seams.
3. Mitering.
b. Understanding of machines.
c. Speed, which depends on—
1. Experience in the work.
2. Knowledge of short cuts and of where work can be slighted.

B. Simple product—Concluded.
4. Requirements of worker—Concluded.
d. Ability to comprehend and follow directions, as finished product is not shown.
e. Interest in amount produced, since production is monotonous.
5. System of teaching (unskilled workers can be taught).
a. By showing specific processes, not product.
b. Simple machines, and simple processes first.
c. Special machines and difficult processes if learner is willing to be taught.
d. Forewoman is teacher and overseer, not a worker. Several in a large shop.

OPPORTUNITIES AND REQUIREMENTS IN DIFFERENT BRANCHES OF THESE TRADES.

A brief presentation of the qualifications demanded of workers and of wage opportunities in the factories producing the varied types of product in the power-sewing machine trades may serve to point the way to adaptation of trade training to the needs of the trade.

DRESSES AND WAISTS.

Dress and waist factories, making a product which ranged in price from $3.75 to $20 each, showed several common characteristics. First, the great variety of "numbers" or "lines" produced necessitates an almost infinite number of styles or models. One waist factory reported that "formerly we made new designs twice a year, but styles change too fast for that now." One factory making a high-grade product had 300 "active numbers," and in April reported that they had designed 70 new ones since January. Another waist factory had about 200 active styles. A dress factory required "the designers to produce a new model every day. The success of the firm depends on up-to-date models."

The great variety in lines produced has an important significance for the workers, for "the girls are shown the style of the waist and after having been shown once, they always know the style by the number afterwards." In other words, the worker must be so familiar with the construction of the dress or waist that she knows by looking at the model how to put together the bundle of heterogeneous pieces delivered to her at the window. "A sample hangs on the wall or is put on the figure which the girls can look at. They are supposed to be able to look at the model and put the waist together." "She has need of a dressmaker's knowledge of the way things go together, as she has to make very complicated garments by looking at the model."

One of the greatest requirements of workers in a high-class dress and waist factory is technical knowledge of the construction of a garment, for in the manufacture of the better-grade product, the tendency seems to be toward general construction, i. e., having one person make practically the complete garment, instead of special-

ization. In five of the seven dress and waist factories studied in Boston and Worcester the operators made the complete waist or skirt, except such finishing processes as sewing on buttons or hooks and eyes. The same tendency was discovered in New York, about 25 per cent of the workers being waist or skirt operators or dressmakers.[1] The five employers making good-grade product were unanimous in requiring from the worker the knowledge and ability demanded by independent construction. This is not the same kind of dress construction required in custom dressmaking, and for this reason, custom dressmakers frequently find it difficult to fit into the factory, for in custom dressmaking the fundamental principle is individual adaptation of the particular dress to a particular figure. In factory dressmaking, the dress is supposed to come exactly correct from the cutter, and the operator must stitch the seams in accordance with exact measurements and without variation, basting or much pinning. The dress needs little fitting and variation or adjustment by the draper, if the cutter and operator have done their work correctly.

Second, skill in manipulation of materials which comes from practice in handling different goods is fundamental. Silks and chiffons are more difficult than cotton and linen goods. Most employers making silk and chiffon waists and dresses maintain "that work on coarse materials doesn't help much." "Work on cotton goods doesn't help for the emphasis has been on speed, not finish." Bias bands, trimmings, lace, and embroideries must be sewed without basting, which requires a knowledge of the relative stretch and pull of the different materials. As a result, few inexperienced workers begin on the machines, but usually pass through preliminary stages such as that of boxer, cleaner, or examiner. These occupations have no relation to the process of power-machine operating, but accustom the young worker to the handling of materials, to shop discipline and application, and give an appreciation of the necessity of accuracy.

The factory dressmaker needs a knowledge of the simple straight-stitching power machines, but may have little need for knowledge of or skill on special machines which are used comparatively little on high-grade product. The primary requisites are, therefore, knowledge of and skill in dress construction, with the supplementary assets of manipulative skill and trade knowledge.[2]

What does the factory dressmaking, as a trade, offer to the worker who has these qualifications? The following pay rolls of two typical factories show something of the relative importance of different classes of workers and of wage opportunities:

[1] Bul. No. 146, United States Bureau of Labor Statistics, pp. 26 and 43.

[2] See definitions of these terms in Bul. No. 145, United States Bureau of Labor Statistics, Conciliation, arbitration, and sanitation in the dress and waist industry of New York City—Appendix I, A study of the dress and waist industry for the purpose of industrial education, pp. 174-177.

TABLE 126.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY A, MANUFACTURING WASH DRESSES.

Occupation.	Number earning specified average weekly wage.								
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and under $12	$12 and under $15	$15 and over.	Total.
MEN.									
Nonneedleworkers:									
Designer								[1] 2	[1] 2
Cutter	1		1		1	1	1	2	7
Presser	1	1	1		2	4	3	3	15
Total	2	1	2		3	5	4	7	24
Power-machine operators—skirt makers		1						4	5
Total, men	2	2	2		3	5	4	11	29
WOMEN.									
Nonneedleworkers:									
Forewoman								1	1
Cutter						1			1
Matcher	4			1					5
Cleaner	1								1
Gives out work			1						1
Total	5		1	1		1		1	9
Hand sewers:									
Finisher	10					1			11
Trimmer	9	3	2						14
Hook and eye sewer	19	1		1					21
Draper	4	1	2	1	2	2	1		13
Total	42	5	4	2	2	3	1		59
Power-machine operators:									
Sample maker					1		1		2
Waist maker	2	3	8	6	5	5	1		30
Skirt maker	1		6		2	2	3		14
Buttonhole maker [2]	1								1
Hemstitcher [2]		1							1
Total	4	4	14	6	8	7	5		48
Unclassified	1								1
Total, women	52	9	19	9	10	11	6	1	117
Grand total	54	11	21	9	13	16	10	12	146

[1] One earned $45 and one $30.

[2] Work on special machines.

TABLE 127.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY B, MANUFACTURING SILK AND LINEN TAILORED WAISTS.

Occupation.	Number earning specified average weekly wage.								
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and under $12	$12 and under $15	$15 and over.	Total.
Nonneedleworkers:									
Forewoman								1	1
Designer and cutter							1		1
Errand girl	3								3
Presser			1			1			2
Total	3		1			1	1	1	7
Needleworkers:									
Hand finisher	6								6
Power-machine operators—									
Waist maker	4	1	1		1	2	4		13
Tucker					1				1
Buttonhole maker	1				1				2
Total	11	1	1		3	2	4		22
Grand total	14	1	2		3	3	5	1	29

Factory A, manufacturing linen and gingham dresses selling at wholesale from $3.75 to $10 each, employed 117 women and 29 men during the year. Ninety-one per cent of the women were sewers, 41 per cent being power-machine operators and 50.4 per cent hand sewers. Fifty-six per cent (56.5) of the machine operators, excluding special machine operators, earned $8 or more and 71.2 per cent of the hand sewers earned less than $6. Five men worked on the machines as skirt makers, and the weekly average of four of them for the year was $15 or more—one $31.33, and another $32.27. None of the women skirt makers earned $15, one-half earning $9 or more as compared with one-third of the waist makers in this earnings group. These power-machine operators on waists and skirts make the article complete, 54.5 per cent earning $8 or more. Two sample makers, one averaging $9.38 and one $12.77, make the samples which constitute the model from which the operators work. Two special machine operators run a hemstitching and a buttonhole machine, each averaging less than $7. The manufacturer who makes high-grade silk and chiffon dresses frequently has no special machines, sending out the hemstitching if required, and hooks and eyes, buttons, and buttonholes, are sewed by hand.

Dresses and waists of good quality are draped on the figure by "drapers," who pin the waist and skirt together, arrange the plaits or gathers, pin on the belt or any trimming. They have usually been dressmakers or operators previously. About one-half earned $8 or more. Finishers, trimmers, and hook and eye sewers do the finishing handwork on the dress, and because no particular skill is required, the great majority earn less than $7.

Factory B, a small factory manufacturing silk and linen tailored waists selling at wholesale for $12 to $42 a dozen, employed no men. A woman designer and cutter, who has grown up in the factory, plans, designs, and cuts the waists with hand shears, never cutting more than two or three layers at once.

"There is no real reason why cutting could not be done by women," said a high-grade dress manufacturer, "but designing and cutting require special training. There are no logical steps of advancement in the factory." Moreover, in factories producing a medium-grade product or using a very firm material, the goods are spread on a cutting table "sometimes 300 lays at a time" and are cut by men with a revolving disk run by electricity. The woman designer and cutter in factory B had begun as a sewer, but because the factory was small she had had opportunity to learn cutting and designing. All the girls in this small factory still have access to the cutting and designing room and "can pick it up if they have the capacity for it." "Our designers get their ideas from store windows, fashion books, and styles seen in New York," said one manufacturer. "They aren't original designs in the sense that they originate styles."

There were more than two machine operators to one hand sewer. Thirteen of the 16 power-machine operators were "waist makers" and made the waist throughout, except for any tucking or buttonholes which might be done by machine, and for the hand finishing. More than one-half the power-machine operators averaged for the year $9 or more, and all the hand finishers less than $6.

NECKWEAR.

Neckwear is also characterized by a great variety of "lines" and the girls are having to learn to do new things all the time to secure novel effects. Women designers and cutters are found in neckwear factories because of their originality of taste and style. The forewoman in a small factory in Boston making high-grade product must produce a new design every day.

The construction involved in the making of neckwear is less complex than that of dresses or waists, but the "girls must have some knowledge of how the pieces go together" from looking at a sample collar. Artistic skill and ability, deftness and lightness of touch are essential in the manipulation of the dainty, delicate laces and nets which stretch, pull, and become flimsy with handling. Milliners fit nto this work fairly well (and the seasons dovetail), particularly in making the bows and trimmings and handling the net and lace. The requirements of this trade demand more knowledge of special machines than is necessary in dressmaking. Straight-stitching machines, hemstitching, plaiting, and overlocking or zigzagging machines are used in the making of neckwear. The stitching is on short lengths but on difficult materials.

In factory C, of which the pay roll is shown below, manufacturing collars of net, light-weight and fine embroidered materials and malines, as well as ruffs, bows, and chemisettes, not less than 9 stitches and sometimes 14 stitches to the inch are required, preventing great speed, as the emphasis is on finish. Lace must be stitched on the edge of bias pieces of net, net must be tucked, hemstitched, and hemmed, and wire supports sewed on these delicate materials without stretching, pulling, or soiling them. This necessitates a different distribution of workers from that found in the dress and waist making industry. Table 128 shows the number and kind of workers employed in a typical neckwear factory, and the wages they earn.

A good deal of handwork is necessary for finishing and trimming neckwear, and consequently the hand sewers constitute a more important group here than in the two factories previously discussed, forming 40.7 per cent of the total number of employees and 52.4 per cent of the needle-workers. In wages, however, the power-machine operators show more favorable conditions than prevail among the

handworkers. Not one of the latter averaged over $7 a week, while half of the machine operators earned $7 or over, and two-fifths earned $8 or more a week.

TABLE 128.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY C, MANUFACTURING NECKWEAR.

Occupation.	Number earning specified average weekly wage.				
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	Total.
Nonneedleworkers:					
Cutter				2	2
Stock girl				1	1
Gives out work			1		1
Presser		2			2
Total		2	1	3	6
Needleworkers:					
Hand sewers—					
Finisher	2	3			5
Helper	1				1
Bow maker		1			1
Flower maker	2	1			3
General worker		1			1
Power-machine operator	2	3	1	4	10
Total	7	9	1	4	21
Grand total	7	11	2	7	27

CHILDREN'S DRESSES.

In the manufacture of children's dresses, as in factory D whose pay roll is given in Table 129, no hand sewers are found, as the materials used are strong and firm cotton goods, and there is no special emphasis on hand finish. Nor is there any need for drapers, for these dresses are not fitted on the form, as is done in the high grade dress factories where the emphasis is on finish and style. Moreover, the power-machine stitching is much more specialized. There are general operators, joiners (who sew together waists and skirts), trimmers (who stitch on bands of different colors or bias cloth and fancy braids), sample makers, and special buttonhole and button machine operators. Even with this amount of specialization of processes the employer complained, "I can't use girls from the undermuslin trade because they don't know how to put a garment together. My workers must know how to put a dress together and how it should look when it is done."

As the pay roll shows, the range of wages in this factory is much less than in factories making dresses and waists for adults. Only 24 per cent of the total group of workers earned as much as $8 or more a week, and only 31 per cent $7 or over. Among the machine operators not on special machines, only 22.2 per cent earned $8

or over, and 59.2 per cent earned under $6 a week. There was considerable difference in the earnings of the different kinds of workers; not one of the four workers on sleeves earned as much as $7 a week, while only one of the six trimmers earned less than $7.

TABLE 129.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY D, MANUFACTURING CHILDREN'S CLOTHING.

Occupation.	Number earning specified average weekly wage.						
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and over.	Total.
Nonneedleworkers:							
Forelady			1				1
Designer						1	1
Folder	5	1	1				7
Presser	4					1	5
Total	9	1	2			2	14
Needleworkers—machine operators:							
General	22	1	2				25
Skirts	5	3		2			10
Skirt trimmer	2	1		1			4
Sleeves	3	1					4
Joiners				1		1	2
Trimmer		1		3	2		6
Sample maker			1			2	3
Buttonhole [1]				1			1
Button sewer [1]				2			2
Total	32	7	3	10	2	3	57
Grand total	41	8	5	10	2	5	71

[1] Work on special machines.

UNDERWEAR.

The manufacture of underwear is characterized by extreme specialization of processes, extensive use of special machines, such as the zigzag machine for joining lace and edges or overcasting seams; one, two, three, and four needle tucking machines; button-sewing and buttonhole machines; while the use of straight stitching on seams and a long stitch makes possible the development of a good deal of speed. In spite of the specialization of processes, "a girl is given a bundle and is expected to know how the pieces go together," and she does not have the advantage of a sample before her to look at when in doubt. The pay rolls of two typical underwear factories, one in and one outside of Boston, are shown in Tables 130 and 131.

TABLE 130.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY E, MANUFACTURING MUSLIN UNDERWEAR—BOSTON.

Occupation.	Number earning specified average weekly wage.						
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and over.	Total.
MEN.							
Cutter	5	1	2	1	1	12	22
Shipper	5	1	.....	.....	.....	2	8
Total, men	10	2	2	1	1	14	30
WOMEN.							
Nonneedleworkers:							
Designer	.....	.....	.....	.....	.....	[1] 1	[1] 1
Stamper	2	1	1	.....	.....	.....	4
Helper	21	6	1	3	1	4	36
Examiner	19	2	2	.....	.....	.....	23
Boxer, folder, and presser	5	.....	1	1	.....	1	8
Total	47	9	5	4	1	6	72
Needleworkers—machine operators:							
Sample makers	.....	1	2	1	3	2	9
Machine operators	197	31	22	12	1	3	266
Total	197	32	24	13	4	5	275
Total, women	244	41	29	17	5	11	347
Grand total	254	43	31	18	6	25	377

[1] Receives $50 weekly wage.

TABLE 131.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY F, MANUFACTURING MUSLIN UNDERWEAR—OUTSIDE BOSTON.

Occupation.	Number earning specified average weekly wage.						
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and over.	Total.
Nonneedleworkers:							
Examiner	1	3	.....	1	.....	.....	5
Forelady	.....	.....	.....	.....	1	3	4
Shipper	.....	.....	.....	.....	.....	1	1
Presser	.....	.....	2	.....	.....	.....	2
Office	.....	.....	.....	.....	.....	2	2
Ribbons	6	1	.....	.....	.....	.....	7
Total	7	4	2	1	1	6	21
Needleworkers—machine operators:							
Finisher	18	5	5	2	.....	.....	30
Seaming	5	3	2	1	.....	.....	11
Binding	1	.....	1	1	.....	.....	3
Ruffling	1	1	.....	.....	.....	.....	2
Hemstitching	3	.....	.....	.....	.....	.....	3
Tucker	1	.....	2	.....	.....	.....	3
Hamburg	.....	.....	1	1	.....	.....	2
Laceworker	.....	.....	1	.....	.....	.....	1
Buttonholes	2	.....	.....	.....	.....	.....	2
Mending	.....	.....	1	.....	.....	.....	1
Two-needle machine	.....	3	.....	.....	.....	.....	3
Buttons	.....	.....	1	.....	.....	.....	1
Bands	.....	.....	.....	.....	1	.....	1
Gatherer	.....	.....	1	.....	.....	.....	1
Total	31	12	15	5	1	.....	64
Grand total	38	16	17	6	2	6	85

The needleworkers in factory E are either sample makers, two-thirds of whom earn $8 or more, or power-machine operators, who are expected to be able and are required to work on any product needed at a particular time; almost three-fourths of these averaged less than $6. In factory F, however, the power-machine operators have definite processes on which they work, such as finishing,[1] seaming, binding, ruffling, hemstitching, tucking, etc., 14 different distinct processes appearing from the occupations of the workers on the pay roll. Possibly because this specialization permits the development of greater speed, the level of earnings is not quite so low among the machine operators in this factory as in factory E. Nearly one-half (48.4 per cent) earned less than $6 a week, and 67.2 per cent earned less than $7 a week, while 9.4 per cent, as against 6 per cent in factory E, earned $8 or over.

SHIRTS.

Extreme subdivision of labor is found in a factory manufacturing men's shirts. Eighteen processes appear from the pay-roll record, and there are no handworkers. Each worker has one special process. The characteristics of production are straight stitching, long stitches, and speed. Here, machine operating as a process is more important than knowledge of construction for most of the workers because of the extreme specialization of processes, yet the girl who puts in sleeves, puts on cuffs, or joins shoulders needs a certain amount of this technical knowledge, and the yoke stitcher must be accurate. More than one-half earned $8 or more.

TABLE 132.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY H, MANUFACTURING MEN'S SHIRTS.

Occupation.	Number earning specified average weekly wage.						
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and over.	Total.
Machine operators:							
Buttonhole				2	2	3	7
Hemmer			2	2			4
Band stitcher		2		1			3
Fronts				2	1		3
Seamer					2		2
Band maker					2		2
Button sewer					1		1
Cuff and band turner				1			1
Sleeve facer	1	1		1			3
Cuff maker				1			1
Cuff stitcher	1			1			2
Cuff setter	1		1				2
Sleeve setter						1	1
Shoulder joiner		1		1		1	3
Label stitcher			1				1
Yoke stitcher			1				1
Band setter	2		2			1	5
Sleeve facings	2	1					3
Total	7	5	7	12	8	6	45

[1] Girls who put the garments together, putting in sleeves, collars, etc.

APRONS AND ROMPERS.

Even in the manufacture of aprons and rompers there is a great variety of styles, Factory I reporting "432 active numbers." This branch of industry has highly specialized processes, six girls working on one apron—(1) a seamer, (2) a finisher, who sews on strings and bias bands and hems the bottom, (3) one to make the strings, (4) one to mark places for buttons and buttonholes, (5) a buttonhole maker, and (6) a button sewer. The manufacture of this product requires no high grade of manipulative skill and demands, perhaps, less knowledge of construction than is needed in any other branch of the factory sewing trades.

The workers have no models to copy, as in the high-grade dress and waist factories, but "the forewomen show them how to put the new numbers together and the work is principally straight stitching." The characteristics of production are much specialized machinery, highly subdivided processes, long straight stitching, long stitches where they do not show, and speed. The requisites of the workers are, primarily: (1) Knowledge of the machines, both straight-stitching and special machines—that is, actual knowledge of the parts of the machine and their production; (2) ability to do straight stitching; (3) speed gained both from physical dexterity and from systematic handling and use of short cuts where feasible. "Work on silk unfits them for this trade," says one employer. "They are too slow." The needleworkers are all power-machine operators, about 70 per cent earning $7 and over.

TABLE 133.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY I, MANUFACTURING APRONS.

Occupation.	Number earning specified weekly rate.								
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and under $12	$12 and under $15	$15 and under $20	Total.
MEN.									
Cutters							1	1	2
Shippers							1		1
Total, men							2	1	3
WOMEN.									
Nonneedleworkers:									
Forewomen							2		2
Cuts embroidery					1	1			2
Examiner					1				1
Presser							1		1
Packer							1		1
Machine stitchers		15	25	7	2				49
Total, women		15	25	7	4	1	4		55
Grand total		15	25	7	4	1	6	1	[1] 59

[1] Not including 4 piece workers.

CURTAINS.

The manufacture of scrim and cheesecloth curtains is also characterized by subdivision of labor and the use of special machines and many special attachments. Manipulation is more important in curtains than in aprons because of the more difficult materials involved. Since the curtains have to hang straight and are in a strong light, all defects are visible. The work involves primarily deftness in handling difficult materials, knowledge of special machines and processes, long straight stitching, and speed. All sewers (except in some factories the mender) are power-machine operators. Hemming tops is the simplest operation; making hems and bands is the next stage of advancement; sewing on edges, insertions, turning corners, and hemstitching are the most skilled operations. Fifty-eight per cent of the hemstitchers and 76.2 per cent of those stitching insertions, edges, and corners earned $7 or more. A little over one-half the latter earned $8 or more. More than one-half of those hemming tops, and hemming and banding earned less than $7.

TABLE 134.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY J, MANUFACTURING CURTAINS.

Occupation.	Number earning specified average weekly wage.							
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and over.	Unclassified.	Total.
Nonneedleworkers:								
Forewomen	.....	.....	.....	1	.....	1	.....	2
Inspectors	.....	.....	3	4	3	.....	.....	10
Lace cutters	3	1	1	.....	.....	.....	.....	5
Boxers and recorders	2	3	1	1	.....	.....	.....	7
Pressers	2	10	8	6	1	.....	.....	27
Total	7	14	13	12	4	1	.....	51
Power-machine stitchers:								
Insertions, edges, corners	5	5	10	14	5	3	.....	42
Hems and bands	4	3	1	5	.....	.....	.....	13
Hemming tops	2	4	2	1	.....	1	.....	10
Hemstitchers	6	2	7	3	1	.....	.....	19
Total	17	14	20	23	6	4	.....	84
Unclassified	8	2	2	1	1	1	2	17
Grand total	32	30	35	36	11	6	2	152

SKIRTS.

The skirt industry, as has been pointed out, is primarily a man's industry, 64.4 per cent of the 281 workers appearing on the pay roll of factory K being men. Much of the same characteristics of production appear as in dress manufacturing, the operator producing a complete skirt, except for the finishing processes, and needing a knowledge of dress construction and tailoring. Very few special sewing

machines are used, as emphasis in this particular factory is put on hand finish. The work is fairly evenly divided on the basis of sex, the men doing the stitching and the women the handwork. Only 11 of the 128 power-machine operators were women, and 9 of these earned $10 or more. Eighty-seven per cent of the men operators earned $10 or more, and 27.4 per cent averaged $20 or more for the year. Seventy-three of the 100 women were hand sewers—finishers (who put on snaps, hooks and eyes), alteration workers, basters (who mark the place for plaits and baste them down), and button sewers—and 35.6 per cent of these earned $7 or more.

The requisites for power-machine stitching on skirts are a knowledge of garment construction, physical strength to handle and stitch the heavy materials long straight stitching, and speed. For the hand sewing, only the elementary principles of sewing are required.

TABLE 135.—NUMBER IN EACH OCCUPATION RECEIVING EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY K, MANUFACTURING SKIRTS.

Occupation.	Number earning each specified average weekly wage.									
	Under $6	$6 and under $7	$7 and under $8	$8 and under $9	$9 and under $10	$10 and under $12	$12 and under $15	$15 and under $20	$20 and over.	Total.
MEN.										
Nonneedleworkers:										
Foreman	.....	.....	.....	.....	.....	.....	.....	.....	3	3
Cutter	.....	.....	.....	.....	1	.....	2	3	14	20
Presser	1	.....	.....	.....	1	3	2	17	6	30
Button maker	4	2	.....	.....	.....	.....	.....	.....	.....	6
Stock	4	.....	.....	.....	.....	1	.....	.....	.....	5
Total	9	2	.....	.....	2	4	4	20	23	64
Needleworkers—power-machine operators:										
Sample maker	.....	.....	.....	.....	.....	1	.....	.....	7	8
Skirt maker	5	2	2	3	3	9	23	37	25	109
Total	5	2	2	3	3	10	23	37	32	117
Total, men	14	4	2	3	5	14	27	57	55	181
WOMEN.										
Nonneedleworkers—button makers	2	3	2	3	3	3	.....	.....	.....	16
Needleworkers:										
Hand sewers—										
Finisher	20	11	7	6	4	.....	2	.....	.....	50
Alterations	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Baster	4	1	.....	.....	.....	.....	.....	.....	.....	5
Button sewer	7	4	1	5	.....	.....	.....	.....	.....	17
Power-machine operators—										
Sample maker	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Skirt maker	.....	1	.....	.....	.....	2	5	2	.....	10
Total	31	17	9	11	4	3	7	2	.....	84
Total, women	33	20	11	14	7	6	7	2	.....	100
Grand total	47	24	13	17	12	20	34	59	55	281

STRAW HATS.

The manufacture of straw hats is a highly skilled industry, practically monopolized in Massachusetts by women, though in New York men are coming into the trade. The requisites are primarily, (1) knowledge of construction of straw shapes of assorted kinds, (2) deft and easy manipulation of the difficult and rather perishable straw braids, and (3) a knowledge of a particular straw sewing machine. Model hats are placed before the workers to refer to and to copy, and "shapes" or molds are accessible so that the hat frame may be frequently fitted to get the proper shape and head size. Because of the short season, the wage and season of the 107 straw machine operators working in factory M are given together. Eighty-two (82.2) per cent earned an average wage of $10 or more, and more than four-fifths of these (84.1 per cent) had a working season of from 20 to 35 weeks. Seventy-one per cent had an average wage of $12 or more, and 85.5 per cent of these worked 20 weeks or over. Almost three-fourths (73.8 per cent) of the total number of workers had a working season of from 20 to 36 weeks.

TABLE 136.—NUMBER EMPLOYED FOR EACH SPECIFIED PERIOD WHO RECEIVED EACH SPECIFIED AVERAGE WEEKLY WAGE IN 1914—PAY-ROLL RECORD OF FACTORY M, MANUFACTURING STRAW HATS.

Number of weeks employed.	Number earning specified average weekly wage.									
	Under $8	$8 and under $9	$9 and under $10	$10 and under $12	$12 and under $15	$15 and under $18	$18 and under $20	$20 and under $22	$22 and over.	Total.
Under 4 weeks	6	1	1	.....	2	.....	.....	.....	.....	10
4 weeks and under 8 weeks	1	.....	.....	2	1	.....	.....	.....	.....	4
8 weeks and under 12 weeks	1	.....	1	1	.....	.....	.....	.....	.....	3
12 weeks and under 16 weeks	.....	2	1	.....	5	.....	.....	.....	.....	8
16 weeks and under 20 weeks	.....	.....	.....	.....	1	1	1	.....	.....	3
20 weeks and under 24 weeks	.....	3	1	4	14	8	2	.....	1	33
24 weeks and under 28 weeks	.....	.....	1	4	8	6	3	.....	3	25
28 weeks and under 32 weeks	.....	.....	.....	1	2	6	2	3	1	15
32 weeks and under 36 weeks	.....	.....	.....	.....	.....	1	2	2	1	6
Total	8	6	5	12	33	22	10	5	6	107

This finishes the outline of the characteristics of the different branches of the factory sewing trades, and of the demands they make upon their workers. Because of the variations in the qualifications required of workers in the manufacture of these different products, the individual worker does not shift from one branch of the industry to another as much as might be expected.

Only 5 of the 81 trade-school girls going into the cloth machine-operating trades had worked in three different branches of the trade, and only 23 had worked in more than one. The manufacture of dresses, waists, neckwear, children's clothing, aprons, and curtains has received the great majority of the girls from the trade school.

Nor do the girls who have gained their training in the trade come up through the several branches of the trade, because proficiency in one may train her directly away from the others, as has been mentioned in reports from employers.

METHODS OF LEARNING IN THE TRADES.

"We don't want learners" is the usual statement in a high-grade dress factory. "We can't have the machines producing less than their capacity and the goods are too expensive." In the medium-grade factories, however, "the foreman makes girls sitting near help a beginner whether they want to or not." In another Boston factory "if an inexperienced hand comes in, she is usually started on finishing, which is what everyone can do who has ever sewed. Then she is taught by the forewoman and the girl sitting next to her, first on the simpler processes, straight seams and so on." A Worcester firm manufacturing cotton waists reported that, "When green girls come, at the very start we put them on cleaning, or measuring or gauging buttonholes. After they have been near the machines for a while they usually want to run them. They usually show ability or we do not keep them at all. We start them on a machine without a needle until they learn to control the power. Then we put them on sleeves or places where the work doesn't show much. After a girl can do sleeves well, she is put on body making, then setting in sleeves and collars. We insist on the girls' learning several machines, so if one department gets congested we can move them about. They sometimes object to learning new machines, but as they are so young they can usually be induced to make the change."

Manufacturers producing a cheaper product in which the material is less expensive, more easily handled, and the processes more specialized will more frequently take on inexperienced workers, though usually they insist that the applicant "must be able to do straight stitching." An apron manufacturer says, "Girls are taught to some extent in dull season. The forewoman will show them three times and no more." The usual route by which the young girl gets on the machine is through the hand processes. A large factory manufacturing muslin underwear has evolved a fairly definite scheme of training and procedure in the initiation of young workers under the direction of a capable forewoman. A girl is first taught to control the power, which "can be done in two hours. She then sews on rags until she can sew straight." Her progress from the standpoint of product is as follows: (1) Nightdress, (2) chemise or combination, (3) corset cover, (4) drawers, (5) skirt. From the standpoint of process, she is taught (1) stitching and felling of seams, (2) putting the hem on the bottom or the lace on the bottom (sometimes with a zigzag machine), (3) making facings and bands, (4) trimming the

neck and sleeves (that is, putting on the lace or embroidery sometimes with a zigzag and sometimes with an ordinary machine), (5) tucking on the tucking machine, (6) ruffling and putting on the ruffles, (7) making and setting in the yokes. "It takes a girl a year to become experienced in this work."

COST OF TEACHING IN THE FACTORY.

Employers have a hazy idea of the cost of initiating a young learner. An apron manufacturer maintained it cost $20 to $30 to train a new worker in his factory. A curtain manufacturer claims it costs him $35. As shown on the basis of actual production,[1] an inexperienced worker was paid $22.32 more than her work was worth during her first six weeks in the factory, and with the addition of the use of the machine, spoiled materials, and time of the forewoman, the cost doubtless reached, if it did not exceed, the higher amount named by the employer.

An interesting illustration of the cost of teaching in the factory is found in a straw-hat factory which in 1914 took on 40 new workers in an average force of 150 women stitchers. The learners are taken on October 1, about six weeks before the regular season opens. They are paid $4.50 a week for two months, or longer if necessary. Four experienced workers are assigned as teachers at $3 a day, 1 teacher to 10 girls. For two months, they give full time to training the learners to make by hand the straw "tips" and to stitch straw braid and shape it on the form. After eight weeks, some of the girls are ready for semiindependent work on piece rates and two teachers can take care of the group. For eight weeks at least the learners simply sew braid together, producing nothing salable. The braid is ripped up again and again and sewed again for practice. If a girl completes her apprenticeship in eight weeks, the cost of her training is as follows:

$4.50 per week for 8 weeks	$36.00
One girl's share of teacher's salary ($18 per week for 8 weeks for 10 girls)	14.40
Total cost (not including cost of materials used or depreciation of machines)	50.40

Thirty-three of the forty girls "made good," thus increasing the proportional cost for each successful worker. This employer maintains it costs him about $2,000 a season to train his new workers.

Many of the young workers are not capable of doing productive work at the close of their eight weeks' training. The following table shows the weekly record of two sisters, cases A and B, and of a third woman, case C, who were initiated into the factory at the same time.

[1] See Table 31, pp. 51, 52.

TABLE 137.—WEEKLY WAGES OF THREE "LEARNERS" IN A STRAW-HAT FACTORY FOR ONE SEASON.

[Figures above the heavy rule indicate earnings received as apprentices, those below, the earnings received after the girl became an independent worker on a piece rate, actually producing hats.]

Week.	Specified wage received each week by—			Week.	Specified wage received each week by—		
	A.	B.	C.		A.	B.	C.
First	$4.50	$4.50	$4.50	Twentieth	$4.50	$17.55	$17.85
Second	4.50	4.50	4.50	Twenty-first	4.50	29.55	23.05
Third	4.50	4.50	4.50	Twenty-second	7.55	26.05	21.75
Fourth	4.50	4.50	4.50	Twenty-third	7.55	23.00	24.70
Fifth	4.50	4.50	4.50	Twenty-fourth	10.95	26.70	22.90
Sixth	4.50	4.50	4.50	Twenty-fifth	9.65	25.55	22.50
Seventh	4.50	4.50	4.50	Twenty-sixth	8.95	29.25	25.75
Eighth	4.50	4.50	3.80	Twenty-seventh	10.15	25.95	24.15
Ninth	4.50	4.50	11.80	Twenty-eighth	13.80	27.10	29.45
Tenth	4.50	4.50	5.35	Twenty-ninth	8.75	27.15	29.45
Eleventh	4.50	4.50	17.35	Thirtieth	6.90	21.45	16.25
Twelfth	4.50	4.50	12.30	Thirty-first	1.45	13.75	18.40
Thirteenth	4.50	4.30	7.90	Thirty-second	.....	.....	15.60
Fourteenth	4.50	16.90	21.35	Thirty-third	.....	.....	10.60
Fifteenth	4.50	21.95	16.70	Thirty-fourth	.....	.....	3.00
Sixteenth	4.50	20.75	15.00	Total	180.20	470.65	507.75
Seventeenth	4.50	22.90	19.35				
Eighteenth	4.50	23.05	13.25	Average wage	5.81	15.18	14.93
Nineteenth	4.50	13.75	26.70				

As an apprentice, the girl simply sewed straw and ripped it up again and again until she could be trusted to use the straw which, because expensive or because stylish that particular season, must be conserved for hats intended for sale. It is interesting to note in the case of B and C, who were put on a producing basis in a shorter period than A, that both fell back the first week on piece rate, then jumped to a wage almost four times as large the second week.

Case A was 21 years and case B, 23 years of age. Case A worked five months as an apprentice, her wage alone thus costing her employer $94.50 instead of the standard amount of $36. Case B worked 12 weeks as an apprentice, her wage during her training thus amounting to $54. Case C, a woman of 25 years, was put on a producing basis after seven weeks' apprenticeship. The record of these workers for the season also illustrates the wide variations in returns as a result of this expenditure of time and money in training. Case A earned a total of $180.20 for the season of 31 weeks. Case B earned $470.65 during the same period. Case C, who was very quick in learning, earned $507.75 for a season of 34 weeks.

AMOUNT OF SHIFTING AMONG FACTORY EMPLOYEES.

The extent to which a factory takes in inexperienced workers largely determines the amount of shifting discovered on the pay roll. In one dress factory the pay roll showed that of 117 women employed during the year, 73 had held their places only from one to five weeks. Fourteen had left at the end of the first week and 18 more at the end of the second week. In a curtain factory the pay

roll showed 152 women employed during the year, of whom 65 had worked less than 12 months. These women were, however, not quite so transitory as those of the dress factory, as only 22 of them left under five weeks, and 27 were in the factory 15 weeks or more. In an underwear factory which takes young learners, 53 per cent of a total of 347 women appearing on the pay roll during the year stayed less than 12 weeks, and 42.1 per cent stayed less than 8 weeks. In the year 1910 in this factory 65.8 per cent of a total of 315 stayed less than 12 weeks.

SUMMARY.

A survey of the sewing trades shows the importance and the need of trade training for young workers. The emphasis on training for the custom sewing trades and the neglect of the factory trades, however, seems surprising, since the whole evolution within the industry is in the opposite direction. While the school has failed to take cognizance of the decreasing opportunities for young workers in the custom sewing trades, the experience of its pupils shows that they are bearing the brunt of these industrial changes. The general lack of information as to conditions and opportunities in the factory trades probably explains this lack of adjustment. Acquaintance with the many different trades which constitute the clothing industry is essential to successful trade training, for the product determines whether the demands made on the workers are primarily for technical knowledge of garment construction, manipulative skill, trade knowledge, or speed. Proficiency in one trade may mean inefficiency in another. Since the high-grade factories manufacturing a product requiring technical skill seldom take inexperienced workers, the young girl who learns in industry must begin on unrelated processes or enter factories producing low-grade product, which may train her away from rather than toward the better types of factories. The workers shift very little from one product to the other. Moreover, there is a heavy dropping out of young learners in the industry. The expense involved in training the young worker in the factory and the uncertainty of securing the benefits of this training make the majority of employers unwilling to develop a systematic plan of training. The school's great opportunity at present lies in this field.

CHAPTER VIII.—SUMMARY AND CONCLUSIONS.

The new type of vocational education is judged by the ability of its pupils to meet the demands of the vocation for which it offers training. Popular interest, whether favorable or adverse, desires concrete information on the experience of the pupils trained. The trade school from the beginning has tried to develop a system for keeping in touch with its former pupils, (1) by an annual canvass by letter asking for a statement of position and wage, (2) by the maintenance of a placement bureau, and (3) by personal contact through its social organizations, such as clubs and reunions.

The pressure of more insistent daily problems and the difficulty of keeping in touch with all pupils, however, have made a scientific and complete system of records impossible. Nor have educators fully appreciated the importance of a comprehensive and concrete knowledge of the situation as a whole. "We don't need statistics," "We haven't time for investigations," "We know the girls' needs," are statements frequently heard. The school has drawn up long lists of individual pupils and their wages, but these in themselves have little significance for educators or for the general public. For the real significance of wages is dependent on many factors, nor does a knowledge of wages alone necessarily provide the school with the most vital type of information for intelligent and successful procedure.

Industrial education is so new that it is neither fair nor safe to draw sweeping conclusions as to future possibilities of this type of training. But popular interest and the rapid spread of this form of education seem to call for a clearer understanding of its purpose. Where and under what conditions can it be profitably developed and realize its fullest possibilities? Trade training for girls is generally conceded to offer the most difficult problem connected with industrial education, as well as the one in which least progress has been made toward a solution. Yet the need for a solution is increasingly evident.

The great development in mechanical processes which means increased opportunity for the boy, results in decreasing demand for the fine handiwork and individuality of product in which the woman, heretofore, has found her opportunity.

Educational institutions of any kind have usually kept in touch with their successful pupils, but lost sight of the failures. Present-day democratic and social-minded people are asking, "What proportions succeed and what proportions fail?" More than one-third, 36.3

per cent, of the 2,500 girls going out from the three trade schools in Massachusetts used their training in a wage-earning capacity. More than one-third (38.6 per cent) of the 2,044 girls going out from the Boston Trade School during its 10 years' existence, more than one-fourth (27.4 per cent) of the 343 girls going out from the Worcester Trade School during its three and one-half years' existence, and less than one-fourth (23 per cent) of the 113 girls going out from the Cambridge Trade School during its two years' existence entered their trades.

What proportion should be expected to use their training? Curiously, the vocational schools have collected little data on which to base a comparison. The proportion from the three trade schools using their trades, one-third, is higher than is found among those taking the four years' course of the Girls' Practical Arts High School, or among the pupils of the Industrial Schools for Boys in Worcester and New Bedford. Some advocates of trade schools object to judging their success by their ability to induct their pupils into the trades for which they train; if, however, a school can not do this, is it a trade school? No one would expect that all pupils or even a large proportion of the pupils trained in any vocational school would permanently remain in their first vocation. But unless a reasonable proportion utilize their training, several questions are pertinent. (1) Are the schools drawing the type of pupil which can meet the demands of the trades for which they offer training? (2) Are the trades for which the schools train well chosen? That is, (*a*) Can they utilize the numbers trained in the trade school? (*b*) Do they offer adequate opportunities from the standpoint of skill and advancement to justify the expenditure of time and money involved in training for them?

To appreciate fully the significance of these figures—the survival of one-third—we must know (1) what types come for training, (2) how long they remain, (3) what are the requisites of success, and (4) what are the local trade opportunities. A most serious administrative and educational difficulty is encountered at the outset in the wide range in equipment of the pupils who apply for training. From the standpoint of maturity, 34.9 per cent were under 15 years of age, 28.8 per cent were 15 but under 16, 29.3 per cent were 16 years and under 18, and 7 per cent were 18 years and over at entering trade school. From the standpoint of schooling, 48.2 per cent had not graduated from grammar school, 31.3 per cent were grammar-school graduates, and 20.5 per cent had previously attended a secondary school. The trade school is confronted on the one side, therefore, with a group of immature pupils who present a wide range in capacity for training, 44.6 per cent of whom leave under the age of 16 years, and 70 per cent of whom in Boston and Worcester remain less than 12

months. On the other side comes the demand from the trade for general intelligence, maturity, and experience.

The significance and reality of these trade demands are apparent from a study of their bearing on the girl's utilization of her training. Education is important. Only 23.1 per cent of the girls not graduating from grammar school as compared with 52.6 per cent of the grammar-school graduates, used their trade. Maturity has a still more direct bearing on the girl's opportunity to use her training. Only 7.7 per cent under 15 years of age at the time of leaving school, 34.4 per cent 15 and under 16 years, and 45.3 per cent 16 and under 17 years used their training, while 55.8 per cent 17 and under 18 years and 63.1 per cent 18 and under 19 years of age at leaving the trade school used their trade. At least a minimum of trade training and repetition of processes is fundamental. Of those trained in the sewing courses in the three schools, only 8.4 per cent of those remaining in the trade school less than six months, and 43.4 per cent of those remaining six months and less than 12 entered the trade, but 84.2 per cent of those remaining 12 months and less than 18 used their training. Study of trade conditions shows that these proportions are not merely fortuitous. Of 100 dressmakers who had acquired their experience in the trade, only 24.7 per cent had not graduated from grammar school, 47.4 per cent had graduated from grammar school but gone no further, and 27.8 per cent had attended high school. Only 11.8 per cent of the dressmakers reported by the United States Census of 1910 were under 21 years of age.

The choice of the trades for which training is offered, therefore, is fundamental, and it seems curious, in the light of the census returns of 1910, to find that almost three-fourths of the girls enrolled in the three trade schools in 1915 were registered in the dressmaking course.

Another very important question, and one which, curiously enough, educators have apparently little appreciated, is that of ability to persist in the trade for which training has been acquired. Yet it throws light on two most vital points: (1) It provides an index to opportunity from the standpoint of numbers and requisites of the workers, and (2) it should provide the educator with a standard for measurement of the strength or weakness of the training. In Boston, by the end of the first year, a little more than four-fifths of the 744 who were found by investigation to have used their trades were still in their trade; by the end of the second year, three-fifths and by the end of the third year a little over two-fifths of this selected group still persisted. Nor is this sifting due to marriage, as is popularly supposed, for two-thirds in their seventh year were still engaged in wage-earning occupations. Trade conditions predominate as the most important cause of leaving, for the sewing trades present two serious problems, (1) the inherent hardships involved in the long

process of acquiring requisite skill and in the short seasons, and (2) the decreasing opportunity for young inexperienced workers. Nevertheless, in comparison with the young unskilled workers whose records may be read from the educational certificates in the school offices, these young trade-school girls show remarkable permanence in trade, position, and establishment. Nor should a failure to persist in the trade necessarily be taken to indicate retrogression. On the contrary it may mean betterment for the girl with higher educational advancement. Nevertheless, should not the school establish for its own guidance and as a test of its success, a certain fairly definite proportion which should be expected to succeed and persist in the trades for which it offers training?

This survey covering the study of the three trade schools for girls in Massachusetts, and of the working experience of all their pupils who used their training one week or more and of all others who attended the trade school nine months or more, suggests certain concrete conclusions.

I. For the general public:

1. The trade school does not cater to "the masses," but, nevertheless, reaches a new type of girl very similar in the three cities, whose educational needs hitherto had not been specifically met. The trade-school girl comes from a family less comfortably circumstanced than the high-school girl, but more comfortable than the girl who applies for a working certificate at the age of 14 years. The large majority come directly from the grammar school; they correspond, from the standpoint of nativity, to the total 15 to 20 year old school population, and a fair degree of economic comfort is indicated in their contribution to the home, number of other wage earners, and comparatively few dependents in the home. A reasonable degree of economic comfort might be expected, since

(*a*) The trade school is a secondary school in which the majority must remain one year or more to succeed in their trade.

(*b*) The trade school trains for a few specific trades which demand (1) a comparatively high degree of education; (2) a comparatively long course of training with a rather high minimum of skill and practice in the processes; (3) increasing maturity, and (4) a particular type of manual skill and technical knowledge.

(*c*) The custom sewing trades have marked seasons and do not offer steady or continuous employment.

2. Trade schools for girls, as yet conceived, train primarily for the custom sewing trades and can not fulfill their purpose where there are no sewing trades, or where very limited opportunities are open to the young, partially equipped worker. The recent development of courses in "trade cooking" or "catering" is most interesting, but the opportunity to utilize this training in any other capacity than

ordinary domestic service is very limited because of the extreme immaturity of the girls trained. When they become older they encounter the competition of girls from "practical arts high schools," or from the colleges of domestic arts, with longer and more complete training. If established for or giving home training, these schools should be frankly so designated and generally recognized as such by the parents who send their daughters for training. Growth out of local needs and adjustment to local demands is the fundamental basis for a trade school's success.

3. The custom sewing trades are undergoing a tremendous industrial reorganization resulting in continually decreasing opportunities for the young inexperienced worker. They must be recognized more and more as (*a*) a vocation for girls who can afford to spend a longer time in acquiring financial independence; (*b*) as wholly inadequate in most cities, in the demands for numbers alone, to constitute the primary basis for a system of trade training, and (*c*) as demanding a definite type of worker with some general education, maturity, skill, and experience.

4. The so-called "trade-school girl" therefore represents a fairly high degree of selection, since, first, she was able to attend a secondary school; second, she survived the training in the trade school in a ratio of 1 to 3; and, third, she has been able to persist in a trade which has short working seasons and requires special trade qualifications and a long stage of preparation.

II. For the trade educator:

1. Trade training must develop in accordance with the trend of industrial evolution. Since the whole industrial trend is toward increasing development of machine processes, an extended system of trade training for hand processes will not reverse the tendency.

2. The trade school must grow out of the needs of the community.

3. The trade school for girls gives a real advantage to its pupils when established as a result of local demands.

(*a*) It provides a place (1) where the girl can secure specific training for wage earning during the years from 14 to 16, during which years the skilled industries are practically closed to her, and (2) where she can be tested out under favorable circumstances and sympathetic teachers.

(*b*) It levels up the inadequate background of the girl with a lower educational standard through correlation of its allied courses, and equips her to compete with the girl who has had better educational opportunities.

(*c*) It lifts the girl over the unskilled, unrelated processes by providing her with the fundamental principles and some trade skill, enabling her to begin at a higher initial wage on the processes leading directly to advancement and skill. The initial advantage is its real

contribution. When once established in the trade, advancement depends on individual capacity to profit by the opportunities which arise.

(*d*) It provides, through its placement bureau, a valuable connecting link between school and industry, and gives the girl the protection of an organized institution in securing work. This phase of vocational training offers much greater opportunities than have yet been appreciated or developed. If systematically organized, the department for placement should enable the school (1) to keep in close touch with industry and its rapid changes in processes, and with its demands from the standpoint of numbers and qualifications of workers; (2) to learn through the experience of its pupils in industry, and (3) to develop in accordance with changing demand.

(*e*) It provides a place to which the former pupil may return in dull season or unemployment for supplementary or advanced training. This phase of trade training, too, is just in its infancy, but, if systematically developed, it will make some of the most valuable contributions in vocational training.

4. The type of girl which succeeds in gaining access to the trade seems to be the grammar-school graduate, with a minimum age of 16 years, a trade-school course of at least a year, and with sufficient economic support to tide over the first three years necessary to become established in the trade.

5. When once established in the trade, maturity, experience, and capacity to assume responsibility and initiative determine the girl's advancement. At beginning work, increased maturity shows increased wage returns. Less than three-fifths (58.9 per cent) of the Boston Trade School girls beginning work at 14 years and under 16, earned $6 or more at the end of the first year. Almost two-thirds (64.1 per cent) of those beginning at 16 years and under 18 and more than two-thirds (70.7 per cent) of those beginning at 18 years and over earned $6 or more at the end of the first year. A similar correlation between maturity and wage is discovered for the trade-trained girls. By the end of the third year, in neither group has the girl beginning work at 18 years maintained her advantage, but in both groups, the girl beginning at 16 years maintains an advantage over the girl beginning at 14.

Thus the age of 16 to 18 years, which because of child-labor legislation is automatically becoming the minimum age, is apparently the most propitious age for entering these trades. Changing conditions in the custom trades, however, raise the question if this will be true during the next 10 years. The business of the trade educators is to know the facts, no matter how fast they may change.

While "common sense" is a very insistent demand from employers, just how close is the relation between education and advancement

is not so clear as the relation between age and advancement perhaps, because of the comparatively small proportion, one-fourth, who have had more than a grammar-school education. The girl with a high-school education finds more profitable employment in the business pursuits. On the limited basis of one-fourth, the high-school girl who has learned in the trade maintains a decided advantage over the grammar-school trade-trained girl. The difference in opportunity is less obvious in the trade-school group. This may be due to the ability of the school to supplement the inadequate preparation of its girls who have a low educational equipment. At the end of the first year's experience, the trade-school girl who has previously attended high school seems to have no advantage, but by the end of the third year, an advantage becomes apparent. Since a certain type of manual skill and technical knowledge is the fundamental requisite for success, variation in educational background seems to have little significance at first. When the necessary skill has been acquired, however, advancement depends on ability to think, to plan, and to originate. If academic education develops this ability, it will provide the girl with very important qualifications.

6. A surprising similarity in wage and advancement is discovered for the trade-school girl and for the girl who has learned in the trade which should give the trade educator an impetus for a closer study of the demands of these trades. The trade-school girl starts with a decided initial advantage. Her year's training in the trade school enables her to enter the trade as a producer, rather than as a learner, and she can thus begin at a higher initial wage than the untrained girl. She does not, however, maintain a correspondingly higher wage throughout her working career. Like the trade-trained girl, she reaches an average wage of $8 by the third year, and approximately $9 by the end of the fourth year. The short seasons in the sewing trades, however, seriously lower the annual income. While the girls who remain in their trade maintain an apparently higher wage scale, the longer working year of those who leave for other occupation doubtless results in more satisfactory financial returns.

III. Development and expansion of trade training for girls can be realized only with a wider selection of trades. The most obvious opportunity is found in the factory sewing trades. Not until there has been a pedagogical analysis of the trades, such as has been made in the custom sewing trades, can success in this field be realized. A fundamental difference confronts the young trade-school worker on entering these two divisions of the clothing trades. In the custom trade, she enters as a young helper who works under the close supervision and with the aid of a skilled worker. In the factory trades, and especially in the manufacture of the high-grade product, she must

be equipped to enter as an independent worker. She must have a minimum age of 16 years and sufficient skill, trade knowledge, and technical training for independent production with a minimum degree of speed and accuracy. This industry is made up of many subtrades, each making widely different demands and offering a great variety of opportunities for a satisfactory wage and advancement.

But trade training for women must find a wider foundation than the sewing trades to justify its establishment in a great many cities. For in many localities these trades are practically nonexistent, and particularly in their opportunity for employment of young, inexperienced workers. The real problem in trade training for women to-day is to discover the educational possibilities in a wider variety of trades.

IV. Industrial education for girls has a real opportunity from both an educational and an industrial standpoint. Modern industrial competition makes adequate training in the factory increasingly difficult and unsatisfactory. Conditions within the industry change so fast, however, that it is difficult for an outside organization to keep pace with them. Since successful vocational education necessitates closest study of the needs and conditions of the vocation, time and opportunity must be allowed teachers and placement agents to visit and study the girl and the industry. Every means which simplifies and smooths the transition from school to industry should be developed, and this can be effected only through closest connection and mutual understanding between school and employers. Trade schools, as has been discovered, can also perform an important service in supplementing the girl's general education. Their real problem is to so expand the content of their training, that the girl may know, while receiving the secondary schooling, that she is at the same time preparing herself directly for wage earning.

APPENDIX A.—COURSES AND ADMINISTRATION OF THE TRADE SCHOOLS FOR GIRLS IN MASSACHUSETTS.

COURSES IN THE TRADE SCHOOLS.

Courses in trade schools were originally designed with a double intent—trade training and training for the home. "The training not only contributes to the making of efficient tradeswomen, but it also contributes to efficient home service." [1] The importance of training for home making is recognized still, but the trade schools have found it increasingly difficult to make this teaching anything but incidental, because of the youth of the pupils, the short time they can spend at the trade schools, and the exacting demands of the industries for which they train their pupils.

The principal trade taught in each school is dressmaking, which is divided into preliminary and advanced courses. The object of the preliminary courses is to develop skill in handling materials and facility in the use of the different stitches. Although most of the trade-school pupils have had some sewing in the grades, it has not been systematic or extended enough to prepare pupils to do real dressmaking. Trade schools assume that the pupils are unacquainted with all sewing processes, and teach the proper way of work from the start. An interesting system of correlation is being developed in Somerville, where the director of the vocational school for girls has charge of the sewing in all the schools. She is thus able to plan the sewing courses from the fifth grade in the grammar school through the vocational school or the high school in logical sequence. The teachers in this preliminary sewing in the trade school are, as a rule, academically trained, because they are able to interest young and immature pupils better than trade-trained teachers,[2] who are apt to be impatient with beginners.

Two methods of teaching are at present in use. In the Boston Trade School the pupil practices a stitch until she can do it well, when she makes it on a sampler. This becomes a notebook of her progress. When she can do the elementary stitches, she begins work on the salable product. In Worcester, where a salable product is insisted on from the start, the pupil begins with the simple hem on a dish-

[1] Worcester, Report of Trustees of Independent Industrial Schools for the year ending Nov. 30, 1911, p. 622. See also Fourth Annual Report, Boston Trade School for girls, December, 1908, p. 19; Fifth Annual Report, Boston Trade School for Girls, December, 1909, p. 12; Report of Boston School Committee, 1909, Document 15, p. 11.

[2] Academically trained teachers have received instruction in vocational colleges and have had a limited trade experience. Trade teachers have gained their knowledge from experience in the trade.

cloth and completes a number of articles in a given order, each article more complicated than the preceding and involving old processes as well as a few new ones. As soon as the pupil is able to handle materials deftly and use stitches accurately and intelligently she takes up more advanced sewing—first infants', next children's, and last women's clothing. At the start the teacher exercises very close supervision, but gradually she demands greater independence on the part of the pupils. The object of the advanced work is to teach the girls to apply their knowledge of stitches and the handling of material to more difficult problems, with little direction from anyone. For this reason trade-trained teachers familiar with shop methods are given charge of the advanced work. They are able to teach short-cut methods in sewing, "the tricks of the trade," which produce the effect desired with the minimum expenditure of time. In the advanced sewing the value of speed is emphasized, and the girls are taught by means of time cards to see how much their time is really worth. The course in dressmaking is incomplete, since cutting and fitting are not systematically taught, first, because there will be no demand on the pupils for this kind of knowledge for some time after they leave school, and, second, because the girls are, for the most part, too immature to be trusted with the responsibility of cutting expensive materials, even if they could be taught the principles involved. The purpose of the training in dressmaking is to fit the girls for dressmakers' assistants.

The object of the course in millinery is to train girls as milliners' helpers. In most of the trade schools the tendency is to curtail the numbers who take the millinery course, because of the seasonal character of the trade. In the preliminary course the stitches used in millinery are taught on cotton materials. The girls are taught the several kinds of frame making and wiring.

They are next taught to cover hats with silk, velvet, and straw, and are given some instruction in bow making. No attempt is made to teach trimming of hats. An effort has been made in one of the schools to teach the making of fancy articles, like neckwear, as a dull-season occupation.

Power-machine operating on cloth holds trade possibilities greater than dressmaking or millinery for the majority of workers, but its demands are less understood than are those of the custom sewing trades. The work has not, as a whole, been so carefully analyzed, nor have the possibilities for success open to a well-equipped worker been emphasized. In Boston there has been some agitation for a factory school, but with no tangible results. The great difference lies in the requirements of the worker. The young dressmaker or milliner begins as a helper under the direction of an experienced worker. The young power-machine operator is expected to

be an independent worker. Thus, the young trade-school girl entering a dressmaking or millinery shop finds herself in conditions more like those in the school than does the girl entering a factory.

The school aims to train pupils to become intelligent workers who have established automatically correct habits of work. It teaches the girls to use several makes of ordinary power machines and special machines, to handle materials and put them together without basting. It also gives such training as it can in the assembling of complex garments. In Worcester, the girls do two-needle joining on corsets, and make children's dresses and women's house dresses. In the trade itself, short-cut methods seem to be part of the secret of success, and the school teaches economy of motion as far as it can. To gain speed, the girls are required to keep time cards, and if a girl can not make a garment in the standardized time, she must try again. When an order comes for a large number of garments of one pattern, the girls are allowed to compete with one another for speed and accuracy. Employers think that the time allowed by the school for the course is too long for the advancement attained. The pupils, to succeed, need a certain degree of maturity and a sturdy physique, the lack of which accounts perhaps for the failure of many to remain in their trade.

Power-machine operating on straw hats, which is offered in the Boston Trade School, makes the same demands on the worker for speed and ability to work with little supervision. The wage opportunities in straw-hat making in Boston are good, but the work is extremely seasonal. The object of the course in straw stitching is to equip pupils to handle all kinds of straw and make all kinds of "blocks." They are taught to do the "tips" at first, then crowns and brims of simple blocks and finally the more complicated processes. The straw stitcher can usually do power-machine operating on cloth, but it is not a part of the course.

Trade cooking or catering, very recently introduced in trade schools, aims to teach pupils to be intelligent assistants in tea and lunch rooms. In Cambridge, the girls do "accomodating," which is catering for small dinners. They obtain orders from customers for cake and cookies and execute these orders in the school kitchen. The Boston Trade School serves luncheons in several factories and schools, giving the girls the practice they need. In Worcester, the girls in trade cooking serve luncheons at the Boys' Trade School. The girls, as a rule, work under very close supervision. They are taught a system of accounting, and are required to show a profit on their work. Little effort is made to teach the reason for food combinations, but correct principles are taught by practice. The popular prejudice against domestic work makes the outcome of these ventures into trade cooking rather dubious. The trade-school girls are

too immature to compete successfully with women trained in catering in vocational colleges, and domestic work seems the only alternative.

Trade design, taught only in the Boston Trade School, has for its aim the teaching of girls to fill positions as designers in factories and shops. The girls have been too young to use the training directly. The successful designers found in Boston shops and factories are trade workers who know the demands of the industry because of having worked up through the ranks. At present, the trade in Boston makes use of only a few original designers, and these have had superior art training, as well as trade experience.

The supplementary courses in academic branches, art, cookery, and physical training follow in their methods ordinary school principles. The academic and art teachers obtain their problems from trade work. The course in cookery is supposed to teach the girls what combinations of food will produce the greatest efficiency in a trade worker. The physical training course is designed to foster group activities and to teach girls the principles of hygienic living.

The analysis of trades to discover fundamental processes and the proper sequence for teaching, the search for new trades to be taught, the development of supplementary courses—all these have meant pioneer work in education, and work which has been subjected to direct and immediate tests. Trade-school courses are still variable in all particulars; and a course eminently successful in one city may prove a complete failure in another.

COURSES OF DEPARTMENTS IN THE WORCESTER TRADE SCHOOL.[1]

Four trades are taught at the Worcester Girls' Trade School, dressmaking, millinery, power-machine operating, and business cooking. In addition to the trade training each girl has lessons in business English and arithmetic, civics, industrial history, applied art, and physical education. All girls except those in cooking have home-cooking lessons and the cooking pupils have home-sewing lessons.

Eighty per cent of the time spent in school is given to physical work and the remainder is divided into periods for the allied subjects. About 35 hours a week are taken up in school work.

A fundamental method in all trade-school teaching is to lead the pupil gradually from one process to another, giving practice in the new process just previous to applying it in the construction of something useful. Anticipatory work too far in advance is apt to fail in functioning.

The following courses show how this is worked out; each article made is based on a process already mastered or one just learned on practice pieces.

[1] This section on the Courses of departments in the Worcester Trade School was prepared by Miss Helen R. Hildreth, principal, Worcester Girls' Trade School, Worcester, Mass.

DRESSMAKING.

The following statement shows in tabular form the processes taught in the dressmaking department:

DRESSMAKING COURSE IN WORCESTER TRADE SCHOOL FOR GIRLS.

Problem.	Process.	New process.	Remarks.
1. Pincushion, velvet.	.....	Basting; backstitching; overhanding; use of gauge.	
2. Crash towels....	Overhanding.....	Napery hem.....	Second one for speed.
3. Work cover, lawn.	Napery hem.....	Outline stitch.....	Softer material.
4. Sewing apron, lawn.	Basting; overhanding.	Gathering; plain hemming; band by hand; sewing on lace.	Placing gathers is a difficult problem.
5. Kitchen apron, gingham.	Basting; hemming on machine.	Plain seam; locked corners; machine stitching; pocket; band by machine.	First machine work.
6. Cooking apron, percale.	Basting; machine stitching.	Flat seam; French seam; bias facing; buttonhole; sewing on button; fitted hem.	Idea of true and garment bias facing and bias side of gore.
7. Child's petticoat, muslin.	Flat seam; buttonholes; gathering ruffle; straight hem.	Tucking with gauge; hemming placket; ruffle on bottom; bias band to head ruffle.	Allowance for tucks and creasing them.
8. Girl's petticoat, muslin.	Gathering ruffle; shaped hem; plain seam.	Overcasting; bound placket; ruffle set under tuck; machine tucker; bias and straight in same seam; bias facing to finish top of skirt; adjustment of tape in top of skirt.	First use of skirt gores.
9. Bungalow apron, percale.	French seam; pockets; button and buttonholes, etc.	Vertical tucks; flat facing on outside of apron.	Kimono sleeve.
10. Middy blouse, twill.	Pocket; flat seam; French seam.	Facing front; making collar; sleeve with cuff; lapped seam in setting in sleeve: eyelets.	

A fair idea of construction is given by this course and the stitches learned are repeated many times in undergarments and children's clothing until their use becomes automatic. Some of the simple fancy stitches used as decoration are also learned. With this the elementary sewing is completed, and a few weeks are devoted to work on children's dresses, which approaches dressmaking in many respects.

The preparatory dressmaking course involves the making of shirt waists and simple skirts, a model waist lining, and a skirt showing several different ways of finishing the waist line and bottom. After making nurses' uniforms and other house dresses the girls are put in the advanced dressmaking class, usually at the second year, and then all the training is given on orders for such dresses as are taken in any good dressmaking shop. In this way the use of a great variety of material is made possible; for, with the previous instruction, the girl now needs to be given an endless number of opportunities to apply what she has acquired since entering school.

No attempt is made to teach cutting and fitting in the courses in this trade, for the majority of the girls are under 16 years of age and

are too young to understand it from a trade point of view. From intelligent observation, most of the girls are able to make their own clothes and those of their family.

POWER-MACHINE OPERATING.

As all processes in operating are carried out with no basting, the lower piece of the goods lies loosely against the feed and will be carried along faster than the upper piece unless this is prevented. This "pull" of the feed must be controlled where ends should come even. It may, however, be used as an aid where fullness is desired. It is the central factor in operating, and the pull of the cloth necessitated by it must be learned to insure success as a tradeswoman.

Elementary operating consists of: (1) Knowledge and care of the machine; (2) control of the power; (3) simple processes and seams; (4) necessary muscle control and coordination.

The pupil learns in the first few days, more or less, according to individual ability, how to clean and oil the machine, how to thread, names of parts, how to wind bobbin while running machine and doing other work, proper tension or appearance of stitch, sound of machine (because if it varies something is wrong), position and use of knee lifter, use of chaser, position of foot while running the machine and while at rest, and the proper position in the chair to avoid backache and round shoulders.

POWER-MACHINE OPERATING COURSE IN WORCESTER TRADE SCHOOL FOR GIRLS.

Problem.	Process.	New process.	Remarks.
1. Straight lines....	a. Pupil follows lines in plain gingham, using colored thread.	.....	
	b. Ruled lines on white cotton cloth, colored thread.	.....	Pupil learns divisions of inch in use of measure, both tape and ruler. Alternate periods of ruling and machine stitching.
	c. Stitching to measure by use of tape on unbleached muslin; bias stitching.	.....	
2. Machine apron...	Stitching to measure unbleached muslin, colored thread, following warp and woof threads.	Stitching to design, bias or diagonal; hem; corner; control of feed's pull; square patch pocket.	Seam put in by teacher to give demonstration of quick, good work. Feed control needs much practice at first, but soon becomes mechanical.
3. Towels of crash..	Hem; corner finish.....	.....	Stiff, heavy material gives practice in feed control and edge stitching, an essential factor.
4. Dust cloths of cheesecloth.	Long hem; corners.....	.....	Soft, thin material in above processes.
5. Dishcloths of cheesecloth.	Straight lines; even edges	Several thicknesses quilting; even edges in folding.	Control of easily slipping material. Bias stitching preparatory to garment bias seams.
6. Holders of calico or gingham with flannelette lining.	Several thicknesses.....	Plain seams.....	
7. Kitchen apron, gingham.	Plain seams; hem.....	Gathered by hand; band; locked corners; straight patch pocket.	Gathering by hand to develop dexterity of many muscles at one time.

POWER-MACHINE OPERATING COURSE IN WORCESTER TRADE SCHOOL FOR GIRLS—Concluded.

Problem.	Process.	New process.	Remarks.
8. Cooking apron, calico.	Patch pocket; curved...	French seam; set-on gores; curved hem; bias facing neck and arm size; mitered corner; button sewed on.	Reasons for mitering shape of garment, gores, etc.
9. Waitress apron, percale.	French seam; much-curved hem; straight hem; band set over plain material; bias on bib; square corners; buttons.	Bib set on band with flat seam; square mitred corner; fullness fed in.	Gores begin work of skirt making. Use of feed to give fullness by allowing to pull; much practice of edge stitching, many curves.
10. Child's drawers (Hill cotton, Fruit of the Loom, Cameo, 2,000; Hamburg or nainsook for ruffle).	French seam; flat seam; band.	Bound placket; tucks; ruffle set under tuck; right and left parts.	
11. Misses' drawers.	Bound placket; ruffle under tuck; French seam; flat seam; band at back; buttons.	Yoke in front; tucks above ruffle.	Yoke setting and reasons for it. Tucks are made by measure to aid in developing accuracy and eye training.
12. Ladies' drawers.	French seam.....	Ruffle under braid or tape; strapped seam; faced center darts; facing with tape as finish at top.	
13. Petticoat.....	French seams; bound placket; tucks; faced band; darts.	Putting 5 gores together; deeper hem.	Reason for 5 gores shown on form and direction of threads in each. Garment bias. Handling of deeper hem.
14. Corset cover with peplum, lace trim.	French seam; hem top of cover; hem around shaped arm size and peplum; tape run in; buttons; hand gathers.	Box plait; setting lace; setting peplum.	Use of cover gives reason for shape and material. Reasons for curves, shape of person and lines of cover.
15. Corset cover without peplum.	As above.....	Hem bottom; tape around waist.	Different finish of waist line gives variety in treatment and process.
16. Nightdress.....	French seam on set-in gores; lace setting.	Sleeve setting; binding over curved top of gown.	Set-in sleeve gives relation of curves to each other and reasons. Low neck and short sleeve are followed by high neck and long sleeve with cuff as more difficult process.

Having completed these garments the pupils have control of the machine and have mastered the fundamental processes; they must then apply them in many different styles of garments, using a great variety of materials and trimmings.

Those who show ability are given training on special machines and taught to do special kinds of construction. As in dressmaking, the idea is to give innumerable opportunities to apply the knowledge acquired in the elementary class.

The ability to make use of the facts one has learned is the most vital thing in any line of education.

MILLINERY.

Millinery does not lend itself to the same outlining that garment making does and so the course is worked out by topics rather than in a sequence and the pupil attacks the simpler parts first, but according to the season in which she begins.

The following topics are required to be mastered during the course:

MILLINERY COURSE IN WORCESTER TRADE SCHOOL FOR GIRLS.

- Bandeaux:
  - Straight.
  - Curved.
  - Circular.
- Stitches:
  - Running.
  - Backstitch.
  - Plain hemming.
  - Rolled hemming.
  - Buttonhole.
  - Blindstitch.
  - Cross-stitch.
  - Catstitch.
  - Fold stitch.
  - Tie stitch.
- Frames:
  - Wire, from measurements or models.
  - Buckram.
- Covering:
  - Straw, plain and fancy.
  - Velvet, silk, etc.
  - Net or lace, plain or shirred.
- Facing, plain and shirred:
  - Velvet.
  - Silk.
  - Chiffon.
- Bindings:
  - Snapped.
  - Blindstitched.
  - Stretched.
  - Puffed.
  - Corded.
  - Flange.
- Trimming:
  - (*a*) Making—
    - Folds, French and plain.
    - Wiring ribbon.
    - Ornaments.
    - Mourning veils.
  - (*b*) Applying to hats and bonnets.
- Renovating:
  - Hats.
  - Velvet.
  - Ribbon.
  - Crêpe.
  - Curling feathers.
- Designing.
- Color combinations.
- Salesmanship.

Having worked out these subjects in dolls' hats, as well as full-sized hats, the last spring season in school, the girls are placed in local shops, where they get the experience in the trade which the school can not give to the extent desired. Millinery is becoming so much a wholesale proposition that custom trade is very fickle, and a school can not secure sufficient patronage to carry all the order work the pupils should have.

TRADE COOKING.

The trade cooking class has prepared, served, and "accounted" the luncheons at the Boy's Trade School. This training has been in the form of counter service and that in the table service has been gained by the service of dinners once or twice a month in the school library room, to clubs, and school dinner parties. As the class develops, the work of serving in families and doing catering of various kinds will be taken up.

ACADEMIC, ART, AND COOKING (GENERAL) COURSES, AND PHYSICAL EDUCATION.

The academic, art, and cooking (general) courses, and physical education are for the general development of the pupils and are sometimes of a cultural nature, but usually are closely allied to the trade which is the major subject, and so differ in content for each

group of girls. The main topics are the same, but the details within them vary to suit the peculiarities of the business which is involved in the trade.

ACADEMIC COURSES.

First year:

1. Arithmetic, workroom methods, necessary drills, etc., given only part of the year except with low-grade pupils.
2. English, oral and written, as related to trades.
3. Spelling—trade terms and phrases and words in common use.
4. Writing.
5. Citizenship.
6. Industrial history and geography for advanced girls.

Second year:

1. Advanced trade arithmetic.
   a. Shop organization.
   b. Estimates for materials.
   c. Economy in cutting—relation of width of material to cost, etc.
   d. Estimating costs of single garments and garments duplicated in quantity.
2. English.
   a. Written and oral directions for making garments or parts of garments.
   b. Business letters, orders, application for positions, etc.
3. Textiles.
   a. Study of quality, weaves, textures, adulterations, etc., through simple practical tests.
   b. Short history of the development of textiles in common use with their relation to women's work.
4. Industrial history and geography as related to women's work.
5. Apportionment of income—expenditure.

All academic courses are arranged to fit the needs of various groups, both as to trade and as to the ability of the pupils.

ART COURSES.

First year:

1. Color scales.
2. Form, spacing, proportion, and line by arrangement of tucks, trimmings, etc.
3. Designs for trimmings—embroidery, etc.

Second year (elective):

1. Applied design—advanced work.
2. Costume designing.
3. Designing of hats.

GENERAL COOKERY COURSES.

First year.

1st period, 9.00 to 10.30 a. m.

1. Care of supplies from the market. Preparation of vegetables, meats, desserts and soups that require more than one hour for preparation and cooking. Cooking of these dishes begins during the first period of the morning and, if incomplete, is finished by next class.
2. Shaping and setting rolls to rise.

2d period, 10.30 a. m. to 12 m.

1. Preparation of meats, desserts, quick soups, quick breads (such as biscuit, muffins, etc.), requiring less than an hour for cooking.
2. Packing luncheon to be sent to the boys' school.
3. Baking of rolls and breads set previously.
4. Arrangement of dining room.
5. Serving luncheon to pupils and teachers.

First year—Concluded.

3d period, 1.00 to 2.30 p. m.

1. Washing dishes, care of sink, refrigerator, towels, etc.
2. Preparation of stock soups.
3. Care of left-over food.
4. Setting bread and rolls for breakfast next day.
5. Desserts, such as lemon jelly, blancmange, etc.
6. Cooking of foods that require slow cooking, such as ham, which can continue cooking without special attention.

Second year (elective).

1. Planning menus to given costs.
2. Buying, cooking, serving of meals from six to eight people.
3. Canning, preserving, pickling.
4. Elementary food chemistry.

Second-year classes meet in the afternoon and give more time to theory and independent work than first-year pupils.

PHYSICAL EDUCATION.

1. Light gymnastics.
2. Dancing.
3. Personal hygiene—care of eyes, teeth, the throat and ears, etc.
4. Corrective exercises.

PROGRAM.

Each girl's program in the day classes includes:

FIRST YEAR.

I. Trade work in one trade—22 to 25 hours per week.

II. Cookery—2 lessons of 1½ hours each per week.

III. Class instruction—3 to 4½ hours per week.

1. Trade arithmetic (not given all year except to girls backward in arithmetic).
2. English—oral and written.
   a. Business letters.
   b. Compositions based on trade work.
3. Spelling—trade terms, phrases and words in common use.
4. Writing.
5. Citizenship—social ethics.

The above subjects are not necessarily presented parallel to each other. One subject such as arithmetic is presented for one term of 14 weeks or two terms, as necessary, and another substituted as advisable.

IV. Art.

1. Color scales.
2. Line, such as arrangement of tucks, rows of insertion, etc.
3. Spacing and proportion by arrangement of trimmings, etc.
4. Designs for garments, trimmings, hats, etc.

V. Physical education—2 lessons of 45 minutes each per week.

1. Short drills in marching, wand drills, etc., for cooperation.
2. Games such as tag, pass ball, volley ball, etc.
3. Folk dancing.
3. Hygiene.

SECOND YEAR.

I. Trade work—22 to 25 hours per week.

II. Advanced cooking (elective)—2 lessons of 1½ hours each per week.

III. Class instructions—3 to 4½ hours per week.
  1. Advanced trade arithmetic given for one term of 14 weeks.
    a. Shop organization.
    b. Estimates of material for garments.
    c. Economy of material.
    d. Estimates for prices on single garments and large orders such as underwear, etc.
  2. English.
    a. Accurate descriptions of work, etc.
    b. Directions for making garments or parts of garments.
  3. Textiles.
    a. Study of weaves, textures, adulterations, etc., through practical tests.
    b. Short history of common textiles—cotton, linen, wool, and silk.
  4. Industrial history and geography as related to women's work.
  5. Citizenship—practical civics.
  6. Apportionment of income—expenditure.

IV. Art (elective).
  1. Applied design—designs for dress trimmings, hat trimmings, buckles, bands, etc.
  2. Costume designing.
  3. Designing of hats.

V. Physical education.
  1. Continuation of first year's work.

ADMINISTRATION OF GIRLS' TRADE SCHOOLS.

Since all of the girls' trade schools in Massachusetts must be approved by the State board of education as to organization and courses of study in order to receive State aid, they resemble one another in general plan of administration.[1] The city furnishes the school plant, and the State pays annually half the net cost of maintenance.[2] Two systems of local administration of trade schools are in operation, unit control in Boston and Cambridge and dual control in Worcester. In Boston and Cambridge, trade schools are a part of the regular public-school system and are administered by the school committee. In Worcester, the boys' and girls' trade schools are under the control of the board of trustees of the independent industrial schools, and are entirely independent of the school committee. This board of trustees is composed of nine persons, chosen by the city council from the city at large. At present, seven of the nine members are employers and the other two are employees. The question of the type of control best adapted to the administration of industrial schools is still unsettled.[3] The advocates of unit control believe that division of authority in the school system tends to decrease its effectiveness and to obscure the essentially educational features of

[1] Massachusetts Acts of 1911, ch. 471, secs. 8 and 9.

[2] Net maintenance sum is the total sum expended for maintenance, less the amount of tuition claims and receipts from the work of pupils and sale of products.

[3] See Manual Training and Vocational Education, Vol. XVI, No. 7, March, 1915, pp. 426–430.

trade training. Those who favor dual control claim that trade schools under the control of the ordinary school committee tend to make trade courses cultural rather than strictly vocational, and to lose the connection with industries which is essential to their success. The Boston and Worcester trade schools have advisory committees chosen from employers and other persons interested in trade schools, which assist the schools in relating their work to the needs of the community.

Girls' trade schools are, in one aspect, business organizations which manufacture and sell. The cost of the plant is not excessive. The furniture and equipment of the Worcester Trade School for Girls was valued at $5,475 November 30, 1914; in addition to this, the school has "material and made-up stock" to the value of $2,000.[1]

The maintenance cost of trade schools is heavy for several reasons: (1) Salaries are high, because the school hours are long and the equipment of trade teachers enables them to command good wages as forewomen. The school has to offer them as much as they can earn in the trade. (2) The number of teachers is relatively large, to insure small classes and the requisite individual teaching. (3) The cost of supplies is great. The per capita cost of instruction is ascertained by dividing the total cost of maintenance by the average membership. The term is the regulation 40 weeks' school year in Boston and 42 weeks in Worcester. By the year, girls' trade schools cost far more for maintenance than any other type of public education. However, the long school day means almost one-third more hours of instruction than are offered at the Practical Arts High School of Boston. Considered on this basis, the cost of girls' trade schools is almost identical with the cost of the Practical Arts High School. Under private management, the expenditure for maintenance of the Boston Trade School ranged from $109.50 to $150 for each girl,[2] while Table 138 shows that, in the years for which data are given, for the period under public management the per capita cost ranged from $101.85 to $119.47, indicating that the cost of trade schools tends to diminish as they become better established. The per capita cost is based on the total expenditure for maintenance. As a matter of fact, the real cost is much smaller because of the revenue derived from the sale of product. The ratio of value of product to cost of maintenance varies from year to year, from about one-fifth to one-fourth.

[1] Worcester Auditor's Annual Report for the financial year ending Nov. 30, 1914, p. 236.

[2] See first four annual reports of the Boston Trade School for Girls.

TABLE 138.—PER CAPITA COST OF BOSTON AND WORCESTER TRADE SCHOOLS FOR GIRLS AND THE PRACTICAL ARTS HIGH SCHOOL OF BOSTON.

School.	Cost per year for each pupil.[1]				
	1909–10	1910–11	1911–12	1912–13	1913–14
Worcester Trade School [2]			$194.64	$201.97	$154.84
Boston Trade School [3]	$101.85	$119.47	114.45	(4)	(4)
Practical Arts Trade School [3]	85.66	78.46	74.60	74.58	81.95

[1] Forty weeks in Boston, 42 weeks in Worcester.
[2] Data furnished by the Worcester Trade School for Girls.
[3] Data obtained from the document containing the report of the business agent in the report of the Boston school committee for specified years.
[4] The accounts of the trade school for girls, regular and summer term, and the girls' evening trade school were consolidated Apr. 1, 1912, and no data on the per capita cost of the day school have since been available.

The income from the sale of product at the Worcester Trade School shows an interesting variation. The dressmaking department produces the largest revenue, and is the largest department in the school. The receipts from cooking, that is, "supplementary" cooking, a course taken by all pupils, come next. The revenue is derived from the lunches served to pupils and teachers. Power-machine operating shows a decided increase during the two years, 1912–13 and 1913–14.

TABLE 139.—REVENUE FROM SALE OF PRODUCTS OF EACH DEPARTMENT OF THE WORCESTER TRADE SCHOOL.

Year.	Revenue from product sold.			
	Dressmaking.	Millinery.	Power-machine operating.	Cooking.
1911–12	$582.28	$290.89	$300.53	$1,183.54
1912–13	1,661.90	276.68	569.86	2,426.34
1913–14	3,199.93	278.41	753.30	2,213.19

The several departments of the trade schools execute orders, but the school office controls the financial transactions of the school. The different departments set the selling price on stock work or orders. The primary basis for this is the current market price. The article is sold at this set price, if possible, but it sometimes has to be disposed of for a smaller amount. The school office assumes all the responsibility of obtaining orders and collecting debts.

The making of a salable product involves a great deal of accounting and demands business ability on the part of the school director. It has proved to be the only means of giving the pupils the necessary trade practice, but can never be sufficient in amount to render the school even approximately self-supporting.

TABLE 140.—ANNUAL REVENUE FROM SALE OF PRODUCT AND COST OF MAINTENANCE OF BOSTON AND WORCESTER GIRLS' TRADE SCHOOLS.

Year.	Cost of maintenance.[1]	Value of product sold.	Per cent revenue is of cost.	Year.	Cost of maintenance.[1]	Value of product sold.	Per cent revenue is of cost.
BOSTON TRADE SCHOOL.[2]				WORCESTER TRADE SCHOOL.			
1911 [3]	$24,611.58	$7,262.26	29.5	1912 [4]	[7] $16,018.73	[8] $2,357.24	14.7
1912 [4]	[5] 35,535.25	9,655.57	27.2	1913 [4]	[7] 24,483.27	[8] 4,934.78	20.2
1913 [4]	[5] 42,611.03	[6] 10,633.07	25.0	1914 [4]	[7] 28,866.06	[8] 6,444.82	22.3
1914 [4]	[5] 49,999.88	11,551.82	23.1				

[1] Exclusive of new buildings, rents, repairs, administration, supervision.
[2] The data for Boston were obtained from the document containing the report of the business agent in the reports of the Boston school committee for the specified years.
[3] Ten months' school session.
[4] Twelve months' school session.
[5] Includes cost of evening trade schools.
[6] Includes sale of product of evening school.
[7] Data obtained from the report of the Worcester auditor for specified year.
[8] Data furnished by the Worcester Trade School for Girls.

APPENDIX B.—EVENING INDUSTRIAL SCHOOLS FOR GIRLS.

Evening industrial schools for girls differ from girls' trade schools in personnel and in methods of teaching, also in intent. Girls' trade schools are, in the main, preparatory, although the Boston Trade School also offers continuation courses to its own pupils when they are out of work, giving somewhat advanced courses to accredited pupils who have had trade experience. The Boston Evening Trade School for Girls is wholly planned to meet the needs of trade workers for continuation training which shall supplement their experience. The practical arts training in the evening schools in Boston and Worcester consists of home-making rather than trade courses. The problem of selection of courses and the proper sequence of processes to be taught is somewhat the same in both day trade schools and evening industrial schools. The evening trade schools offer a field for valuable experiment in trade continuation work for mature pupils. The value of the study of such types of evening industrial schools as are already in operation lies in the information obtained as to the kind of supplementary education needed by working women 17 years of age and older and the methods of teaching these older pupils which have been most successful.

The Massachusetts laws provide for two types of State-aided evening vocational schools for women. One, operating under the law of 1911,[1] offers "trade extension" courses to women employed during the day in occupations for which they receive training at night. The second and predominant type, operating under the law of 1912,[2] offers "practical arts" courses to "all women over 17 years of age who are employed in any capacity during the day."

The act of 1911 was, doubtless, aimed at the solution of the problem of the boys' rather than of the girls' continuation or supplementary trade training. The short time devoted to acquiring the training in the evening classes made it impossible fully to train a worker. To avoid crowding the labor market with partially trained workers, attendance was limited to those employed in the trade, "in order that instruction in the principles and the practice of the arts may go on together."[3] The school was expected to supply the principles, while the day occupation provided the practice.

In 1912 an "Act to provide for the establishment and maintenance of evening classes in the practical arts for women" was passed to

[1] Massachusetts Acts of 1911, ch. 471, sec. 1, art. 6.
[2] Massachusetts Acts of 1912, ch. 106.
[3] Massachusetts Acts of 1911, ch. 471, sec. 3.

legalize and provide for State aid to the many evening industrial schools which did not conform to the law of 1911.

Not until 1913–14 was a girls' evening industrial school organized to operate in accordance with the terms of the law of 1911. In that year the Boston Evening Trade School for Girls was reorganized on a "trade extension" basis for women employed during the day in occupations for which training was offered in the evening; it is still, in 1915, the only evening school for girls in the State operating under this law. As shown in the following table, the change in purpose and requirements resulted in a decrease of 50.2 per cent in the enrollment in 1913–14, since all who desired the practical arts course must go to other schools.

TABLE 141.—TOTAL REGISTRATION IN THE BOSTON EVENING TRADE SCHOOL FROM 1912 TO 1914, AND PER CENT OF INCREASE OR DECREASE IN EACH YEAR AS COMPARED WITH PRECEDING YEAR.

School year.	Number of pupils registered.	Per cent of increase (+) or decrease (−) compared with preceding year.
1911–12	[1] 191	.....
1912–13	[2] 331	+73.3
1913–14	[3] 165	[4] −50.2

[1] Report of Boston School Committee, 1912, Document 6, p. 39.
[2] Report of Boston School Committee, 1913, Document 9, p. 39.
[3] Report of Boston School Committee, 1914, Document 6, p. 39.
[4] Decrease due to change in requirements for admission, that all pupils be working in allied trades during the day.

According to the law, an "evening class in an industrial, agricultural, or household arts school shall mean a class giving such training as can be taken by persons already employed during the working-day, and which, in order to be called vocational, must in its instruction deal with the subject matter of the day employment and be so carried on as to relate to the day employment."[1] The interpretation of this clause, however, is elastic. The announcement of courses of the Boston Evening Trade School in 1914-15 offers to power-machine operators, dressmakers, or milliners, machine operating on ordinary machines, special machines and straw-hat machines; to dressmakers, costume sketching, designing, and the making of garments; to dressmakers and milliners different processes of millinery; to needleworkers, garment construction and embroidery; to housekeepers, plain and fancy cooking.[2]

Even more liberal is the actual working out of the law. In the power-machine operating room of the school a saleswoman in a millinery establishment struggled with the elementary processes of

[1] Massachusetts Acts of 1911, ch. 471, sec. I, art. 6.
[2] Boston Trade School, Evening Trade School Announcement of Courses, 1914-15.

straw power-machine operating. Shoe stitchers and cloth machine operators made straw hats in the evening school. The day dressmaker who went from house to house learned and practiced power-machine operating. While this training was undoubtedly valuable to these women, they did not have the opportunity to practice during the day the principles acquired in the evening, and because of the short session and short hours they did not have adequate time to acquire a working knowledge of a new trade. Since the school is in session only three evenings a week from October to April and each session is only two hours long, a pupil by attending every session could receive only 144 hours of instruction, the equivalent of 16 working-days.

Of necessity, the group system of teaching must be employed, and yet the differences in equipment, age, and occupation of the pupils make a great deal of individual instruction necessary, since the enrollment is too small to group successfully those needing similar teaching. The Worcester Trade School has to solve the problem for the practical arts courses, but this is not so difficult as for the trade-extension course, where every worker needs instruction in a specific process, and where no two may need exactly the same thing.

In the Boston Evening Trade School, the course chosen by the pupil is pursued during the whole winter. It is very elastic, however, since the women may receive instruction in any specific trade process which they need in their day work whenever this need arises, without regard to the regular sequence of processes in the school course.

The report of the ages of the workers coming to the evening trade school for supplementary training shows a very small proportion of young workers. This is indicated in the following table:

TABLE 142.—NUMBER AND PER CENT OF PUPILS IN SPECIFIED AGE GROUPS IN THE EVENING INDUSTRIAL SCHOOLS FOR GIRLS IN BOSTON, WORCESTER, AND CAMBRIDGE, 1913-14.[1]

Age group.[2]	Number.					Per cent.				
	Boston.		Worcester.	Cambridge.	Total.	Boston.		Worcester.	Cambridge.	Total.
	Evening trade school.	Homemaking school.				Evening trade school.	Homemaking school.			
17 to 18 years	18	160	98	13	289	10.5	12.9	11.9	2.7	10.6
18 to 21 years	12	206	183	66	467	6.9	16.5	22.2	13.6	17.1
21 to 25 years	18	110	210	108	446	10.5	8.8	25.5	22.3	16.4
Over 25 years	124	770	333	297	1,524	72.1	61.8	40.4	61.4	55.9
Total	[3]172	[3]1,246	824	484	2,726	100.0	100.0	100.0	100.0	100.0

[1] Seventy-eighth Annual Report, Massachusetts Board of Education, 1913-14.
[2] Age groups are as given in report.
[3] "Total enrollment will not equal total different numbers since some are enrolled in more than one course." Seventy-eighth Annual Report, Massachusetts Board of Education, p. 262, note.

Almost three-fourths (72.1 per cent) of the pupils enrolled in 1913–14 were over 25 years of age, and 82.6 per cent were 21 years and over. Thus, instead of drawing a proportionately larger group of young workers, as might be expected, only 17.4 per cent in the evening trade school were under 21, while in all Boston manufacturing industries, 27.6 per cent and in the sewing trades 19.3 per cent were in this young group. The trade school is drawing an abnormally large proportion of older women, for only 72.4 per cent of the women in all manufacturing and mechanical pursuits and 80.7 per cent in the sewing trades in Boston were 21 years and over.[1] A wide variation is also found in the several courses in the Boston Evening Trade School. As shown in Table 143, in cloth power-machine operating 87.1 per cent of the pupils were 21 years and over and 80 per cent over 25, showing the largest proportion to be older women, a condition contrary to that in the trade, for the census of 1910 showed that, of the four trades taught in the trade school, this trade had the largest proportion (30.6 per cent) of workers under 21 years of age.[2] Over 83 per cent (83.3) of those enrolled in dressmaking and 76.2 per cent in millinery were 21 years of age or more, corresponding more nearly to proportions in the trade itself, where 87.5 per cent in dressmaking [3] and 77.6 per cent in millinery [4] were 21 years and over.

In the Boston Evening Trade School for Girls both the materials and the finished product are the property of the school. During the last few lessons of the course the pupils are allowed, in some cases, to make garments of their own materials, which are then their own property. They are allowed to buy the garments they have made during the first part of the course at the cost of materials. This system of making up product which shall belong to the school, and which also prevails in the day trade school, has the advantage of securing uniformity of product and standardization of course, although the differing needs and abilities of the pupils really result in an output which is varied in character. The disadvantage of the system is that the women lack the incentive to good work and regular attendance which exists when they are making something for themselves.

The following table shows the relation of the age of pupils to the courses taken in the evening industrial and trade schools of Boston, Worcester, and Cambridge in 1913–14:

[1] United States Census, 1910, Vol. IV, Occupations, p. 540. "Sewing-machine operators" and "semi-skilled operatives in suit, coat, cloak, and overall factories" are combined here with dressmakers, milliners, and tailoresses.

[2] United States Census, 1910, Vol. IV, Occupations, p. 540. Sewers and sewing-machine operators, and semiskilled operatives in suit, coat, cloak, and overall factories are combined.

[3] Idem. Dressmakers, seamstresses and tailoresses.

[4] Idem. Milliners and millinery dealers.

TABLE 143.—NUMBER AND PER CENT OF PUPILS TAKING SPECIFIED COURSES IN THE EVENING INDUSTRIAL AND TRADE SCHOOLS IN BOSTON, WORCESTER, AND CAMBRIDGE, 1913–14,[1] BY AGE GROUPS.

NUMBER.

Course.	Boston Evening Trade School for Girls.				Worcester Girls' Independent Evening Trade School.				Boston evening practical arts courses.				Cambridge evening practical arts courses.				Total.
	17–21.[2]	21–25.[2]	Over 25.	Total.	17–21.[2]	21–25.[2]	Over 25.	Total.	17–21.[2]	21–25.[2]	Over 25.	Total.	17–21.[2]	21–25.[2]	Over 25.	Total.	
Cooking	6	.....	12	18	.....	.....	.....	.....	10	3	42	55	.....	15	9	24	97
Dressmaking	8	8	32	48	251	196	287	734	253	61	343	657	56	58	179	293	1,732
Embroidery	.....	.....	.....	.....	.....	.....	.....	.....	28	22	92	142	9	16	43	68	210
Millinery	5	4	12	21	30	14	46	90	75	24	293	392	14	19	66	99	602
Power-machine operating	11	6	68	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	85
Total	30	18	124	[3] 172	281	210	333	[3] 824	366	110	770	[3] 1,246	79	108	297	[3] 484	2,726

PER CENT.

Cooking	33.4	.....	66.6	100.0	.....	.....	.....	.....	18.2	5.4	76.4	100.0	.....	62.5	37.5	100.0	.....
Dressmaking	16.7	16.7	66.6	100.0	34.2	26.7	39.1	100.0	38.5	9.3	52.2	100.0	19.1	19.8	61.1	100.0	.....
Embroidery	.....	.....	.....	.....	.....	.....	.....	.....	19.7	15.5	64.8	100.0	13.3	23.5	63.2	100.0	.....
Millinery	23.8	19.1	57.1	100.0	33.2	15.5	51.3	100.0	19.1	6.1	74.8	100.0	14.1	19.2	66.7	100.0	.....
Power-machine operating	12.9	7.1	80.0	100.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	17.4	10.5	72.1	100.0	34.1	25.5	40.4	100.0	29.4	8.8	61.8	100.0	16.3	22.3	61.4	100.0	.....

[1] Seventy-eighth Annual Report, Massachusetts Board of Education, pp. 262, 264, 268.
[2] Age groups are as given in report.
[3] "Total enrollment in evening schools will not add to equal total different numbers, since some are enrolled in more than one course." Idem, p. 262.

The second type of evening schools, providing instruction in household and other practical arts, is open to women 17 years of age who are employed in any capacity during the day. To this group belong the evening industrial schools in Cambridge, Worcester, and Boston. Almost three-fourths of the pupils (71.6 per cent) in these schools were 21 years of age or more. In 1913–14, 70.6 per cent of the women in these classes in Boston, 65.9 per cent in Worcester, and 83.7 in Cambridge were 21 years of age and over. An older group is to be expected in this particular type of school as the women come to make their own clothes. Two types of schools offering "practical arts" courses have developed; evening classes in ordinary public schools, with home standards of work and a long course lasting through the season, and the Worcester plan, with a systematically arranged course of short units and the product approximating the trade standard in finish.

The evening industrial schools in Worcester attract a younger group than those of Cambridge and Boston. In Worcester in 1913–14, less than two-fifths (39.1 per cent) of the pupils enrolled in dressmaking were over 25 years of age while in the Boston Evening Trade School two-thirds (66.6 per cent), in the Boston evening practical arts courses one-half (52.2 per cent), and in the Cambridge practical arts courses about two-thirds (61.1 per cent), were over 25 years of age. In the millinery about the same proportions in the Boston Evening Trade School (57.1 per cent) and in the Worcester evening school (51.3 per cent) were over 25 years of age. In the Boston practical arts courses, 74.8 per cent and in the Cambridge practical arts courses 66.7 per cent of those taking millinery were over 25 years. The Worcester evening school showed the largest percentage of pupils from 17 to 21 years of age, one-third (34.1 per cent) being less than 21 years old, while in the Boston Evening Trade School 17.4 per cent, in the Cambridge practical arts courses 16.3 per cent, and in the Boston practical arts courses 29.4 per cent were from 17 to 21 years of age. The tendency in Worcester, however, seems to be toward an increase in the age of pupils. In 1913–14, 40.4 per cent and in 1914–15, one-half (51.1 per cent) of the pupils were 25 years of age and more.

TABLE 144.—NUMBER AND PER CENT OF GIRLS IN SPECIFIED AGE GROUPS ENROLLED IN THE WORCESTER GIRLS' INDEPENDENT EVENING TRADE SCHOOL IN 1913-14 AND IN 1914-15.

Age group.[1]	Number.		Per cent.	
	1913-14	1914-15	1913-14	1914-15
17-18 years of age	98	37	11.9	5.3
18-21 years of age	183	136	22.2	19.3
21-25 years of age	210	171	25.5	24.3
Over 25 years of age	333	360	40.4	51.1
Total	824	704	100.0	100.0

[1] These age groups are given in the form used in the report of the Massachusetts Board of Education.

The surprisingly large proportion (72.3 per cent) of women more than 21 years of age in these industrial evening classes in Boston, Worcester, and Cambridge is quite unlike that existing in other types of evening schools. In February, 1914, 5,501 girls, excluding the non-English-speaking pupils, were registered in all the Boston evening schools.[1] Of these, 36.2 per cent were 21 years of age and over. A study of working girls in the New York evening schools made in 1910–11 showed 23.4 per cent 21 years of age and over.[2] In the evening classes of the Manhattan Trade School in 1913, 38.3 per cent of the pupils were 21 years or over.[3]

The adaptation of a course to the varying needs of so mature a group presents a serious problem. The very fact that so few young girls enroll in the evening industrial classes should be suggestive as it seems to show that any sort of trade continuation work designed to reach young people must be offered in working hours, with an arrangement by which the girl can attend without loss of pay, such as has been in operation in Boston for children of 14 to 16 years of age since September, 1914. Girls under 21 years of age evidently will not give up their evenings to supplementary trade training either because they have not yet appreciated the benefit of it or because they are too tired physically, or because they are unwilling to spend their evenings in trade atmosphere. Although it seems probable that young women more than older ones need instruction in their trades, it is the older women in Massachusetts who attend trade-extension courses with trade standards as well as the courses in practical arts.

It is difficult to find any relation between the occupations of women attending evening industrial schools and the courses they choose at the school. Almost all varieties of occupation were repre-

[1] Report of the Boston School Committee, 1914, Document 6, pp. 45, 46.
[2] Mary Van Kleeck: Working girls in evening schools, p. 29.
[3] Idem, p. 133.

sented in the Worcester Girls' Independent Evening Trade School in 1914–15. This is shown in the table which follows:

TABLE 145.—NUMBER AND PER CENT IN EACH OCCUPATION OF GIRLS ENROLLED IN SPECIFIED COURSES IN WORCESTER GIRLS' INDEPENDENT EVENING TRADE SCHOOL, 1914–15.

Occupation.	Number of girls enrolled in courses in preliminary dressmaking.						
	Plain sewing.		Plain waist and skirt.		Plain sewing and waist or skirt.	Total.	
	One course.	Two courses.	One course.	Two courses.		Number.	Per cent.
Earning.							
Manufactures:							
Custom clothing			1			1	0.4
Needle trades	6	6	4	5	12	33	12.6
Other manufactures	5	17	4	5	24	55	20.9
Total	11	23	9	10	36	89	33.9
Transportation				1	1	2	.8
Trade	2	2	2		2	8	3.0
Clerical occupations	12	9	6	6	17	50	19.0
Professional service	1		1	1	1	4	1.5
Domestic service	10	10	1	2	1	24	9.1
Total	36	44	19	20	58	177	67.3
Not earning.							
At home	17	12	18	10	28	85	32.3
At school					1	1	.4
Total	17	12	18	10	29	86	32.7
Grand total	53	56	37	30	87	263	100.0

Occupation.	Number of girls enrolled in courses in intermediate dressmaking.					
	Without plain sewing.	In addition to preliminary course.	Followed by advanced course.	Power-machine operating.	Total.	
					Number.	Per cent.
Earning.						
Manufactures:						
Needle trades	36	7		18	61	21.4
Other manufactures	25	1		6	32	11.2
Total	61	8		24	93	32.6
Transportation	1				1	.4
Trade	3	1			4	1.4
Clerical occupations	35	6	1		42	14.7
Professional service	4		1		5	1.8
Domestic service	8	4			12	4.2
Total	112	19	2	24	157	55.1
Not earning.						
At home	116	4	2	4	126	44.2
At school	2				2	.7
Total	118	4	2	4	128	44.9
Grand total	230	23	4	28	285	100.0

TABLE 145.—NUMBER AND PER CENT IN EACH OCCUPATION OF GIRLS ENROLLED IN SPECIFIED COURSES IN WORCESTER GIRLS' INDEPENDENT EVENING TRADE SCHOOL, 1914–15—Concluded.

Occupation.	Number of girls enrolled in—									Grand total.	
	Courses in advanced dressmaking.				Courses in millinery.						
	Without plain sewing.	In addition to preliminary course.	Total.		One course.	Two courses.	Combined with dressmaking.	Total.		Number.	Per cent.
			Number.	Per cent.				Number.	Per cent.		
Earning.											
Manufactures:											
Custom clothing	3	.....	3	6.7	.....	2	.....	2	1.8	6	0.9
Needle trades	8	1	9	20.0	1	13	.....	14	12.6	117	16.6
Other manufactures	2	3	5	11.1	3	6	.....	9	8.1	101	14.3
Total	13	4	17	37.8	4	21	.....	25	22.5	224	31.8
Transportation	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.4
Trade	1	.....	1	2.2	.....	2	.....	2	1.8	15	2.1
Clerical occupations	4	1	5	11.1	5	11	2	18	16.2	115	16.4
Professional service	3	.....	3	6.7	5	6	1	12	10.8	24	3.4
Domestic service	4	.....	4	8.9	3	.....	1	4	3.6	44	6.3
Total	25	5	30	66.7	17	40	4	61	54.9	425	60.4
Not earning.											
At home	12	2	14	31.1	15	34	1	50	45.1	275	39.1
At school	1	.....	1	2.2	.....	.....	.....	.....	.....	4	.5
Total	13	2	15	33.3	15	34	1	50	45.1	279	39.6
Grand total	38	7	45	100.0	32	74	5	111	100.0	704	100.0

As indicated in the above table, about one-third (31.8 per cent) of the pupils were in manufacturing industries (corsets, underwear, mattresses, shoes, and envelopes); more than one-fourth (28.6 per cent) were in occupations other than manufacturing, while almost two-fifths (39.6 per cent) were not earning, but were in their own homes. About one-half of those in manufacturing were in the needle trades, from which were drawn only 17.5 per cent of the 704 enrolled. One-sixth, then, of the number enrolled in the Worcester evening school in 1914–15 were engaged during the day in occupations allied to the courses taken in the evening, which is almost the same as the proportion (16.4 per cent) engaged in clerical occupations.

One-fifth (22.1 per cent) of the women enrolled in intermediate and advanced sewing and 13 per cent of the women enrolled in preliminary dressmaking were engaged during the day in the needle trades. The knowledge of sewing gained from their day occupations would seem to give these women some advantage in taking the advanced courses. But just as the women attending evening industrial schools belong to a group too advanced in age to profit most by the teaching, so they follow, to a large extent, during the day, occupations not at all allied to the evening courses.

One hundred and seventy-five of the 704 women enrolled in the Worcester evening school were married; all but four of these were at home. The variety of occupation, age, and marital condition of the pupils makes the problem of successful grouping extremely difficult; but the effort is made to keep women of about the same age and occupation in the same classes.

The question of irregularity of attendance at evening schools seems almost hopeless of solution as long as the pupils are busy in some capacity during the day. The Boston Evening Trade School serves a supper at small cost, so that the women may come direct from work to school. The Worcester evening school offers short courses, which terminate at fixed dates, and it requires a completion of one course before another is undertaken, thus putting a premium on regularity of attendance. This scheme has been very successful, as an average of 88 per cent of the women enrolled are present at each session, and those who can not come habitually telephone or send their excuse.

The chief problems, then, which are presented to educators in the evening vocational schools are how to attract (1) a larger proportion of young workers, and (2) a larger number of women employed in allied trades during the day; that is, how to present the advantages of the school to the classes most in need of them. Many workers engaged in the manufacture of clothing or straw hats were visited who wished there were some place where they could learn special machines or could work up speed. Although in some cases they lived within a few blocks of the trade school, they had never heard of it. Another problem is to secure regularity of attendance, so that the lessons may be of some real value to the worker. The successful development of these evening vocational courses must follow the line of the demands of the worker, which depend on the demands of the trade. These demands point to regularly organized short-unit courses with pupils having the same background and the same needs grouped together, and to close connection with the trade.

The length of term in all evening schools is from October 1 to April 1. In the Boston Evening Trade School, the pupils are expected to come three evenings and in the Worcester evening school two evenings a week. In Worcester, the school is in session four evenings a week, but the same classes meet on alternate evenings, and the session lasts two hours. In the Boston and Cambridge evening practical arts courses a course lasts through a school year. In Worcester, a short-unit system has been developed, each unit complete in itself. The units are so arranged that it is possible to progress from one subject to another, or to enter after the beginning of the term, when a new unit is begun. The units range in length from eight

to twenty-four lessons. Millinery has four units of eight lessons each, two in the fall and two in the spring. During the winter the pupil in this course may take sewing, but only a few do so. Each pupil makes or trims a hat during each of the courses, and some make more than one. In plain sewing, which must be taken by all women who know nothing about needlework, there are four courses of 12 lessons each, the second half-year repeating the work of the first. Pupils work from the start on garments rather than on samplers, as in the Boston Evening Trade School. The garments made are an apron, dressing sack, corset cover, and night-gown. The plain skirt and plain waist, 12 lessons each, are both repeated four times. The courses in fancy waists and plain one-piece dresses are 16 lessons each, repeated twice, while advanced dressmaking, repeated once, is given in 24 lessons. This last course was designed primarily for dressmakers, but had to be taught in a more elementary way than was anticipated. One-third of the pupils enrolled in this course were at home and only 6 per cent were dressmakers. This is of interest because there is said to be a real need for more independent dressmakers who will go from house to house. The natural supposition would be that such a course would attract women who aspired to meet this demand. Children's clothing was offered, but as no one chose this course, it was discontinued.

Each pupil furnishes her own material for garments. The school supplies cotton cloth from which a flat bag with strings is made. At night the women fold their work and place it in their bags which are piled up and wrapped in bundles, which take little room and are free from dust. Each garment must be finished and inspected by the teacher in charge of the class and by the supervisor of the night work, who grades each garment, criticises it, and occasionally requires that some part be done over before it is taken home. The standard of finish is that of the shop. The advantages claimed for the system, aside from the regularity of attendance secured, are the interest of the pupils and its adaptability to their need. Some enter for only one or two units in September, while some enter in other months. Two-thirds (67 per cent) of the whole number came in September, and about one-tenth (11.8 per cent) in November, when the second units began. The school plans to offer the courses the pupils want most. This year the one-piece dress proved most popular. For next year the school plans to offer a course in cutting and fitting for its own graduates and others who are qualified to take such work.

The two tables which follow show, first, the plan of short-unit courses of the Worcester Girls' Independent Evening Trade School and, second, the number and per cent who entered the school in specified months from September, 1914, to March, 1915.

TABLE 146.—PLAN OF SHORT-UNIT COURSES OF THE WORCESTER GIRLS' INDEPENDENT EVENING TRADE SCHOOL, OCTOBER, 1914, TO APRIL, 1915.

<table>
<tr><th rowspan="3">Week beginning—</th><th colspan="6">Courses in dressmaking.</th><th rowspan="3">Courses in millinery.</th></tr>
<tr><th colspan="4">Preliminary.</th><th>Intermediate.</th><th colspan="2">Advanced.</th></tr>
<tr><th>Plain sewing.</th><th>Plain skirt.</th><th>Unlined waist.</th><th>Children's clothing.</th><th>Plain dress.</th><th>Fancy waist.</th><th>Advanced dressmaking.</th></tr>
<tr><td>Sept. 28</td><td rowspan="5">12 lessons.</td><td rowspan="5">12 lessons.</td><td rowspan="5">12 lessons.</td><td>2 lessons.</td><td rowspan="5">16 lessons.</td><td rowspan="5">16 lessons.</td><td rowspan="5">24 lessons.</td><td>8 lessons.</td></tr>
<tr><td>Oct. 5</td><td rowspan="2">6 lessons.</td><td rowspan="4"></td></tr>
<tr><td>Oct. 12</td></tr>
<tr><td>Oct. 19</td></tr>
<tr><td>Oct. 26</td><td>4 lessons.</td><td>8 lessons.</td></tr>
<tr><td>Nov. 2</td><td rowspan="5">12 lessons.</td><td rowspan="5">12 lessons.</td><td rowspan="5">12 lessons.</td><td rowspan="2">6 lessons.</td><td rowspan="5"></td></tr>
<tr><td>Nov. 9</td></tr>
<tr><td>Nov. 16</td><td rowspan="3">6 lessons.</td><td rowspan="3">16 lessons.</td><td rowspan="3">16 lessons.</td></tr>
<tr><td>Nov. 23</td></tr>
<tr><td>Nov. 30</td></tr>
<tr><td>Dec. 7</td><td rowspan="5">12 lessons.</td><td rowspan="5">12 lessons.</td><td rowspan="5">12 lessons.</td><td>6 lessons.</td><td rowspan="5"></td></tr>
<tr><td>Dec. 14</td><td rowspan="2">2 lessons.</td><td rowspan="4">24 lessons.</td></tr>
<tr><td>Jan. 4</td></tr>
<tr><td>Jan. 11</td><td rowspan="2">6 lessons.</td><td rowspan="4"></td></tr>
<tr><td>Jan. 18</td></tr>
<tr><td>Jan. 25</td><td rowspan="3">16 lessons.</td><td rowspan="3">16 lessons.</td><td rowspan="3"></td></tr>
<tr><td>Feb. 1</td><td rowspan="4">12 lessons.</td><td rowspan="4">12 lessons.</td><td rowspan="4">12 lessons.</td><td rowspan="2">4 lessons.</td></tr>
<tr><td>Feb. 8</td><td>8 lessons.</td></tr>
<tr><td>Feb. 15</td><td rowspan="3">6 lessons.</td><td rowspan="3">16 lessons.</td><td rowspan="3">16 lessons.</td><td rowspan="3">8 lessons.</td></tr>
<tr><td>Feb. 22</td></tr>
<tr><td>Mar. 1</td><td rowspan="3">12 lessons.</td><td rowspan="3">12 lessons.</td><td rowspan="3">12 lessons.</td></tr>
<tr><td>Mar. 8</td><td rowspan="2">6 lessons.</td></tr>
<tr><td>Mar. 15</td></tr>
<tr><td>Mar. 22</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

TABLE 147.—NUMBER AND PER CENT OF PUPILS WHO ENTERED THE WORCESTER GIRLS' INDEPENDENT EVENING TRADE SCHOOL IN SPECIFIED MONTHS, 1914–15.

Month.	Women entering school in specified months.	
	Number.	Per cent.
September	472	67.1
October	58	8.2
November	83	11.8
December	2	.3
January	44	6.2
February	41	5.8
March	4	.6
Total	704	100.0

In the Boston Evening Trade School, the day trade teachers give their services in the evening. They are thoroughly familiar with the subjects to be taught and the best way of presenting them. On the other hand, their hours in the day school are long, and they are not able to give to their work the freshness of energy which teachers from outside the school can bring. In Worcester, the school obtains its evening teachers from the trades. They are used to directing workers, but are less familiar than are the regular teachers with the pedagogy

of the subject, and hence are apt to emphasize product rather than correct methods. The day trade-school teachers are not tired by evening work for their regular duties. Under this arrangement some one official must be given general supervision of the evening school work, as the teachers are not accustomed to the standardization of work necessary in a school. When the day trade-school teachers serve at night, this supervision is unnecessary.

The method of teaching in the evening industrial schools is that of practice, with so much of the theory as comes naturally with the lessons. The classes are small, the teacher supervises the women individually, making a class lesson of individual problems which apply to the work of all. In the Worcester evening school the pupils do all the cutting and fitting. The teacher supervises both processes. One pupil helps another with the draping; sometimes the teacher drapes one side of a waist on the form and the pupil drapes the other. The whole idea in the Worcester school is, not to help the women to get cheap dressmaking and millinery done, but to teach them the principles of both processes. In Boston each pupil is given all possible help on points of individual difficulty.

A study of the evening industrial schools for girls in Massachusetts, then, means a consideration of two types of school; first, the type which offers trade extension courses for women in allied trades during the day; second, practical arts courses for women employed in any capacity during the day. In both types of school the women over 21 years of age predominate, and in both there are relatively few women enrolled in courses which will help them directly in their day occupations. The evening industrial schools are, therefore, not yet fulfilling the need for advanced training of women workers in the trades. The tendency in the evening industrial schools, however, is toward greater systematization of teaching and standardization of product. There is yet to be developed a systematized program for continuation work of a really advanced character for young workers already in various trades. The short-unit method seems to be the most satisfactory system.

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