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TEN-HOUR MAXIMUM WORKING-DAY
FOR WOMEN AND YOUNG PERSONS



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TEN-HOUR MAXIMUM WORKING-DAY FOR WOMEN AND YOUNG PERSONS.¹

INTRODUCTION.

Shortly after the Berne Convention prohibiting the night work of women in industrial employment was signed at Berne, on 26th September, 1906, the International Association for Labor Legislation, at its Fourth (Geneva) Delegates' Meeting, passed resolutions that the question of a legal maximum working-day should be regulated by international agreement. Resolutions on this subject were also passed at the Fifth (Lucerne) and Sixth (Lugano) Delegates' Meetings.

The following are the resolutions affecting women and young persons:

In pursuance of the principles adopted by resolution of the Fourth Delegates' Meeting, held at Geneva, respecting the maximum working-day, namely—

- "1. The determination by law of a maximum period of daily work is of the highest importance for the maintenance and promotion of the physical and intellectual welfare of workmen and employees.
- "2. Over and above limitations of hours of work brought about by the efforts of trade-unions, the intervention of the legislature is necessary in order to set a limit to daily hours of work in general."

The Delegates' Meeting resolves:

1. As regards the employment of women.

The period of employment for all women, subject to the provisions of the Berne Convention on the Night Work of Women, to be limited by international agreement to ten hours. This legal maximum period of employment to be introduced by degrees.

The Delegates' Meeting confirms the resolutions of the Fifth Delegates' Meeting, and, in view of the fact that several States have by national legislation introduced the ten-

¹ This memorandum was prepared by the International Labor Office for the information of an international conference called to meet in Berne in September, 1913, to consider the question of an international treaty providing for a 10 hour maximum working day for women and young persons. This English translation, presented here by the courtesy of the International Labor Office, follows closely, except for a few unimportant corrections, the text of the German original.

hour working-day for women, believes that the time has come to extend this ten-hour working-day to all States by international treaty, at least in the case of establishments employing ten or more workers.

The Bureau is authorized to take such steps as may be necessary to bring about such a treaty and to draw up a memorandum on the subject.

The sections shall for this purpose report to the Bureau by 1st February, 1911, on the present state of legislation and legal decisions on the hours of work of women in their countries. The memorandum of the Bureau shall be laid as soon as possible before a special commission of five members.

2. As regards the employment of young persons.

In view of the fact that several States have by national legislation introduced the ten-hour maximum working-day for young persons, the Delegates' Meeting believes that the time has come to extend the same by international treaty to all States.

The Bureau is authorized to take the steps necessary to bring about such a treaty and to prepare for this purpose a memorandum which will take into consideration the special circumstances in individual States and define exactly any exceptions which may be necessary.

The sections shall for this purpose report to the Bureau by 1st February, 1911, on the present state of legislation and legal decisions on the hours of work of young persons in their countries. The Bureau's memorandum shall be laid as soon as possible before the special commission on the maximum working-day for women.

* * * * *

In order to understand these resolutions, it must in the first place be remembered that the Berne Convention of 1906, which introduced an 11-hour night's rest for women in industrial employment, also indirectly regulated the duration of their working-day. The working-day for women must not exceed 24 hours, less 11 of night rest, i. e., 13 hours, or from 11 to 12 hours allowing for rest periods, even in countries such as Belgium and Hungary, where the working-day for women has not been regulated.

The International Association would have liked to go further and to introduce a 12-hour night's rest for women. Had this proposal been successful, the first international labor convention would have introduced a 10-hour maximum working-day for women in all the signatory States.

The fate of this proposal was as follows: At the first official conference of experts held at Berne in 1905, according to the minutes,¹ the representatives of seven countries, namely, Germany, Austria, Hungary, Denmark, France, Luxemburg, and Switzerland, voted in favor of this proposal. Great Britain, the Netherlands, and Portugal abstained from voting. Italy voted for an 11-hour night's rest, and Belgium, Norway, and Sweden for a 10-hour night's rest. It will be seen that already at that date seven States were in favor of a measure of which the indirect result would have been to introduce a 10-hour maximum working-day for women. In view of the fact that a

¹ Conférence internationale pour la protection ouvrière, 1905. Procès-verbal No. 4, Annexe, p. 87.

unanimous agreement was considered to be desirable, the proposal for an 11-hour night's rest was accepted as a compromise.

Of the States mentioned which desired to introduce a 10-hour maximum working-day indirectly by prescribing a 12-hour night's rest, **France** had a legal maximum working-day of 10 hours for young persons under 18 years of age and adult women, in pursuance of article 3 of the Act of 30th March, 1900, which came into operation on 1st April, 1904; in **Great Britain** articles 24 and 26 of the Factory and Workshop Act of 17th August, 1901, limited the working-day of young persons under 18 years of age and adult women employed in textile factories to 10 hours on week days and 5½ hours on Saturdays, and prohibited overtime. The working-day in other factories and workshops is 10½ hours on week days (i. e., in textile factories rest periods amounting to altogether 2 hours and in other factories amounting to only 1½ hours are required) and 7½ hours on Saturdays. The legal maximum number of hours which may be worked in any one week in England is accordingly 55½ hours in textile factories and 60 hours in other industrial establishments; in **Germany** articles 135, 136, and 137 of the Act of 28th December, 1908, amending the Industrial Code, established a 10-hour maximum working-day for young persons under 16 years and women employed in establishments where at least 10 persons are regularly employed and, in the case of women, the maximum working-day was reduced to 8 hours on Saturdays and the eve of holidays. These provisions came into operation at the commencement of the year 1910. The same intentions prevail in **Switzerland**. The Swiss Federal Council, in its message to Parliament, of 6th May, 1910, on the revision of the Factory Act, quotes the following sentence from article 30 of the bill:

Work shall not be carried on for more than 10 hours in any one day, nor for more than 9 hours on Saturdays.

The remaining three States which voted for a 12-hour night's rest in 1905, i. e., Austria, Hungary, and Denmark, have not yet manifested their intention to establish a universal 10-hour working-day by national initiative. Among States, however, which abstained from voting in 1905, the **Netherlands** accepted, in October, 1911, the 10-hour day, which will come into force partly on January 1, 1912, and partly on January 1, 1913. This condition of affairs reveals the need for international agreement which is naturally still more urgently required in the case of all the remaining continental countries with a longer maximum working-day, namely, Belgium, Spain, Italy, Luxemburg, Portugal, Norway, and Sweden.

* * * * *

The object of this memorandum is, therefore, to show in its first part to what extent the working-day of women and young persons is regulated by the legislation of the different countries with regard to the legal hours of labor, the length of the rest periods, and the overtime which may be lawfully worked in exceptional circumstances. In the second part, the legal maximum working-day is compared with the actual working-day ascertained from statistics, which is often reduced below the legal maximum by means of agreements between associations of workmen and employers. The third part contains an inquiry into the hygienic, social, and productive advantages obtained by reducing the working-day to 10 hours or less.

In the case of States which have not as yet regulated the working-day of women, transitional provisions will be necessary, and the nature of such provisions is, therefore, discussed in the fourth and final part.

CHAPTER I.

CRITICAL ACCOUNT OF THE LEGISLATION RESPECTING THE WORKING-DAY, REST PERIODS, AND OVERTIME IN FORCE IN DIFFERENT COUNTRIES.

With regard to the class of persons whose working-day is regulated by law, a distinction must be made between—

I. States which have not established a legal maximum working-day for women and young persons. These are:

1. States which have no protective labor legislation whatever;
2. States which regulate the working-day only of persons under 14 years of age, i. e., States where children only are legally protected.

II. States which have established a legal maximum working-day for young persons only, i. e., States which restrict the working-day of male persons—

- (a) Until the age of 15;
- (b) Until the age of 16;
- (c) Until the age of 17;
- (d) Until the age of 18; and
- (e) Which restrict the working-day of female persons until the age of 21.

III. States which regulate the working-day of young persons of the female sex and women only.

IV. States which regulate the working-day of both male young persons and women, i. e., States where young persons and women are legally protected.

V. States which regulate the working-day of adult men as well as that of young persons and women, i. e., States where all workers are legally protected.

In this memorandum, States of the last-named class will be discussed as if they gave protection only to women and young persons, i. e., as if they were included amongst the States coming under IV.

A. LEGAL MAXIMUM WORKING-DAY.

I. STATES WHICH HAVE NOT ESTABLISHED A LEGAL MAXIMUM WORKING-DAY FOR YOUNG PERSONS AND WOMEN.

To this group belong—

1. States where no workers are legally protected: **Greece**,¹ **Monaco**, **Montenegro**, **Turkey**, all the **Asiatic States**, with the exception of **India** and **Japan**; **Africa**, with the

¹ Greece is removed from this group since the passage of the acts of Nov. 19–Dec. 2, 1911, on hygiene and safety of factory workers; of Jan. 24–Feb. 6, 1912, concerning the work of women and minors; of Jan. 24–Feb. 6, 1912, on the payment of wages.

exception of Algeria, Tunis, and Egypt; and **Central and South America**, with the exception of Argentina (Buenos Aires).

2. States where children only are legally protected: **Egypt, Alabama, Arkansas, Florida, and South Dakota**. Of these States Florida has established a 9-hour, and Arkansas and South Dakota a 10-hour legal maximum working-day for children. Florida and Alabama prohibit employment below 12 years; Arkansas below 14, and South Dakota below 15 years of age. Egypt has established an 8-hour working-day for those children only who are between 9 and 13 years of age and are employed in cotton-ginning mills.

II. STATES WHICH HAVE ESTABLISHED A LEGAL MAXIMUM WORKING-DAY FOR YOUNG PERSONS, BUT NOT FOR ADULT FEMALE WORKERS.

This group includes nine **European States**, of which seven have signed the Berne convention, namely, **Belgium, Denmark, Finland** (nonsignatory State), **Hungary, Luxemburg, Portugal, Norway** (nonsignatory State), **Spain, and Sweden**.

All these States, with the exception of Finland and Norway, indirectly limit the working-day of women to between 11 and 12 hours by prohibiting night work. Young persons are protected in Denmark, Finland, and Norway until they have completed their eighteenth year, and in the other States they are protected until they have completed their sixteenth year. In Belgium female young persons are protected until they have completed their twenty-first year, and in Spain their twenty-third year.

The 10-hour working-day for young persons desired by the International Association has been introduced in six of these States, the only exceptions being Belgium and Finland, which allow a 12-hour working-day, and Spain with an 11-hour day.

In Belgium, however—quite apart from coal mines, in which a maximum working-day of 9 hours also for adult workers below ground was established by the law of 31st December, 1909—the 12-hour working-day for young persons was reduced in a number of industries by the Royal Decrees of 26th and 31st December, 1892; 15th March, 1893; 22nd September, 1896; 6th July, 1904; 3rd and 29th November, 1898 to—

8 hours.—In type foundries;

8 and 10 hours.—In the building trades (8 hours, November to February; 10 hours, March to October);

9 and 10 hours.—In the furniture industry and in auxiliary building trades (9 hours, October to March; 10 hours, April to September);

10 hours.—In stone quarries in the open air, in the newspaper printing trade, in art trade, in paper factories, in tobacco and

cigar factories, in the pottery and terra-cotta industry, in the manufacture of looking glasses, in zinc rolling mills, in the manufacture of tools and metal, domestic utensils (10 hours for workers of 12 to 14 years of age, 11 hours other protected workers), in bell foundries, braziers' works and arms factories, in subsidiary clothing trades, in tanneries, in shoe making, harness making, leather work, the manufacture of hats, lingerie, buttons, gloves, umbrellas and canes, dyeing, and the manufacture of articles of fashion;

10 hours 20 minutes.—In crystal glass factories;

10½ hours.—In mines and pits in the coal mines of Mariemont for male young persons of 14 to 16 years of age (10 hours for transportation work below ground; 9 hours for female young persons of 16 to 21 years of age above ground). In coke ovens and briquette factories; in tool repair shops attached to stone quarries (10 hours in other shops of this kind); in large-scale establishments of the iron and steel industry; in sugar factories (not refineries—ministerial decree, 14th September 1899), in the manufacture of matches, in the plate glass factories;

11 hours.—In fish canneries, in specified subsidiary clothing trades—knitting, passementerie making, lace making, embroidery making, in large-scale machine factories, in the linen, hemp and jute industry;

11½ hours.—In the woolen goods industry;

11½ hours (66 hours per week).—In the cotton industry.

It will be seen from the above that in Belgium in nearly all industries a 10-hour and a 10½-hour maximum working-day has been substituted for the 12-hour working-day, except in the textile industries and machine construction. While in England the legal maximum hours of labor are 55½ hours in textile and 60 hours in other factories, in Belgium in textile factories 67½ and 66 hours may be worked in a week, while 63 and 60 may be worked in the majority of the other industries.

Also in Luxemburg the maximum 10-hour working-day of young persons of 14 to 16 years of age may be extended to 11 hours in spinning mills, cloth factories, knitting mills, tobacco and cigar factories, and in the painting of pottery, if the physical fitness of the young person to work extended hours is proved by medical certificate (decree of 20th May, 1883).

In Spain the employment of young persons is prohibited in a list of trades (royal decree 25th January, 1908). Working below ground in mines is prohibited, the maximum working-day above ground for women and young persons under 16 years of age is fixed at 9½ hours.

Outside Europe the following States belong to this group:

- (a) Maximum working-day for young persons under 18—
60 hours per week in **North Carolina**.
- (b) Maximum working-day for young persons under 16—
6 hours in **Porto Rico**;
8 hours in **Argentina** (Buenos Aires only), **District of Columbia, Colorado, Kansas, North Dakota, Oklahoma, Indiana**, 9 hours with written consent of parents, otherwise 8 hours;
9 hours in **Delaware** and **Idaho**;
10 hours in **Iowa**.

III. STATES WHICH REGULATE THE WORKING-DAY OF FEMALE YOUNG PERSONS (OVER 14 YEARS OF AGE) AND WOMEN ONLY.

India established in 1911 a 12-hour maximum working-day for all persons employed in textile factories, and, with regard to other establishments, allows male persons from 9 to 14 years of age to work not more than 7 hours, and female workers not more than 11 hours, while the working-day of male persons over 14 is subject to no legal restriction.

Six of the Canadian Provinces and two Australian Colonies protect male workers until the age of 14 only, but have established a maximum working-day for female young persons between the ages of 14 and 18 and for women. The maximum working-day is: **Ontario, Quebec** (nontextile factories), and **New Brunswick** 10 hours (60 hours per week); **Manitoba**, 9 hours (54 per week); **British Columbia**, 8 hours (48 per week, with consent of the inspector 9 and 54 hours); **Saskatchewan**, 8 hours (45 per week).

Western Australia, women and young persons under 14 years of age 8½ hours (48 hours per week); and **Tasmania**, 10 hours for adult women and 8 hours for young persons 13 to 14 years of age.

IV. STATES WHICH REGULATE THE WORKING-DAY OF YOUNG PERSONS AND WOMEN (IN SOME CASES OF ADULT MEN ALSO.)

The vast majority of industrial States belong to this group.

Europe.

- I. A 9 to 9¾-hour working-day (55 to 58 hours per week):
 - 1. **Great Britain**, 10 hours on week days and 5½ hours on Saturdays; 55½ hours per week in textile factories.
 - 2. **Germany**, 10 hours for women, 8 hours on Saturdays and eve of holidays; 58 hours per week.
 - 3. **Netherlands**, From 1st January, 1913; maximum working-day for women and young persons under 17 years of age, 10 hours (58 hours per week). Transitional

provisions until 1913, 11 hours and 66 hours per week; from 1913 until 1915, with the permission of the Minister, 10½ hours per day, but at most 58 hours per week for individual establishments.

II. A 10-hour working-day (60 hours per week):

(a) For women and young persons under 18—

1. **France.**

2. **Great Britain**, for nontextile factories and workshops (10½ hours per day, 7½ on Saturdays).

3. **Servia** (without distinction of age).

(b) For women and young persons under 16—

Germany, 60 hours per week for male young persons (women only 58 hours).

(c) For young persons under 15 years and women—

1. **Bulgaria.**

2. **Roumania.**

III. An 11-hour working-day (64 to 66 hours per week):

1. **Switzerland** (11 hours, 9 hours on Saturdays, without distinction of age).

2. **Austria** (11 hours in factories without distinction of age).

3. **Bosnia and Herzegovina** (11 hours in factories with more than 20 workers, without distinction of age).

4. **Liechtenstein** (11 hours in workshops with more than 10 persons, without distinction of age).

IV. An 11½-hour working-day (67½ hours per week).

Russia (11½ hours, 10 hours on Saturdays and eves of holidays, without distinction of age).

V. 12 hours (72 hours per week) is the maximum working-day for women in **Italy** (young persons under 15 may not work more than 11 hours).

Asia.

12 hours for women and young persons under 15:

Japan.

Africa.

10 hours:

1. **Algeria**, for women and young persons under 18.

2. **Tunis**, for all industrial workers.

America.

I. 8 hours (48 hours per week):

1. **Arizona** (in the laundry department of laundries); 2. **California** (canneries excepted).

II. 9 hours (54 hours per week):

1. **Missouri** (8 hours for young persons under 16); 2. **Utah.**

III. 9 to 9½ hours:

1. **Massachusetts**, 2. **Michigan**, and 3. **Ohio**, 10 hours per day, 54 per week; 4. **New Jersey**, 10 hours on week days and 5 hours on Saturday, 55 hours per week; 5. **Rhode Island**, 10 hours on week days and 6 hours on Saturday, 56 hours per week; 6. **Connecticut**, 7. **Maine**, and 8. **Minnesota** (8 hours a day for young persons) 10 hours, 58 per week for women; 9. **New Hampshire**, 9 hours and 40 minutes per day, or 58 hours per week; 10. **Illinois**, 8 hours for young persons, 10 hours for women; 11. **Wisconsin** (8 hours for young persons under 16 and 10 hours for women, or 55 hours per week); 12. **Quebec** (only in cotton and woolen mills, 10 hours on week days, 58 hours per week).

IV. 10 hours:

1. **New York** and 2. **Nebraska** each limiting hours to 8 per day for young persons; 3. **Oregon**; 4. **Virginia**; 5. **Georgia**; 6. **Tennessee**; 7. **Pennsylvania** (young persons 10 hours, women 12 hours, but not more than 60 hours per week); 8. **Maryland**, only in textile factories; 9. **South Carolina** (women and young persons 11 hours per day, 60 hours per week, only in textile factories); 10. **Louisiana**; 11. **Kentucky**; 12. **Mississippi** (8 hours for young persons under 16).

Australasia.

An 8 or 9 hour working-day (48 or 54 hours per week):

(a) For both sexes of all ages—

New Zealand. The working-day is 8½ hours (45 per week) except in woolen factories where it is 8¾ hours (48 hours per week).

(b) For women and young persons under 16—

1. **Western Australia**, 8¾ hours (48 hours per week);
2. **Queensland**, 10 hours (48 per week);
3. **Victoria**, 10 hours (48 hours per week);
4. **New South Wales** (a maximum of 48 hours per week);
5. **South Australia** (a maximum of 48 hours per week).

B. REST PERIODS AND OVERTIME.

In the States which signed the Berne Convention of 1906, the night's rest of women occupies 66 of the 144 hours of the working week. The remaining 78 hours cover the rest periods during working time, the normal daily hours of labor, and any overtime. Thus the maximum time available for rest periods and overtime, according to the actual hours of labor, would be as follows:

ACTUAL DAILY HOURS OF LABOR AND MAXIMUM TIME AVAILABLE FOR REST PERIODS AND OVERTIME WORK IN STATES WHICH SIGNED THE BERNE CONVENTION OF 1906 PROVIDING FOR A MINIMUM NIGHT'S REST OF 11 HOURS.

Actual daily hours of labor .	Maximum periods available for—	
	Rest periods.	Overtime work.
12.....	1 hour.....	} 1 hour.
11.....	{ 2 hours or. 1 hour.....	
10½.....	{ 2 hours or. 1 hour.....	} ½ hour or 1½ hours.
10.....	{ 2 hours or. 1 hour.....	

The reduction of the number of hours of work has two advantages. In the first place it facilitates the doing away with short forenoon and afternoon rest periods and concentrates the time devoted to rest to the noon rest, the necessity of which is obvious for reasons of physical welfare; secondly, it permits the adapting of the daily hours of labor to the requirements of the business prevailing at the moment, and overtime allowed as an exception by law takes the place of systematic overtime.

The regulation of rest periods and overtime will here be considered separately.

1. REST PERIODS.

The existing laws grant the following rest periods during the daily working time:

In Europe.

(a) Two-hour rest periods altogether in **Germany** (for young persons of both sexes; only 1 hour for adult female workers, and for those who have household duties a noon rest of 1½ hours), **Bulgaria, Denmark, Finland, Great Britain** (in textile factories), **Hungary, and Luxemburg**; in **Italy** if the hours of labor exceed 11 hours.

(b) One and one-half hour rest periods altogether in **Austria, Bosnia, Leichtenstein, Belgium, Great Britain** (in nontextile industries), **Switzerland** (for women having household duties, otherwise 1 hour), and in **Italy**, if the hours of labor are between 8 and 11 hours.

(c) One-hour rest periods altogether in **France, Spain, Norway, the Netherlands** (at least 1½ hours for those whose hours of labor end after 6 p. m.), **Portugal, Roumania, Russia, Servia** (2½ hours for work in the sun heat), and in **Italy** if the working time is more than 6 and less than 8 hours.

In Africa.

(a) One-hour rest periods altogether in **Tunis.**

In Asia.

1 hour rest periods altogether in **Japan**, if the working time exceeds 10 hours, otherwise $\frac{1}{2}$ hour; only $\frac{1}{2}$ hour in **India** after every 6 working hours.

In America.

(a) 2 hours noon rest in **Argentina** (Buenos Aires).

(b) One hour rest periods altogether in all **Canadian Provinces**; in the United States, in **New York** (45 minutes for minors and women, and 20 minutes additional if employed after 7 p. m.), **Pennsylvania**, **California** (in saw mills), **Indiana**, **Minnesota**.

(c) Three-fourths hour rest periods in **Michigan**.

(d) One-half hour rest periods in **Ohio**, **Oregon**, **Massachusetts**, **Louisiana** (1 hour in sales places in cities of over 50,000 inhabitants), **New Jersey**.

In Australasia.

(a) One hour rest periods in **South Australia** and **Tasmania** after every 5 working hours.

(b) Three-fourths hour in **New Zealand** after every $4\frac{1}{4}$ working hours, and in **Western Australia** after every 5 working hours.

(c) One-half hour in **Victoria**, **New South Wales**, and **Queensland** (in all of them after every 5 working hours).

In the **Netherlands** the factory inspector is empowered to prescribe an extra rest period of $\frac{1}{2}$ hour in any establishment.

Sweden is the only State which leaves it to the employers to allow rest periods as they please. Article 49, of the act of October 17, 1900, provides that the 10-hour working-day of young persons under 18 shall be interrupted by "suitable rest periods" but does not regulate the rest periods.¹

While in Sweden the regulation of the rest periods is left to the employers, in **Great Britain** in textile factories and workshops the shorter duration of the actual maximum working-day, is caused by the legal extension of the rest periods for the persons protected. Within an equal working-day (6 to 6, 7 to 7; also 8 to 8 o'clock in non-textile factories and workshops) rest periods amounting to altogether 2 hours must be allowed on full workdays in textile factories and workshops, and rest periods amounting to altogether $1\frac{1}{2}$ hours must be allowed in nontextile factories. In both cases 1 hour must be allowed before 3 o'clock in the afternoon, and a rest period of half an hour must be allowed on Saturdays. On the other hand a rest period of at least half an hour must be allowed after every $4\frac{1}{2}$ hours in textile factories and workshops, and after every 5 hours in non-textile factories and workshops (arts. 24 and 26). The latter rest

¹ These provisions have been continued unchanged by the repealing act of June 29, 1912.

periods are also prescribed in print works, bleaching and dyeing works, which are otherwise treated as textile factories and work-shops.¹

In Germany article 136 of the Industrial Code prescribes rest periods of 2 hours for those young persons only who are employed for 10 hours. One hour's rest is prescribed for midday, and two rest periods each of $\frac{1}{2}$ hour for forenoon and afternoon. A midday rest of 1 hour is all that is required in the case of 8-hour shifts, provided that work is not performed for more than 4 hours before the rest period. Half an hour only is required for young persons who are employed during 6 hours. Women who have domestic duties to attend to and who make application in that behalf, are allowed a rest period of $1\frac{1}{2}$ hours, and other women are only allowed a 1-hour rest period (art. 137). These differences in the regulation of rest periods have led to difficulties which would be avoided if morning and afternoon rests were allowed to women as well as to young persons, as in practice is done in many establishments.

Articles 139 and 139a of the Industrial Code allow exceptions from the system described above. Article 139 provides for exceptions necessitated by accidents or force majeure or in view of the nature of the work; and article 139a gives the Federal Council the right to permit general exceptions for particular industries.

According to article 139, the rest periods may by special request be regulated differently by the higher administrative authorities or the Imperial Chancellor, the workmen, however, or the workmen's committee must previously be given an opportunity to express their views concerning such regulation.

The Federal Council has made use of the authority conferred upon it by article 139a as regards the glass industry and large-scale establishments of the iron industry and has abrogated the prohibition of night work for male young persons.

Rest periods are regulated in these two industries as follows:

1. In the glass industry the ten-hour maximum working-day must be interrupted by rest periods amounting altogether to 1 hour. Interruptions of less than 15 minutes' duration are not taken into consideration. But the higher administrative authorities may allow exceptions, if it is shown that the work is not very tiring and that a number of interruptions occur which give sufficient rest. (Decree of Mar. 5, 1902. R. G. B., p. 65.)

2. In large-scale establishments of the iron industry rest periods amounting to not less than 2 hours must be allowed in every shift lasting longer than 8 hours. Interruptions in work of less than 15 minutes' duration are not counted as rest periods. The rest

¹ Exceptions and modifications are given in Appendix I.

periods may, however, be reduced to 1 hour in the case of shifts of less than 11 hours. (Art. 3 of the decree of December 19, 1908.)

In **Austria** rest periods are regulated by article 74a of the Industrial Code. If not more than 5 hours are worked before or after the midday rest, the rest period ($\frac{1}{2}$ hour each) in these periods of employment may be omitted, but not the midday rest of one hour. Rest periods amounting to $1\frac{1}{2}$ hours, including a midday rest of 1 hour, have also been established for railway building and construction work undertaken by railways. (Art. 8 of act of June 22 and 28, 1902.) Young persons employed in the mining industry must be allowed a rest period after 4 hours' work; the total duration of their rest periods must be longer by 1 hour than those allowed to adults, and they must not be employed in any other manner during such rest periods. (Order of the Ministry of Agriculture, June 8, 1907, art. 5.)¹

The **Bosnian** order of February 3, 1909 (art. 8), prescribes that rest periods of at least 1 hour must be allowed in a working-day of 10 hours, and that rest periods of at least $1\frac{1}{2}$ hours must be allowed in a longer working-day. Where possible, 1 hour must be allowed at midday, and the rest periods must be distributed in such manner that one of the other rest periods lasts at least 15 minutes, and that a rest is allowed after every 5 hours' work.

In **Belgium** the order in pursuance of article 6 of the act of December 13, 1889, which prescribes rest periods of $1\frac{1}{2}$ hours, does not apply the system to all industries. In the case of young persons employed in the crystal and hollow-glass industry, whose total hours of labor are 10 hours 20 minutes, two rest periods of 20 minutes each must be allowed in the morning and afternoon and one of half an hour at midday. The total duration of rest periods amounts altogether to 1 hour in the leather, felt, underclothing industry and other branches of the clothing industry (working-day 10 hours), in the machine industry (working-day 11 hours), to one-eighth of the working time in the mining industry below ground when interruptions occur caused by the nature of the work. In the match industry the workers must leave the workrooms during the rest periods. In the spinning and weaving industries the machines must be stopped during rest periods, and in the machine industries and a few other industries the workers must be allowed to leave the premises.

Spain requires by law of March 13, 1900, articles 2 and 9, order of November 13, 1900, articles 6, 8 and 19, a rest period of one hour after 3 hours' work for young persons of 10 to 14 years of age; after 4 hours' night work, for young persons of 14 to 16 years of age; further, two special rest periods for women to nurse their infants, each amounting to half an hour.

¹ The exceptions from the legal regulation of rest periods in Austria are given in Appendix II.

In the United States **Massachusetts** is the only State which has established simultaneous meal times for protected persons (Acts of 1909, ch. 514, secs. 67-69). A rest period of half an hour must be granted after every 6 hours' work; after 6½ hours' work if work terminates at 1 p. m.; and after 7½ hours if meals are taken during work and if work terminates at 2 p. m. Exceptions may be allowed by the chief of the district police, with the sanction of the governor, for iron works, glass works, paper mills, letterpress establishments, print works, and bleaching and dyeing works.

The number of hours after which a rest period must be allowed varies in different States. The rest periods required are—

Denmark, a rest period must be allowed after 4½ hours (factories and bakeries);

Spain, after 4 hours of night work;

Great Britain, after 4½ hours (textile factories), and 5 hours (other factories and knit-goods factories, order of May 12, 1902);

Bosnia, Bulgaria, Roumania, Italy, Russia, Massachusetts, after 6 hours;

New Zealand, after 4½ hours (4½ hours in woolen factories); in **New South Wales**, after 5 hours.

In **Russia** a one-hour rest period is prescribed by law only in cases where the work lasts for more than 10 hours and it appears to be necessary in view of local circumstances (regulations of Sept. 20 (Oct. 2), 1897, art. 8). If it is impossible to allow a rest period for meals after 6 hours' work, the workers must take their meals during work (art. 9).

2. OVERTIME.

With regard to the regulation of overtime the legislation of the different States falls into two groups, namely:

1. States which leave overtime to be regulated by the administrative authorities and fix no maximum:

2. States where the maximum number of hours which may be worked in addition to the maximum daily working time is prescribed by law.

In this case overtime may be limited—

(a) Either by allowing work beyond the maximum limit on single workdays but prohibiting work beyond the maximum limit per week and prescribing in consequence shorter hours of work on other days in the same week;

(b) Or by establishing a maximum of overtime within the calendar year.

States in which overtime is regulated by administrative authorities.

Referring to States in group 1, in **Russia** overtime may be worked ad libitum in pursuance of article 18 of the regulations of 20th September (2d Oct.), 1897, amended 14th (26th) March, 1898, and

law of 2d (15th) July, 1902, article 19, paragraph 1. The law distinguishes between the hours of overtime which are compulsory and not compulsory for the worker. The former are only such hours of overtime as are a technical necessity and as are provided by the shop rules. All other hours of overtime are permitted only after mutual agreement between worker and employer in each single case. In cases of overtime in which all workers of an establishment or the greater number of such workers participate, the special permission of the authorities is required.

In **Switzerland**, article 11, paragraph 4, of the **Factory Act** provides that the proper district authorities, or where there are no such authorities, the local authorities may sanction overtime for a period not exceeding two weeks. The cantonal authorities may sanction overtime for longer periods.

States in which overtime is prescribed by law.

In some States of group 2 (a) the law does not regulate overtime but prohibits the carrying on of work for more than the maximum number of hours per week. The majority of the **States of the American Union** belong to this group; also **Spain** (royal decree 26th June, 1902, art. 2) where an employer with the consent of his workmen may substitute a 66-hour week for the 11-hour day. Twelve additional hours of overtime per week may be conceded by the local "juntas" in case of interruption of operation caused by force majeure. In **Norway** (law of 10th Sept., 1909, art. 24) young persons may be employed for 10½ hours instead of 10 hours (excepting Saturday) during the summer months in work recognized by the supervisory authorities as being of a light kind. They must not, however, be employed for more than the 58 hours per week prescribed by law.

Of the States in group 2 (b) overtime is regulated by law in **Great Britain, Germany, France, Austria, the Netherlands, New Zealand, Queensland, South Australia, Western Australia** and all the **Canadian Provinces** and in **Japan**.

Legal exceptions as to the maximum number of hours of overtime.

The law allows the following exceptions as regards the maximum number of hours overtime:

In **Great Britain** women and young persons may not work overtime in textile factories. Article 49 of the **Factory and Workshop Act of 1901** allows 2 hours' overtime to women only in nontextile factories and workshops either between 6 a. m. and 8 p. m., or between 7 a. m. and 9 p. m., or between 8 a. m. and 10 p. m. Overtime must not be allowed on Saturday or the substituted day. Overtime must not be worked on more than three days in any one week,

nor on more than 30 days in any one year. On days when overtime is worked the rest periods must amount to 2 hours, of which a rest period of half an hour must be allowed after 5 p. m.

These factories and workshops may be named by special order and are those in which (a) either materials are liable to be spoilt by the weather, or (b) there is a press of work at certain seasons, or (c) there is a sudden press of orders from unforeseen causes. Overtime may not be worked in cases where the health of the women is liable to be injuriously affected.¹

Laundries follow the general rule (at most two hours on not more than three days in any week and not on Saturday) with regard to the overtime employment of women (act of 28th Aug., 1907). Women may also be employed between 6 a. m. and 7 p. m., or between 7 a. m. and 8 p. m., or between 8 a. m. and 9 p. m. on four days in the week and on not more than 60 days in the year. The total number of hours per week including rest periods must not exceed 68.

Where overtime is worked the following conditions must be observed: (1) In pursuance of section 3, subsection 1 of the Factory Act, 400 cubic feet of space must be allowed to each person employed as against 250 cubic feet during the ordinary period of employment. (2) A notice must be sent to the inspector before 8 p. m. on the day when the overtime is worked (sec. 60, subs. 4). The notice must be posted in the workrooms during the period in which overtime is worked and the particulars must be entered in a register. In pursuance of article 151, the workrooms where women are employed overtime are treated as separate factories (order of 27th Mar., 1897). Overtime employment is not allowed in nontextile factories and workshops and parts thereof which are conducted on the system of not employing any young person or child therein (sec. 49, subs. 2). In these factories the period of employment for a woman may be 12 hours a day with a rest period of not less than one hour and a half, and on Saturday an 8-hour day with a rest period of not less than half an hour.

Legal maximum number of hours overtime in a year.

In **Germany** overtime may be sanctioned only for women but not for young persons (art. 138a, 139a of the Industrial Code).

The overtime employment of women may be sanctioned—

1. On account of unusual press of work.
2. On account of disturbances due to force majeure or accidents.
3. For specified seasonal industries, by the Federal Council.

In the first case the lower administrative authority may sanction the extension of the daily period of employment from 10 to 12 hours for a period of 14 days, but on not more than 40 days altogether in any calendar year (maximum 80 hours per annum). The period of

¹ For a list of the trades in the United Kingdom where overtime is allowed see Appendix III.

rest must be at least 10 hours. In exceptional cases, e. g., emergencies, stock taking, and cleaning work, adult women may be employed on Saturday until 8 p. m., provided that they have no domestic duties to attend to and that they have a free day on the following Sunday.

Sanction for overtime for a period exceeding 14 days may be given for not more than 50 days in any year, provided that the average number of hours worked in the year on working-days does not exceed the ordinary legal hours of labor.

In the second case in two instances (force majeure and accidents) overtime may be sanctioned by the higher administrative authorities for a period not exceeding 4 weeks and by the Imperial Chancellor for any longer period. In urgent cases, as also in order to prevent accidents, the lower administrative authority may allow exceptions for a period not exceeding 14 days.

In the third case the Federal Council has decreed for the following industries exceptional regulations, which, although they do not abrogate the prohibition of night work, mean, nevertheless, a reduction of the minimum night rest otherwise in force:

1. In anthracite mines, zinc and lead ore works, and coke manufactories. In undertakings in the district of Oppeln where work is performed in two shifts, women over 16 years of age may, until 1st April, 1912, be employed in the first shift from 5 a. m. and in the second shift until 10 p. m., provided that neither shift is longer than 8 hours. (Order of 20th Mar., 1902, R. G. B., p. 77.)

2. In dairies, creameries and establishments where milk is sterilized by machinery, women over 16 years of age may be employed between 4 a. m. and 10 p. m. between 1st April and 1st October of each year. Women employed after 8.30 p. m. must be allowed a rest of 3 hours at midday. (Order of 10th June, 1904, R. G. Bl., p. 217.)

3. In fruit and vegetable preserving factories (where more than 10 persons are employed) women over 16 years of age may be employed between 4.30 a. m. and 10 p. m. on not more than 60 days in the calendar year including every day on which even one woman is employed overtime. The daily period of employment must not exceed 13 hours and the uninterrupted period of rest must be at least 8½ hours. (Order of 20th Nov., 1909, R. G. B., p. 965.)

4. In fish preserving women over 16 may be employed until 7.30 p. m. on the eves of Sundays and holidays on at most 60 days annually for 13 hours between 6 p. m. and 10 a. m., which must be followed by a period of rest of at least 8½ hours. (Order of 25th Nov. 1909, R. G. B., p. 966.)

In these cases also the rule applies that when women are employed after 5 p. m. on the eve of Sunday and holiday they must be allowed a complete holiday on the following Sunday or holiday.

In France in pursuance of article 4 and of the authorization of article 7 of the act of 2d November, 1892, the decree of 15th July, 1893, and later orders allow young persons of both sexes and women to be employed overtime. Overtime is accordingly allowed in case of force majeure, the accumulation of orders, and in certain seasonal industries or industries which work up or produce perishable substances.¹

¹ A list of these industries is given in Appendix IV.

In **Austria** article 96a (par. 6) of the Industrial Code provides that except in the case of young persons the provisions relating to the maximum working-day shall not apply to work which is subsidiary to and must be performed before or after the manufacturing process (boiler heating, lighting, cleaning). It also provides (par. 4) that in cases where the regular work has been interrupted by force majeure or accidents or where there is an unusual press of work the industrial authority of first instance may extend the hours of work in particular undertakings for a period not exceeding three weeks. The sanction of the provincial political authority must be obtained for longer periods.

In urgent cases overtime may be worked on not more than three days in any month on notice being given to the industrial authority of first instance. Overtime must be specially paid for.

The ministerial decree of 27th May, 1885 (line 15576), provided that three hours should be the maximum overtime which might be worked on three days in any one month on merely giving notice to the industrial authority. Overtime must not be sanctioned by the industrial authority for more than two hours on any day and permission may only be granted once in a year.

The provincial authorities may sanction overtime for not more than 12 weeks in any year. Since the industrial authority of first instance is authorized to sanction overtime for three weeks, overtime may be worked altogether fifteen weeks in the year.

The law of 21st June, 1884, authorizes the district mining authorities to allow overtime in cases of extraordinary circumstances or during times of temporary but urgent necessity. The number of hours of overtime has to be limited. The law of 26th December, 1911, limited these hours by prescribing that female persons below the age of 18 years may only work overtime during 40 days in the year and subject to the condition that their night rest is at least 10 hours. No such overtime is allowed to workers of less than 16 years of age (order of the Ministry of Agriculture of 8th June, 1907, art. 4).

In the **Netherlands** the following provisions are in force from 1st January, 1912:

If at certain seasons of a year an increased activity is usual in an enterprise, or in case of extraordinary circumstances, written permission may be given by the competent industrial inspector, with or without conditions, that all young persons or women employed in such an enterprise or some of them may work not to exceed 12 hours per day and 66 hours during seven subsequent days (as a transitional measure, 72 hours during the year 1912).

In order to obtain such permission for more than six days or in order to secure an exemption for the same factory or workshop

before eight days have passed since the termination of the last authorization, the chief industrial inspector of the district is bound to obtain for each separate case the approval of the Minister charged with the execution of the law.

The Minister or his deputy may issue a special permit to enterprises in which the working of overtime is frequently necessary, to the effect that in such urgencies all women and young persons employed may work longer and later than the law otherwise permits without obtaining a previous permission from the industrial inspector.

Such ministerial permission, which is given either unconditionally or subject to certain conditions, may only be made use of during a maximum of 24 days in the year. In addition it is provided that—

(a) Work must not be carried on during more than 11 hours per day and not more than 66 hours during 7 subsequent days (12 and 70 hours, as a transitional measure in 1912).

(b) Work may begin only one hour earlier or end one hour later than the hours prescribed by law.

In **Japan** article 8 of the Factory Act of 1911 provides that in cases where this is temporarily necessary two hours may be worked in addition to the 12 hours of the maximum working-day on 7 days in any month, of which notice must be given to the administrative authority. In seasonal industries one hour overtime may be worked on not more than 120 days in any year. The **Indian** Factory Act of 1911 does not allow overtime. Article 26 provides that women and children shall only be employed during the hours fixed by law; article 31 prohibits the use of mechanical power in textile factories for more than twelve hours, except in cases where the work is performed in shifts.

In **New Zealand** (Factory Act, 1908) in factories where the 8¼-hour day is in force, 3 hours' overtime may be worked on not more than three days in any week, which must not be consecutive and on not more than 30 days in the year, i. e., 11¼ hours may be worked in a day as against 12½ hours in Great Britain. (Maximum overtime, permissible during one year, 90 hours as against 60 in Great Britain.) Notice must be previously given to the inspector and particulars of the employment entered in the overtime register. Workers earning less than 10 shillings (\$2.43) per week must be paid at least sixpence (12 cents), and workers earning more than 10 shillings (\$2.43) per week must be paid at least ninepence (18 cents) for every hour of overtime, and workers who live more than one mile from the factory must be paid at least 1 shilling (24 cents) extra to cover the cost of their meal.

Victoria and **Queensland** allow 3 hours of overtime on 40 days, **New South Wales** on 30 days, in the year, **South Australia** 100 hours per year, and **Western Australia** allows overtime to be worked

on 12 days in a period of six months. **New Brunswick** allows 3½ hours, **Ontario, Manitoba, and Nova Scotia** 2½ hours, and **Quebec** 2 hours on 36 days in the year (maximum 90 hours per annum).

The maximum legally permissible hours of overtime in a year are as follows:

60 hours in Great Britain in nontextile factories only (100 hours in the industries specified in article 50 of the Factory and Workshop Act in case of impending danger of perishing of materials.

80 hours in Germany (not for young persons).

120 hours in France.

120 hours in Japan.

180 hours in Austria.

The following chapter will prove that generally this legal limit is not reached in practice. This seems to show that the modification of this legal limit of overtime by international treaty is expedient.

CHAPTER II.

ACCOUNT OF THE ACTUAL WORKING-DAY AND OVERTIME TAKEN FROM OFFICIAL STATISTICS.

The materials at our disposal are unfortunately not sufficient to enable us to give a comprehensive and exact account of the hours of labor in all industries and all countries. We do not propose to deal with the statistics respecting the hours of labor in the mining industry, which in some cases include and in others exclude the rest periods and the time occupied in entering and leaving the mine, nor with the hours of labor of persons employed in continuous processes and in commercial and traffic undertakings. With regard to persons employed in other industrial undertakings carried on in closed premises the majority of States do not give information as to short time and overtime. It is, therefore, impossible to distinguish between temporary short time due to accidents and force majeure and the permanent establishment of a shorter working-day, things which should be dealt with separately. In hardly any case is the number of hours worked on a full working-day, on Saturday and during the week, given separately, and only a few States publish reliable information as to the overtime sanctioned.

The information as to the number of hours worked by young persons of either sex is particularly inadequate. In spite, however, of the great gaps in this branch of statistics it is possible to present an account of the actual industrial working-day which is sufficient for practical purposes. This account is supplemented by statistics of breaches of the law relating to the legal maximum working-day and overtime.

I. STATES WHERE A 10-HOUR OR AN 8-HOUR WORKING-DAY IS PRESCRIBED BY LAW.

In **Germany** the last official inquiry¹ shows that on 1st October, 1902, of the 813,560 women employed in industrial establishments—

10.6 per cent had a working-day not exceeding 9 hours.

42.7 per cent had a working-day of from 9 to 10 hours.

46.7 per cent had a working-day of from 10 to 11 hours.

The corresponding percentages for the 38,706 establishments where these women were employed were 17.5 per cent, 47.2 per cent, and 36.3 per cent.

¹ Die Arbeitszeit der Fabrikarbeiterinnen. Nach Berichten der Gewerbeaufsichtsbeamten, bearbeitet im Reichsamte des Innern, Berlin, 1905 p. 23.

MAXIMUM WORKING-DAY FOR WOMEN AND YOUNG PERSONS. 27

In the years 1906 to 1909, inclusive, the German inspectors discovered the following breaches of the law relating to the hours of labor:

	Cases.	Persons affected.
(a) Women:		
1909.....	489	2,959
1908.....	431	2,397
1907.....	359	2,534
1906.....	401	3,707
(b) Young persons:		
1909.....	1,248	3,019
1908.....	1,149	2,889
1907.....	1,238	2,914
1906.....	1,393	3,330

The cases of breaches of the law refer only to the length of employment per day and do not include the numerous breaches against provisions concerning rest periods, working on Saturday or on the eves of holidays, or Sunday rest, etc., which are reported by the German industrial inspectors.

The "Statistische Erhebungen über Lohn- und Arbeitsbedingungen," issued in 1909 by the Federation of German Factory Workers, show that in industries where both sexes are employed side by side an increase in the 10-hour workday for women has as a consequence a similar increase for men. According to these investigations the following percentages of both sexes worked per day:

PER CENT OF MEN AND OF WOMEN WORKING SPECIFIED HOURS PER DAY, 1909.

	Per cent of workers who worked—			Total workers.
	Under 9 hours.	9 to 10 hours.	Over 10 hours.	
Men.....	6.8	76.1	17.1	34,778
Women.....	9.1	81.1	9.8	2,512

The following information as to sanction for the overtime employment of adult women in Germany is taken from the annual reports of the industrial inspectors:

OVERTIME EMPLOYMENT (OVER 11-HOUR DAY) OF ADULT WOMEN IN GERMANY, 1906 TO 1909.

	1909	1908	1907	1906
Number of establishments where overtime was worked.....	1,864	1,391	1,870	2,610
Number of women for whom overtime was sanctioned.....	139,353	87,198	143,683	197,938
Number of days on which overtime was sanctioned.....	32,709	23,280	30,819	45,516
Number of hours of overtime.....	1,962,815	1,279,132	1,846,206	2,464,879
Number of cases on which sanction of overtime was refused.....	111	60	72	134
Average number of days per establishment on which overtime was worked.....	17.5	16.7	16.5	17.4
Average number of hours per year during which overtime was worked per woman.....	14.1	14.7	12.8	12.5

The figures given above refer only to hours of overtime over and above the 11-hour workday. The 10-hour day has been in force only

since January 1, 1910, and the tables for the whole of Germany have not yet been published. But the figures for the largest Federal State, Prussia, for 1910 are given below with comparative figures for 1909. Authorizations for overtime have evidently been on the increase. The legal reduction of the hours of labor coincided with an industrial boom. According to the reports of the factory inspectors sufficient female workers could not always be procured. Thus partly in consequence of the industrial activity and partly in order to make the transition to the 10-hour day easier, more overtime was allowed than in previous years. For Prussia the figures are as follows:

OVERTIME EMPLOYMENT OF ADULT WOMEN IN PRUSSIA, 1909 AND 1910.

	1910	1909	Decrease in 1910 as compared with 1909.
Number of establishments where overtime was worked.....	2,236	490	1,746
Number of women for whom overtime was sanctioned.....	160,254	34,777	125,477
Number of establishments where overtime was allowed.....	40,862	8,591	32,271
Number of hours of overtime.....	2,381,579	470,123	1,911,456
Number of cases in which sanction of overtime was refused.....	298	67	231
Average number of days per establishment on which overtime was worked.....	18.3	17.5
Average number of hours per year during which overtime was worked per woman.....	14.9	13.5

In France the following number of breaches of the provisions respecting the hours of work of children, young persons, and women has been recorded since 1905 (the ten-hour day came into operation in 1904, in pursuance of the act of 30th Mar., 1900):

In 1905, 5,417; 1906, 4,417; 1907, 3,319; 1908, 2,844; 1909, 3,368; 1910, 2,749.

The increase in the number of breaches of the law which occurred in 1909 has been put down to the industrial boom of that year. Nearly two-thirds of the breaches occurred in the clothing trade (875), trades subsidiary to the clothing trade (242), the silk industry (484), the cotton industry (323), and the woolen industry (270).

The following table shows the number of days for which sanction for overtime was given:

OVERTIME WORK AUTHORIZED IN FRANCE, 1905 TO 1910.

Year.	Number of establishments.	Number of days for which sanction for overtime was given—			Total number of persons.
		To young persons under 18 years of age	To women over 18 years of age.	To adults under the act of March 30, 1909.	
1905.....	6,824	1,785,222	4,234,293	4,368,893	10,388,408
1906.....	7,053	1,585,052	3,955,377	4,448,737	9,989,166
1907.....	6,826	1,522,502	3,743,392	4,435,592	9,701,437
1908.....	6,852	1,429,747	3,392,165	3,964,663	8,786,605
1909.....	7,289	1,661,002	3,759,350	4,506,344	9,926,696
1910.....	8,269	1,787,766	4,221,175	5,148,005	11,156,946

Three-quarters of the establishments for which sanction for overtime was given belong to the clothing and textile industries.

In **Great Britain** the ten-hour day as introduced in Germany and France (together with a free Saturday afternoon and the prohibition of overtime) is operative in the textile industry. In all other industries only a weekly average of 10 hours per day is required, the maximum being 10½ hours per day, excepting Saturday. The following information as to the observance of these provisions is available from reports of the Board of Trade:

*Textile industry.*¹

Number of persons reported.....	472, 961
Average weekly hours of labor (not including overtime worked by men).....	55. 3
Per cent of persons employed on an average—	
Less than 54 hours per week.....	4. 4
54 to 55½ hours per week.....	88. 5
56 to 59½ hours per week.....	6. 4
60 hours and over per week.....	. 7

*Clothing industry.*²

Number of persons reported.....	198, 959
Average weekly hours of labor.....	52. 7
Per cent of persons employed on an average—	
Less than 54 hours per week.....	55. 0
54 to 56 hours per week.....	24. 9
56 to 60 hours per week.....	14. 9
60 hours per week.....	4. 9
Over 60 hours per week.....	. 3

*Building and woodworking industries.*³

Number of persons employed (in the summer).....	153, 580
Average weekly hours of labor (in the summer).....	53. 4
Per cent of persons employed on an average—	
Less than 54 hours per week.....	50. 1
54 to 56 hours per week.....	21. 3
56 to 60 hours per week.....	27. 2
60 hours per week.....	. 9
Over 60 hours per week.....	. 5

*Metal, engineering, and shipbuilding trades.*⁴

Number of persons employed.....	740, 509
Average weekly hours of labor.....	53. 2
Per cent of persons employed on an average—	
Less than 54 hours per week.....	51. 2
54 to 56 hours per week.....	42. 3
56 to 60 hours per week.....	5. 2
60 hours and over.....	1. 3

¹ Report of an Enquiry by the Board of Trade into the Earnings and Hours of Labour of Workpeople of the United Kingdom. I. Textile Trades in 1906, London, 1909.

² Idem. II. Clothing Trades in 1906, London, 1909, p. 12.

³ Idem. III. Building and Woodworking Trades in 1906, London, 1910, p. 10.

⁴ Idem. VI. Metal, Engineering, and Shipbuilding Trades in 1906, London, 1911, p. 18.

The report of the chief inspector of factories and workshops contains no statistics of overtime. The following were the number of convictions for breaches of the law relating to the daily hours of labor.¹

CONVICTIONS FOR BREACHES OF LAW RELATING TO DAILY HOURS OF LABOR,
GREAT BRITAIN, 1906 TO 1909.

	1909	1908	1907	1906
Women.....	985	905	1,342	1,234
Young persons.....	669	605	791	648

In those American States which have established a 10-hour day for women the actual weekly hours of labor fall even below the European average. In the case of **Massachusetts**, the United States Commissioner of Labor shows that in 1908 in the cotton textile industry the actual average weekly hours of labor of 3,860 men were 50.5, and those of 8,060 women were 49.6.² In **Maine**, **New Hampshire**, **Massachusetts**, and **Rhode Island** the actual average weekly hours of labor of 2,852 spinners were 48.7, and those of 9,656 weavers were 51.2. In five Southern States the actual average number of hours worked was only slightly higher, i. e., 51.2 hours for 6,311 spinners and 50.1 hours for 9,747 weavers.³

In **New York** the 10-hour act appears to be often violated in the clothing trade through collusion between the workmen and the employers.⁴ The following table, however, shows a steady decline in the number of hours worked in the State of New York by all factory workers, who numbered 1,086,555 in 1907, and 958,151 in 1908.⁵

HOURS OF LABOR PER WEEK OF FACTORY WORKERS IN THE STATE OF NEW YORK,
1898 TO 1908.

Hours per week.	Percentage.					
	1898	1901	1904	1906	1907	1908
51 or less.....	8.2	6.3	7.4	8.4	9.6	13.7
52 to 57.....	22.1	31.7	44.9	45.2	46.6	43.3
58 to 63.....	65.8	60.1	46.0	43.0	40.5	40.3
Over 63.....	3.9	1.9	1.7	3.4	3.3	2.7

¹ Annual Report of Chief Inspector of Factories and Workshops for the year 1909, p. 241 (IV, 10, 12-15); 1908, p. 230 (IV, 10, 12-15); 1907, p. 314 (IV, 10, 12-15); 1906, p. 371 (IV, 10, 12-15).

² Report on Condition of Woman and Child Wage-Earners in the United States, Vol. I, Cotton Textile Industry, Washington, 1910 (Sen. Doc. No. 645, 61st Cong., 2d sess.), pp. 718, 719.

³ *Idem*, pp. 732-735; the average number of hours of operating time that prevailed in the mills covered by this report were 58.4 per week in the 4 New England States, and 62.7 per week in the Southern States, pp. 262-268.

⁴ *Idem*. Vol. II, Men's Ready-Made Clothing, Washington, 1911 (Sen. Doc. No. 645, 61st Cong., 2d sess.), p. 114.

⁵ Twenty-Sixth Annual Report of the Bureau of Labor Statistics, Part II, Albany, 1910, pp. XXXII-XXXIII.

Only 29 prosecutions for breaches of the ten-hour act were undertaken in 1908.¹

In the **Australian States** where the 8-hour day (48 hours per week) is in operation the problem of overtime arises whenever there is an industrial boom.

In **Victoria** the number of convictions for unlawful employment was:

CONVICTIONS FOR UNLAWFUL EMPLOYMENT, VICTORIA, 1904 TO 1909.

Year.	Number of convictions for unlawful overtime employment.	Total number of convictions for all offenses.
1909.....	122	401
1908.....	70	313
1906.....	50	286
1905.....	29	235
1904.....	13	266

In **New South Wales** sanction for overtime is applied for at Christmas and when races and cattle shows are held, and especially in the case of clothing and biscuit factories.

In 1907 sanction was applied for for 10 factories, employing 409 women and 62 young persons.

In 1908 sanction was applied for for 19 factories, employing 191 women and 2 young persons.

"Employers," says the chief inspector, "assert that they can not obtain sufficient skilled labor at those times. If greater attention was paid to the training of unskilled laborers the difficulty could be got over. I am confident that the effect of the Minimum Wage Act will be to restrict overtime especially in the case of young girls."²

In **New Zealand** the authorities have since 1909 ceased to publish the statistics of overtime because the trades-unions were of the opinion that statistics of short time and lost time should also be published in order to prevent an impression being produced abroad that the amount of overtime worked indicated an artificially produced scarcity of labor in New Zealand.

The number of hours³ of overtime worked by women and young persons was 278,562 in 1910 and 263,133 in 1909. The number of hours of overtime worked in 1908 was 264,214 (468,804 hours in the case of men) or, altogether 0.4 per cent of the normal number of hours worked by 78,625 persons (not including lost days) and in 1906 it was 180,953 hours (275,007 in the case of men).

¹ Eighth Annual Report of the Commissioner of Labor for 1908, Albany, 1909, p. I.56.

² Legislative Assembly, New South Wales. Report on the Working of the Factories and Shops Acts, etc., during the year 1908, Sydney, 1909, p. 10.

³ Nineteenth and Eighteenth Annual Reports of the Department of Labour, Wellington, 1910 and 1909, p. VIII.

The average number of hours of overtime worked by one woman in New Zealand was:

In 1906, 26 hours (70 in the case of men).

In 1907, 30.2 hours (60.8 in the case of men).

In 1908, 27.8 hours (61.2 in the case of men).

II. STATES WHERE AN 11-HOUR AND A 12-HOUR DAY IS PRESCRIBED.

In Switzerland the following particulars are furnished by the published factory statistics:¹

WEEKLY WORKING HOURS OF FACTORY EMPLOYEES IN SWITZERLAND, 1895 AND 1901.

Year.	Total number of workers.	Per cent of workers who worked per week—				
		54 hours and under.	56½ to 57 hours.	59 to 60 hours.	61½ to 62½ hours.	64 to 65 hours.
1895.....	200,199	2.0	3.3	28.3	9.0	57.0
1901.....	242,534	3.3	4.6	38.1	12.2	41.7

Instead of following the reports quoted above and giving the statistics of the weekly period of employment, the last reports of the Federal factory inspectors give separate figures for Saturdays and the other working-days and do not deal with the whole weekly period of employment. The report shows that in the three districts taken together the weekly working-day (excluding Saturday) of 310,193 persons was—

Under 10 hours, 13.5 per cent; 10 hours, 48.6 per cent; 10½ hours, 23.3 per cent; 11 hours, 14.4 per cent; and the average working day on Saturday was—

Under 6 hours, 5.3 per cent; 6 hours, 8.7 per cent; 7 hours, 1.0 per cent; 8 hours, 9.0 per cent; 8½ hours, 21.3 per cent; 9 hours, 54.7 per cent.

The following statistics for the years 1906 and 1907 show the extent to which overtime has been worked since the coming into operation of the Saturday Employment Act in 1905:

EXTENT OF OVERTIME WORK IN SWITZERLAND, 1906 AND 1907.

District and year.	Number of workers.	Number of persons for whom overtime was sanctioned.	Number of hours for which overtime was sanctioned.	Average number of hours of overtime per worker.	Per cent of increase in hours of labor.
District I:					
1906.....	116,773	10,539	128,439	1.09	0.03
1907.....		10,652	152,057	1.30	.04
District II:					
1906.....	65,167	6,509	166,632	2.71	.08
1907.....		2,907	76,652	1.17	.04
District III:					
1906.....	125,188	14,375	335,293	2.67	.08
1907.....		10,491	234,838	1.87	.05

¹ Schweizerische Fabrikstatistik nach den Erhebungen des eidgenössischen Fabrikinspektorates vom 5. Juni 1901. vom Schweizerischen Industrie-Departement, Bern, 1902, p. XV.

Unfortunately the publication of this table has been discontinued since 1908. The following prosecutions for breaches of the provisions relating to the hours of labor (articles 11-14) were successful:

SUCCESSFUL PROSECUTIONS FOR BREACH OF LAW RELATING TO HOURS OF LABOR, SWITZERLAND, 1892 TO 1901.

Years.	Cases.	Years.	Cases.
1892-93.....	110	1902-3.....	129
1894-95.....	136	1904-5.....	183
1896-97.....	155	1906-7.....	245
1898-99.....	124	1908-9.....	276
1900-1901.....	81		

In Austria the Department of Labor Statistics in the Ministry of Commerce published in 1906 a report on "the working-day in Austrian factories"¹ which was based on special inquiries made by the industrial inspectors. We reproduce here the most important features of the report. Of the 930,930 persons employed in 12,188 establishments not using continuous processes, the hours of work were as follows:

DAILY HOURS OF WORK IN AUSTRIAN FACTORIES NOT USING CONTINUOUS PROCESSES, 1906.

Sex.	Per cent of workers who worked per day—		
	9 hours and less.	Over 9 to 10 hours.	Over 10 to 11 hours.
Male.....	10.4	46.3	41.6
Female.....	5.5	45.2	48.5
Total.....	8.8	45.9	43.8

"The fact that women work on an average longer than men is due to the influence of one industry, i. e., the textile industry, and in nearly all other industries the proportion of women whose working-day exceeds 10 hours is less than the proportion of men." (p. LVII.)

For the 61,321 young persons under 16, of whom 35,753 are males, employed in establishments not having continuous processes the hours of work were as follows:

DAILY HOURS OF WORK OF YOUNG PERSONS UNDER 16 IN AUSTRIAN FACTORIES NOT USING CONTINUOUS PROCESSES, 1906.

Sex.	Per cent of workers who worked per day—		
	9 hours and less.	Over 9 to 10 hours.	Over 10 to 11 hours.
Male.....	9.8	47.3	40.4
Female.....	5.0	42.4	51.9
Total.....	7.8	45.2	45.2

¹ Die Arbeitszeit in den Fabrikbetrieben Oesterreichs, Wien, 1907.

The proportion of the workers who worked short time on Saturday and on the eves of holidays were 32.9 per cent and 44.2 per cent respectively (30.8 per cent and 40.2 per cent respectively of the men, and 37.7 per cent and 53.9 per cent respectively of the women). The working-day was shortened as follows:

PER CENT OF WORKERS IN AUSTRIAN FACTORIES WHOSE WORKING-DAY IS SHORTENED ON SATURDAY AND EVES OF HOLIDAYS, 1906.

Extent to which working-day was shortened.	Per cent of workers whose working-day was shortened.		
	Men.	Women.	Total.
1 hour.....	73.3	82.4	76.4
1 to 2 hours.....	14.5	12.5	13.8
Over 2 hours.....	12.2	5.1	9.8

Overtime was worked in 9.3 per cent and short time in 6.3 per cent of the establishments.

The appendix to the October, 1910, number of "Soziale Rundschau" contains an analysis by the Austrian Department of Labor Statistics of the overtime sanctioned in 1908 and 1909.

Sanction of overtime work was given as follows:

EXTENT OF OVERTIME WORK IN AUSTRIAN FACTORIES, 1908 AND 1909.

Year.	Hours of overtime sanctioned.	Persons for whom overtime was sanctioned.	Total number of hours of overtime sanctioned.	Number of hours of overtime per person.
1909.....	32,741	40,945	2,338,260	57
1908.....	30,600	34,603	2,140,308	62

If we compare the figures for 12,188 establishments without continuous processes given in the report of 1906, already referred to, with those published in the report of the industrial inspectors relating to their activities in 1899 (Vienna, 1900, p. XLVIII) after deducting the number of establishments with continuous processes, we find that in 4,637 establishments the hours of work were as follows:

DAILY HOURS OF WORK IN AUSTRIAN FACTORIES NOT USING CONTINUOUS PROCESSES, 1899 AND 1906.

Year.	Per cent of establishments in which daily hours of work were—		
	Under 9 hours.	9 to 10 hours.	10 to 11 hours.
1899.....	4.1	29.8	66.1
1906.....	9.2	43.3	47.5

If the number of establishments working 11 hours continues to diminish in the same proportion this class will have disappeared almost entirely by 1920.

The number of breaches of the law establishing a legal maximum working-day of 11 hours (art. 96a of the Industrial Code) was as follows:

In 1909, 57; 1908, 54; 1907, 39; 1906, 76; 1905, 60; 1904, 65; 1903, 92; 1901, 49; 1899, 51; 1898, 36.

For the Netherlands the "Centraal Verslag der Arbeidsinspectie over 1909" (1910) p. 179, contains a table dealing with the hours of labor from 1895 to 1908. In this case also the number of protected persons employed in establishments having a 10-hour working-day has increased compared with the figures for the period from 1895 to 1898 and the number of unprotected persons has increased proportionately.

PER CENT OF PROTECTED AND OF UNPROTECTED PERSONS WORKING EACH SPECIFIED NUMBER OF HOURS, 1895 to 1908.

Year.	Protected persons (women and young persons).	Unprotected persons (adult males).		
		10 hours and less.	10 to 11 hours.	Over 11 hours.
1895-96.....	41.28	19.73	40.91	39.36
1897-98.....	39.60	23.83	26.84	49.33
1899.....	45.85	28.90	28.16	42.94
1900.....	47.46	32.39	25.66	41.99
1901.....	48.79	27.50	32.86	39.64
1902.....	48.32	24.75	35.36	39.89
1903.....	50.94	24.87	31.29	43.84
1904.....	51.72	23.43	32.67	43.90
1905.....	48.06	24.72	32.24	43.04
1906.....	51.12	28.64	34.72	36.64
1907.....	49.96	26.60	37.50	35.90
1908.....	47.05	27.01	37.65	35.34

Page 210 of this same report gives a separate table showing the working-day in establishments where at least 10 persons are employed (8,940 establishments employing 300,505 persons).

PER CENT OF PERSONS WORKING EACH SPECIFIED NUMBER OF HOURS PER DAY IN ESTABLISHMENTS EMPLOYING AT LEAST 10 PERSONS, 1909.

Working hours per day.	Per cent of persons employed.	Working hours per day.	Per cent of persons employed.
9½ and less.....	17.43	11½.....	3.86
10.....	24.23	12.....	5.03
10½.....	18.88	12½.....	1.81
11.....	28.76		

The number of convictions for breaches of article 5 of the protective law (hours of labor of women and young persons) has increased

between 1904 and 1907 in consequence of the increased efficiency of inspection. The figures are as follows:

CONVICTIONS FOR VIOLATION OF LAW IN REGARD TO HOURS OF LABOR OF WOMEN AND YOUNG PERSONS, 1895 TO 1909.

Year.	Number of convictions.	Year.	Number of convictions.
1895-96.....	1 236	1904.....	1,415
1897-98.....	1 384	1905.....	1,450
1899-1900.....	1 792	1906.....	1,350
1901.....	959	1907.....	1,422
1902.....	931	1908.....	994
1903.....	816	1909.....	910

¹ Average per year.

Sanction of overtime was granted as follows:

	In the case of an 11-hour workday.		In the case of a workday of more than 11 hours.	
	Number of persons.	Number of hours.	Number of persons.	Number of hours.
(a) By the royal commissioner.....	559	9,598	2,130	22,479
(b) By the mayor.....	590	1,315	3,868	13,831

In Russia an official inquiry into working hours in cotton factories was undertaken in 1907;¹ the inquiry gives data for 436,973 textile workers: 192,721 adults, 238,785 women and young persons from 15 to 17 years of age, and 5,467 children from 12 to 15 years of age. The percentage of persons working a specified number of hours in each one of these groups was as follows:

DAILY WORKING HOURS IN COTTON FACTORIES IN RUSSIA, 1907.

Hours of labor per day.	Per cent of persons working specified hours per day.			
	Men.	Women and young persons.	Children.	Total.
Under 9 hours.....	8.0	9.9	46.8	9.5
9 hours.....	38.5	50.6	53.2	45.2
9 to 10 hours.....	27.6	16.4	21.2
10 to 11 hours.....	17.0	13.6	14.9
Over 11 hours.....	8.9	9.5	9.2

In order rightly to interpret these figures it must be remembered that according to article 7 of the order of September 20 (October 2), 1897, in enterprises in which 18 hours are worked in two shifts, the hours of work of one of these shifts may be extended to 12 hours. The

¹ Dannja o prodolschitelnosti robotschawo wremeni w prommuischlennuich predpriatiach po obrabotkje chlopka sa 1907 god. St. Petersburg, 1909.

daily average hours of labor of any worker in a fortnight must not, however, be more than 9 hours. Generally, shifts are distributed in such cases in such a manner that one shift has to work 12, the other 6 hours with a daily alternation of shifts.

In the above inquiry of 1907 workmen distributed among two shifts in this way were not included in the 9-hour group, but were separated and added to the 12 and 6 hour groups. In consequence the percentage of the two groups "under 9" and "over 11" hours is almost equal. According to the above table 74.1 per cent men and 76.9 per cent women and young persons were working 10 hours or less.

In Italy the length of the working-day of 855,138 workers was ascertained in 1907.¹ The figures are as follows:

DAILY WORKING HOURS IN ITALIAN FACTORIES, 1907.

	Per cent of persons working specified hours per day.			
	9 hours and less.	9½ to 10 hours.	10½ to 11 hours.	11½ hours and over.
Italy.....	15.4	32.1	50.0	2.5
District of Milan and Brescia (373,462 persons).....	5.5	37.4	56.3	.8

In India an official inquiry² shows that the legal maximum working-day is not observed. Since the introduction of electric light the working-day in many textile factories has increased from between 11 and 13½ to 14½ hours. When the number of hours worked in Bombay rose to 15 per day the manufacturers association of Bombay itself proposed that a 12-hour maximum working-day should be introduced. The association, however, proved to be powerless, a working-day of 13 to 13½ hours continued to be general, and increased in some places to 14½ and 15½ hours. In Calcutta a 10-hour day has been introduced in two textile factories employing approximately 8,200 persons. The employer applied for sanction to lengthen the working-day by one-half hour, but on account of the passive opposition of the workers there was no increase in the output of the factories.

In other establishments the working-day was increased by "time cribbing" up to 16 hours. The town of Madras and the Central Provinces have an 11-hour day, the Punjab (Amritsar, Lahore, Delhi) has a working-day of 13 to 13½ hours and Dhariwal one of 9½ to 11½ hours. "The women employed in cotton ginning factories at Gujarat which have not as yet been brought under the act work as much as 18 hours per day and are relieved during some of the rest

¹ Ufficio del Lavoro. Operai ed Orari negli Opifici Soggetti alla Legge sul Lavoro delle Donne e dei Fanciulli, Roma, 1908, p. XLV and for the inspection district of Milan and Brescia in Rapporti sulla Ispezione del Lavoro (1° dic. 1906-30 giugno 1908); Roma 1909, Tab. 62, 63.

² Report of the Indian Factory Labour Commission 1908. London, 1908. Appendix D and pp. 7, 10, 32.

periods by other members of the family." The commission proposed that a maximum working-day of 12 hours should be established for young persons between 14 and 17 years of age as well as for women, but did not suggest limiting the hours of labor of male adults. The commissioners were of opinion that "the imposition of a direct restriction on the hours of adult labor would be repugnant to the great majority of the capitalists, both in India and abroad, who have invested, or are considering the question of investing money in India." Happily this point of view with regard to legislation for textile factories is not one which has received legal acceptance.

III. STATES WHICH REGULATE THE HOURS OF LABOR OF YOUNG PERSONS ONLY.

The effect on women and men of the system of regulating exclusively the hours of labor of young persons can be clearly seen in **Denmark**. In that country a legal maximum working-day of 12 hours for young persons was established in 1873 and reduced to 10 hours in 1901. The system of inspection was reorganized in 1890 and the Federation of Trade Unions was instituted in 1886 and extended in 1898.

The factory inspectors recorded in their reports from 1878 to 1882 the number of workers who worked up to 12 and more than 12 hours, and in their reports from 1875 to 1889 the number of establishments which worked up to 12 and more than 12 hours. The percentage of establishments working more than 12 hours was:

PER CENT OF ESTABLISHMENTS WORKING MORE THAN 12 HOURS PER DAY, DENMARK, 1873 TO 1889.

Year.	Per cent of establishments working more than 12 hours per day.	Year.	Per cent of establishments working more than 12 hours per day.
1873.....	60.2	1878.....	41.4
1875 (after the coming into operation of the act).....	39.9	1886 (trade unions).....	31.8
		1889.....	27.0

The number of establishments accounted for in the last 3 years was 631, 742, and 753, and the number of workers was between 18,000 and 23,000. The proportion of persons working more than 12 hours was in 1878, 32.9 per cent; in 1882, 28.3 per cent.

The number of establishments on which the figures were based increased from 753 in 1889 to approximately 1,900 in 1891, to 3,000 between 1892 and 1899, and to 3,600 between 1900 and 1902. The working-day is here classified separately for summer and winter.

The number of hours worked was as follows, the number of establishments being given in percentages:

DAILY WORKING HOURS OF DANISH FACTORIES, 1889 TO 1902.

Hours per day.	1889-1891 ¹		1898-99		1901-2 ²	
	Summer.	Winter.	Summer.	Winter.	Summer.	Winter.
Unknown.....	9.7	9.7	14.7	16.1	15.9	17.2
Not exceeding 9½ hours.....	9.2	14.8	12.2	16.3	16.0	21.7
10 hours.....	33.0	34.1	41.7	43.6	45.3	44.1
10½ hours.....	21.9	20.4	17.7	16.7	14.0	12.0
11 hours.....	18.2	16.0	9.8	5.6	5.9	2.8
Over 11 hours.....	8.0	5.0	3.6	1.7	2.9	2.2

¹ Trades-union federation.

² Factory Act, 1901.

The percentage of establishments working not more than 10 hours had therefore increased from 42.2 (48.9) to 61.3 (65.8) for all workers at the date when it was decided to reduce the working-day for young persons only by law to 10 hours.

In 1902 the number of workers over 18 years was 73,637, whose hours of work per day were as follows:

Hours per day.	Per cent.
Not more than 9 hours.....	16.3
9½ to 10 hours.....	70.8
Not less than 10½ hours.....	12.9

In 1901 the number of young persons was 8,122 and their hours of work per day were as follows:

Hours per day.	Per cent.
Not more than 9 hours.....	15.7
9½ to 10 hours.....	73.9
Not less than 10½ hours.....	10.4

The industrial census of 12th June, 1906,¹ deals with other establishments as well as with those establishments protected by the factory act whose working-day has been described in the factory inspectors reports (Beretning om Arbejdstilsynets Virksomhet Köpenhavn) since 1877. These statistics deal with 167,727 persons whose average working-day was as follows, the number of workers being given in percentages:

DAILY WORKING HOURS OF WORKERS IN DANISH FACTORIES, 1906.

Hours per day.	Per cent of workers working specified hours per day.		
	All workers.	Men.	Women.
Under 9 hours.....	11.1	9.8	17.0
9 to 10 hours.....	20.6	17.7	32.9
10 hours.....	59.1	63.2	41.4
Over 10 hours.....	9.2	9.3	8.7

¹ Arbejdstiden: Industrien ifølge Handværks- og Industritællingen af 12. Juni 1906. Statistiske Meddelelser 4. R. 28. Bd.

In Sweden the Royal Board of Trade published the result¹ of the inquiry into the hours of labor of 43,650 persons employed in establishments with less than 10 persons and 301,796 persons employed in establishments with more than 10 persons. In the small establishments 58 per cent and in the large establishments 76.9 per cent worked not more than 60 hours per week. The average for all persons in industrial employment was 59.5 hours per week, i. e., 59.3 hours in establishments employing more than 10 persons and 60.4 hours in smaller establishments. The following table gives the number of hours worked, the number of persons being given in percentages:

DAILY WORKING HOURS OF WORKERS IN SWEDISH FACTORIES.

Hours per day.	Per cent of workers working specified hours per day.		
	Men.	Women.	Young persons (under 18).
Not exceeding 9 hours.....	13.2	15.4	17.4
9 to 10 hours.....	5.8	9.3	7.4
10 hours.....	51.9	50.4	65.3
Over 10 hours.....	29.1	24.9	9.9

For 45,495 young persons the working-day, which has been regulated by law in both Sweden and Denmark, will be seen to be almost identical with that in operation in Denmark. On the other hand the number of women and men working more than 10 hours is nearly three times as great as in Denmark. The heavy representation of men in the wood industry and industries with continuous processes and that of women in the textile, clothing, and food industries as also the comparative weakness of the workmen's associations must be held responsible for this phenomenon. According to Sundbärg² the percentage of organized workers in 1905 was 24 in Sweden and 49 in Denmark. The 7th international report on the Trade-union Movement during 1909 (Berlin, 1911) shows that the percentage of organized workers in these same countries had increased to 30 and 49.44, respectively, since 1905. In Sweden 7.26 per cent and in Denmark 10.52 per cent of the organized workers were women.

In Belgium it is impossible to get accurate data concerning the number of organized workers. Since 1896 a complete census of industrial workers has not taken place and the number of organized miners has also not been determined. It will, however, be hardly erroneous to say that the relative number of organized workers is much below that of Denmark.

For this reason the limitation of the legal working-day affecting young persons, works quite differently in the textile industry of Belgium and in some other countries to be dealt with later.

¹ Arbetsstatistik A. 10. Arbetstidens Längd inom industri och Handtverk i Sverige. Stockholm, 1911.

² Aperçus statistiques internationaux, Stockholm, 1908, p. 168.

In Belgium the "Office du Travail" has published two reports, i. e., "Salaires et durée du travail dans les industries textiles au mois d'octobre, 1901 (Bruxelles 1905)," and "Salaires et durée du travail dans les industries des métaux au mois d'octobre, 1903 (Bruxelles 1907)."

In the textile industry the report deals with 71,512 persons of whom 39.2 per cent are women and 15.6 per cent young persons. The working-day was as follows (p. 227):

DAILY WORKING HOURS OF EMPLOYEES IN TEXTILE INDUSTRY IN BELGIUM, 1901.

	Per cent of workers working specified hours per day.					
	9 hours.	10½ hours.	11 hours.	11½ hours.	13 hours.	Over 13 hours.
(a) For all classes.....	1.61	8.57	26.21	53.06	10.06	0.49
(b) Men.....	.44	9.26	28.29	48.68	12.51	.82
(c) Women.....	2.04	8.41	25.52	55.79	8.01	.23
(d) Young persons.....	3.94	7.00	21.95	58.84	8.07	.20

Thus 38 per cent of the men, 36 per cent of the women, and 33 per cent of the young persons worked 11 hours or less, although the law (royal decree of 26th Dec., 1892) limits the working-day of the last two classes in the woolen industry to 11½ and in other textile trades to 11 hours (royal decree of 6th July, 1904). Only in cotton spinning is an 11½-hour day (66 per week) fixed by the same decree. Thanks to the cooperation of legal protection and organization, conditions are very different in the metal industry¹ where the working-day was as follows:

DAILY WORKING HOURS OF EMPLOYEES IN METAL INDUSTRY IN BELGIUM, 1903.

	Per cent of workers working specified hours per day.				
	9 hours.	10 hours.	11 hours.	11½ hours.	Over 11½ hours.
(a) For all classes.....	2.90	49.55	42.90	2.28	2.37
(b) Men.....	3.12	49.15	42.91	2.32	2.50
(c) Women.....	.37	54.14	43.67	1.82
(d) Young persons (males).....	1.21	52.31	42.54	2.03	1.91

Thus one-half of the persons employed in this industry are employed in establishments working 10 hours a day.

In Hungary the industrial census report of 1900 (published in 1910) gives the following particulars.² In all industries the number of hours was as follows:

¹ Salaires et durée du travail dans les industries des métaux au mois d'octobre, 1903. Exposé de quelques résultats, Bruxelles 1907, p. 35.

² St. Varró, Die Regelung der Maximalarbeitszeit der Frauen und Jugendlichen, Jena, 1911, pp. 4 and 5.

DAILY WORKING HOURS OF FEMALE WORKERS IN HUNGARIAN FACTORIES, 1900.

	Per cent of workers working specified hours per day.				
	8 to 9 hours.	10 hours.	11 hours.	12 hours.	Over 12 hours.
(a) Adult female workers.....	26.6	41.8	12.9	15.5	3.2
(b) Juvenile female workers.....	19.6	40.7	19.5	17.3	2.9

For the textile industry the figures are as follows:

DAILY WORKING HOURS OF FEMALE WORKERS IN HUNGARIAN TEXTILE INDUSTRY, 1900.

	Per cent of workers working specified hours per day.				
	9 hours.	10 hours.	11 hours.	12 hours.	Over 12 hours.
(a) Adult female workers.....	6.1	34.0	35.0	22.2	2.7
(b) Juvenile female workers.....	3.5	24.1	39.4	26.3	6.7

In this case also young persons work relatively longer than adults.

In **Finland** in the year 1903 a majority of the persons employed in the textile industry worked 11 hours,¹ while in the tobacco industry three-fourths of the persons employed (two-thirds of the men) worked for not more than 10 hours.² In the clothing industry also the number of hours worked in a week does not exceed 60.³ Only 12 per cent of the men and 6 per cent of the women employed in the printing industry exceeded this limit.⁴

With regard to the observance of an 11-hour day in **Spain**, the last report of the inspectors⁵ says:

The demand for the work of women in the agricultural and forestry industries is such a pressing one that in some districts the working-day is increased to 14-16 hours. The law is frequently violated in the textile and clothing industries and also in large factories worked by water power where the working-day is increased to 12 hours in order to make use of the power.

CLASSIFIED SUMMARY OF STATES ACCORDING TO LEGAL WORKING-DAY.

According to the preceding data the different States may be classified as follows:

1. Those States which have prescribed and enforced a legal 8-hour day (48 hours per week): Most of the **Australian States** and **New Zealand**;

¹ Arbetsstatistik II. Undersöning af Textilindustrin i Finland af G. R. Snellman. Helsingfors, 1904, p. 51.

² Arbetsstatistik I. Undersöning af Tobaksindustrin i Finland af G. R. Snellman. Helsingfors, 1903, p. 141.

³ Arbetsstatistik VI. Undersöning af n larbeterskornas Yrkesf rhallanden i Finland af Vera Hjelt. Helsingfors, 1908, p. 49.

⁴ Arbetsstatistik IV. Undersöning af Tryckeri-industrin i Finland af G. R. Snellman. Helsingfors, 1907, p. 63.

⁵ Instituto de Reformas Sociales. Memoria General de la Inspecci n del Trabajo corresp. al a o 1908 Madrid, 1910, p. 402.

2. Those States which have a legal 10-hour day for women and young persons but where that working-day is in many cases shorter: **Great Britain** (textile industries), **Germany**, **France**, the **Netherlands**, and the industrial States of the **American Union**; but in these the 10-hour day is more often in force for women than for young persons;

3. Those States which have a legal 10-hour day for young persons only, but where the actual working-day for women approximates 10 hours: **Denmark**; **Sweden**, where the working-day for three-fourths of the women is actually 10 hours;

4. Of the States having an 11 or 11½-hour legal working-day, nearly two-thirds to three-fifths of the factory workers in **Switzerland**, **Austria**, **Hungary**, **Russia**, and **Finland** are actually employed for 10 hours only;

5. Of the States with a longer or unregulated working-day, in **Belgium** and **Italy** approximately two-fifths of all workers are actually employed for 10 hours only.

In **Spain** this proportion may be less on account of the contraventions of the 11 and 11½-hour day. For the same reason it has been found that the longest hours of labor are worked in **India** in spite of the legal 11-hour working-day. **Japan** has established (March 28, 1911) a 12-hour legal working-day for women and young persons under 15 years, but during the first fifteen years of the operation of the law the competent minister may permit a 14-hour day for these persons.

Thus only in the countries named under 5 does there exist, actually as well as legally, a working-day exceeding 10 hours for the greater number of the workers.

CHAPTER III.

JUSTIFICATION OF THE REDUCTION OF THE WORKING-DAY TO 10 HOURS FOR YOUNG PERSONS UNDER 18 YEARS OF AGE AND WOMEN.

The following conclusions may be drawn from Chapter II:

First. That the shortness of the working-day is proportionate to the development of the organization of the working people. Australia, Great Britain, Denmark, and Germany stand at the head of the list.

Second. That in States where only young persons are protected and the workers are not strongly organized the women and young persons who most need protection work longer hours than the relatively better organized men.

Third. That in States where the intent of the law and its execution are frustrated by the opposition of the employers and the lack of organization of the workmen, the only way in which a change in conditions can be introduced is by the influence of international public opinion.

Why then do some States continue to adhere to an 11-hour and a 12-hour working-day?

1. It is feared that a reduction of the hours of labor would cause the productivity of labor and the rate of wages to diminish. If this were true, then States which have introduced a 10-hour day would gradually be outstripped by those States where a longer working-day is established, unless the latter had greater natural advantages, such as proximity of coal and iron deposits, water power, transport advantages, to compensate for the longer hours of labor of the former. In States where the hours of labor are shorter, and which have not these great natural advantages, the piece-rate wages of the workers would then be reduced.

If we investigate the question by means of typical examples, we find that in the textile industry (especially in the cotton industry) which is considered to be typical of women's work the hours of work and rate of wages of women weavers are as follows:

HOURS OF WORK AND RATE OF WAGES OF WOMEN WEAVERS IN VARIOUS COUNTRIES.

Country.	Per cent of women weavers working over 10 hours.	Per cent of women weavers receiving more than 2 francs (38.6 cents) per day.
Belgium (women over 16 years).....	89.5	42.2
Denmark.....	13.6	93.0
Great Britain (women and men).....	.7	186.7
United States (New York).....	.2	100.0

¹ Women.

In the metal and machine industry, where young persons are employed, the proportion of workers employed over 10 hours is 47.3 per cent in Belgium and the Netherlands, 32.7 per cent in Switzerland, 22.1 per cent in Italy, 21.5 per cent in Austria, 18.2 per cent in Sweden, 4.5 per cent in Denmark and New York (over 63 hours), and 1.3 per cent in Great Britain. In Great Britain and New York 99.0 per cent, in Denmark 42.1 per cent, in Winterthur (Switzerland) 21.1 per cent, and in Belgium 5.3 per cent of these workers earned more than 6 francs (\$1.16) per day.

It will be seen that in the labor market there is still a large field which has not been affected by the tendency towards international uniformity. But certainly these facts leave no room to doubt that the greater industrial development is to be found in countries with shorter hours of work and higher wages. The woolen industry experts on the English Tariff Commission came to the same conclusion. They expressed the opinion that the workpeople on the Continent receiving lower wages are not equal to the English. On the other hand the employers, foremen, managers, and salesmen on the Continent are superior to the English on account of their superior technical and commercial training, etc.¹

2. That the difference in capacity is not counteracted by long hours and low wages is due to two causes: The undernutrition of the workers and the technical conditions obtaining in countries with long working-days.

The comparison between England and Belgium may here be carried further. It appears from the investigations of A. Slosse and E. Waxweiler² that the proportion of workers who have more than 85 grams of nitrogenous food is 42 per cent in Belgium, 72 per cent in Great Britain, and 97 per cent in America. The American worker eats two to three times as much meat, ten times as much sugar, and one-seventh of the amount of potatoes.

Closely connected with this undernutrition is the morbidity of women workers and infant mortality. Food, cleanliness, nursing, housing, and climate are, of course, important influences determining the extent of infant mortality, and make the figures for Norway, Sweden, Holland, and Switzerland more favorable than might be expected from the length of the working-day. Leaving these principal causes out of consideration, however, it is nevertheless a striking fact that in many instances the most favorable figures are to be found where the hours of labor for women are the shortest. The percentage of the infant deaths of the total deaths in the different States is:

¹ Report of the Tariff Commission, vol. 2, pt. 2, No. 1491, London, 1905.

² Enquête sur l'alimentation de 1065 ouvrières belges, Institut Solvay, Bruxelles 1910, p. 175. Cf. B. Seeborn Rowntree, Land and Labour, Lessons from Belgium. London, 1910, p. 388, and C. F. Langworthy, Food Customs and Diet in American Homes, U. S. Department of Agriculture, Washington, 1911, p. 16.

In States with an 8-hour day—	Per cent.
New Zealand.....	6.2
Australia.....	7.2
In States with a 10-hour day—	
England and Wales (76 towns).....	11.8
France (72 towns).....	12.9
Denmark (75 towns).....	10.7
Massachusetts.....	13.9
In States with a working day of at least 11 hours—	
Italy.....	14.8
Belgium (74 towns).....	14.3
Prussia—	
Until 1907.....	17.3
Since 1907.....	16.4
Austria (70 communes).....	17.8
Hungary.....	21.2
Russia (in Europe).....	27.2

3. In some States technical progress is accelerated by the introduction in large industrial establishments of shorter hours of labor than the maximum prescribed by law.

A number of recent experiments confirm the evidence collected by various well-known writers (Brassey, Brentano, von Schulze-Gävernitz, Schuler, Schönhof, Rae, Fromont, Abbe, E. Bernhard M. Weber) as to the greater intensity of production during short hours of labor. Thus, according to the "Centraal Verslag der Arbeidsinspectie in het Koninkrijk der Nederlanden over 1909" (p. 226) the average earnings per hour in a large Dutch weaving mill were:

Persons working 58.5 hours per week, 5.65 cents.

Persons working 55 hours per week, 5.84 cents.

Persons working 52.5 hours per week, 5.83 cents.

Persons working 51 hours per week, 5.93 cents.

It has not infrequently been contended that the effect of shorter working time in increasing output is not to be found in oriental countries, but this doubt has recently been removed. In three factories in Calcutta electric light was introduced in 1907, and the number of hours worked, which was formerly $11\frac{1}{2}$ to $13\frac{1}{2}$, was increased to $14\frac{1}{2}$. This led to a decrease of output. The productivity of these factories per hour was greater in 1906 than in 1907. The amount of work performed is shown in the table following:

DIFFERENCE IN PRODUCTIVITY BETWEEN SHORT HOURS IN 1906 AND LONG HOURS IN 1907.

Hours per day.	Per cent of production in 1906 over 1907 in—		
	Factory No. 1.	Factory No. 2.	Factory No. 3.
Production in—			
$13\frac{1}{2}$ hours' work over $14\frac{1}{2}$ hours' work.....	8.87	15.85	4.49
$13\frac{1}{2}$ hours' work over $14\frac{1}{2}$ hours' work.....	17.32	26.54	5.04
13 hours' work over $14\frac{1}{2}$ hours' work.....	9.14	22.19	4.56
$12\frac{1}{2}$ hours' work over $14\frac{1}{2}$ hours' work.....			10.96
$12\frac{1}{2}$ hours' work over $14\frac{1}{2}$ hours' work.....	12.08	19.21	
12 hours' work over $14\frac{1}{2}$ hours' work.....	10.09	15.65	5.68
$11\frac{1}{2}$ hours' work over $14\frac{1}{2}$ hours' work.....	4.61	9.36	17.17

The absolute amount of production in factory No. 3 in June, in No. 2 from March to June, and in No. 1 in May and June showed a falling off from the amount of production under the shorter working-day.¹

What has been said above with regard to certain trades where women are employed applies to a still greater extent to the fatiguing metal trades in which young persons are employed as apprentices.

In the **United States** the Secretary of Commerce and Labor in 1905, in a report entitled "Eight Hours for Laborers on Government Work," published particulars of the working-day in the United States from 1860 to 1903, which are continued up to 1907 in the Bulletin of the United States Bureau of Labor, No. 77, p. 7. The figures given show that the hours of work were 5 per cent more in 1874 and 5 per cent less in 1907 than they were in 1895. Since 1895 wages have increased by nearly 24 per cent. When we remember that it is precisely during the last 15 years that American industrial activity has increased to the greatest extent, we are bound to acknowledge the importance of these figures. It is now a well-known fact that the adoption of a 10-hour or a 9-hour day has not affected the amount or value of the output even in the case of establishments where machinery is predominately used.

The necessity of diminishing the hours of labor is still more apparent in the case of establishments where workers who are subject to increasing pressure of work are unable to transfer some of the pressure to a machine. For instance, when the Norwegian Factory Act of 1909 was under discussion, the director of the Norwegian State workshops declared that approximately the same amount of work was now done in 53 hours per week as was formerly done in 60 hours. It was reported that in other industries in which the work is done at piece rates, the difference in the wages earned by persons working 8 and 10 hours daily was almost inappreciable.

The Annual Report of 1909 of the German industrial inspectors and inspectors of mines contains evidence which corroborates the experience of the States already mentioned:

In accordance with the wishes of the workers in the machine industry, the working-day, which had previously been one of 10 to 10½ hours, was in many cases reduced to 9½ hours. In one of the larger machine factories in the district where a 9-hour day had been in operation for 20 years, an 8-hour day was established. The output has not been found to have diminished.²

In a large fine machinery factory employing nearly 1,000 persons, the morning and afternoon rest periods of ¼ hour were not given in the summer, so that the working-day was reduced from 9½ to 9 hours. The time rate of wages was raised, so that the workers were able to earn the same sum per day as they had when the longer working-day was in force, and the piece rates remained unaltered. The manager of the establishment declared that in spite of the fact that a great deal of the work is done at piece

¹ Report of the Indian Factory Labour Commission, 1908. London, 1908, Appendix D.

² Jahresberichte der Gewerbe-Aufsichtsbeamten und Bergbehörden für das Jahr 1909, Pt. 3, p. 175.

rates, the pay roll has somewhat increased, which he considers to be due mainly to the fact that the work is no longer interrupted by short rest periods.¹

The uncertainty of the business condition of the tobacco industry and the slackness of trade after the coming into operation of the internal revenue act has led many cigar manufacturers, if not to dismiss their female employees, at least to work short time. It is interesting to note that according to the information furnished by the owner of the largest cigar factory the output was only temporarily reduced under the short-time system. After a short time as many cigars were made in 9 or 10 hours as had previously been made in 11 hours.²

The working-day in a large leather factory was reduced from 10 to 9 hours with the result that the earnings of the piece-rate workers were exactly the same in spite of the fact that they worked an hour less. As the factory is now closed at 5 o'clock in the afternoon, the workers can make themselves much more useful in the house and garden than they were able to do under the old conditions.³

A woolen factory for which sanction for overtime was repeatedly and urgently applied obtained permission to employ a number of women for 1½ hours overtime on not more than 40 days per annum. This permission has not, however, been used for the last ten days, because the output of the women diminished to a considerable extent as the result of the undue strain to which they were subjected.⁴

In this connection it will be appropriate to quote the opinions of the two great English employers recorded in Appendix volume XI of the Report of the Royal Commission on the Poor Laws and Relief of Distress.⁵ Sir Christopher Furness said (p. 7):

Industrial legislation apparently has small effects on the demand for labor, its limiting effects being largely met by the introduction of newer methods; it applies the whip to inventiveness and organization. Industrial legislation, as we know it, has helped to kill bad business methods.

Mr. Seebom Rowntree, the cocoa manufacturer, said (p. 12):

In our own works we voluntarily reduced the hours of labor from 54 to 48 per week some ten years ago, but I very much doubt whether the average output per head was lessened even in the case of those working on machines. We associated the introduction of the new system with a general stringing up of organization, and this will probably always be the case.

4. It has been shown that a reduction of the working-day to 10 hours has not been burdensome to the industries which are economically most important, and the experience of most countries shows that increased protection given to women has not made it more difficult for them to compete with male adult workers. The view of certain theorists, e. g., Fawcett, that the restriction of women's work to certain branches of industry would greatly depress their wages in the occupations left open to them, has not been justified by experience in the case of the iron industry. Any reduction of wages, which was especially marked in the case of home work, has affected men to exactly the same extent as women. In certain skilled trades

¹ Jahresberichte der Gewerbe-Aufsichtsbeamten und Bergbehörden für das Jahr 1909, Pt. 4, p. 52.

² Idem, Pt. 1, p. 165.

³ Idem, Pt. 1, p. 233.

⁴ Idem, Pt. 1, p. 6.

⁵ Miscellaneous, London, 1911 (Cd. 5072), p. 12.

the trades-unions, in order to strengthen their system of apprenticeship, have tried to keep out unskilled women, a policy which has aroused great opposition among women. On the other hand it is a fact that, e. g., in England, the introduction of a 10-hour day in the printing trade (1867) did not drive women out of the trade, but led to their work being partly replaced by machinery.¹

In those countries where the textile and clothing industries are most strongly represented, the proportion of women in industrial employment to every 100 men is naturally larger, i. e., 20.5 in Germany, 25 in the United States, and 27 in France. The influence of legislation on the proportion of men and women employed is much less than the influence of variations in wages and crises. In particular the proportion of married women in industrial employment increases with the diminution in the wages and the increase in the unemployment of men.

There is nothing to show that the greater legal protection given to women has made it more difficult for them to obtain employment. The protection given to women in the textile industry has led indirectly to the reduction of the hours of work of the men employed in that industry, and as a result wages have risen in many cases. In England, for example, the actual hours of work for men are approximately the same as the maximum of 55½ prescribed by law for women, and the experience of Massachusetts (54 hours) is similar. Only in those branches of the textile industry in which only men can be employed are the hours of labor of the men any longer. On the other hand, where the hours of labor of women are not regulated the women, although they stand physically in greater need of protection, are more easily induced to overwork than men.

5. The necessity, from a hygienic point of view, of increasing the protection accorded to women has been demonstrated in the memorandum on the prohibition of night work. Since then the fact of their greater morbidity, which is increased, due to their clothes and the manner of wearing their hair, in establishments where poisons are used and dust is generated, has been brought out still more strongly by the result of the inquiries on "Sickness and Mortality in the Local Sick Fund for Leipzig and the surrounding district," Berlin, 1910. Among insured persons between 25 and 34 years of age, the proportion of cases of sickness among the men was 36.8 per cent, and among the women 47.7 per cent. The number of days sickness of women between 15 and 54 years is also greater than that of men of the same age.

Industrial occupations, domestic duties, and motherhood impose a very great burden on most women. If, then, it is impossible for a

¹ J. Ramsey Macdonald, *Women in the Printing Trades*, London, 1904, p. 74.

woman with a large family to do her washing and cleaning except on Saturday nights, and if her vitality is often prematurely exhausted even when she is employed for only 10 hours a day, the excessive strain to which the women in industrial employment are put in countries where long hours are worked is bound to result in self-neglect on the part of the mothers and in the neglect of their children.

Kayslering shows that the mortality from tuberculosis among women belonging to the age class most represented by female workers, i. e., those under 25 years, has risen in Berlin in the last 20 years proportionately to the mortality among men. Kayslering expresses the opinion that the increase in the mortality from tuberculosis among girls and women of that age class is a symptom of the reaction of the female organism against the increased pressure of industrial employment.¹

The diminution of the nursing capacity of the mothers tends to increase infant mortality. It has already been shown that the physical exhaustion of mothers in industrial employment and the inadequate protection of mothers operate in the same direction.

Finally, among other evidence, statistics given for the establishment sick funds in the chemical industry for the period just before and just after the reduction of the hours of work² tend to show that the reduction of the hours of labor tends to diminish the frequency of sickness.

6. The majority of women make use of the additional spare time secured to them by the reduction of the hours of labor, to take greater care of their homes. Young women are also enabled to cultivate their minds and to obtain domestic instruction. Only when they are employed for short hours is it possible for young women to train themselves for more skilled trades and for the mothers of the next generation of workers to prepare themselves to bring up their children.

7. A maximum 10-hour day for male young persons up to 18 years of age is already introduced by law in **Great Britain, France, Denmark, Norway, Servia, and Sweden.** The **Netherlands** have, by the act of 1911, extended this age limit for the legal maximum working-day from 16 to 17 years of age. In all countries in which the principle of the 10-hour day has been introduced by law, the 17th and 18th year of age are the dividing line between young persons and adults, with the exception of **Germany and Luxemburg,** which are the only States still considering young persons over 16 years of age as adults. The three States bordering on Germany, namely, **Austria, Switzerland, and Russia,** have not limited the age during which the maximum working-day prevails, but have introduced the latter in a

¹ J. Kaup, *Schädigung von Leben und Gesundheit der Jugendlichen.* (In *Die Jugendlichen Arbeiter in Deutschland.* III. Schr. der Ges.f. Soz., Ref., Bd. IV, Hft. 3 (36), p. 11.)

² H. Schneider, *Gefahren der Arbeit in der chem. Industrie, Hannover, 1911, pp. 86,*

more general way (11 to 11½ hours) for workers of all ages. Only up to 16 years, are young persons protected by a maximum working-day of 10 hours in **Belgium, Spain, Hungary, and Portugal**. No maximum working-day after the 15th year is prescribed in **Bulgaria, Italy, and Roumania**.

The question may be raised whether the industrial evolution of countries has been working under economic disadvantages by limiting the working time of young persons up to 18 years of age and whether the historical conditions still prevail which have induced other countries to establish a lower age limit than 18 years.

British factory legislation introduced this age limit with 60 hours per week (10½ per day) in the textile trades in the years 1831 and 1833, and this limit was extended in the year 1867 to nontextile factories. In 1833 the most distinguished medical men of Manchester had insisted upon maintaining this age limit in the textile trades in which the 10-hour day has been in effect since 1847.

British factory legislation from 1819 to 1874 allowed children to work half time in factories at the age of 9 and in workshops at the age of 8 years. This age of admission was raised to 10 years in consequence of the compulsory education act of 1873, to 11 years by the law of 1891, under the influence of the International Conference for Labor Legislation of Berlin, and to 12 years in consequence of the present factory act of 1901. The same standard of education being required for children between 11 and 13 years before admission to employment, the 14th year of age or a higher age has practically become the age of admission to industrial work in factories and workshops.

In Germany, Austria, Denmark, and in Switzerland compulsory laws concerning elementary education preceded labor legislation. This explains why, for instance, in the first labor legislation of Prussia the age of admission to industrial employment (12 years) was higher than in England and by way of compensation a lower limit for the protected age (16 years) was accepted. The Prussian law of 16th May, 1853, allowing a 10-hour working-day from the 12th to the 16th year of age, corresponded to the same hours in England from the 14th to the 18th year of age, with an additional provision, namely, permission to employ children as half-time workers from the 9th to the 13th year of age. England repealed this additional provision regarding child labor, raising the age of admission in 1901. British children are now protected almost equally well and young persons even better than in Germany; in respect to the hours of work, young persons are better protected in England than in Belgium, Austria, and Switzerland. This development of English labor legislation has been accompanied by a steady increase of production in the United Kingdom, as shown by the following table.

	1895	1900	1905	1909
Importation in million £.....	357	460	487	533
Exportation in million £.....	226	291	330	378
	1898	1900	1905	1908
Production of coal: Millions of tons.....	205	225	236	262
Production of steel: Millions of tons.....	3	4	5.8	5.3
	1870	1890	1903	1909
Number of cotton spindles: Millions.....	34	40.5	43.9	55.6

Number of persons employed in cotton factories:

	1850	1867	1878	1895	1907
In thousands.....	331	401	483	539	577
Males over 18 years, thousands.....	95	104	122	149	163
Persons under the age of 14 years (half-time workers), thousands.....	15	42	62	32	19

Not the slightest disadvantage from the point of view of production has therefore been noted in England as a result of protecting young persons in a more efficient way and by increasing the protection of children. The beneficial consequences are, on the contrary, to be traced in the age groups of employed persons in the United Kingdom as compared with those of other countries. From the medical side it has been proved that in Belgium, Austria, and Prussia the degree of mortality is much greater than in England from the ages of 17 to 20 years, the English curve of mortality being, in addition, much lower than that of Germany up to the age of 26 years. This phenomenon has also been observed in countries without a permanent army, like Belgium, and has been attributed to the want of protection of young persons after 16 years of age.¹

In Belgium the party of the Center in the chamber of deputies proposed an age limit of 18 years during the discussion of the labor law of 1889, while the Government had proposed 16 years. This modification of the Government's proposal was opposed during the debates by the member for Mons as regards mining and apprenticeship, with the following argument: "What is, in fact, a young man of 18 years? A young person? No, an adult man." The member for Ghent, reporter for the party of the Center, attempted in vain by pointing to foreign legislation to save the 18-year clause. Finally,

¹ F. Frinsing. Die hohe Morbidität der Lehrlinge und jungen Gehilfen in einzelnen Berufen. *Zeitschrift für soz. Med.* 1906, Bd. 2, p. 37, 1909, Bd. 4, p. 13.

by compromise, the maximum working-day was limited only up to the age of 16 for males and to 21 for women.

In France, however, the age limit was extended from 16 to 18 years by the law of 2d November, 1892. This reform does not seem to have met with great resistance. The difficulties which were twice experienced in the Senate were caused only by the increase of the age of admission from 12 to 13 years, by the extension of protection to adult women, and by the shortening of the working-day from 12 hours to 10 and 11 hours. Since 1893-1895 criticism has been provoked only by the unequal treatment of different classes of workers, the hours of work being 12 for adult men in factories, 10 and 11 hours for other protected persons; but at no time has the age limit of protection been put in question. If the manufacturers had found difficulties in this respect, they might easily have pretended that the grown-up children were 18 years of age, when the inspectors would not have been able to ask for certificates of age. Statistical data, however, seem to show that such incidents must have occurred very rarely. The per cent which young persons 16 to 18 years of age formed of the total number of young persons 13 to 18 years of age, was in 1893, 44 per cent; in 1894, 44 per cent; and in 1895, 47 per cent. However difficult it may be to state the degree of reaction which a change in the legal age limit may make upon economic development, e. g., upon tariff legislation,¹ the opening of new coal pits and iron mines, the introduction of new machines, it can not be presumed that the law of November 2, 1892, has produced any stagnation or damage to the development of French industry. It will be sufficient, in order to give some proof to these assertions, to quote data only for the first year after this legislation came in effect and for the last year for which data could be obtained. These are as follows:

	1893	1909
Exportation, in million francs.....	3,460	5,718
Importation, in million francs.....	4,188	6,246
	1893	1908
Horsepower employed in industry.....	966,000	2,663,697
Of which there were in the—		
Metal industry.....	178,063	487,842
Food industries.....	114,940	222,648
Chemical industry, tanneries, etc.....	48,230	119,053
Paper and furniture industry.....	41,137	123,231
Building trades, electricity.....	107,252	500,925

Only those industries are quoted above in which very few women workers are employed, while trades, e. g., the textile trades, in which

¹ As is known, the French trade policy has since the law of January 11, 1892, which came into force on February 1 of the same year, become strongly protective.

woman's work prevails are purposely omitted. Otherwise the objection could easily be raised that the law of 1892 was the first to regulate women's work, and that the latter reform would have obliterated the effect of the strengthening of the protection of young persons. If the latter kind of protection had caused any damage to the development of industry, the trades employing a majority of men would have been the first to suffer. This applies specially to the metal industry; but in these trades the horsepower has more than doubled. In the same period (1893-1908) the production of pig iron rose from 2,057,000 tons to 3,401,000, and that of manufactured iron and steel from 1,511,000 to 2,412,000 tons.

Twenty years have elapsed since the age limit of protection for young persons in France was raised from 16 to 18 years. The experiment is perfectly conclusive, and nobody in France would like to return to the age limit of 16 years. In 1903 the difficulties raised by the ten-hours act of March 30, 1900, caused the representatives of industry in the Senate to ask for an amendment to the law of November 2, 1892 and 1900. This proposition was agreed to by the Senate in March, 1904. The proposition does not contain any provision which would go back to a lower age limit. Thus the protection of young persons of 16 to 18 years was introduced in France in practice without difficulty, is accepted by everyone, and has caused no injury to the development of French industry.

CHAPTER IV.

TRANSITIONAL ARRANGEMENTS.

In order to provide a uniform minimum regulation of the maximum hours of labor of young persons and women, it will be necessary for those States which have not given such protection to raise the age limit from 15 and 16 to 18 years for protected male workers, and to shorten their hours of labor and those of women over 16 and 18 years. The question arises as to whether these reforms should be introduced at once or by stages.

The experience of various States is as follows:

In **England** the age limit of protected persons which, in pursuance of the act of 1819 was 16 years, was raised in 1831 to 18 years. This provision, however, did not come into operation until 1834, when the factory inspectors appointed under the act of 1833 commenced their activity. The 10-hour day for women employed in the textile factories became law on 6th June, 1844, and came into force on 1st October, 1844. The act of 6th July, 1895, of which sections 14 and 37 provided that overtime should not be worked by women and young persons employed in textile factories and reduced from 48 to 30 the number of days on which overtime might be worked in other establishments, came into operation on 1st January, 1896.

In **France** the act of 19th May, 1874, which like the previous act of 22d March, 1841, only regulated the hours of labor of workers up to the age of 16 years, was replaced by the act of 2d November, 1892, which raised the age limit to 18 years. This act (art. 32) came into operation on 1st January, 1893.

The 10-hour day was prescribed by the act of 30th March, 1900, which reduced the hours of labor to 11 until 30th March, 1902, to 10½ hours between 1st April, 1902, and 30th March, 1904, so that the 10-hour day actually came into operation on 1st April, 1904, i. e., four years after the act was passed.

In **Germany** the age limit has not yet been raised from 16 to 18 years. On the other hand a 10-hour day for women was prescribed by the act of 28th December, 1908, and came into operation a year later, i. e., on 1st January, 1910.

In the **Netherlands** the labor law amendment act of 1911 contains a measure of transition from the 11 to the 10-hour day, by which the latter system will come into force on January 1, 1913. The minister may, however, by special permit allow particular enterprises to

work $10\frac{1}{2}$ hours a day until 1915, but even in that case the legal maximum of 58 hours per week must be observed.

Of the States having an 11-hour day, **Switzerland** followed the English example with regard to the rapidity with which the law was put into operation. The factory act of 23d March, 1877, came into operation on 1st January, 1878.

The **Austrian** act of 8th March, 1885, came into operation as early as three months after its publication (11th March, 1885).

The $11\frac{1}{2}$ hours prescribed by the **Russian** act of 2d (14th) June, 1897, came into operation on 1st January, 1898. The proper ministers were authorized to enforce the act in particular districts, industries, and establishments before that date.

Article 15 of the **Italian** act of 19th June, 1902 (12-hour day for women, 11-hour day for juvenile workers under 15), provided that it should come into operation four months after the publication of the order in pursuance of the act which was published on 29th January, 1903, so that the maximum working-day came into force on 29th May, 1903.

The advantage of a well-prepared but not too long transition is that it diminishes the disturbance of industry, technical arrangements can be made, and the workers can be slowly adapted to the change without creating opposition and without the sanction of overtime which tends to cast doubts on the success of the measure. In France, for instance, after the act of 1900 had been in force for three years, the number of convictions for breaches of the act rose from 1,621 (1903) to 5,357 (1904) and fell again to 2,844 in 1908.

There can be no doubt that even in those countries which have as yet regulated only the night work of women the 10-hour day can be introduced (possibly in transitional stages of 11 and $10\frac{1}{2}$ hours) within four years at latest after the ratification of an international convention. A longer interval checks, on the one hand, the inducement to adopt improved methods of production, and, on the other hand, tends to diminish the appreciation of the value of international agreement to the protected classes.

An interval of four years is ample to prepare public opinion and the employers for alterations in the conditions of work, and to enable such administrative measures to be adopted as are necessary in order to efficiently enforce the law.

APPENDIX I.

VARIATIONS IN THE NORMAL DISTRIBUTION OF REST PERIODS UNDER BRITISH LEGISLATION.

In nontextile factories and workshops where the system of an 8-hour shift is adopted, work may be performed from 6 a. m. to 4 p. m. on Saturday, with an interval of not less than 2 hours for meals. The arrangement of the hours of labor and times allowed for meals must be reported to the inspector and must not be changed more often than once a quarter.

Except in special circumstances, all protected persons must be allowed intervals for meals at the same hour and must not be allowed to remain in a room in which a manufacturing process is then being carried on (art. 33).

This provision does not apply—

(a) In the case of women and young persons employed in the following factories, namely, blast furnaces, iron mills, paper mills, glass works, and letter-press printing works, nor to undertakings with continuous processes named by order. The following exceptions are allowed by order: Textile factories where protected persons employed in a distinct department in which there is no machinery, commence work at a later hour than the men and other young persons, subject to the condition that all in the same department shall have their meals at the same time; nontextile factories and workshops where the making of wearing apparel is carried on; nontextile factories and workshops where there are two or more departments or sets of young persons, subject to the condition that all in the same department or set shall have their meals at the same time; dressing floors, tin streams; china clay pits and quarries in Cornwall; factories where the making of bread or biscuits is carried on by means of traveling ovens; the printing of photographs, the spinning of artificial silk. In these establishments and in textile factories where flax, jute, or hemp is used, 1,000 cubic feet of air space must be allowed to each person.

(b) In the case of young persons employed in departments where dyeing or open air bleaching is carried on (art. 40), and in iron and steel foundries (23d June, 1904), and electrical stations (11th Mar., 1903).

An exception is also provided with respect to the trades allowed to women and young persons employed in fruit preserving and fish curing and in cleaning and preparing fruit from June until September (11th Sept., 1907).

The intervals allowed for meals may be postponed in creameries (23d Oct., 1903).

Meals must not be taken in rooms where lead, arsenic, or other poisonous substance is used (art. 75), nor in any part of glass works in which the materials are mixed, in any part of flint-glass works in which grinding, cutting, or polishing is carried on, nor in any part of lucifer-match factories in which any manufacturing process or handicraft (excepting wood cutting) is carried on, nor in earthenware works in the dippers' house, dippers' drying rooms, and china scouring room (art. 78). This prohibition has been extended by order (23d Mar., 1898), to the parts of textile factories in which the process of gassing is carried on; the parts of print works, bleaching works, and dyeing works in which the process of singeing is carried on; the parts of factories or workshops in which any of the following processes are carried on: Sorting or dusting wool or hair; sorting, dusting, or grinding rags; fur pulling; grinding, glazing, or polishing on a wheel; brass casting, type founding; dipping metal in aquafortis or other acid solution; metal bronzing; majolica painting on earthenware; cleaning and

repairing catgut; cutting, turning, or polishing bone, ivory, pearl shell, or snail shell; manufacturing chemicals or artificial manures; manufacturing white lead, lithographic printing, playing-card making, fancy-box making, paper staining, almanac making, artificial-flower making, paper coloring and enameling, and color making if and when dry powder or dust is used.

This provision has also been extended by order to vulcanizing works, to the making of transfers for earthenware, to china and earthenware factories, to brass casting, and to the use of lead chromates and dinitrobenzol. Notice of the prohibition must be posted in the workroom (art. 78).

The rest periods allowed in domestic workshops (i. e. places where no power is used and in which the only persons employed are members of the same family dwelling there) are regulated for young persons but not for women. Rest periods of altogether $4\frac{1}{2}$ hours must be allowed between 6 a. m. and 9 p. m., and on Saturday rest periods of $2\frac{1}{2}$ hours must be allowed between 6 a. m. and 4 p. m. Simultaneousness of rest periods, posting of notices, etc. are not required in the case of domestic workshops (art. 111).

APPENDIX II.

EXCEPTIONS FROM THE LEGAL ARRANGEMENT OF REST PERIODS IN AUSTRIA.

In conformity with the ministerial order of 27th May, 1885 (R. G. Bl., No. 82), certain classes of undertakings may be exempted from the obligation of allowing rest periods at specified hours. These are:

(1) Iron and steel works (workers at blast furnaces, coke ovens, charcoal burning, roasting furnaces, puddling works, rolling mills, steel works, iron and metal foundries);

(2) Iron enamel works (in respect to persons employed in baking and smelting the enamel and calcining the tin);

(3) Copper, brass, pinchbeck, German silver, silver plate, copper, tin, and bell foundries (in respect to persons employed at open fires and furnaces);

(4) For blacksmiths and wheelwrights (when necessary in order to undertake urgent repairs);

(5) Lime, cement, magnesite, plaster and brick kilns, works for the preparation of strontium compounds, the manufacture of earthenware and porcelain (in respect to persons employed at continuous furnaces and at mill courses);

(6) Glass works (persons employed at smelting);

(7) The textile industry.

(a) In the case of dyeing, bleaching, printing, finishing, dressing, fulling, and washing, the rest periods may be allowed at times when the work can be most conveniently interrupted.

(b) In the case of spinning and weaving by a mechanical process, the machines need not be stopped in order to enable the workers employed at the same to enjoy the morning and afternoon rest periods. In such case, however, the ministerial decree of 23d November, 1888 (No. 38851), prescribes that the morning and afternoon rest periods, during which the workers take their meals while the operation of the machines is discontinued, shall be paid as working time.

(8) The manufacture of paper and paper pulp in respect to persons employed in stoking and at the machines, and in conformity with the ministerial decree of 7th April, 1896, in respect to persons employed in drying processes;

(9) Flour mills, in respect to persons employed at machines and at the milling apparatus who must be allowed a midday rest period of at least half an hour in rotation, a certain proportion (one-half or one-third) being allowed the rest periods simultaneously. Additional rest periods at specified times need not be allowed to such persons;

(10) Sugar factories (persons employed at apparatus in operations undertaken between the purifying of the sirup and the separating of the syrup from the crystals must be allowed a midday rest of at least half an hour in rotation; a certain proportion, one-half or one-third, being allowed the rest period simultaneously. Additional rest periods at specified times need not be allowed to such persons);

(11) The manufacture of sirup and glucose (in the case of processes which can not be interrupted);

(12) Bakeries and confectioneries;

(13) Breweries, malt factories, spirit distilleries, vinegar factories, liquor factories, establishments for the manufacture of compressed yeast, artificial ice factories; persons employed in continuous processes must be allowed a midday rest of at least half an hour in rotation, a certain proportion (one-half or one-third) being allowed the rest period simultaneously;

- (14) Chemical industries with continuous processes;
- (15) Newspaper printing;
- (16) The manufacture of linoleum (in pursuance of the ministerial order of 2d April, 1897, R. G. Bl., No. 88, it is sufficient if a midday rest of half an hour is allowed);
- (17) Macaroni factories (in pursuance of the ministerial order of 9th January, 1905, R. G. Bl., 7) in respect to persons employed at the rolling machines and molding presses and in the drying process;
- (18) Electrical works and electrical establishments and mechanical stone saws (ministerial order of 21st February, 1908, R. G. Bl., No. 48);
- (19) Machine tenders and boiler attendants in enterprises with steam power;
- (20) The construction of railway tunnels with 8-hour shifts (ministerial order of 16th October, 1903, R. G. Bl., No. 210).

APPENDIX III.

INDUSTRIES IN WHICH OVERTIME IS ALLOWED IN THE UNITED KINGDOM.

Overtime is allowed by the Factory and Workshops Act in the following industries (sec. 49, 2d sched.):

(a) Flax scutch mills, establishments where bricks and tiles (not being ornamental tiles) are made or finished, the part of rope works where the open-air process is carried on, the part of bleaching and dyeing works in which is carried on open-air bleaching or Turkey-red dyeing, and glue making;

(b) Letterpress printing works, bookbinding works, lithographic printing, machine ruling, firewood cutting, bonbon and Christmas present making, almanac making, valentine making, envelope making, aerated water making, and playing card making;

(c) The making up of articles of wearing apparel, the making up of furniture hangings, artificial flower making, fancy box making, biscuit making, job dyeing.

Any part of a factory (whether textile or nontextile) used for the polishing, cleaning, wrapping, or packing of goods.

This list has been extended by order to include the following industries: The making of cardboard and millboard; the coloring and enameling of paper; the stamping in relief on paper and envelopes; the making of postage stamps, post cards, and stamped envelopes; the making of Christmas and New Year's cards and of cosaques; the making of meat pies, Christmas puddings, and mincemeat; the bottling of beer; the making of boxes for aerated water bottles; the washing of bottles for use in the preserving of fruit; the making and mixing of butter and the making of cheese; the making of fireworks; the calendering, finishing, hooking, lapping, or making up and packing of any yarn of cloth (this exception does not apply in Lancashire and Cheshire unless such processes are the only processes carried on in the factory); the warping, winding, or filling of yarn without the aid of mechanical power in the weaving of ribbons; the making up of any article of table linen, bed linen, or other household linen, and processes incidental thereto; the making of bouquets or wreaths or similar articles from natural flowers or leaves or processes in which natural flowers or leaves are otherwise adapted for sale.

Similar conditions apply to overtime in industries in which the materials are liable to be spoilt, namely, in fruit and fish preserving, fish curing, and the making of condensed milk. Women may not be employed after 9 p. m., but may work overtime not more than three times a week and on not more than 50 days in any one year (art. 50). A woman may be employed at the end of the day's work for an extra half hour in order to complete an incomplete process, excepting on Saturday, and on condition that any such extra half hours must not raise the total number of hours above the number otherwise allowed under the act in a week (art. 51), in bleaching and dyeing works and print works, also in iron mills, foundries and paper mills, where male young persons are not employed during any part of the night (art. 51).

Overtime may be worked for one hour between 6 a. m. and 7 p. m. in factories driven by water power alone, provided that the ordinary rest periods are allowed. This overtime may be worked on not more than 96 days in any year, where the danger is from drought, and on not more than 48 days in any year, where the danger is from flood (art. 52). No limit is prescribed with respect to overtime where there is danger of damage from spontaneous combustion in Turkey-red dyeing or from any extraordinary atmospheric influence in open-air bleaching (art. 53).

The working of overtime is not limited in processes in the preserving and curing of fish which must be carried out immediately on the arrival of the fishing boats in order to prevent the fish from being destroyed or spoilt, or in the process of cleaning and preparing fruit during the months of June, July, August, and September (sec. 41). In the latter case are to be observed the conditions determined by the order of September 11, 1907. These are substantially the following: Work may begin at the earliest at 6 a. m. and must terminate at the latest at 10 p. m.; young persons are to be granted a rest period of not less than 10 hours between the termination of work on one day and the commencement of work on the following day; no woman or young person may be employed continuously for more than 5 hours without an interval of at least half an hour, and there must be an interval of one hour at least, either at the same time or at different times, before 3 p. m.; no woman or young person may be employed under this exception who has been employed by the same employer on overtime work under any other special exception since the first day of the preceding October.

APPENDIX IV.

INDUSTRIES IN WHICH OVERTIME IS ALLOWED IN FRANCE.

The inspectors may sanction two hours' overtime on 60 days in the year (90 days in undertakings carried on in the open air) within the day hours of work (5 a. m. to 9 p. m.) in the following industries: In the manufacture of furniture, upholstery, and orthopedic apparatus; artificial butter factories; bijouterie and jewelry making; biscuit factories; fine laundries; establishments for the manufacture of tin cans; hosiery factories; brick kilns in the open air; the stitching of printed matter; manufacture of embroidery for women's dresses; manufacture of cardboard boxes for toys, candy, visiting cards, and ribbons; manufacture of hats, boots, shoes, glue, and gelatine; stenciling and hand painting; corset factories; ready-made clothing; sewing and lingerie making for women and children; manufacture and repairing of sails for fishing boats; preserving of fruit, making of candied fruit, and preserving of vegetables and fish; rope factories in the open air; manufacture of furs and ready-made clothing; manufacture of mourning wreaths; wool pulling; gilding of furniture and frames; gilding of leather goods, cloth, paper, etc.; Government contract work; mills for the spinning and twisting of crepe yarn; flower perfume refineries; manufacture of flowers and feathers; cheese factories; manufacture of sheaths for knives, etc.; print works; bleaching and dyeing of novelty dress goods; letterpress printing; lithographing; copper and steel printing; manufacture of toys; preparation of milk; polishing, gilding, engraving, chasing, guilloching, and planishing work in the manufacture of gold and silver articles; manufacture of envelopes, pasteboard, exercise books, account books, fancy paper, wall paper, perfume; china painting; bookbinding; urgent repairs to ships; power and agricultural machinery; silk winding for novelty dress goods; dyeing, dressing, bleaching, printing, figuring, and watering of dress goods; weaving of novelty dress goods; outside work in the building trades; manufacture of net, lace, and tulle; outside work in the building and repairing of river vessels, and building and repairing of boats.

In pursuance of article 4 of the law of November 2, 1892, and article 1 of the above order of 1893, women and children may be employed in making mourning hats and clothing until 11 p. m. on not more than 60 days in the year and provided that not more than 12 hours are worked on any day.

The exceptions allowed for embroidery, sewing, plain sewing, laundries, the manufacture of furs, and the packing and folding of ribbons were rescinded by the decree of 17th February, 1910.

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