



LABOUR AND INDUSTRIAL LEGISLATION

Labour Legislation in Czecho-Slovakia

THE Czecho-Slovakian nation regained its independence in the Revolution of 28 October 1918. The Czecho-Slovakian Government at once undertook the revision of the social legislation inherited from the Austro-Hungarian Empire, in order to adapt it to changed political and economic conditions. This article gives an outline of the new measures introduced for this purpose.

In addition to laws tending to regulate the conditions of labour, there now exists in Czecho-Slovakia a body of social and protective legislation, dealing with disabled soldiers, tenants, insurance, etc.. Labour laws strictly so-called may be divided into two groups, one dealing with the regulation of the hours of labour, the other with measures against unemployment.

Hours of Work

The Act of 19 December 1918⁽¹⁾, regarding the 8-hour day, was the first in date and importance of the labour laws of Czecho-Slovakia.

This Act was supplemented by the Order of 11 January 1919, respecting the application of the 8-hour day, and by the Circular of 21 March 1919, interpreting the Eight Hour Day Act⁽²⁾. It stipulates that the hours of work of manual and non-manual workers shall not exceed 48 per week. This limitation applies to :—

- (1) all establishments subject to the industrial code (in industry, commerce, and transport) ;
- (2) undertakings, works and establishments conducted by the State (post, telegraph, railways, etc.), or by public or private associations ;
- (3) mines and quarries ;
- (4) undertakings in agriculture and forestry in respect of workers not living with their employers or employed on temporary work lasting not less than six days.

(1) No. 91 of the *Sammlung der Gesetze und Verordnungen*.

(2) Translations of this Act, Order, and Circular in the *Legislative Series* of the International Labour Office, 1919, Cz. 1-3.

The staffs of Government offices and other branches of public administration, as well as home workers, do not come within the scope of this Act.

The Act also provides for exemptions.

In the first place, in view of the peculiar conditions under which work is carried on in certain industries, more latitude is allowed in the distribution of working hours, provided that the total number of hours worked within a period of four weeks does not exceed 192. These industries are :—

- (1) agricultural and horticultural undertakings and industries directly connected with agriculture ;
- (2) tile works ;
- (3) glass works involving continuous processes ;
- (4) pottery works in which melting and muffle furnaces are used ;
- (5) foundries, for work in connection with cupola furnaces ;
- (6) mill and saw works driven by water ;
- (7) breweries and soda-water factories (in the summer) ;
- (8) building operations (work on the site) ;
- (9) waterworks ;
- (10) undertakings for the production of ice ;
- (11) forwarding and transport undertakings ;
- (12) river and sun baths ;
- (13) electricity works ;
- (14) lumbering.

In the second place, all persons working and living within the household of their employers, whose wages are paid monthly or at more frequent intervals, and all servants and workers paid in kind, are entitled to 12 hours' rest out of every 24 ; a period of 8 hours' uninterrupted rest at night is obligatory. The same rule applies in the case of persons whose occupations are irregular and not fatiguing (e. g. supervision and watching of premises and the care of animals). The fixing of breaks in the working day is left to agreement between employers and employed, but the workers must be allowed in every week an uninterrupted period of at least 32 hours' rest; this period must fall as a rule on Sundays. For persons working in the household of their employer, the weekly period of unbroken rest must be 18 consecutive hours and should generally fall on Sundays. In certain continuous processes the Government has sanctioned an extension of working hours and the 32 hours' weekly rest (including Sunday) to be given only once in three weeks.

An extension of working hours is authorized if the work of the undertaking has been interrupted by some accident or disaster, or if this extension is necessary in the public interest, or for other important reasons. Nevertheless, the period of overtime work must not exceed a total of 20 weeks or 240 hours altogether per annum. This limitation does

not apply to emergency work, especially repairs, when danger to the life, health, or interests of the public are involved ; no official sanction is necessary for this class of work.

No special permission, moreover, is necessary for subsidiary work preceding or following the regular work of the undertaking — such as the heating of boilers, cleaning of work rooms and feeding of animals — even when it is carried on outside the ordinary working hours of the legal day. The handing over of work and the relieving of shifts, where the nature of the undertaking necessitates continuity of work, are to be regarded as subsidiary work. Extra remuneration must be paid for all overtime work.

The Act also makes precise regulations for night work.

Night work, i.e. work carried out between the hours of 10 p.m. and 5 a.m., is allowed in continuous industries, in which manufacture cannot be interrupted for technical reasons. In other undertakings work is only permissible during night hours, when this is necessary in the public interest or in order to satisfy a regular public need, especially in the following cases :—

- (1) in horticulture, for the destruction of night pests in gardens between May and October, the spraying of flowers, and the transport of goods to the early markets ;
- (2) agricultural undertakings, vine and fruit culture ; the care of animals ; work relating to the manufacture and preparation of agricultural produce, and the conveyance of goods to the market, provided that these operations cannot be carried out during the day at all, or not to a sufficient extent ;
- (3) paper factories ;
- (4) grain mills ;
- (5) dairies for the receipt of milk and its despatch to the morning market ;
- (6) electricity and gas works ;
- (7) building undertakings involving continuous water pumping ;
- (8) the printing of daily papers ;
- (9) the delivery of newspapers ;
- (10) transport undertakings ;
- (11) theatres ;
- (12) places of entertainment, restaurants and hotels ;
- (13) the musical profession ;
- (14) the guarding of works, guarding and safety services in general ;
- (15) hospitals, maternity homes, institutions for the insane, penal institutions, compulsory labour institutions, and reformatories.

No special authorization is needed for temporary night

work consequent upon the necessity of repairs to plant caused by an accident.

As a rule, only male workers may be employed on night work:

The night work of women over 18 years of age is permitted, as an exception, in factories and establishments for the preparation of perishable raw material for a brief period of time (fruit, jam and fruit-syrup industries, and drying of fruit and vegetables during the season). The Ministerial Decree also permits the employment of women over 18 years of age on night work, when the uninterrupted progress of an undertaking and considerations of public interest require it, and if the work demands comparatively little exertion. This exception applies to the following undertakings:—

- (1) agricultural undertakings, vine and fruit culture; the care of animals; the preparation of agricultural produce and its conveyance to the market, provided that these operations cannot be carried out during the day at all, or not to a sufficient extent;
- (2) dairies;
- (3) hotels and restaurant kitchens;
- (4) the booking offices of transport undertakings;
- (5) telephone and telegraph service;
- (6) the delivery of newspapers;
- (7) theatres;
- (8) places of entertainment;
- (9) hospitals, maternity homes, institutions for the insane, penal institutions, compulsory labour institutions and reformatories.

Only male workers may be employed on underground work.

Children under 14 who have not finished their compulsory education may not be employed in any way. Boys under 16, and girls under 18, may only be employed on light work which does not check their physical development.

It is noteworthy that all Czecho-Slovakian legislation affecting the 8-hour day applies also to agricultural labour. The Act requires that the period of work for regular employees in agriculture and forestry, living outside the household of their employers, shall not exceed 8 hours per day, or 48 hours per week. The employers, however, are permitted to modify the duration of the working day without notifying the authorities, if the total hours worked do not exceed 192 hours altogether in four weeks. In addition, the Act permits the working day of agricultural labourers to be increased up to 10 hours per day, with a special permit, in cases of unforeseen circumstances or for urgent repairs. The total number of extra hours is limited to 240 hours per year, except in the case of repairs, where negligence would imperil the public interest.

No special permit is necessary for the execution of subsidiary work, over and above the legal time-limit, both preceding and following work strictly so-called, such as cleaning of stables and distribution of fodder to cattle. Night work is authorized in agricultural undertakings for stable work, etc., if this work cannot be carried out by day.

Measures for the protection of children, youths, and girls apply also to agriculture.

The Act imposes special restrictions, however, on certain classes of agricultural work. Domestic servants who are paid in kind may be employed for 12 hours per day, but they are entitled to 12 hours' rest out of every 24 and must have an uninterrupted period of 8 hours' rest at night and 1½ hours at midday. The workers must be granted an uninterrupted period of 18 hours' rest at least once a week. The same rule applies to persons engaged on work of an irregular nature involving little exertion, such as the care of animals.

Persons temporarily engaged as assistants for agricultural work which does not last more than six days may not work for more than 8 hours per day.

Three supplementary Decrees have been issued relating to the 8-hour day in addition to the Act, Order, and Circular referred to above. These are :—

The Decree of 19 June 1919 (No. 322) concerning the partial suspension, during certain exceptional periods, of the Eight Hour Day Act in postal, telegraph, and telephone services; the Decree of 38 June 1919 (No. 353), suspending the application of the 8-hour day in railway undertakings; the Decree of 30 March 1920 (No. 174), authorizing, by way of exception, an unlimited amount of overtime in printing works from 1 to 22 April 1920, for the electoral campaign.

Labour Exchanges and Unemployment

The second group of labour laws of capital importance to the country consists of measures regulating labour exchanges and unemployment relief.

The Act of 10 December 1918 (No. 63), respecting unemployment relief, provided that every Czecho-Slovakian citizen whose work or service constituted his sole source of income, and who became unemployed, was entitled to State unemployment relief. The maximum grant (accorded in case of sickness) was 5 Kr. per day; grants to demobilized soldiers were 4 Kr. per diem. If the unemployed person was the father of a family he received an additional 1 Kr. :—

- (a) for his wife (whether lawful or unmarried);
- (b) for each of his children under 18 years of age;
- (c) for those of his ascendants who were maintained by him prior to the promulgation of the Act.

Persons already in receipt of benefit in case of sickness, or whose means were sufficient to provide for their existence, were not entitled to a grant. Applicants were required to go to the labour exchange and prove, if necessary, that all their attempts to obtain work had been fruitless. Employers were obliged to inform the labour exchanges of all the vacancies at their disposal. Unemployed persons had to accept any work offered them, even if this entailed a change of domicile. During the period in which they received an unemployment grant, the applicants had to present themselves at least twice a week at the labour exchange. This Act was in force from 15 December 1918 to 15 February 1919.

The term of operation of the Act of 10 December 1918 (No. 63) was extended by the Act of 12 February 1919 (No. 63) until 15 March 1919. It was further extended to 31 March 1919 by the Decree of 13 March 1919. It was hoped by the shortness of each extension to encourage the unemployed to look for work rather than to count on indefinite State relief. Moreover, the law of 12 February 1919 limited the grants in some respects. No payment was made for Sundays. The supplement of 1 Kr. per day for children only applied to children under 14 years of age. The total of grants or supplementary benefits could not exceed 10 Kr. per day altogether. State aid was granted to heads of families only and was not paid to other wage earners of the same family when out of work; they were merely entitled to the supplementary grant allowed to the head of the family. Moreover, the Decree of 27 March 1919 (No. 157), which extended the period of operation of the Act until 15 April 1919, reduced the classes of worker entitled to State aid. Grants were no longer made to workers in agriculture and forestry or to domestic servants. As unemployment became less, the Minister of Social Welfare was authorized to suppress relief, either totally or partially, in certain classes of industry, and in certain provinces of the Republic. Finally, the Act of 10 April 1919 (No. 1915) prolonged the term of operation of the Act for an indefinite period and until further orders.

The total sum paid in grants up to the end of 1919 in the Republic of Czecho-Slovakia amounted to 370 million kroner. But not content with making grants of money to the unemployed, the Government wished to provide them with work. The Act of 17 October 1919 (No. 569) authorizes the district authorities to require the local authorities to undertake immediately works of public utility providing work for the unemployed; preference must be given to workers in receipt of unemployment grants. At the suggestion of the district authorities and in agreement with the fiscal authorities, the Ministry of Social Welfare may grant to the contractors in charge of these works two-thirds of the wages of each worker engaged on them, who

had previously been in receipt of an unemployment grant; this two-thirds, however, must not exceed 6 Kr. per day. Any worker who refuses work without reasonable cause, or who is dismissed for justifiable reasons, loses all his rights to unemployment relief. The provisions adopted for combating unemployment were entirely successful; their application in each district was entrusted to a Demobilization Committee, composed of an impartial Chairman, three workers, and three employers, all appointed by the Government. The activity of these Committees was supervised by a Central Revision Office.

Among the laws giving relief to the unemployed, provisions for the protection of commercial employees form a special group. As industry, commerce, and finance are highly developed in Czecho-Slovakia, this class of employee is a very large one. Instead of giving them unemployment grants, an attempt has been made to protect them against unemployment. The Decree of 9 January 1919 (No. 14), respecting contracts of service of commercial employees, replaces the Imperial Austro-Hungarian Decree of 29 February 1916 (No. 58). It contains the following provisions. The military service of an employee can never be used as an excuse for annulling his contract of service; he is not entitled to any wages during the time in which he is carrying out his military duties, unless an agreement to the contrary has been made by the contracting parties. If the employer wishes to dismiss an employee on his return from military service, the annulment of the contract only becomes valid three months after the employee's return. If, however, the contracting parties are able to advance very serious reasons, the contract can be annulled before the expiry of the agreed time-limit. The employee has a right to his pre-war salary, increased in proportions varying with the date at which he was called to the colours. The employee must resume work immediately after demobilization. If he does not return after a period of thirty days his post is considered vacant. If the nature of his work, and no fault of his own, prevents the employee from resuming his work, he is entitled to receive a sum equal to three times his monthly wage. Persons called upon to perform work for the State—so-called "war work"—and hostages and civilians detained in captivity, benefit under this provision. The above rules apply even if the employer ceased totally or partially to carry on his business after 25 July 1914, except in cases where, as a result of the war, the economic situation of the employer, or of his successor, is such that he cannot fulfil his obligations. These provisions apply to all contracts of service not cancelled by the following dates: (1) 1 January 1916, for those employees who had been working for at least one month in the same undertaking and were called up on 26 July 1916; (2) 31 October 1918, for all other employees. These provisions do not apply

to workers having obtained employment after 31 October 1918.

The Decree of 9 January 1919 (No. 15), respecting the cancelling of contracts of service, stipulated that, up to 13 January 1919, all contracts of service subject to the Austro-Hungarian law of 16 January 1910, No. 20, could be annulled only at the wish of the employee. On the other hand, employers as well as employees, if they could adduce serious reasons recognized by the Law on commercial employees, had the same right as formerly to annul the contract of service before the expiry of the agreed time-limit. After 14 January 1919, the employer had the right to cancel the contract of service by giving his employee six weeks' notice if no time limit had been previously stipulated, or if the agreed period was less than six weeks. In the case of employees having worked for two years consecutively in the same undertaking, the term of notice was two months.

The Decree of 28 February 1919 (No. 108) prolonged by six weeks the notice required for the annulment of contracts of service under the Decree of 9 January 1918 (No. 15); this extension did not apply to contracts of service requiring six months' notice to be given. After 28 February 1919, in the absence of any clause requiring longer notice, the employer was able to dismiss the employee only in accordance with the Law on commercial employees. The dismissal had to coincide with the end of the quarter.

The Decree of 27 June 1919 (No. 350) maintained the Decree of 28 February 1918 (No. 108) and extended its operation until 31 December 1919. This time-limit, subject to some modifications, was extended to 31 December 1920 by the Decree of 17 December 1919 (No. 675) and the Decree of 27 June 1920 (No. 395).

The Decree of 29 July 1919 (No. 436) extended all the above provisions to commercial employees, who were mobilized at the time of the appeal of the gymnastic societies.

The third Group of Czecho-Slovakian labour laws deals with mines.

Miscellaneous Legislation

There remains for consideration a group of labour laws on various subjects. Among the most important of these laws are:—

The Act of 17 July 1919 (No. 420), respecting child labour⁽³⁾; the Act of 12 December 1919, respecting the regulation of conditions of home work⁽⁴⁾; and the Decree of 19 December 1919 (No. 662), respecting industrial arbitration courts.

(3) English translation in the *Legislative Series* of the International Labour Office, 1920, Cz. 2.

(4) No. 29 of the *Sammlung der Gesetze und Verordnungen* 1920. English translation in the *Legislative Series* of the International Labour Office, 1920, Cz. 1.

The Act of 17 July 1919 enumerates the undertakings and occupations in which children may not be employed. Children may not be employed in waiting on customers in hotels and public houses, or in public shows and entertainments. Persons employing "strange" children (i.e. other than relations living in the household) must declare this fact to their communal authorities. The employer must apply in advance for a special work-card issued for not more than one year. Any child whose physical or mental condition is doubtful must undergo a medical examination at the employer's expense. The Act forbids the employment of children under 12, except in agriculture, when the limit is lowered to 10 years, on condition that the children are only employed on light work. The scope of this Act is rather limited, since certain provisions of the Eight Hour Act forbid the employment of children under 14. It only applies to undertakings not within the scope of the Eight Hour Act and to unpaid labour.

The Act of 12 December 1919 regulates conditions of work and wages in home work. The employer must provide for each person working at home a special card, on which he enters the nature and quantity of the goods to be finished, the date on which the work is given out, and the date on which it should be delivered, the manner in which wages are calculated, the cost of materials or other requisites supplied by the worker or the employer, the wages paid and the nature and amount of the deductions. The protection of home workers is entrusted to Central and District Home Work Committees. Central Committees are formed for different branches of home work by the Minister of Social Welfare; the same Minister defines the various categories of home work. In districts where home work is wide-spread, the Minister of Social Welfare may order the formation of a District Committee. The Central Committee is composed of nine members and nine substitute members, appointed as follows : three contractors represent the industry concerned; three workers and three technical experts who do not belong to either of the above-mentioned groups. The members of the Central Committee are appointed by the Minister of Social Welfare; the members of the District Committee by the authorities of second instance at the request of the interested parties. The duties of the Central Committees are as follows :—

(1) to fix for the branches of manufacture within their jurisdiction minimum prices for goods delivered by the home workers to the contractors. Local circumstances and conditions in the industries concerned must be borne in mind when fixing these prices. The resolutions of the Committee have the force of law ;

(2) to make proposals to the Ministry for Social Welfare and to offer advice on all matters connected with conditions of wages and work in their respective industries ;

(3) to serve as final Court of Appeal against the decisions issued by the District Committee.

All resolutions of the Central Committee must be submitted to the Minister of Social Welfare for ratification; the Minister may annul resolutions if these are contrary to law. When conditions of work and wages are regulated by collective agreements, the latter continue valid despite the resolutions of the Committee. The duties of District, as opposed to Central, Committees are of a secondary and advisory nature; they are expected to intervene in all disputes between contractors and their workers concerning conditions of work and wages in the branch of industry within their jurisdiction. If the employer contravenes the resolution of the District Committee, the worker is entitled to an indemnity for damages sustained. The Act, moreover, stipulates that home workers should employ none but the members of their own families, (this prohibition refers more especially to the employment of apprentices). Home work may be prohibited when the materials employed are likely to endanger the health of the workers or their families, or if the manufactured goods are injurious to the health of the consumer. The industrial inspector supervises conditions of work at the home of the worker.

The Decree of 19 December 1919 (No. 662), respecting arbitration courts, provides that these courts shall be empowered to determine the compensation due to an employee who is a member of a trade association, and who has either been dismissed or refused employment because some member of another trade association has objected, or because the said employee refuses to belong to any but his own trade association. An arbitration court for industrial disputes is composed of a chairman chosen from amongst the judges of the civil court, and of six assessors, of whom three are elected by a committee representing the local branch of the plaintiff's union, and three by the union of the worker accused of malicious action against the plaintiff; the compensation allowed corresponds to the wages of which the plaintiff was deprived; its payment must be guaranteed, if necessary, by the penalized union or its local branch. They must, moreover, consent to the reinstatement of the plaintiff, and obtain for him full satisfaction for the damage caused; the employer is bound to take the plaintiff back on the conditions of work fixed for the other employees.

The following Acts and Decrees have also been issued in the Czecho-Slovakian Republic.

The Act of 17 October 1919 (No. 571), abolishing work-books for employees and for domestic servants, and stipulating that the breaking off without cause of a contract of service is not punishable by law, although the employer is entitled to an indemnity for the damage he has sustained.

The Decree of 8 August 1919 (No. 481) introduced

identity cards for all Czecho-Slovakian citizens in place of the work-book, which was suppressed by the Act of 17 October 1919.

The Act of 5 December 1919 (No. 665) instituted an arbitration court for settling the dispute which arose in 1919 in the Czecho-Slovakian iron and steel industry and regulated the wages and conditions of work in this industry. The arbitration court was composed of three representatives of the employers, three representatives of the workers, and three impartial persons. The first group was appointed by the Minister of Industry and Commerce and chosen from the candidates of the employers' association; the second group was selected by the Minister of Social Welfare, at the request of the workmen interested; the impartial members were nominated as follows: one by the Minister of Social Welfare; one by the Minister of Industry and Commerce; and one by the Minister of Public Works. Once the decision pronounced was approved by the Minister of Social Welfare, it became tantamount to a contract of service.

The Decree of the 21 March 1919 (No. 150) revived Sundays and holidays as days of rest; they had been suspended since the beginning of the war.

The Decree of 16 April 1919 (No. 233) determined the wages in the textile industries for work executed by order of the Army Service Corps; these wages were modified by the Decree of 23 April 1920 (No. 255).

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Social Welfare in Japan¹

PHILANTHROPIC institutions have existed in Japan from the earliest times. Of modern institutions, however, hardly any date from before the time of the Restoration of 1854; and though their number is now very large, social

(1) Article based on information communicated by the Delegation of the Japanese Government to the Governing Body of the International Labour Office.

welfare work must be considered as still in its early stages. Its development has, however, been much accelerated in recent times. Parliament has passed such legislation on social welfare as the regulations for poor relief, for the care of foundlings, the assistance of emergency victims, the treatment of unknown travellers taken sick, the care of the shipwrecked, the treatment of the insane, the prevention of leprosy, the cure of tuberculous patients. The general attitude towards relief work is also changing. It is coming to be regarded as a social responsibility, with the permanent prevention of distress as its ultimate object; and greater efforts are being made to correlate and co-ordinate the existing institutions for social work.

PUBLIC AND PRIVATE ORGANISATIONS

Social welfare work fell at first within the competence of a very small and insignificant section in the Department of the Interior. This grew to be a division, and then became the Bureau of Relief. In August 1920 it was reorganized as the Bureau of Social Welfare. The Bureau of Social Welfare deals with the whole investigation and administration of social welfare and works in close and harmonious co-operation with the Department of the Interior. Similar sections or bureaus are being instituted in increasing numbers in the local prefectures and municipal districts. Women are employed as experts in many cases, and this marks a new era in the social history of Japan. In August 1920 a new Labour Section was formed in the Department of Agriculture and Commerce for investigations on workers' insurance. The Department of the Interior makes grants to various charitable institutions, and loans for such purposes as housing, employment exchanges, and child protection. A similar policy is pursued by the governments of the various provinces and municipal districts.

Much assistance has been given by the Imperial Family for the relief of distress, in the form of monetary aid, gifts in kind, the grant of houses, etc.; the effect of such donations has invariably been to add fresh impetus to welfare work.

Since 1917 District Committees have been in process of formation in many places. These are small local bodies on a voluntary basis, chiefly composed of officials and experts of various kinds; their work is to collect information and co-ordinate the work of the different welfare organizations. The experiment is still in its infancy, but the value to the local administrations of the Committees' views on the needs, complaints, and wishes of their districts has already been proved, and the Government encourage their development

in every way. In some provinces Central Councils have been formed for co-ordinating the work of a group of District Committees.

Other prominent organizations are the Kyocho Kai Association⁽²⁾ and the Central Social Welfare Association of Tokio. The latter acts as a central clearing house and co-ordinating and advisory body for all charitable institutions in the city and for the social welfare administration of the Government. A number of similar associations have been created in the provinces, where they usually work in close co-operation with the Relief or Social Welfare Sections of the provincial governments.

Investigation, Research, and Training

In 1918 an Imperial Order appointed the Relief Commission, now known as the Commission for Investigations on Social Welfare, under the supervision of the Minister of the Interior, to whom it presents the results of its research. It has issued reports on housing, poor relief, unemployment, etc.; some its recommendations will be noted below⁽³⁾.

The Kyocho Kai Association and other organizations, such as the Ohara Research Bureau and the Central Social Welfare Association, do similar work. These and other bodies hold many conferences, at which experts discuss the problems of social welfare. At one of these conferences, held at Tokio in 1920, and attended by the Ministers of the Interior and of Justice, resolutions were passed in favour of improving the system of employment exchanges, of establishing special organizations for the protection of aged, invalid, or crippled workers, of regulating working hours in factories, etc.⁽⁴⁾. These conferences have considerable educational value, and in this case, at least, the influential character of those taking part gives a good deal of weight to the decisions.

Training courses for social workers have been organized for some years, short courses, lasting a few days, by the Minister of the Interior, and longer courses, usually lasting four to six months, by many of the institutions already mentioned.

GENERAL RELIEF WORK

Poor Relief and Emergency Aid

The first law on poor relief was passed in 1874. Its provisions must obviously be inadequate to the needs of the present day, and though attempts to obtain its revision have

(2) See below under UNEMPLOYMENT RELIEF: *Employment Exchanges*; p. 40. For the history and aims of the Kyocho Kai, see the *International Labour Review*, Feb., pp. 39-46.

(3) See below, pp. 41 and 46.

(4) See below, pp. 41-45.

twice been made in Parliament, they have been unsuccessful. The conservative attitude assumed by Parliament was largely due to the belief that the enactment of a Poor Relief Law requires extreme caution, in view of the failure shown by the legislative experience of other countries. The Department of the Interior is still studying the possibilities of revision.

Under the laws now in force State relief is given in the form of a daily allowance of rice, but only in case of absolute necessity and only when local charitable effort has proved insufficient. There are special, but quite inadequate, provisions for the relief of persons over 70. In 1918 State relief was given in only 1,759 cases, while recipients of local aid numbered 9,584 ; in addition, there were 588 persons receiving local aid on account of the insufficiency of the aid granted by the central authorities. The existing law for poor relief is obviously and utterly inadequate.

Several municipal or private alms-houses and relief societies exist ; some of these admit the sick, poor, and aged, sick travellers, lost children, etc., and others grant out-relief to widows, cripples, invalids, and idiots. There is also in existence a fairly well developed system of emergency aid. A relief fund is by law maintained in each province, to be used for the victims of outbreaks of fire, and for purchasing clothes, food, etc., in cases of emergency ; when necessary, the fund is made up to the prescribed level by the central Government. The organization of salvage, life-saving, and shipwreck relief work is more or less advanced ; it was systematized by a law passed in 1899.

Various organizations exist in Japan for the support of the families of men on military and naval service, such as the Patriotic Women's Society, Soldiers' Support Society. It has, however, come to be realized that such duties pertain to the State. In 1917 an Army Relief Law was passed under the terms of which State aid is granted, sometimes in the form of medical treatment, sometimes of relief in kind ; the National Treasury, acting through the provincial governors, provides the necessary funds.

Clinical and Dispensary Work

The Saiseikwei, or Life Saving Institution, founded in 1911, maintains a number of hospitals and itinerant physicians in Tokio and elsewhere. It is under the control of the Prime Minister in Tokio, and of the Minister of the Interior in the provinces. There are a number of other hospitals, which are combined with training schools for nurses and sometimes with medical colleges. One of the most important organizations for general relief work is the Red Cross Society ; it is principally engaged in the relief of the sick and wounded in war time, but in time of peace it carries on a campaign against tuberculosis and gives aid in time of disaster.

It is difficult to estimate exactly the number of tubercular patients in Japan, but the number of deaths due to this disease in the year 1916 was 86,633 : 15.7 per 10,000 of population. The death-rate per 10,000 of population during the years 1908-1916 was as follows :—

1908	15.4	1913	15.7
1909	15.5	1914	15.2
1910	16.6	1915	15.3
1911	16.4	1916	15.7
1912	15.7		

These figures prove the disquieting fact that the tubercular death-rate is stationary. The first important legislation for the prevention of tuberculosis was undertaken in 1914, when an Order, issued by the Department of the Interior, decreed that spittoons should be provided in schools, hospitals, places of amusement, and all places where many persons assemble together, and that sanitary precautions should be taken in hotels with regard to bedding, utensils, etc.. Laws passed in 1914 and 1919 provided for the building of sanatoria by order of the Minister of the Interior (a grant towards expenses being made by the central Government), and for medical examination and restrictions on the work and sale of the effects of a tubercular person, and on the use of infected buildings. The Red Cross Society, the White Cross Society (a private organization specially formed for this purpose), the Tuberculosis Prevention Association of Japan, and other bodies, also carry on preventive and curative work and propaganda. For some years these organizations have held annual conferences.

There are a very large number of cases of leprosy, estimated in 1904 at 120,000. The laws require a doctor discovering a case of leprosy to report it to the authorities and to instruct the patient and his family on the sanitary precautions to be taken. Important laws were passed in the years 1907 and 1916. There are at present five public sanatoria and a large number of private ones.

The problem of lunacy is no less serious. In 1918 there were over 50,000 ascertained cases, of which about one-sixth had been placed in institutions ; but it was estimated that the total number of cases must be at least 100,000. The first law providing for their custody and protection was passed in 1899. Hospital care was provided by a law of 1919, which also authorized the Minister of the Interior to order the provinces to build asylums, a grant towards expenses being made by the central Government. At present the Matisawa Asylum in Tokio, holding over 700 patients, is the only public asylum in existence.

A special law provides for travellers who are taken ill or die on a journey, including the case of a woman giving

birth to a child. In certain cases the expenses of treatment are borne by the province, and in large cities the Government contributes.

CHILD PROTECTION

Committees for Child Protection

The Commission for Investigations on Social Welfare⁽⁵⁾ submitted to the Minister of the Interior a valuable set of *Recommendations* on child protection ; steps are being taken to carry them out, and bills based on them are being drafted.

The most important of their proposals are as follows:—

a) the establishment in every city, town, and village, of a Committee for Child Protection, to assist the authorities in the administration of child welfare ; and the appointment, when necessary, by the governors of provinces of salaried officials to carry out the necessary provisions ;

b) city and other grants of assistance to children of school age, whose parents are too poor to send them to school, grants to be made under the supervision and control of the Committee ;

c) legal restrictions to be imposed on persons wishing to adopt children.

These Committees have been formed in practically all important cities and provinces. In the oldest of them (in Tokio), the members have to make periodical reports of the results of their observations to the Government or public authorities. They act as next friends to truant or delinquent children, to those who have left school, and to illtreated children. Once having given help they keep in touch with the child and make themselves thoroughly informed as to his home conditions. Should he leave their district, they recommend him to the care of the Committee in his new district. They also pay periodical visits to the primary schools and police stations, and ascertain the home conditions of children who have failed to attend school or have been brought before the police courts. They are also bound to keep themselves informed of the conditions ruling in organizations, which cater for child relief.

The Committee for Child Protection attached to the Central Office in any Municipal District has to conduct investigations into child protection and present reports, which shall be published for the benefit of its members, and shall more especially deal with children brought before the police courts and other courts. It also examines and supervises the work of committees in outlying districts, and conducts valuable investigations into child habits, pursuits, and amusements, into school life, and into the habits and occupations of the parents.

(5) See above p. 34.

Maternity Protection, Crèches, and Adoption

Certain legal provisions exist for the protection of maternity in factories. Under the terms of the present factory law in Japan, a mother may not be re-admitted to the factory within five weeks of the time of her delivery; this period may be reduced to three weeks, when in the opinion of a medical authority her physical condition is fit for factory labour. The purpose of this regulation is not only to protect the health of the mother, but at the same time, indirectly, to protect the health of the child. It is to be regretted that there is as yet no legal provision made to ensure an allowance to the mother during the time of her absence from work and loss of wages. There are some factories, where, through the operation of aid associations, the woman receives a sickness benefit during her absence both before and after child-birth. In the absence of compulsory legislation, however, this benefit is not universal. Since the adoption of the Washington Conventions, the Government are preparing a bill embodying the provisions contained in those Conventions. It was not until the last few years that the Government began to realize the absolute necessity of medical treatment for the mother at her confinement. Owing to poverty or other causes, the majority of expectant mothers do not seek medical aid; thus in numerous instances both mother and child die through lack of skilled assistance. In Tokio and elsewhere there are a number of maternity consultation bureaus, mothers' clubs, and lectures for nursing and expectant mothers. These are of very recent growth, and mainly under private management; they are gradually increasing in number. There are many day crèches in Japan, some run in connection with the factories, and some run by public or private bodies. A small fee is usually charged, and lectures on infant care are often given.

A large number of child-care organizations are in existence, all, with one exception, under private management. The children are sometimes kept in institutions, and sometimes placed out in private homes; at present there is no national law regulating the placing out of children, but there are various provincial regulations which are more or less standardized. There are also a very large number of adopted children. By a law dating fifty years back anyone taking charge of a foundling can claim a grant of rice; and, as in many cases this grant is the sole object of the adoption, legislation has been passed on the subject. All cases of adoption for payment have to be reported to the police, as also the child's serious illness or its death. These measures are, however, inadequate; a scheme is being considered for district committees, which will make a periodical inspection of homes, in order to ensure that the children are being properly looked after. The

Government are at present drafting a bill regulating the adoption of children.

Primary Education

The law on primary school education forces the parents to send their children of school age to school, unless they are idiots or physically incapable of being educated. In case of illness or subnormal development, the age of attendance may be to a certain extent deferred; in case of extreme poverty attendance may either be entirely excused or deferred.

Statistics taken in the year 1917 by the Department of Education show a percentage of 98.61 children attending school, with a total of 109,897 absentees. Figures obtained by the Department of Agriculture and Commerce show that in 1916 there were over 144,000 children under 15, and nearly 11,000 under 12, years of age working in factories employing more than 15 persons. Among these must quite obviously have been a number who had not completed their primary school education. Again, among the poorer classes, a large number of children are prevented from going to school by having to look after the younger members of their families. A bill based on the recommendations of the Commission for Investigations on Social Welfare is shortly to be presented to Parliament, which will provide assistance for parents, who have previously been too poor to send their children to school. In 1917, of the 102 schools intended for the children of the poor, 55 were public and the rest private. Sixteen were specially intended for children looking after babies.

Provision for the education of the blind and the deaf and dumb is still inadequate. In 1918 the number being educated was 297 (9.3%) out of 3,187 blind children, and 698 (11.5%) out of 5,944 deaf and dumb. The necessity for preventive measures against blindness may perhaps be referred to here, in view of the very large number of blind persons in the country, estimated at between 60,000 and 70,000; more than 84% of these become blind after birth.

The education of the feeble-minded, imbecile, and idiots is at a still more backward stage. There are at present only four or five institutions, all private, for their education, the largest of which contains about sixty inmates.

Reformatories

The history of reformatory work may be briefly noted. Up to 1889 there were only seven or eight reformatory institutes in Japan. In 1889 the first law on reformatories was passed; this provided for the establishment of provincial reformatories, but proved ineffective, as it left the option of founding them to the provincial authorities. The number slowly increased up till 1907, when the new penal law was passed; the next few years saw the foundation of thirty new institutions. The

authorities have gradually been adopting a new attitude on this question during the last few years. They now aim less at punishment, and more at reformation and protection. The Children's Bill which is now before Parliament embodies this new spirit. It provides for the creation of Juvenile Courts and children's reformatories, and if it is passed in anything like its present form, as it probably will be, it will usher in a new phase in reformatory work.

Under the terms of the law as it now exists each province, municipal district, and *Hokkaido* must establish a reformatory. Existing private institutions may be recognized. One national reformatory has been established: as a general rule, only young persons over 14 and specially difficult cases are sent there. Classification of the delinquents is still very imperfect, though its need has been recognized; and there is still only one institution exclusively for women and girls. All the existing institutions, with two exceptions, have less than a hundred inmates; about half are provincial and half private.

Three classes of persons may be admitted into the institutes:

(1) young persons confined on the order of a provincial governor;

(2) young persons confined at the request of their parents or guardians;

(3) young persons sentenced by the verdict of a court of justice.

Those coming under the first category must be under 18 years of age and without any fit or proper person to take charge of them. The second category also only includes young persons under 18 years of age, and the request for their confinement must be recognized by the provincial governor. The third definition only comes into force when there is no other suitable institute in the district. As the purpose of these institutions is not to punish, but to reform and educate, the inmates are trained in gardening, basket-making, and all forms of hand-work, as well as in the ordinary school curriculum. They are nearly always discharged when reaching the age of twenty.

UNEMPLOYMENT RELIEF

Employment Exchanges

The Government has been encouraging work for the relief of the unemployed since 1908, when for the first time an appropriation was made for this purpose. This sum was greatly increased in the year 1911, and the Government suggested that a special appropriation should be made in the annual budget for the relief of the unemployed in such large cities as Tokio and Osaka. This resulted in the creation of three municipal employment exchanges in the city of

Tokio, which received a subsidy of 17,922 yen from the Department of the Interior. The Government simultaneously granted a large subsidy to private employment agencies, and the amount of this has been increased annually. In 1911 there were only five public employment exchanges; in 1912 the number had increased to 14, at the end of 1914 there were 23, at the end of 1915, 26, and in July 1920 there were altogether 62.

The Conventions and Recommendations adopted at Washington in 1919 gave an added impetus to the relief of the unemployed in Japan. Reference has already been made to the *Recommendations* submitted to the Minister of the Interior by the Commission for Investigations on Social Welfare. According to a recent newspaper report, the Department of the Interior is drafting a bill authorizing public bodies to establish employment exchanges with Government aid. The purpose is obviously to carry out the provisions of the Washington decisions and to bring Japan's action into line with that of other Powers. Thus it will be seen that relief work for the unemployed in Japan has passed through four stages. It was first done by private persons for profit. Then it was taken up by public bodies, on the theory that the phenomenon of unemployment was a social malady and that the responsibility for curing it rested with society. Thirdly, the State assumed responsibility, and undertook to relieve the unemployed worker by means of an organization established on a national scale. The fourth stage is now beginning, when nations look to find the solution of this grave problem in concerted international action.

During 1920 two conferences were convened at Tokio by the Department of the Interior, to which the managers and staff of employment exchanges, representatives of the largest industrial centres and others were summoned, in order to consider the possibility of closer co-operation and co-ordination in the work of relieving the unemployed⁽⁶⁾. The measures approved embodied the *Recommendations* made by the Commission for Investigations on Social Welfare. Effective steps are now being taken to co-ordinate and improve employment agencies. Statistics are also being collected as to the number of vacancies in Government or public offices throughout the Empire, also as to the labour supply and the jobs available; these will be of undoubted value when industrial depression comes with its consequent unemployment.

(6) Statistics obtained early in the year indicate the difficulty of such co-ordination. Japanese employment exchanges have so far been mostly private enterprises carried on for profit. During 1919 the private employment agencies found work for 472,000 workers, whereas there existed only 62 public employment agencies, which in the same period of time found work for 160,000 workers.

The principal organ for co-ordinating employment agencies is the Kyocho Kai. This private organization, created for the purpose of harmonizing the interests of capital and labour, has a large staff of advisors and experts and enjoys heavy endowments. A central employment exchange has been installed in the office of the Kyocho Kai, under the direction of Dr. Kuwata. This office acts as a central clearing house for employment and collects information on the state of the labour market. Weekly, monthly, and annual reports, issued by employment exchanges throughout the country, are collected and analysed. Employment cards are issued by this office, free of charge, to all employment agencies, giving information on applicants and vacancies.

The Kyocho Kai has also established a school for giving supplementary technical education. At present there are over a thousand students enrolled. The tuition fees are very low and poor students receive scholarships. A close connection is maintained between the school and important business houses, so that it has no difficulty in placing its students.

Although there is no law intended to discourage or to retard the growth of employment agencies carried on for profit, restrictions are becoming more and more severe. Such agencies are consequently declining in numbers. Those that still exist are being improved. Non-profit employment agencies, organized solely for public ends, are increasing enormously in number. In July 1920 there were 34 public employment agencies and 40 agencies managed by public welfare organizations; of these 60 were working in co-ordination with the Kyocho Kai. Larger and larger subsidies were granted in order to encourage the work of these bodies, and schemes are on foot for lending them money at a low rate of interest. The press has recently reported that 520,000 yen, out of the deposits received by the insurance fund, will be advanced by the Government for the work of unemployment relief. In the early stages of the work there were complaints of the bureaucratic spirit dominating these employment exchanges. A change has, however, come about, especially since work throughout the country has been co-ordinated; cases are now considered with attention and courtesy. Nevertheless, the work of the private employment exchanges is admitted to be the more effective.

The fees charged by private employment exchanges are limited by the authorities; public employment agencies, as a rule, ask for no remuneration. The employment exchanges of the city of Kawashima are an exception; they ask a fee of 50 sen from the employer, and 30 sen from the employee, after successfully providing employment. The employment exchanges of the city of Osaka also charge a fee of 10 sen to the employer and 5 sen to the employee, but are waiving the latter claim at present.

In April 1920, shortly before the Department of the Interior held its second conference on unemployment, the Vice-Minister of the Interior communicated to the provincial governors detailed instructions on the work of unemployment relief. These proved to be very timely; though not entirely adequate, these measures served a valuable purpose during the unemployment crisis which occurred shortly after.

The gist of these instructions was as follows:—

(1) that in each province councils composed of officials and private persons should be established, to combat unemployment, and that these councils should meet at regular or irregular intervals ;

(2) that large cities and towns should be especially encouraged to establish employment agencies, to work in co-operation with public welfare organizations and Government Departments ;

(3) that employers discharging workers should be instructed to devise a means of giving as much relief as possible to those discharged, and that the governors should endeavour to induce employers to adopt such measures on a large scale ;

(4) that the execution of public works should be so ordered as to fall during unemployment crises ;

(5) that free or cheap lodging-houses and dispensary work should receive special encouragement, with a view to relieving the unemployed ;

(6) that the unemployed in the towns should, if possible, be encouraged to return to the land, and that, for this purpose, officials of rural districts should make a study of agricultural conditions.

Shortly after the dispatch of these instructions, the Second Conference on Unemployment met in the Department of the Interior ; subsequently the Government again sent out instructions to the provincial governors, embodying the Conference decisions.

The instructions included the following points:—

(1) any organization intending to start an employment exchange to report to the Minister of the Interior and to the Kyocho Kai, giving the name and address of the exchange, the date of its foundation, its yearly balance-sheet, together with the name of the body responsible for setting it up ;

(2) any organization, establishing two or more agencies, to be forced to co-ordinate their work on some definite basis ; the provincial governor to be responsible for co-ordinating the work of different employment agencies throughout his province ;

(3) Government departments and social welfare organizations to keep in close touch with the employment agencies, so as to be cognizant of the state of the labour market;

(4) in case of difficulty in providing work, the Department of the Interior and the Kyocho Kai to be advised;

(5) monthly and yearly reports on the progress of the work to be sent by the employment exchanges to the Minister of the Interior and weekly, monthly, and yearly reports to the Kyocho Kai;

(6) the Kyocho Kai to undertake the compilation and distribution of information on the state of the labour market.

With a view to standardizing the work, the instructions specified such details as the cards to be used, the form of periodical bulletins, and other minor matters.

Unemployment Insurance

Aid associations are in existence in factories and Government departments; their system of annuities, benefits, and so forth, prove of value to workers who may suddenly be discharged. The Government has, however, realized that such associations, being purely voluntary, are far from adequate to meet the needs of the situation, and is studying the question of unemployment insurance. Experts have been sent to investigate American and European systems and it will not be long before legislative measures will be taken. As an indication of the general attitude on this question, reference may be made to the Conference held at Tokio in 1920⁽⁷⁾, at which it was resolved that a compulsory State-aided insurance system should be at once established, covering accident, invalidity, old age, unemployment, and death, the employers to contribute to the premiums.

WELFARE WORK IN FACTORIES

The modern factory in Japan has had a history of nearly half a century. The disciplinary features of Western industrialism, however, such as protective labour legislation and the recognition and regulation of trade unionism among the workers, were not introduced with the factory itself. On the contrary, measures of State intervention have only quite recently been adopted, and factory welfare work is also a recent development. It must, however, be stated, for the credit of the Japanese employer, that the spirit which inspires welfare work has always existed in Japan. Much of the work for the welfare of employees has been carried out as a moral obligation, before the workers were driven

(7) See above p. 34.

to organizing themselves in order to bring pressure on their employers for the betterment of their working conditions. At present there is a considerable amount of welfare work being done in factories, both in State-owned and in private factories. There is an undoubted conflict of opinion as to whether welfare work will ultimately solve the labour problem. There are certain thinkers, especially among those who have been influenced by Western economic doctrines, who claim that so-called welfare work does nothing but retard the sound progress of industry, that, rather than expend money on superficial schemes of welfare, the employer should so raise wages as to abolish all need of welfare work at all. Nevertheless, schemes for employees' welfare are increasingly being adopted both in large and small factories; and it is generally observed that factories where welfare work exists find it more easy to obtain labour. The sudden rise in the tide of industry, which was caused by the European war, accelerated the demand for a vast number of workers in the newly constructed factories and dock-yards. Thus the adoption of welfare schemes became doubly urgent.

The requirements of women workers differ from men's requirements. For the benefit of the former there are crèches and day nurseries, while girls are taught, besides the three R's, sewing, cooking, the tea ceremony, and the care of children. Extreme precautions are taken that home life should be preserved, and not destroyed, in spite of the need for work in the factories. One fact which must strike a foreign observer is the bath arrangements for the workers. The workers are given the facility and requisites for taking a daily bath after their work, before going home. Spacious dining-rooms, comfortable rest-rooms, and, not infrequently, excellent houses, let at a low rent, are provided for the workers. Stores are run for their benefit, where they can buy rice, tea, fuel, clothing, and all daily necessities at very low prices; co-operative consumers' societies are often organized. The employers almost every where encourage the workers' initiative, and allow them, as far as possible, to organize their own welfare scheme. Factories compete one with the other in arranging spring and autumn picnics. The employer encourages the workers to save their money, and often pays a part or the whole of the premiums to the workers' insurance scheme. Minute attention is paid to ensuring the safety of the workers, and factories often set up "safety first" committees.

Nevertheless, there is still considerable scope for factory legislation. The important resolutions of the Tokio Conference of 1920⁽⁸⁾ should here be noted. They include the following recommendations:—

(8) See above, p. 34.

(1) prohibition of employment for women between 6 p.m. and 6 a.m., reduction of their working hours below those worked by men, prohibition of work during menstrual periods and before and after childbirth;

(2) formation and federation of trade unions of workmen in the same trade, and between different trades throughout the country;

(3) creation of an arbitration committee for purposes of mediation and conciliation;

(4) formation of works councils in each factory, in order to bring about a better understanding between the employer and the workers;

(5) limitation of dividends and sharing of surplus profits with the workers.

THE HOUSING PROBLEM

The housing shortage has been felt no less keenly in Japan of recent years than in other countries. The problem is especially serious in large cities such as Tokio and Osaka. The rents have risen to about double the pre-war price, more especially in the case of houses for the salaried middle class. The rise of rent has added to the difficulties experienced by many of those families, which have already been most seriously hit by the high cost of living. The Government have decided to provide builders with timber and building material at a very low price, selling the timber from the forests owned by the Imperial Household or by the State. Measures have been taken to provide for the free transport of building materials necessary for housing schemes, which have been set on foot by cities or public bodies. The Government have also been lending money for building purposes at a very low rate of interest.

The Report on Housing, submitted to the Minister of the Interior in 1918 by the Commission for Investigations on Social Welfare, recommended that the Government should encourage building by means of loans and by the letting of State-owned lands, that housing inspectors should be appointed to prevent overcrowding and a strict supervision exercised to maintain good sanitary standards, that Government departments, factories, and large offices should endeavour, as far as possible, to provide housing for their employees, and that public bodies should make provision for cheap lodgings. These recommendations were embodied in the instructions issued in the same year by the Department of the Interior to all provincial governors, with a view to assist in the solution of the housing problem.

According to the Department of the Interior's figures for June 1920, there were 3 provinces, 4 counties, 34 cities and municipal districts, 26 towns and villages, and 14 miscellaneous bodies building houses under this scheme.

Altogether, the houses built number 10,422. It was estimated that houses had to be built for at least 100,000 families, whereas the total number built under the Government scheme and by private persons was hardly more than 16,000. During 1920 it was proposed to build 7,000 houses with Government assistance, but this was hardly sufficient to meet immediate needs. In view of the present importance of building, the Government is still engaged in carrying out inquiries, with a view to drafting a bill regulating building trusts and associations.

THE FUTURE OUTLOOK

Recent events have immensely increased the need for social work. Besides the ever-present problem of over-population, Japan has suffered from the sudden change brought about by the Armistice; her period of prosperity came to an end with the closing down of the numerous factories, which had supplied the Allies with war material; her privileged position in the matter of trade and shipping vanished with the return of foreign competition; while, owing to the high cost of living, lack of housing, and other causes, labour unrest increased in an unprecedented degree. The present system of social welfare work is inadequate to meet the situation and needs to be greatly improved. Among the directions in which the need for progress is most urgent are the protection of children, the formation of new, and the improvement of existing, labour exchanges, the establishment of an effective system of social insurance, and the improvement of factory working conditions by legislative measures or private initiative.

INDUSTRIAL RELATIONS

The Trade Union Movement

THE controversy⁽¹⁾ between the two Trade Union Internationals, the Amsterdam International Federation of Trade Unions and the Council of Moscow Red Labour Unions, is being increasingly reflected within the national trade union movement of various European countries. At the Congress of the **General Confederation of Labour of Italy**, held at Leghorn from February 26 to March 2, one of the principal subjects of discussion was the general policy of the Confederation, international no less than internal. After considerable criticism, both from the extreme Communists and the extreme Right, the internal policy of the Executive Committee was approved by a large majority; but in the international sphere many delegates deplored the maintenance of affiliation to the Amsterdam International and the relations of that International with the League of Nations. Though many of the leaders of the Italian organization itself, as well as the representatives of the Amsterdam Federation present at the Conference, supported the claims of the Amsterdam International, advocates were not wanting of adhesion to Moscow. Eventually a resolution was passed by a large majority, approving the creation of a new International on the lines laid down by Moscow. It was, nevertheless, decided not to break with the Amsterdam International, at least not until the conference of Red Labour Unions, to be held at Moscow in July, has issued its ruling on the question.

In France the recent decision of the General Confederation of Labour in that country regarding French trade unions which adhere to the Moscow International⁽²⁾ has led to action on the part of individual federations. Thus, on March 2, the Executive of the Federation of Non-Manual Employees excluded three of its constituent unions, on the ground of their adherence to revolutionary trade union committees. The Executive Committee of the Theatrical Federation has also excluded its Marseilles branch on the same grounds. Unions thus excluded will have the right of appeal to the forthcoming Confederal Congress at Limoges.

(1) Cf. *International Labour Review*, Vol. I, No. 2, p. 47.

(2) *ib.* No. 1, p. 73. No. 2, pp. 48-9.

In Czecho-Slovakia a conference of delegates of the General Federation of Trade Unions (Social Democratic) adopted on March 3 a resolution in support of the Amsterdam International, although a few days later a split took place at the Congress of the National Union of Land Workers, one section adhering to the Moscow International.

* * *

The **Amsterdam International Federation of Trade Unions** is extending its practice of sending delegations to inquire into conditions in particular regions, initiated in the cases of Austria and the Saar Valley. A delegation has been appointed to visit the devastated areas of France and Belgium, a subject to which the trade unions are now giving considerable attention. In the beginning of February the French General Confederation of Labour included in its Minimum Programme, as an immediate necessity, the restoration of the devastated areas, recalling previous American and German offers of co-operation. It also made a preliminary inquiry into the actual resources and needs of the devastated areas.

On February 17 representatives of the French and German Federations of building workers met at Geneva, and signed an agreement by which the two organizations undertook to co-operate in reconstructing the devastated areas. The following is a quotation from the agreement:—

They propose to the French and German Governments the constitution, under the supervision and control of the workers, of organizations for the supply of labour and for production, which will be able to undertake the direct execution of this work. They desire thus to prevent the making of profit or illicit gain out of the reparation of the damage caused, which France has every right to claim.....

.....The German Government should supply the financial means for the execution of the scheme. The representatives of the workers in the building trades and in the works departments of France and Germany request the Director of the International Labour Office to approach the Governments interested with a view to putting this proposal into execution.

In addition to the agreement itself, the representatives drew up a series of regulations regarding hours, wages, and other conditions for the German workers, who were to come to France for reconstruction work.

This agreement was regarded as of great importance by the Bureau of the International Federation, which met on March 14 at Amsterdam to consider the question of reparations. It passed a resolution on the subject, of which the following are extracts:—

The International Federation of Trade Unions, convinced that reparations are legitimate, and that the reconstruction of the devastated areas is essential for the economic restoration of Europe and the establishment of a real peace, declares that these results will only be obtained by the co-operation of the workers of all the countries concerned.....

It notes the declarations made by the representatives of the German workers' movement, confirming the express wish of the German workers' organizations to co-operate in the work of reconstruction. It declares that the agreement concluded at Geneva between the French and German workers' organizations should serve as a basis for this action.

The International Federation of Trade Unions... suggests the institution of an impartial inquiry to determine, if necessary by recourse to arbitration, the damage to be repaired in each country and the resources of the debtor country. Pending a final settlement, an international loan to the latter country should supply the necessary sums for the immediate resumption of reconstruction.

The German representatives at the meeting stated that the trade unions would exercise all their influence towards securing the execution of the Geneva agreement.

A special conference of workers' representatives of the countries concerned has been convened by the International Federation for March 31 at Amsterdam, for the purpose of considering methods for putting this scheme into execution.

In view of the grave crisis in production, distribution, and employment, the Bureau of the International Federation also issued a circular to its affiliated organizations at the beginning of March, urging them to maintain the position adopted at the London Congress and to press for the measures then advocated.

* * *

An important event in the trade union world of America has been the Third Annual Congress of the **Pan-American Federation of Labor**, which met in Mexico City from January 10 onwards. It was attended by delegates of the American Federation of Labor and of the labour organizations of many of the Latin American States, although those of Chili, Peru, and Argentine, among others, are not members of the Federation. In the course of the report, submitted by the officers of the Federation, reference was made to the International Labour Organization and to the representation of Latin American, American, and Canadian labour at the annual conference of that organization. After commenting on the fact that only four out of a possible fifteen workers' representatives from the Western Hemisphere were present at the Washington Conference, the report goes on to say :—

This situation should impress upon the trade union movements of the Western Hemisphere the necessity of uniting the labour forces in their respective countries, so that, when the International Labour Organization holds its regular or special conferences, the workers shall have their full quota of representatives in these conferences to watch diligently over the interests of the working people. It is important that the trade union movements should demand of their respective Governments that in all the conferences of the International Labour Organization a labour member be included in the delegation, this member to be designated according to the stipulation in the Covenant—that is, by agreement with the representative labour organizations of the respective countries. The duty

of the International Labour Organization is to recommend labour legislation, and we conceive it to be the duty of the trade union movement to see to it that those recommendations be enacted into law.

Altogether nineteen resolutions were passed by the Congress, varying greatly in scope and subject. They advocated, among other measures, the adoption of the Rochdale system of co-operation, the compilation of immigration statistics and of labour legislation, the appointment of labour representatives as diplomatic assistants, and the extension of collective labour agreements. Of most importance is the long resolution enumerating the principles and aims of the Pan-American Federation, which was proposed by the United States delegation and passed *en bloc* unanimously.

The main features of the resolution were as follows: —
equality of political rights for all citizens; this not to enter into the industrial relations between employers and workers;

self-government in industry on the same principles as in the political sphere;

agreement on the policy of the Federation; neither majorities nor minorities to be allowed to force their will on the remainder;

the essential necessity of education if democracy is to progress; the right of the workers to a share in educational administration;

organization of all workers into trade unions; and development of collective bargaining.

* * *

Another declaration of principles and aims was issued by the **American Federation of Labor** on February 24. In this "Bill of Rights" the Federation defines its position as "standing between two opposing forces, uncompromising toward both, the conscienceless autocrats of industry and the followers of radical European fanaticism". It also deals with the employers' "open-shop" campaign, which it declares is a veiled attempt "to destroy trade unions and to break down and eliminate the whole principle of collective bargaining". The Federation calls for support for:—

the right of the working people of the United States to organize into trade unions for the protection of their rights and interests;

the right to, and practice of, collective bargaining by trade unions, through representatives of their own choosing;

the right to work and to cease work collectively;

prohibition of immigration for a period of not less than two years;

immediate restoration of exemption from, or the repeal of, all anti-combination and so-called conspiracy laws;

administration of credit as a public trust in the interest of all.

We call upon the workers to resist the efforts to destroy trade unions, whether by the false pretence of the "open shop", the usurped authority of courts through writs of injunction, or otherwise.

* * *

In Great Britain the process of amalgamation of trade unions, described in a previous number of the *International Labour Review* ⁽³⁾, has continued. A new union will shortly come into being known as the "General Combination of Ship-Constructional and Engineering Workers", comprising the Boiler Makers, the Iron and Steel Shipbuilders Society, the Ship Constructors and Shipwrights' Association, the Associated Blacksmiths' and Iron-workers' Society, the General Sheet Metal Workers' Society, and the Amalgamated Society of Wood Workers, societies which are themselves in many cases the results of previous amalgamations. The General Workers' Union, already one of the largest unions of unskilled workers, has acquired some 90,000 additional members by amalgamation with four other unions. It has in prospect further amalgamations which, if carried out, will increase its membership to about 1 1/4 millions.

In Scandinavia the general movement among the trade unions of the different countries, either to amalgamate, federate, or afford mutual support in times of dispute continues to increase in strength. Agreements of this kind have been concluded by the unions of paper, metal, garden, and transport workers, seamen, and electricians. In Japan, too, there is a movement to unite the different seamen's unions into one.



(3) *The Process of Amalgamation in British Trade Unionism*, by Sidney Webb. *International Labour Review*, Vol. 1, No. 1, pp. 45-60.

CONTROL OF INDUSTRY

Workers' Control in Italy: The Government Proposal

THE question of workers' control in Italy arose in the course of the disturbance in the metal industry; this movement culminated last September in the occupation of factories by the unions, upon which the Government intervened⁽¹⁾. After hearing the claims of the workers and the reply of the owners in this dispute, M. Giolitti, the Prime Minister, published on September 19 a Decree, setting up a Joint Commission entrusted with the drafting of a Bill to introduce trade union control in industry⁽²⁾. The Commission was composed of MM. Ferraris, Mazzini, Marinetti, Questa, Riva, and Tarlarini, representing the employers, and of MM. Azzimonti, Baldesi, Buoizzi, Bruno, Cattaneo, Galli, and Violante, representing the workers; it began its work on October 21 at Milan.

From the first the possibility of reaching an agreement seemed remote. The two opposing points of view came into conflict on the actual character of the control to be set up, the workers' representatives stating control to be "essentially a matter for the trade unions (to the exclusion of all employers' delegates), seeing that the trade unions are the most authoritative, responsible, competent, and safe representatives of the will of the working classes"; and demanding that the workers should share in the economic, commercial, and financial control of industry. The employers, on the other hand, declared that "control should be understood to mean simply knowledge of facts affecting the progress of industry, but only after those facts had come to pass", and maintained that they must "oppose all internal control of the economic, commercial, and financial aspects of undertakings"; firstly "because knowledge of the conduct of particular undertakings does not concern the mass, who are not prepared to see their wages fluctuate according to the success or otherwise of the various managements"; and in the second place, "because control of undertakings, instead of improving disciplinary relations, only adds to their diffi-

(1) See the International Labour Office *Studies and Reports*, Series A, Nos. 2 and 11.

(2) See *Studies and Reports*, Series B, No. 7, p. 2, note.

culty". The employers, therefore, are only prepared to admit "a control per separate industry, which control shall be exercised by higher committees, constituted partly of representatives of subordinates (manual and non-manual workers) and partly of representatives of the employers, the State being present as representative of the community. The committees will be severally entrusted with the collection of essential data as to the conduct of undertakings within an industry, and in particular all data on relations with the workers and the possibility of their improvement. These data should be speedily collated, so as to serve as a basis for valuable information for the industry, the workers, the consumers, and the whole country".

The Joint Commission, having found it impossible to agree, terminated its sessions on November 5, and the owners' and workers' delegations each submitted proposals to the Premier, the main points of which are summarized below.

The proposal of the Confederation of Labour states: All industrial undertakings in Italy should be subject to control, which control should be exercised by that community group which is chiefly concerned in the management of such undertakings; such group should be formed by the trade unions constituted of the workers in an industry. Representatives of the employees would have the right to be present at all meetings of the Board of Directors of Joint Stock Companies, and their right of control would cover not only questions of management, but also questions of the constitution of companies, of increase or decrease of capital, of contracts and of all banking operations, as well as the technical side of industrial undertakings. Each branch of industry would, in addition, be subject to a higher trade union control exercised by a special committee. This special committee would be constituted of representatives of the trade unions, and these would be elected on a system of universal suffrage by trade union controllers in the different undertakings. Such committees would operate within each industry, and would obtain the data necessary to determine :—

- (1) the cost of production of identical goods in different undertakings ;
- (2) management methods and the varying relation of management costs to output ;
- (3) working methods and use of plant, with a view to analysing the causes of overhigh production costs ;
- (4) differences in wages-rates ;
- (5) the constitution, allotment, re-issue, and transfer of capital ;
- (6) the total outputs of various industries, in relation to the capacities of the home market to absorb such output and to export possibilities.

The higher control committee would submit an annual report of its work:—

- (1) to the trade unions represented on the committee ;
- (2) to the Supreme Council of Labour ;
- (3) to the Ministry of Industry and Commerce.

Reports of the committee would state :—

(1) the constitution of the share capital of Joint Stock companies, relations obtaining between finance and industry, with a statement of the advantages and disadvantages arising therefrom ;

(2) the national position of such industry ; its possibilities and origins ; its future extension ; the possibilities of transforming the capitalist system, whether of private ownership or company ownership, into a co-operative system inclusive of all industrial workers ; means and methods of buying up undertakings and managing them on a co-operative footing ;

(3) faults in work methods or management methods ;

(4) the wages position in each branch of Italian industry, and possibilities of improvement ;

(5) statistics of production, and of the comparative cost of commodities produced by the industries of the country ; production conditions in the Italian market compared with production conditions in foreign markets ;

(6) statistics of the importation of raw materials from abroad, and the possibility of substituting home products.

The proposals of the General Confederation of Labour further propose revision and modification of methods for the engagement and discharge of workers. The engagement of staff would be made exclusively by employment exchanges managed by staff organizations, or, where such exchanges did not exist, by employment exchanges managed jointly by employers' and workers' associations.

Should the available work in an undertaking decrease or cease altogether, working hours would be reduced by a total maximum of twelve hours per week before staff could be discharged. Should this measure prove insufficient, staff would be transferred from one works to another, in so far as technical exigencies allowed. Transfer of employees, as well as changes in shifts or in working hours, would be determined by agreement between the management and the representatives of the staff. Discharges of employees and the disciplinary measures taken would be noted in a register specially kept for this purpose, and presented each week for the inspection of representatives of the staff, who would have the right to contest the execution of the steps taken or proposed.

The proposals of the General Confederation of Labour further demand the legal recognition of works committees.

Members of these committees would attend in the office for one or more hours per day, according to the importance of the undertaking, to receive complaints from the staff, and to give information as to employment contracts to any employee asking for it.

The proposals of the General Confederation of Industry suggest the setting up of a national committee of control in each industry, on which employers and workers (manual and non-manual) should be equally represented. The representatives would be appointed by their respective organizations on a vocational basis ; the State would also be represented on the control committees.

The principal duties of such committees would be :

(1) to exercise a regular control over wages, hours, and general working conditions in the industry, especially in relation to the cost of living ;

(2) to improve the workers' sanitary conditions ;

(3) to compile statistics and returns as to the supply of raw material ;

(4) to consider economic and financial problems connected with the industry, (customs, transport, consumption in, and supply of raw material from, home and foreign markets, selling prices, exchange, credit, tariffs, taxes, etc.) ;

(5) to encourage the study of industrial history and scientific research, with a view to the improvement of industrial processes ;

(6) to tabulate statistics on the state of the industry and on increase in output ;

(7) to supervise the administration of social insurance legislation, accident, sickness, old age, unemployment measures, and of all future laws of the same nature ;

(8) to co-operate with the competent authorities in organizing technical education ;

(9) to co-operate with the control committees in other branches of industry for the solution of problems of common interest.

A General Council of Industries would be established to co-ordinate the operations of the national control committees in the different industries.

The institution of internal committees, which at present are established in undertakings and industries of certain districts, might be extended to all industries. These committees at present direct negotiations with the management on questions affecting the whole staff of an undertaking and on individual claims as to the interpretation or application of regulations, where such are clearly of general interest ; they would now also be instructed to deal with:—

- (1) all questions relative to the material welfare of the workers ;
- (2) the duration of apprenticeship ;
- (3) technical libraries and lectures of a technical and social character relative to the industry ;
- (4) proposals for improved methods and improved labour organization in the factories ;
- (5) investigation into circumstances tending to reduce the efficiency of the workers and hinder a satisfactory output from the labour supply in the factories ;
- (6) methods of wages payment ;
- (7) distribution of hours of labour, rest periods, and the registration of workers ;
- (8) proposals about general holidays.

The engagement of staff would be carried out, as far as possible, through joint employment exchanges, to be set up in each locality or district for each separate industry.

The employers' project admits a temporary reduction of working hours, when industrial crises arise, before proceeding to the dismissal of workers.

The Confederation of the Workers of Italy, the central organization of the Catholic workers, presented a detailed draft of a bill for working class profit-sharing. This scheme gives the representatives of manual and other employees the right to control the management of undertakings and their administrative and financial operations. They also have the right to sit on the Board of Directors and the trade union control committees. At the close of each financial year, after the balance sheet has been drawn up, profits shall be divided in the following manner :—

Capital shall receive a fair interest fixed by law, and the surplus shall be divided between the shareholders and the workers. That part of the profits accruing to the workers (by "worker" is meant equally directors and employees) shall not be paid over to them, but shall be used to buy up shares in the undertaking. The entire ownership of the undertaking will thus gradually pass into the hands of the workers.

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In consequence of the inability of the Joint Commission to produce a single agreed proposal or compromise between the two parties, the Government took the initiative and provided a Bill, based on the proposals separately submitted by the representatives of the employers and the workers. The first draft was submitted for examination at the end of January to the Supreme Council of Industry and to the Permanent

Committee of Labour⁽³⁾, and lively discussions took place. In the Supreme Council of Industry, a large number of amendments were proposed by the employers, who also passed a motion declaring their opposition to the Bill on general principles. In this motion they recalled the fact that almost all employers' associations had accepted the principle of control per industry, thus showing their willingness to make concessions; but they drew attention to the crisis through which industry was passing, and called upon the Government to proceed with the greatest caution in determining the application of a reform, which was an attack on the very basis of production and on technical and economic progress.

Heated discussions also took place at the ten meetings held by the Permanent Committee of Labour. Eventually employers' and workers' representatives arrived at an agreement, except on those articles of the Government Bill relating to the engagement and discharge of workers. The employers declared that they could not agree to any limitation of their freedom in choosing workers from the employment exchange lists, and that they also rejected the regulations about the discharge of staff where reduction became necessary. Meantime the workers supported the Government proposals, with a few modifications modelled on the proposals of the General Confederation of Labour. The function of the workers' internal committees, already in operation in certain industrial undertakings, but not mentioned in the Government proposal, were defined. These committees were not to interfere in control, but would elect the control committees for each industry, six members being appointed by the manual workers' representatives and three by those of the engineers, technical, and clerical employees, on the principle of proportional representation. Moreover, the internal committees were to intervene for purposes of conciliation in disputes between the workers and employers, before work was suspended. A Council of Industry was suggested, constituted of representatives of the workers' control committee and the employers' committee in equal numbers, as well as of delegates of the Supreme Council of Labour, of the Chambers of Commerce, and of the central committees of co-operative societies. This Council of Industry was to consider and discuss the reports and proposals of the workers' control committees. It was to be empowered to call for necessary information, through the agency of the Inspector of Labour, in order that its rulings might rest on the fullest data obtainable. The duties of the control committees in the separate industries were thus described: "To make known the technical, economic, and financial situation of the

(3) The first draft, with a summary of the discussions which took place in the Supreme Council of Industry and the Permanent Committee of Labour, was published by the International Labour Office in *Studies and Reports*, Series B, No. 7.

industry, and its development in relation to consumers' needs ; the workers' economic and sanitary conditions as well as their educational opportunities ; statistics relating to raw materials and stocks on hand ; faults in the industrial system and improvements proposed in the interests of industry and of the workers ”.

M. Cabrini, the Vice-President, was instructed to draw up a report mentioning the points on which agreement had been reached and those still remaining in dispute. The two parties were unanimous in calling on the Italian Government to take the initiative in proposing that regulations on the reduction of staff in times of economic crisis should be the subject of an international agreement.

In consequence of these discussions, the Government made a certain number of modifications in their Bill and presented the following final text to the Chamber of Deputies on February 9 :—

ARTICLE I

The control of industrial undertakings by the workers employed therein shall be established with the following objects :—

(a) To make the workers acquainted with the conditions under which the said undertakings are carried on ; (b) to promote improvements in the technical instruction and in the intellectual and economic conditions of the workers, so far as is consistent with the conditions under which such undertakings are carried on ; c) to secure the carrying out of all laws enacted for the protection of the working classes ; (d) to promote improvements in methods of production calculated to increase such production and render it more economical ; (e) to promote normal and peaceable relations between employers and employed.

ARTICLE II

Such control shall be established separately for each industry and particularly for the following : (a) iron, metallurgical, and engineering industries ; (b) textile and clothing industries ; (c) chemical and similar industries (manufacture of dyes, soap, sugar, etc.) ; (d) manufacture of foodstuffs ; (e) tanning and working up and manufacture of animal products ; (f) electrical industries ; (g) road making and building industries, timber, glass, pottery, and similar industries ; (h) land transport ; (i) navigation and the loading and unloading of vessels ; (j) typographical and similar industries and paper manufacture ; (k) extracting industries, mines and quarries.

The following shall be excluded from such control : Industries carried on by the State ; industries under municipal control ; newly-established undertakings during the first four years of their operations ; and undertakings employing less than 60 workers.

ARTICLE III

The workers of full age employed in each class of industry shall elect, under the proportional system, a committee of control consisting of nine members, of whom six shall be elected by the operative workers and three by the engineers, employees, and technical supervisors employed in the said industry.

Trade unions having members among the workers in the industry shall submit their lists of candidates to such workers. Regulations to be issued after consultation with the Supreme Council of Labour shall establish the form and procedure of elections, having regard to the special conditions under which each class of industry is carried on. The commission shall be renewed every three years. Members shall be eligible for re-election.

ARTICLE IV

The committee shall select for every industrial undertaking, whether carried on by a limited liability company, a firm, or an individual, two or more workers according to the size of such undertakings, as the delegates of the committee, for the purpose of exercising control and reporting to the committee. Such delegates shall be selected from the workers of full age employed in the undertaking to be controlled, and as far as possible, from workers who have been employed in such undertaking for at least three years. The regulations to be issued in pursuance of Article 9 of the present Act shall determine the manner in which such delegates shall exercise their functions, having regard to the special conditions of each class of industry. The renewal of the committee, the members of which are eligible for re-election, shall take place every three years at the same time as that of the committee of control.

ARTICLE V

The committee of control shall be entitled to receive through its delegates the following information : (a) the cost of raw materials ; (b) the cost of production ; (c) administrative methods ; (d) methods of production, excluding all matters relating to secret processes ; (e) the wages of the workers ; (f) the constitution of the capital funds ; (g) the profits of the undertaking ; (h) the manner in which the laws for the protection of workers and the provisions relating to the engagement and dismissal of workers are carried out.

Information of a financial and commercial character shall only be given in the case of operations which have already been carried out. Information obtained by the delegates shall in no case be communicated to any person who is not a member of the committee of control.

ARTICLE VI

Employers shall be entitled to be present at the sittings of committees of control, acting through their representatives not exceeding two in number. A representative of the Supreme Council of Labour may also be present at such sittings. The representatives of employers and of the Supreme Council of Labour shall have the right to make observations and to require the insertion of the same in the minutes, but shall have no right to vote. They shall have the right to prevent the publication or insertion in reports or in the minutes of any meeting of any matters which may prejudice the interests of the industry.

ARTICLE VII

The employers carrying on any industry shall nominate, in such manner as shall be determined by regulation, a body of representatives for all dealings which may become necessary with the committee of control for the purpose of compelling individual employers to fulfil the obligations arising out of the present Act and out of the regulations made hereunder, and for appointing their representatives at the sittings of the committee of control. Every such body of representatives of employers shall, in like manner as the said committees of control, consist of nine members and be renewable every three years. Two delegates of the committee of

control shall be entitled to be present at every meeting of the representative body of employers in the same class of industry, and shall have the right to make observations, but not to vote.

ARTICLE VIII

Whenever special circumstances shall require, and in any case at least once a year, the representative body of employers and the committee of control in each class of industry shall meet together, under the presidency of a representative of the Supreme Council of Labour, for the purpose of considering such improvements as may be desirable in the conduct of an industry, with a view to increasing and improving production in the interests of public economy and of the workers, and for the purpose of settling any controversies which have arisen as to the exercise of control.

ARTICLE IX

With the consent of the representative body of employers, the committee of control, and the Supreme Council of Labour, special regulations may be issued for each industry for the purpose of regulating the engagement and dismissal of workers, having regard to the special conditions under which each industry is carried on.

All such regulations shall observe the principles established in the two following Articles.

ARTICLE X

Employment exchanges under the joint direction of representatives of employers and committees of control shall be established in the localities designated in the regulations referred to in the last preceding Article. Such employment exchanges shall take note of all persons requiring employment and, except in the case of work requiring special qualifications, shall fill all vacancies in the order of registration of such persons as aforesaid, but giving preference to workers residing in the commune in which the exchange is situated, and to workers discharged from military service, who wish to resume work in the undertaking in which they were previously employed. In filling vacancies, no regard shall be had to considerations of a political character, or to membership or non-membership of a trade union. Whenever, among the persons registered at the employment exchanges, employers cannot find specialized workers of the kind which they require, they shall be entitled to engage such workers elsewhere. Every undertaking may refuse to employ any worker who has been convicted of theft or other misdemeanour in common law, or who has already been dismissed from the same undertaking on disciplinary grounds. All differences between employers and committees of control relating to the engagement of workers shall be decided without right of appeal by two arbitrators, one to be chosen by each party under the presidency of a third person chosen by the two arbitrators, or, in case of disagreement, by the President of the Tribunal.

ARTICLE XI

No worker shall be dismissed for political reasons or by reason of membership or non-membership of a trade union. Whenever the conditions of an undertaking necessitate a reduction of staff, it shall be the duty of the employer, before dismissing any workers, so far as the nature of the undertaking permits, to reduce the normal working hours to a minimum of 36 hours per week, with a proportional reduction of wages, and if this measure is not sufficient, to employ the workers by rotation. When dismissals become necessary, the workers who have been longest employed in the undertaking, and those having families dependent upon them, shall be retained in employment in preference to others. All controversies arising

in reference to dismissals shall be decided by two arbitrators nominated in the manner prescribed in the last preceding Article.

ARTICLE XII

Whenever the special conditions of any industry shall so require, and particularly whenever there is any great difference in the method of carrying on any given industry in different parts of Italy, the regulations to be issued, in pursuance of Article 3, may provide for the establishment of more than one committee of control for the same industry, and in such case, the number of the representative bodies of employees shall be correspondingly increased. The expenses involved by the setting up and working of the committees of control shall be borne as to one-half by the employers and as to one-half by the workers. The amount of such expenses and the manner of collecting the same shall be determined by special regulations to be issued in pursuance of Article 9.

The report accompanying the Bill briefly outlines its origins and states that it was drafted so as not to hamper production, but with a view to establishing it on a firmer foundation and assisting its development. The Bill was submitted in turn to the Supreme Council of Industry and the Permanent Committee of Labour. The former proposed certain modifications, the latter brought forward a bill, drafted by itself, which omitted any regulation of engagement or discharge of labour, as the employers' and workers' representatives had been unable to agree on this question. The report continues: "The final text of the Bill was drafted as a result of the discussions of the above-named bodies and taking into account the observations and proposals of the two principal organizations of employers and workers". The report then describes how, in other countries, workers' control of industry has already been instituted by law. In Austria it has been regulated by the Works Councils Act of 15 May 1915; in Germany by the Works Councils Act of 4 February 1920; in England, National and District Joint Councils are commencing operations; in America the activity of works councils is steadily extending, and in Norway there will shortly be in operation works councils, district councils, and a Supreme Council of Industry and Commerce, representing both workers and employers, whose duty it will be to stimulate production and regulate the progress of industry. The example of these countries is gradually spreading to others.

The report continues: "The Government does not propose the establishment of works or factory councils in each factory, as has been done in other countries. It seems more desirable that control should be exercised per industry, in order to avoid a dangerous antagonism between the works or factory council and the other organs of industrial undertakings, also because an organization, which controls a whole branch of industry, is better able to safeguard the interests involved and to reconcile the requirements, development, and perfecting of production with the demands put forward by the workers".

On the publication of the Bill a lively discussion took place in the press, and the employers' organizations showed great hostility to its adoption. The Government papers (*Tempo*, *Stampa*) congratulated the Premier on having maintained the attitude which had given rise to the publication of the Decree of 19 September 1920, and declared that the Bill, in spite of some faults of form and detail, met all the immediate requirements of political and social reform. The other principal organs of Italian public opinion, however, considered that the proposed reform endangered national industry, while the Socialist press accused the Government of taking Socialist demands too little into account⁽⁴⁾.

It was, however, the employers who offered the most bitter opposition to the Bill. The General Confederation of Industry approved a motion refusing adherence to the Government programme and making the following statement: "The Government proposal pledges employers to submit to workers' control, without taking into account the special conditions under which certain industries are carried on. It is not calculated to attain the proposed aim, viz. collaboration between employers, manual workers, and non-manual workers, as it removes all possibility of contact between these classes. On the contrary, it prepares the way for new and serious disputes with the workers and introduces further elements of disturbance into production, just as the latter was beginning to be reorganized".

The example set by the chief organization of the employers was widely imitated. In the course of the month commercial and industrial associations throughout the country passed resolutions expressing strong hostility to the Government proposal. Some also published detailed critical studies on the question, in particular the *Federazione industriale Ligure* and the Genoa Chamber of Commerce.

While the employers were carrying on this vigorous struggle, the Bill was submitted, in view of its approaching discussion in the Chamber of Deputies, to the Parliamentary Commissions for Labour and for National Economy. These two Commissions met on February 19 and 24, and on March 4. The Socialist deputy, Turati, declared against a form of control which would impede the development of industry. He showed that the amendments recently proposed by the Permanent Committee of the Supreme Labour Council were intended to avoid this very difficulty and were the result of an agreement between employers and employed. These amendments, as he pointed out, established the exercise of control, not by the working class alone, but also by represen-

(4) See articles from the *Corriere della Sera*, *Giornale d'Italia*, *Sole*, *Economista d'Italia*, *Idea Nazionale*, *Avanti*, *Battaglie Sindacali*, quoted in *Studies and Reports*, Series B, No. 7, pp. 28-31.

tatives of the manufacturers. This constituted, if not political collaboration, at least a form of technical collaboration, which he regarded as necessary.

Deputy Olivetti, Secretary of the General Confederation of Industry, pointed out that the employers had no direct representatives on the Permanent Committee of the Supreme Labour Council, and that, therefore, the amendments proposed by this Committee did not represent the employers' point of view. He adduced the example of Russia, where an extensive system of control had at first been adopted, but where it had been necessary, in the long run, to recognize that the management and the maintenance of discipline in each industrial undertaking must be in the hands of one person. He also mentioned that in Germany control had resulted in the closing down of many undertakings. As for the workers' right of profit-sharing, demanded by the Catholic deputies Gronchi and Mauri, he pointed out that in France the workers had not claimed this right, although allowed to them by law. He concluded by stating his opinion that Italian industry could not continue to exist if the Government proposals were to be applied in their present form.

At the meeting of March 4, Deputy Cazzamalli, who spoke for the United Socialists, replied to criticisms made at the two preceding meetings. The present industrial crisis, he said, was forcing a certain discipline on production, and this discipline could only be established by the institution of control. He agreed that industry required a certain degree of freedom under the capitalist system, but this freedom would not be destroyed by the exercise of control. In reply to the remarks of M. Olivetti at the previous meeting, the Socialist deputy stated that the principal aim of control should be to prepare and guide the workers towards the direct collective management of industrial undertakings.

The continuation of the discussion on the proposal was adjourned for a future occasion.

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Important discussions on control and on the details of the Government proposal were also begun at the twenty-fifth Session of the Supreme Labour Council, which was opened by M. Labriola, the Minister of Labour, on March 9. In addition to the members of the Council, many representatives of employers' and workers' organizations had been specially invited to the meeting. At the beginning of the discussion the employers repeated the declaration which they had already made in the Parliamentary Commissions, viz. that they could not consider themselves bound by decisions adopted by a Committee on which they themselves were not directly

represented. They further defined their point of view in the following resolution:—

(1) The representatives of the employers consider workers' control by industry to be contrary to economic principle and to the requirements of production, both from the collective and the individual point of view. This has been proved in the few cases, in which control has been applied in foreign countries.

(2) The General Confederation of Industry, at a moment when the country was in a special state of disturbance, agreed to an experimental system of control, but only on condition that the workers' organizations should be inspired by a loyal desire for collaboration, and that control should not constitute a monopoly of one class to the detriment of another, or a danger to production and to the freedom which industry requires for its development.

(3) The employers have not up to the present been able to recognize the existence of such a spirit of collaboration in the working classes.

(4) In view of the crisis which industry is at present experiencing, the introduction of control is liable to cause confusion and to constitute a new and serious source of disturbance in the economic field.

For the above reasons the employers' representatives consider that a reform, such as the institution of control, should not be adopted until a thorough and detailed examination has been made of the few experiments, which have been made in foreign countries, where economic conditions are more stable than here.

Deputy D'Aragona, Secretary of the General Confederation of Labour, stated, in reply to the representatives of the employers, that it was precisely the present critical situation of industry which made it necessary to solve the problem of relations between employers and employed. The General Confederation of Labour, he added, maintained the principle of the class struggle, but this did not prevent it from consenting to certain forms of technical collaboration. Deputy Gronchi, Secretary of the Central Catholic Organization, maintained the necessity of completing the principle of control, by allowing the workers to participate in profits and hold shares in an enterprise.

In the first two sessions the Council completed the general discussion of principles, and then proceeded to examine the separate articles of the Bill and the amendments proposed by the Permanent Labour Committee. In the course of this discussion, which was continued over several meetings, workers' representatives demanded that control should be extended to all industries, to banks, and to agricultural undertakings. Discussion took place on the question of works councils, which, according to an amendment proposed by M. Baldesi, Secretary of the General Confederation of Labour, should be directly elected by the trade unions without regard to their political tendencies. Another question discussed was methods of engaging and discharging staff. The workers supported an amendment proposed by the Permanent Committee, which laid down that all individual questions of this nature should be settled by joint committees. The employers,

on the other hand, objected to the insertion in the Bill of articles on questions which had nothing to do with control.

At the session of March 12 an interesting proposal was made by the Vice-Chairman, M. Ludovico Calda, a former member of the Council of the General Confederation of Labour. In view of the fact that the workers considered control a reform which would be beneficial both to production and to the workers, while the employers considered that it would weaken the industry of the nation and would put it at a disadvantage as compared with its foreign competitors, he concluded that both parties should desire to see control adopted as a general principle of world industry ; he, therefore, proposed a vote in favour of the introduction of the principle of control in international labour legislation. M. Calda's proposal was discussed at length and, generally speaking, though with some reservations, it met with the approval both of employers and employed. No resolution was adopted, however, as the Council adjourned the continuation of its labours until April 15.

PRODUCTION, PRICES, AND COST OF LIVING

Wholesale Prices in Various Countries

IN the following tables the principal index numbers of wholesale prices in various countries have been brought together. Table I A gives the figures as originally published. In Table B the same index numbers have been reduced to a common basis: 1913=100. The figures are not, however, absolutely comparable, as the methods according to which they are calculated, and the scope and accuracy of the data on which they are based, vary very greatly from one country to another. It may be mentioned in particular that, besides the lack of comparability arising from the number and nature of the articles taken into account, from the importance of the markets from which prices are collected, and from the kind of average (simple average, weighted average, or geometrical average), the process of reducing the figures to a common basis renders the figures not truly comparable. If the index number is based on aggregates of actual prices or relatives made from such aggregates, they can readily be transferred to any desired base. If, however, the index numbers are calculated by averaging the relative price of individual commodities, the index numbers transferred to a new basis (in this case 1913) are only approximations. Thus in the case of certain countries, such as Canada, France, and Italy, which employ this method, the index numbers of our Table B are only approximate, while those for the United Kingdom, United States, New Zealand, and Australia can readily be shifted to any desired base.

We give below the two general Tables, followed by notes on the various countries. They do not exactly correspond to those published under the same heading in the January number of the *International Labour Review*, as they have been re-arranged and brought up to date, while the countries are now given in alphabetical order.

TABLE I. INDEX NUMBERS OF WHOLESALE PRICES IN DIFFERENT COUNTRIES
A. Published Results

Number of commodities	Australia (Melbourne)	Canada	Denmark	France	Germany	India (Calcutta)	Italy	Japan Bank of Tokyo	Netherlands	New Zealand	Norway	South Africa	Sweden	United Kingdom			U. S. A.		
	Official	Official	Finlands	Official	Official	Official	Bachi	(a) (b)	Official	Official	Okonomisk	Official	Svensk Handels	Official	Economist	Statist	Official	Federal Reserve Board	Dun
Base period	1901-1910	1890-1899	July 1912	1901-1910	1901-1910	1914	1901-1905	1900	1901-1910	1901-1910	Dec. 1913	1914	1913-1914	1920	1901-1910	1867-1877	1913	1913	200
Average 1913	1088	135.5	100	115.6	100	100	126.0	132.2	114	1051	100	1000	100	2692	85.0	85.0	100	100	120.9
" 1914	1149	136.1	100	117.3	105	100	119.8	136.3	121	1077	100	1000	116	2658	83.0	83.0	100	100	122.1
" 1915	1604	138.0	138	161.6	142	112	167.2	127.8	170	1269	139	1109	145	3313	108.0	108.0	101	101	126.3
" 1916	1504	182.0	164	217.6	152	125	251.6	154.9	266	1380	233	1229	185	4322	136.0	136.0	134	134	147.9
" 1917	1662	237.0	228	302.4	176	142	385.9	196.4	340	1555	341	1470	244	5496	173.0	173.0	176	176	204.1
" 1918	1934	278.3	293	392.1	216	178	515.5	259.0	454	1809	345	1663	339	6056	192.0	192.0	196	196	229.2
" 1919	2055	293.2	294	411.8	412	200	460.9	316.5	349	1834	322	1870	330	6332	206.0	206.0	212	206	230.8
" 1920	2480	333.6	352	588.8	1251	204	786.7	341.2	325	2185	377	2508	347	7626	248.1	248.1	243	233	247.8
1920 Jan.	2311	336.4	352	562.7	1038	131	639.2	279.9	334	1999	333	2360	319	6768	245.3	245.3	248	942	253.7
" Feb.	2354	343.5	352	601.3	1413	147	701.9	243.8	339	2039	342	2500	354	7100	260.4	260.4	249	242	253.0
" March	2378	349.0	352	641.0	1456	146	758.5	425.0	331	2123	351	2500	354	8232	261.8	261.8	253	248	257.9
" Apr.	2478	353.1	352	679.2	1532	156	836.3	386.6	338	2153	354	2500	361	8332	266.1	266.1	265	263	263.3
" May	2567	356.6	353	635.9	1503	134	831.8	328.0	339	2167	368	2500	361	8199	260.0	260.0	272	264	262.1
" June	2658	348.3	353	569.6	1086	136	796.0	337.0	333	2158	382	2500	366	7847	255.7	255.7	269	258	260.4
" July	2671	346.8	355	572.9	1176	141	761.3	317.0	340	2262	409	2500	365	7876	253.6	253.6	262	250	252.3
" Aug.	2692	330.2	334	579.5	1166	144	787.8	311.0	330	2261	417	2500	365	7743	248.7	248.7	242	234	248.2
" Sept.	2618	326.6	338	607.7	1125	146	826.8	305.0	328	2267	425	2500	366	7743	248.7	248.7	242	234	248.2
" Oct.	2450	317.6	403	580.0	1308	152	829.8	298.5	323	2291	419	2500	366	7743	248.7	248.7	242	234	248.2
" Nov.	2371	304.2	374	532.0	1373	153	844.4	292.7	297	2347	403	2500	331	6594	223.8	223.8	207	190	211.6
" Dec.	2245	290.5	341	502.0	1319	148	825.8	272.9	266	—	377	2500	299	5924	207.2	207.2	189	173	198.6
1921 Jan.	—	281.3	290	470.0	1260	136	809.5	265.8	243	—	344	2500	267	5617	197.2	197.2	177	164	185.8
" Feb.	—	270.1	280	434.3	1231	131	772.8	257.9	229	—	319	2500	250	5176	183.0	183.0	167	151	181.9
" March	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
" April	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
" May	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
" June	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Monthly figures relate to: (a) the monthly average; — (b) the end of the month; — (c) the 15th of the month; — (d) the 1st of the following month. — (e) The figures for 1913 to 1920 relate to the 1st January in each year. — (f) From 1920 a revised index is used. — (g) The figures for 1915 to 1920 relate to December in each year. — * No figures published.

B. Expressed as a percentage of 1913

	Australia (Mel- bourne)	Canada	Denmark	France	Germany	India (Calcutta)	Italy	Japan	Nether- lands	New Zealand	Norway	South Africa	Sweden	United Kingdom	U. S. A.				
	Official (a)	Official (c)	Finan- siende	Official (b)	Official Frank- furter Zeitung (d)	Official (h)	Bachi (f) (b)	Bank of Tokio (a)	Official	Official	Okonomisk Revue (g)	Official	Svensk Handels tidning (c)	Official (h)	Economist (b)	Statist. (b)	Official (a)	Federal Re- serve Board (a)	Dun
1913 average	100.0	100.0	100	100.0	100	*	100.0	100.0	100	100.0	*	*	100	100.0	100.0	100.0	100	100	100.0
1914 "	105.6	100.4	*	101.9	105	100	95.1	95.5	106	102.5	100	100.0	116	100.6	98.7	100.0	100	*	109.2
1915 "	147.4	109.2	138	139.8	142	112	132.7	96.7	149	120.7	159	110.9	145	123.5	123.1	127.1	101	*	104.4
1916 "	138.2	134.4	164	188.2	152	125	199.7	117.2	233	131.3	233	122.9	185	160.1	160.5	160.0	124	*	122.3
1917 "	152.8	174.9	228	261.6	176	142	306.3	148.5	298	148.0	341	147.0	244	208.6	204.1	1205.9	176	*	168.7
1918 "	177.8	205.4	293	339.2	216	178	409.1	195.9	398	172.1	345	166.3	339	229.5	224.9	9.225.9	196	*	190.0
1919 "	188.9	216.4	294	356.2	412	200	365.8	239.5	306	174.5	322	187.0	330	254.3	235.2	242.4	212	206	190.3
1920 "	227.9	246.1	382	509.3	1251	1549	624.3	257.9	285	207.9	377	250.8	347	321.9	283.2	2201.9	243	233	204.9
1920 Jan.	212.4	248.2	*	486.8	1038	1440	507.2	301.1	293	190.2	333	236.0	319	306.0	288.5	288.0	248	242	209.8
» Feb.	216.4	253.5	*	521.9	1413	1615	556.3	313.6	289	194.0	342	*	342	316.4	303.1	1306.3	249	242	209.0
» March	219.2	257.5	*	554.5	1456	1604	602.0	321.5	290	202.0	351	*	354	322.1	310.2	2308.0	253	248	213.2
» April	227.7	260.6	*	587.5	1252	1714	663.7	300.0	296	204.8	354	250.0	354	321.4	305.7	313.1	265	263	217.8
» May	236.0	263.1	*	550.1	1203	1473	660.1	248.1	297	206.2	368	*	361	319.2	304.5	3305.9	272	264	217.0
» June	244.2	257.8	383	492.7	1086	1495	631.7	254.9	297	205.2	382	*	366	337.8	291.4	390.8	269	258	215.2
» July	245.4	256.0	385	495.6	1176	1599	604.2	239.8	301	215.2	409	602.8	363	346.8	292.5	299.5	262	250	208.5
» Aug.	247.4	243.7	394	501.3	1166	1582	625.2	225.3	289	215.1	417	*	365	325.7	287.6	298.2	250	234	205.3
» Sept.	240.6	241.0	398	525.7	1225	1604	655.5	230.7	288	215.7	425	*	362	330.8	284.0	292.6	242	226	196.3
» Oct.	225.2	234.4	403	501.7	1308	1670	658.6	225.8	283	218.0	419	256.3	346	324.0	266.5	282.2	225	208	187.9
» Nov.	217.9	224.6	374	460.2	1373	1681	670.1	221.4	261	213.8	403	*	331	312.8	245.0	263.3	207	190	175.0
» Dec.	206.3	214.4	341	434.3	1319	1626	655.4	205.7	233	—	377	*	299	302.3	220.0	243.5	189	173	164.3
1921 Jan.	—	207.6	290	406.6	1260	1494	642.4	201.1	213	—	394	—	267	—	208.7	232.0	177	164	153.7
» Feb.	—	199.3	280	375.6	1231	1439	613.3	195.1	201	—	319	—	250	—	192.3	215.3	167	—	150.5
» March	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
» April	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
» May	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
» June	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Monthly figures relate to: (a) the monthly average; — (b) the end of the month; — (c) the 15th of the month; — (d) the 1st of the following month; — (e) The figures for 1913 to 1920 relate to the 1st January in each year; — (f) From 1920 a revised index is used; — (g) The figures for 1915 to 1920 relate to December in each year — (h) Old index transferred to the base 1913 = 100; — * No figures published.

CANADA

Prices reached their highest level in May 1920, when they were two and a half times as high as before the war. Since then wholesale prices have shown a regular decrease. In January 1921 the general index number had already fallen to the level of June 1918. This constituted a decrease of 21 % in comparison with the maximum.

The fall in prices is very marked in the various groups of articles. It occurs in most cases about the middle of 1920. Hides and leather began to fall rather sooner, i.e. in February, while the fall in the price of dairy products dates from 1919. The price of tools, on the other hand, showed no signs of falling until January and February 1921, after it had remained stationary for several months. The only groups which were higher in price in January 1921 than in January 1920 were tools, and heating and lighting. All the others were lower, and the greatest fall was in hides and leather and in textiles. Hides and leather, with metals and animal foodstuffs, also show the greatest decrease in comparison with pre-war prices.

DENMARK

In Denmark wholesale prices reached their highest level in November 1920, when they were four times as high as before the war. Since that time there has been a fairly rapid decrease, which became less marked in February 1921. Prices at that time were 28 % less than in November 1920, when they were at their highest.

TABLE III. INDEX NUMBERS OF WHOLESALE PRICES PUBLISHED BY THE
Finanstidende

Base: July 1912—June 1914 = 100; 33 commodities

	Foodstuffs	Other articles	Total
1 Jan. 1920	285	374	340
1 July 1920	309	429	383
1 Aug. 1920	318	427	385
1 Sept. 1920	320	439	394
1 Oct. 1920	334	438	398
1 Nov. 1920	334	446	403
1 Dec. 1920	342	394	374
1 Jan. 1921	319	356	341
1 Feb. 1921	277	298	290

Generally speaking, foodstuffs have not increased in price to the same extent as industrial materials. Their fall, on the other hand, has not been so rapid.

TABLE II. INDEX NUMBERS OF WHOLESALE PRICES OF THE DEPARTMENT OF LABOUR, CANADA (1)

Base: 1913=100; 272 commodities

1920	Cereals and animal fodder	Meat and animal fat	Dairy products	Fruit and vegetables	Groceries, etc.	Textiles	Hides leather, etc.	Metals	Tools	Building materials	Heating and lighting	Chemical products	Total
January. . . .	269	195	228	265	245	316	247	191	235	232	212	190	248
February. . . .	275	195	216	290	251	321	245	199	231	243	215	189	254
March.	280	198	206	295	254	322	222	210	237	268	215	194	258
April.	291	200	196	316	264	366	239	214	237	268	245	201	261
May.	301	207	189	358	275	323	215	213	237	294	257	203	263
June.	302	206	183	338	274	314	186	207	238	295	279	206	258
July.	292	211	194	295	283	305	183	209	242	282	294	218	256
August.	271	204	198	142	227	300	173	209	243	285	298	217	241
September. . . .	254	202	202	190	261	296	169	207	259	273	296	211	234
October.	229	194	207	177	249	292	156	203	259	265	211	205	225
November.	201	184	209	203	236	273	153	195	259	265	270	201	214
December. . . .	190	179	221	189	222	251	141	178	259	252	269	201	214
1921													
January.	186	175	216	184	212	228	131	174	257	248	247	196	208

(1) Fish, House-furnishings, Miscellaneous omitted.

The decrease of the general index number is, in fact, to a large extent due to the fall in the price of hides, cement, iron, potatoes, and eggs. Tin and hides are now cheaper than they were in 1914. Paper, however, is still five times as dear as before the war.

FRANCE

The general index number reached its highest point in April 1920. A marked fall was noticeable during the next two months, but prices rose again for a time in July-September. Since the latter date prices fell regularly and fairly rapidly till February 1921. In that month prices had reached approximately the same level as in September 1919, and showed a decrease of 36 % as compared with April 1920, when they were at their highest.

TABLE IV. INDEX NUMBERS OF WHOLESALE PRICES OF THE STATISTIQUE GÉNÉRALE DE LA FRANCE

Base: 1901—1910 = 100; 45 commodities

	FOODS				MATERIALS				Grand total
	Veg. food	Animal food	Sugar, coffee and cocoa	All foods	Metal and minerals	Textiles	Sundries	Total	
1920									
Jan.	518.3	533.9	443.9	509.7	495.4	920.8	511.5	605.2	562.7
Feb.	568.7	571.0	462.4	548.3	532.9	968.9	552.9	647.2	603.3
March	619.6	590.1	465.4	576.9	551.7	1035.0	603.0	692.3	641.0
April	612.8	616.3	474.2	586.5	608.0	1114.7	657.6	753.4	679.2
May	575.4	565.8	449.2	546.3	550.8	983.5	660.9	707.3	635.9
June	480.5	568.8	415.3	502.8	513.1	859.3	569.2	623.1	569.6
July	444.4	590.8	429.7	500.0	563.0	873.0	550.3	631.3	572.9
Aug.	430.8	607.4	423.2	500.0	569.8	862.5	576.4	643.2	579.5
Sept.	494.1	626.6	577.1	563.6	561.1	836.3	594.0	642.9	607.7
Oct.	504.8	629.4	447.8	543.2	544.1	745.0	579.6	609.3	581.5
Nov.	468.5	612.3	400.0	512.3	509.1	597.1	547.8	548.8	502.6
Dec.	431.4	607.8	376.4	490.9	462.4	556.3	518.6	512.0	469.6
1921									
Jan.	400.9	569.6	358.1	495.6	408.7	538.7	489.0	479.5	470.0
Feb.	380.8	533.9	358.6	437.6	360.5	465.6	456.0	431.6	434.3

A general tendency to fall in price is shown by all groups in April 1920, with the exception of vegetables and "various" commodities, which began to fall a month earlier and a month later respectively. The most rapid fall seems to have taken place in the prices of industrial materials, the prices of which had risen higher than those of foodstuffs. It is particularly marked in the case of textiles, the prices of which did not, indeed, reach the lowest level compared with 1910, but nevertheless showed a decrease of 58 % as compared with

the maximum in April. On the other hand, sugar, coffee and cocoa, which declined continually from September and October 1920, show a small rise.

GERMANY

The chief difficulty in establishing an index number of prices for Germany is that a large number of articles in common use are still subject to Government control, and that, side by side with the official prices, there exist much higher prices at which the same articles are sold in illicit trade. These prices are subject to sudden and violent fluctuations. As there is no record of "illicit" prices, index numbers have to be calculated on the official fixed prices, and thus give an unduly favourable picture of the situation. On the other hand, as soon as any article is decontrolled, prices at once rise to the level prevailing on the illicit market, which then becomes the free market, and the index number shows an increase which does not represent the real situation. In these circumstances it is not surprising that there is considerable divergence between the index numbers published by the Federal Government Statistical Office and by the *Frankfurter Zeitung* respectively, as Table I shows.

The two sets of index numbers show somewhat similar variations. After the highest points, which were reached respectively in March and May 1920, there was a certain decrease, but prices rose again in the last months of the year; finally there was a considerable fall in the first months of 1921.

TABLE V

INDEX NUMBERS OF WHOLESALE PRICES FROM THE *Frankfurter Zeitung*

Base: 1 January 1920 = 100; 77 commodities

	Food-stuffs	Textiles, Leather, etc.	Minerals	Various	Total
Pre-War Index	11.38	3.67	7.15	12.00	9.10
1 Jan. 1920	100	100	100	100	100
1 Feb. 1920	119	153	145	123	131
1 March 1920	126	165	163	147	147
1 April 1920	135	151	135	170	146
1 May 1920	134	119	133	170	156
1 June 1920	128	98	110	197	134
1 July 1920	146	94	111	195	136
1 Aug. 1928	149	97	112	194	141
1 Sept. 1920	150	103	118	193	144
1 Oct. 1920	153	108	124	191	146
1 Nov. 1920	165	111	120	199	152
1 Dec. 1920	177	99	117	195	153
7 Jan. 1921	154	97	120	189	148
5 Feb. 1921	144	92	113	183	136

For the reasons stated above, the index numbers for the various groups do not vary very greatly. There seem, however, to have been periods of increased prices at the beginning and at the end of the year. The absolute maximum, however, occurred in March in the case of textiles, leather, etc., and minerals, and in the two last months of 1920 in the case of foodstuffs and the class entitled "Various". The most decided tendency to fall in price was shown by textiles.

The temporary increase in November was slighter than in the case of any other commodity, and the figure for March was less than that for January 1920 by 13 %, whereas the three other groups were at that time still above the level of January 1920.

ITALY

Wholesale prices in Italy have risen to more than seven times their pre-war level. As Professor Bachi has modified his method of calculating and classifying his index numbers in 1921, it is not possible to make an exact comparison with the preceding years for the different groups. It can, however, be said that in January 1921 the general index number was still above that for January 1920. The decrease at the former date is only 8 % compared with the highest point.

TABLE VI

PROFESSOR BACHI'S NEW INDEX NUMBERS OF WHOLESALE PRICES.

Base: 1920 = 100.; 76 commodities

No. of commodities	Animal foodstuffs (10)	Vegetable foodstuffs (19)	Chemical products (8)	Textile materials (9)	Minerals and metals (12)	Building materials (5)	Other vegetable products	Various	Total (76)
Oct. 1920..	106.0	107.1	103.4	97.9	106.5	112.8	100.5	105.4	105.5
Nov. 1920..	124.1	107.7	107.7	94.0	101.4	112.6	108.7	105.2	107.3
Dec. 1920..	126.4	106.9	102.8	81.9	92.7	112.0	121.8	106.8	105.0
Jan. 1921..	120.7	106.7	98.1	77.4	88.2	113.3	123.4	107.1	102.9
Feb. 1921..	119.5	103.4	89.2	65.4	79.5	117.0	127.3	106.7	97.9

It appears, however, from this table and from that which appeared in No. 1 of the *International Labour Review* that prices began to fall towards the end of 1920 as far as foodstuffs and chemical products were concerned, and at the beginning of 1921 as far as textile materials and minerals and metals were concerned. It also appears that in February 1921 the prices of building materials, and certain vegetable products were still rising. For most groups of commodities (with the exception

of textiles, minerals and metals, and chemical products) the index number in February 1921 is higher than the average for 1920.

NETHERLANDS

The index number of wholesale prices for the Netherlands is published in two groups, one for 49 commodities of all kinds, and one for 31 foodstuffs. These two sets follow a parallel course, both reaching their highest point in July 1920. The rise in the price of foodstuffs is, however, rather less marked than that in the general index number, which rises to three times the pre-war level.

TABLE VII

INDEX NUMBERS OF WHOLESALE PRICES OF THE CENTRAAL BUREAU VOOR DE STATISTIEK

Base: 1913 = 100

		49 Commodities (various)	31 Foodstuffs
1913		100	100
1920	Jan.	293	364
	Feb.	289	254
	March	290	253
	April	296	260
	May	297	262
	June	297	269
	July	301	274
	Aug.	289	265
	Sept.	288	261
	Oct.	283	259
	Nov.	261	253
	Dec.	233	232
1921			
	Jan.	213	211
	Feb.	201	204

In the case of the 49 various commodities, the fall in price was very gradual until October; the decline was more marked in November and December and continued until February 1921, bringing the index number of the latter month down to a level between the averages for 1915 and 1916, i.e. of four years ago. The fall, however, was only 30% by comparison with the highest point, and the level in February 1921 is still 101% above that before the war.

SWEDEN

The general index number of wholesale prices reached its highest point in June 1920, and then fell, slowly at first, but more rapidly after November. The index number for

February 1921 is nearly the same as the average for 1917. The fall is considerable : 35 % compared with the maximum. This index number is, however, hardly more than a fictitious average, for the different groups which it includes fluctuated in very various ways.

TABLE VIII
INDEX NUMBERS OF WHOLESALE PRICES PUBLISHED BY THE
Svensk Handelstidning

Base : 1913-1914 = 100 ; 47 commodities

	Veg. food	Animal food	Raw- material for agri- culture	Coal	Oils	Me- tals	Build- ing ma- terial	Tex- tiles	Hides & leath- er	Paper pulp	Total
1920											
Jan.	248	328	317	864	204	248	295	353	258	388	319
Feb.	273	305	319	936	226	259	371	380	269	476	342
March ...	270	304	318	960	275	291	387	380	268	682	354
Apr.	265	284	320	1008	275	283	367	368	263	767	354
May	269	283	320	1069	275	324	367	374	252	788	361
June	250	273	313	1252	303	318	381	368	212	778	366
July	252	277	312	1252	303	293	388	306	202	767	363
Aug.	271	307	310	1117	322	286	388	328	191	756	365
Sept.	273	312	308	1085	340	273	388	310	180	753	362
Oct.	258	306	309	1026	340	256	390	250	166	740	346
Nov.	264	290	303	910	332	253	387	233	161	609	331
Dec.	247	283	301	602	328	247	362	206	156	598	299
1921											
Jan.	244	266	281	371	328	230	320	169	131	520	267
Feb.	231	241	248	362	318	204	319	147	108	511	250

Foodstuffs (animal and vegetable), as well as building materials, show a tendency to increase at the beginning, and again at the end, of 1920. A decided fall is, however, perceptible in recent months. A great rise took place in the price of coal in 1920, which at its highest point cost twelve times as much as before the war. The subsequent fall was, however, still more rapid, especially after November, so that in February prices were less than one-third of what they were in the previous July. Textiles, and hides and leather, also show a great fall in price, (61 % and 60 % compared with the respective maxima), though they had not risen to such an extraordinary extent as coal. The prices of seeds and agricultural fertilizers fell very slowly, but two larger decreases took place in January and February 1921. Oils, on the other hand, did not begin to decrease till November 1920, and then only fell 6 %, a smaller decrease than in any other group. For most groups, the level in February 1921 is below that in January 1921, the exceptions being oils, building materials, and woodpulp.

UNITED KINGDOM

The three sets of index numbers published in the United Kingdom are for the most part in agreement. The old index numbers of the Board of Trade place the highest point later than the other two, in July instead of March or April. The new index numbers, however, which have been re-calculated on a new system, are in agreement with the other two sets.

TABLE IX

COMPARISON OF VARIATIONS OF THE THREE INDEX NUMBERS
PUBLISHED IN THE UNITED KINGDOM IN 1920-1921

	<i>Economist</i>	<i>Statist</i>	Board of Trade	
	Average 1913=100	Average 1913=100	Old	New
1920				
Jan.	288.5	288.0	306.0	96.8
Feb.	303.1	306.3	316.4	101.5
March	310.2	308.0	322.1	104.2
April	305.7	313.1	321.4	106.1
May	304.5	305.9	319.2	105.9
June	291.4	300.8	337.8	104.8
July	292.5	299.5	346.8	103.0
Aug.	287.6	298.2	325.7	101.6
Sept.	284.0	292.6	330.8	101.0
Oct.	266.5	282.2	324.0	98.0
Nov.	245.0	263.3	312.8	93.3
Dec.	220.0	243.5	302.3	85.7
1921				
Jan.	208.6	232.0	—	80.1
Feb.	192.8	215.3	—	73.4

It is thus quite clear that the highest point was reached in March—April 1920, at which date wholesale prices had risen to more than three times their pre-war level. Since that time they have decreased regularly, but rather slowly, until September—October, and then more rapidly until February 1921. The index numbers of the *Statist* and the *Economist* are now at the level reached at the beginning of 1917, and represent a percentage decrease of 37 % and 29 %, as compared with the respective maxima.

TABLE X. INDEX NUMBERS OF WHOLESALE PRICES OF THE BOARD OF TRADE
Base: 1920=100; 250 commodities

	Food				Other than food						All articles
	Cereals	Meat and fish	Other food	Total food	Iron and steel	Other metals and minerals	Cotton	Other textiles	Other articles	Total not food	
1920											
Jan.	89.3	98.5	94.9	94.2	82.7	96.7	112.4	113.6	99.0	98.3	96.8
Feb.	88.8	91.9	101.4	94.2	90.2	101.8	127.0	120.6	104.0	105.7	101.5
Mar.	97.7	88.6	106.5	97.7	96.4	100.3	127.4	121.7	107.1	108.0	104.2
Apr.	101.6	93.6	108.2	101.3	100.4	97.0	127.9	123.4	108.0	108.9	106.1
May.	102.5	91.8	106.7	100.4	105.4	101.0	123.9	117.7	104.9	109.0	105.9
June	104.3	92.9	108.5	102.0	109.1	101.0	115.7	108.7	100.2	106.4	104.8
July	103.0	102.4	101.4	102.2	108.2	101.6	108.0	99.2	99.9	103.5	103.0
Aug.	102.2	106.0	96.1	101.2	107.0	102.8	105.3	94.6	98.2	101.9	101.6
Sept.	103.3	106.9	94.2	101.0	107.0	103.6	96.1	93.9	100.8	100.9	101.0
Oct.	106.7	109.1	97.2	104.0	104.2	102.3	78.9	84.2	99.5	94.9	98.0
Nov.	106.3	111.4	94.5	103.4	99.2	100.1	65.8	76.3	94.3	88.2	93.3
Dec.	96.2	110.6	92.3	99.1	93.8	92.3	52.9	67.0	85.9	79.2	85.7
1921											
Jan.	90.5	108.0	88.0	94.8	88.6	85.5	46.7	61.1	80.4	73.1	80.1
Feb.	78.4	100.8	81.6	86.2	79.0	80.7	40.6	55.6	78.6	67.3	73.4

The general index number for February 1921 shows a decrease of 30 %, as compared with the April figure, which was the highest. The movement of prices of foodstuffs was somewhat different from that of industrial commodities. After rising in the first months of 1920, prices varied very little till October. Then, and not before, they reached their highest level, and after that date they began to fall more rapidly each month. Meat and fish were the last commodities to fall, and in February 1921 the prices were still 10 % above those for the same month in the preceding year.

In the case of industrial articles the fall in prices is much more marked, especially as regards cotton, which shows an almost catastrophic fall. In April 1920 the index number was higher than that of any other article, and 28 % above the 1920 average (which is, of course, brought down by the fall in the later months of the year). After this it falls month by month until in February 1921 it represents a price amounting to less than a third of that prevailing ten months previously. "Other textiles" follow a somewhat similar course, but with less marked variations. Variations in the price of metals were less sudden. Iron and steel fell regularly from June 1920 and "other metals and minerals" from September. In February 1921 they had reached a level of approximately 30 % and 23 % below their maximum. The class entitled "other commodities" is composed of commodities which varied in price so greatly that the average has little real significance.

In view of the sudden drop in the prices of cotton and other textiles, it is interesting to see what variations took place in the price of all the other articles included in the Board of Trade index numbers, apart from cotton and other textiles. The results for 119 commodities are as follows :—

1920	January	93.0
	April	101.6
	July	102.9
	October	102.9
1921	January	89.2
	February	82.4

Prices thus rose regularly until June, varied slightly in the neighbourhood of the maximum until October, and then fell more rapidly until February. The variations were, however, comparatively slight. In the case of all these groups of articles, moreover, the difference between the price in February 1921 and January 1920 is not very great; it seldom represents an increase or decrease of more than 10 % for the various classes of foodstuffs, and a decrease of more than 20 % for industrial commodities other than cotton and textiles. For the latter classes it is 64 % and 50 % respectively.

UNITED STATES

Of the various sets of index numbers of wholesale prices published in the United States, most show their highest point in May 1920.

If we examine, in particular, the index numbers given by the Bureau of Labor Statistics, which are the most complete and are calculated on the broadest basis, we see that the index number for February 1921 corresponds to that of April 1917. The curve thus took less than a year to come down to a point from which it had taken three years to rise. Thus prices fell much more rapidly than they had risen.

The movement of prices in the different groups of articles is extremely irregular. The highest prices were reached at very various dates (March to October 1920), and represent different degrees of increase (from 95 % to 271 %). The rate at which prices fell in comparison with those prevailing before the war also varied very much.

TABLE XI

INDEX NUMBERS OF WHOLESALE PRICES OF THE BUREAU OF LABOR
STATISTICS, U. S. A.

Base: 1913=100; 324 commodities.

	Farm Pro- ducts	Food etc.	Cloth- ing	Fuel and light	Metals	Build- ing mate- rial	Chem- icals and drugs	Fur- nishing	Misc.	All comm.
1920										
Jan.	246	253	350	184	177	268	189	324	227	248
Feb.	237	244	356	187	189	300	197	329	227	249
Mar.	239	246	356	192	192	325	205	329	230	253
April	246	270	353	213	195	341	212	331	238	265
May	244	287	347	235	193	341	215	339	246	272
June	243	279	335	246	190	337	218	362	247	269
July	236	268	317	252	191	333	217	362	243	262
Aug.	222	235	299	268	193	328	216	363	240	250
Sept.	210	223	278	284	192	318	222	371	239	242
Oct.	182	204	257	282	184	313	285	371	229	225
Nov.	165	195	234	258	170	274	207	369	220	207
Dec.	144	172	220	236	157	266	188	346	205	189
1921										
Jan.	136	162	208	230	152	239	182	283	190	177
Feb.	129	150	198	218	146	222	178	277	180	167

It is difficult to draw any general conclusions from the above table, as each group of articles varies in a way peculiar to itself. It is only possible to say that chemical products and house furnishings, which had reached particularly high

maximum prices at a very late date, show the most rapid fall in price. The greatest increase took place in furnishing and clothing; the smallest in metals.

The commodities, which are at present furthest removed from their pre-war prices, are again furnishings, as well as building materials. Those which are nearest to pre-war prices are farm products. Foodstuffs hold a middle place in all these variations. They follow the movement of the general index number fairly closely.

In most of the groups the curve follows a regular course more or less rapidly. Only two groups show oscillations. The fall in the price of metals was interrupted by a slight rise in August and September. In the case of chemical products, prices showed a tendency to decrease in July and August, before they reached their highest point in October. These, however, are comparatively unimportant variations.

OTHER COUNTRIES

In the case of the other countries included in Tables IA and IB, we have no recent figures for the various groups of commodities. We will, therefore, merely give a brief survey of the fluctuations of the general index number.

In NORWAY the highest point was reached in September 1920, when prices were more than four times as high as before the war. In February 1921 the fall was only 25 % from the maximum; the index number for this month is nearly the same as that for June 1919.

The latest figures show that in October 1920 a fall began in SOUTH AFRICA, but a rise still continued in NEW ZEALAND. In INDIA (Calcutta) and JAPAN, however, prices began to fall in the first half of 1920, and the latest index numbers, i.e. those for December 1920 and February 1921, are about the same as the average for 1918.

In AUSTRALIA prices began to fall in August 1920, and the figure for December 1920 is now below that for January of the same year.

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Retail Price Fluctuations in Various Countries

HUNGARY

The Editors of the *International Labour Review* desire to rectify an error which appeared in the last article on Retail Prices, published in the February number of the Review (1). The food prices mentioned as current in Budapest were not minimum prices fixed by the Government, but free market prices, which were given on the authority of the Director of the Municipal Market. Further, the prices mentioned in the table of prices for articles other than food were not officially ascertained prices, but were the results established by a private inquiry made by Dr. Imre Ferenczi, Municipal Representative on the International Red Cross Committee for organizing the relief work of the Foreign Mission in Budapest.

It should also be stated that only three foods have been rationed: flour, fat; and sugar, the flour ration was a monthly, not a weekly, ration.

(1) Vol. I, No. 2, pp. 60-62.

EMPLOYMENT AND UNEMPLOYMENT

The State of Employment in February 1921

based on Returns from Employers

UNITED KINGDOM.

THE following figures as to the state of employment in the United Kingdom in February 1921, as compared with the previous month (Jan. 1921) and a year ago (Feb. 1920), are compiled from statistics published by the British Ministry of Labour. The figures reflect the marked decline in employment in February. Most of the principal industries were seriously depressed, with the exception of the building trades and trades connected therewith, viz. brick and cement manufacture and slate quarrying. Employment was also fairly good with agricultural workers and in the pottery trade.

SUMMARY OF EMPLOYERS' RETURNS

(a) *Certain Mining and Metal Trades*

Trade	Workers included in the returns for Feb. 1921	February 1921	Incr. (+) or decr. (—) as compared with a	
			month ago	year ago
		days worked per week by mines	days	days
Coal mining	644,607	4.79	—0.41	—0.96
Iron »	11,604	4.13	—0.85	—1.77
Shale »	4,568	6.00	+0.03	—
Pig iron	—	Furnaces in blast 180	No. — 49	No. — 75
Tinplate and steel sheet .	—	Mills working 167	— 41	—329
Iron and steel	93,530	Shifts worked (one week) 468,324	Per cent. —15.3	Per cent. —29.8

(b) Other Trades

Trade	Number of workers			Total wages paid to all workers		
	Week ended Feb. 26 1921	Incr. (+) or Decr. (—) on a		Week ended Feb. 26 1921	Incr. (+) or Decr. (—) on a	
		month ago	year ago		month ago	year ago ¹
		Per cent.	Per cent.	£	Per cent.	Per cent.
Textiles :—						
Cotton	69,578	— 6.6	—26.1	135,632	— 7.6	—38.9
Woollen	16,433	— 3.5	—12.0	35,354	—10.0	—25.1
Worsted	30,258	— 3.1	— 5.4	61,244	— 8.8	—15.6
Linen	19,534	+ 8.9	—36.1	25,954	+ 6.3	—45.3
Jute	8,204	+ 0.5	— 7.7	9,849	— 5.8	—41.2
Hosiery	14,416	— 2.9	—25.4	24,638	+ 5.1	—37.0
Lace	5,353	— 1.0	—30.6	9,261	— 3.2	—43.4
Other textiles	14,375	— 0.1	— 2.1	30,534	— 3.6	+ 2.5
Bleaching, etc.	21,928	— 4.6	—12.0	60,084	— 8.0	—30.9
Total textiles	200,079	— 3.1	—20.3	392,550	— 6.1	—32.6
Boot and shoe	49,987	+ 0.3	—15.8	105,828	+ 1.3	—24.3
Shirt and collar . . .	12,786	— 2.7	— 7.4	17,645	— 1.8	—14.6
Ready-made tailoring .	17,143	— 1.5	—21.5	25,341	+ 3.6	—36.5
Paper	13,150	— 3.4	— 4.1	36,705	— 7.6	— 2.2
Printing and bookbind- ing	14,970	— 1.0	— 1.4	47,956	+ 1.2	+ 5.7
Pottery	14,760	— 1.1	+ 5.7	37,270	— 1.7	+19.6
Glass	9,466	— 6.5	—17.7	31,029	— 9.6	— 9.5
Brick	7,253	+ 0.3	+16.8	25,793	— 1.9	+41.3
Cement	11,669	— 2.0	+24.8	49,711	— 4.0	+55.0
Food preparation . . .	57,488	— 0.3	—11.7	143,834	— 0.5	— 2.4
Grand total	408,751	— 2.1	—15.0	913,662	— 3.5	—18.8

(¹) Comparison of earnings is affected by changes in rates of wages.

UNITED STATES

Employment in selected Industries in February 1921

The Bureau of Labor Statistics of the United States Department of Labor has received and tabulated reports concerning the volume of employment in February 1921 from representative establishments employing about 500,000 workers in 13 manufacturing industries and in bituminous coal mining. Comparing the figures of February 1921 with those of identical establishments for February 1920, it appears that there were decreases in the number of persons employed in all industries. The largest decreases are 44.2% in hosiery and underwear, 41.3% in automobiles, 36.3% in leather, and 35.1% in woollen. The smallest decreases are 2% in bituminous coal mining and 0.1% in cotton manufacturing.

The amount of the pay-roll in February 1921, when compared with that of February 1920, shows decreases in all industries. The greatest decrease, 74.4 %, appears in the automobile industry. Decreases of 51.3 %, 45.8 %, 44.3 % appear respectively in the hosiery and underwear, woollen, and leather industries. Bituminous coal mining shows a decrease of 1 per cent.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN
FEBRUARY 1920 AND FEBRUARY 1921

Industry	Establishments reporting for Febr. both years	Period of pay-roll	Number on pay-roll in February		Per cent. of increase (+) or decrease (—)	Amount of pay-roll in February		Per cent. of increase (+) or decrease (—)
			1920	1921		1920 doll.	1921 doll.	
Iron and steel	116	½ mon.	188,958	143,228	—24.2	13,892,294	9,274,639	—33.2
Automobiles	44	1 wk.	157,160	92,302	—41.3	5,063,400	1,298,263	—74.4
Car building and repairing	50	½ mon.	45,587	38,009	—16.6	2,719,874	2,560,886	— 5.8
Cotton mfg.	54	1 wk.	53,975	53,903	— 0.1	1,099,144	921,396	—16.2
Cotton finishing	16	1 »	12,787	10,746	—16.0	286,824	236,181	—17.7
Hosiery and underwear	60	1 »	30,614	17,080	—44.2	567,609	276,523	—51.3
Woollen	52	1 »	51,150	33,189	—35.1	1,279,027	693,199	—45.8
Silk	42	2 wks.	18,765	14,827	—21.0	908,392	675,588	—25.6
Men's clothing	46	1 wk.	31,058	22,802	—26.6	1,057,970	674,317	—36.3
Leather	34	1 »	17,583	11,209	—36.3	455,853	254,081	—44.3
Boots and shoes	84	1 »	72,522	54,316	—25.1	1,676,059	1,314,914	—21.5
Paper making	55	1 »	30,442	27,408	—10.0	776,675	679,726	—12.5
Cigars	56	1 »	17,034	15,755	— 7.5	340,790	297,723	—12.6
Coal (bituminous)	86	½ mon.	23,909	23,430	— 2.0	1,533,950	1,518,176	— 1.0

The following table gives comparative data for February 1921 and January 1921. The figures show that in ten industries there were increases in the number of persons on the pay-roll in February as compared with January, and in four a decrease. The largest increase, 42 %, is shown in the woollen industry. Men's ready-made clothing shows an increase of 21.1 % and hosiery and underwear an increase of 20.8 %. The smallest increases, 0.8 %, 0.2 %, and 3.3 %, appear in iron, car building and repairing, and in cigar making respectively.

Eight industries show an increase in the amount of money paid to employees and six show a decrease. The most important increases, 34.6 % and 31.4 %, occur in men's ready-made clothing and in the woollen industry. Car building and repairing shows a decrease of 14.4 per cent., while the decrease reported in the leather industry is 0.8 %.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS
JANUARY 1921 AND FEBRUARY 1921

Industry	Establishments reporting for January and February	Period of pay-roll	Number on pay-roll in		Per cent. of increase (+) or decrease (—)	Amount of pay-roll in		Per cent. of increase (+) or decrease (—)
			Jan. 1921	Feb. 1921		Jan. 1921 doll.	Feb. 1921 doll.	
Iron and steel	114	½ mon.	140,511	141,699	+ 0.8	9,784,692	9,252,021	— 5.4
Automobiles	40	1 wk.	74,879	75,879	+ 1.3	826,042	972,844	+ 17.8
Car building and repairing	48	½ mon.	44,461	38,764	— 12.8	3,044,055	2,604,961	— 14.4
Cotton mfg.	53	1 wk.	45,671	53,808	+ 17.8	764,397	919,167	+ 20.2
Cotton finishing	16	1 »	9,518	10,746	+ 12.9	200,333	236,181	+ 17.9
Hosiery and underwear	60	1 »	14,258	17,229	+ 20.8	219,030	278,840	+ 27.3
Woollen	52	1 »	23,376	33,189	+ 42.0	527,740	693,199	+ 31.4
Silk	42	2 wks.	14,268	14,827	+ 3.9	596,469	675,588	+ 13.3
Men's clothing	46	1 wk.	18,550	22,463	+ 21.1	496,008	667,512	+ 34.6
Leather	36	1 »	11,916	11,945	+ 0.2	271,493	269,352	— 0.8
Boots and shoes	83	1 »	47,457	51,477	+ 8.4	988,633	1,224,037	+ 23.8
Paper making	54	1 »	28,710	27,809	— 3.1	722,641	700,834	— 3.0
Cigars	51	1 »	15,015	14,524	— 3.3	289,617	273,448	— 5.6
Coal (bituminous)	79	½ mon.	21,464	20,840	— 2.9	1,436,263	1,338,746	— 6.8

CANADA

THE *Labor Gazette, Ottawa*, for February 1921, publishes statistics showing the percentage change of employment in Canada by industry, as compiled from 5,000 returns received weekly from the employers of about 700,000 workers. Percentage figures are used rather than the actual numbers employed, as the number of returns received varies from week to week. The table shown below gives the number of employees on the pay-rolls in the week nearest the middle of the month, as compared with the January figures, which are equated to 100. After the first few weeks, which showed a slight rise, the volume of employment for the country as a whole remained fairly constant until the middle of April, when a steady rise set in, which reached its maximum in the middle of July. A high level was maintained until the beginning of October, since when the decline has been rapid. The following table gives the position in the middle of April, July, and October, 1920, and on 1 January 1921.

PERCENTAGE OF EMPLOYMENT IN CANADA

(January 1920 = 100)

	17 April 1920	17 July 1920	16 October 1920	1 January 1921
Logging	60.2	46.6	71.2	88.6
Mining :				
Metallic Ores	98.7	96.0	96.5	84.1
Coal	89.9	87.5	97.6	103.9
Non-metallic minerals other than coal	112.1	133.3	131.0	108.5
Manufacturing :				
Edible animal products (meat products, milk, etc.)	93.7	109.4	108.0	87.3
Lumber and its products .	100.1	122.2	107.6	67.0
Clay, glass, and stone products	109.3	114.2	114.6	90.8
Edible plant products (flour and flour pro- ducts, sugar, etc.) . .	101.7	105.1	106.4	71.8
Fur and fur products . .	97.8	96.1	110.1	82.8
Iron and steel products .	106.9	106.3	105.4	81.9
Leather and leather pro- ducts	97.5	89.5	71.7	59.0
Minerals	102.8	100.7	98.9	96.6
Non-ferrous metal pro- ducts	101.7	101.4	99.9	79.7
Pulp and paper pro- ducts	106.0	114.2	109.6	101.8
Rubber products	108.6	110.0	91.3	54.6
Textile products	103.6	99.9	97.7	69.2
Transportation :				
Local	101.6	104.1	104.0	104.2
Rail	100.2	103.5	106.6	102.0
Water	123.2	187.6	189.8	116.4
Construction :				
Building	104.4	166.2	181.3	111.9
Railway	118.9	169.2	159.8	99.7

Statistics of the Unemployed

based chiefly on Returns from Workers' Organizations

THE table giving statistics of unemployment among members of trade unions in different countries, which was given in the *International Labour Review* for January ⁽¹⁾, has been continued in the present issue and brought up to date. One new country has been added, viz. Belgium, the Belgian Government having resumed the publication of these

(1) p. 116, *Statistics of Unemployment among Workers' Organizations*.

STATISTICS OF NUMBERS UNEMPLOYED

DATE	Australia		Belgium		Canada		Denmark		Germany		Massachusetts		Netherlands			Norway		Sweden		United Kingdom			
	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Index number of unemployment	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed	Numbers covered (in 1000's)	Percentage Unemployed
1913 Average	246,000	6.5	77,000	2.7	—	—	117,000	7.5	1,973,000	2.9	175,000	6.3	65,000	5.1	(2)	16,000	0.8	55,000	4.4	927,000	2.1	2,041,000	3.6
1914 "	269,000	8.3	77,000	3.9	—	—	128,000	9.9	1,635,000	7.2	172,000	10.4	76,000	16.2	13.8	16,000	2.4	61,000	6.7	970,000	3.3	2,326,000	4.2
1915 "	276,000	9.3	—	—	56,000	8.0	134,000	7.7	1,019,000	3.2	170,000	7.7	106,000	14.6	12.0	16,000	2.2	62,000	7.8	922,000	1.1	2,078,000	1.2
1916 "	290,000	5.8	—	—	105,000	1.9	145,000	4.9	818,000	2.2	176,000	3.0	132,000	5.8	5.1	17,000	0.9	68,000	4.2	943,000	0.4	2,029,000	0.6
1917 "	287,000	7.1	—	—	128,000	1.9	160,000	9.2	939,000	1.0	189,000	4.2	148,000	9.6	6.5	18,000	1.2	87,000	3.9	966,000	0.6	3,622,000	0.6
1918 "	300,000	5.8	—	—	164,000	1.4	218,000	17.4	1,248,000	1.2	222,000	2.9	190,000	10.0	7.5	18,000	1.9	105,000	4.4	1,108,000	0.8	3,922,000	1.2
1919 "	310,000	6.6	—	—	177,000	3.6	296,000	10.7	3,686,000	3.7	259,000	5.3	300,000	8.9	7.7	18,000	1.9	121,000	5.5	1,338,000	2.4	3,721,000	—
End of																							
1920 Jan.	—	—	—	—	173,000	4.3	273,000	13.2	4,765,000	3.4	—	—	379,000	10.6	8.7	19,000	2.4	120,000	7.6	1,564,000	2.9	3,828,000	6.1
" Feb.	—	—	—	—	181,000	4.3	295,000	9.6	4,859,000	2.9	—	—	397,000	8.5	6.9	19,000	1.9	10,000	7.5	1,539,000	1.6	3,828,000	4.4
" Mar.	329,000	5.6	—	—	171,000	3.4	295,000	6.7	4,939,000	1.9	281,000	4.1	404,000	7.7	6.4	19,000	1.5	126,000	4.5	1,567,000	1.1	3,828,000	3.6
" Apr.	—	—	—	—	182,000	2.8	314,000	3.5	5,027,000	2.0	—	—	398,000	8.0	6.7	18,000	1.3	114,000	3.5	1,501,000	0.9	4,161,000	2.8
" May	—	—	—	—	202,000	2.9	304,000	2.8	5,234,000	2.7	—	—	397,000	7.3	6.2	18,000	0.9	121,000	2.9	1,562,000	1.1	4,161,000	2.7
" June	343,000	6.2	—	—	194,000	2.5	306,000	2.0	5,600,000	3.9	248,000	14.6	407,000	5.9	5.0	18,000	0.7	126,000	3.4	1,603,000	1.2	4,161,000	2.6
" July	—	—	—	—	186,000	2.6	310,000	2.1	5,074,000	6.0	—	—	401,000	4.9	4.2	19,000	1.1	125,000	2.8	1,498,000	1.4	4,197,000	2.7
" Aug.	—	—	—	—	187,000	4.0	304,000	2.4	5,555,000	5.9	—	—	408,000	5.0	4.2	19,000	1.4	134,000	3.0	1,669,000	1.6	4,197,000	2.9
" Sept.	345,000	6.2	118,000	5.8	89,000	3.2	308,000	2.8	5,356,000	4.5	225,000	16.4	407,000	4.1	3.3	18,000	1.7	151,000	2.9	1,636,000	2.2	4,197,000	3.8
" Oct.	—	—	263,000	6.4	215,000	6.0	315,000	3.6	5,233,000	4.2	—	—	—	—	—	19,000	2.1	142,000	4.3	1,401,000	5.3	4,197,000	4.1
" Nov.	—	—	130,000	8.3	216,000	10.0	317,000	6.1	5,629,000	3.9	—	—	—	—	—	19,000	3.1	147,000	7.0	1,612,000	3.7	11,200,000	3.7
" Dec.	—	—	543,000	17.4	208,000	13.4	311,000	15.1	5,545,000	4.1	297,000	29.2	—	—	—	19,000	6.5	146,000	15.8	1,535,000	6.1	11,900,000	5.8
1921 Jan.	—	—	609,000	19.3	198,000	13.1	307,000	19.7	5,708,000	4.5	—	—	—	—	—	18,000	10.5	155,000	20.2	1,587,000	6.9	12,000,000	8.2
" Feb.	—	—	621,000	22.7	—	—	304,000	23.2	5,626,000	4.7	—	—	—	—	—	—	—	147,000	20.8	1,534,000	8.5	12,000,000	9.5

* Excluding coal mining. — * This number is the percentage which the total number of days of unemployment in the month bears to the total no. of working days in the month.

figures at the end of 1920. A column has also been added, giving the unemployment figures published by the British Government for workers insured against unemployment. These cover non-unionists as well as unionists.

It cannot be too strongly emphasized that these figures do not accurately represent the total amount of unemployment in the different countries. Authoritative statistical data for estimating with any degree of precision the number of unemployed in any country do not, in general, exist. Only in the United Kingdom, where the statistics cover almost the whole of the employed population, is there a record approaching completeness of the number of persons totally unemployed. In other countries, it is impossible to state in general whether workers outside trade unions experience more or less unemployment than trade union members.

As regards under-employment or short time—the system under which workers work a reduced number of days per week or hours per day—even less reliable data exist. In fact, for many countries no statistics exist at all.

While these figures cannot be used as a measure of the total amount of unemployment in a country, still less can they be used for comparing the volume of unemployment *between* two or more countries. As shown in the January number of the *Review*, the differences in the scope of the returns, in the definition of unemployment, and in the reliability of the figures prevent any international comparison.

In spite of the difficulties of using these figures as a measure of unemployment, it is evident that unemployment in almost every country increased considerably during the winter of 1921. The following table summarizes the latest returns available as compared with those for the previous year.

For the Netherlands and Australia no figures were available, at the time of going to press, later than for September 1920; they are therefore excluded from the following table.

TABLE II. COMPARATIVE RETURNS OF UNEMPLOYED
(Feb. 1920 and Feb. 1921)

	February 1920			February 1921		
	No. covered by the returns	No. unemployed	% unem- ployed	No. covered by the returns	No. unemployed	% unem- ployed
Canada ¹	173,161	7,407	4.3	197,928 ²	25,871	13.1
Denmark	294,934	28,314	9.6	303,593	70,434	23.2
Germany	4,858,951	141,357	2.9	5,625,557	266,069	4.7
Massachusetts ² . .	273,673	10,318	3.8	291,917	86,700	29.2
Norway ¹	18,760	450	2.4	18,366	1,928	10.5
Sweden	109,748	8,202	7.5	147,426 ²	30,630	20.8
United Kingdom ³ .	1,539,032	24,533	1.6	1,533,973	130,815	8.5
do ⁴	3,828,000	118,550	4.4	12,000,000	1,145,710	9.5

¹ End of January.

² Trade Union figures.

³ End of December.

⁴ Insurance Act figures.

Generally speaking, the level of unemployment, as shown by the above figures, is three to four times that of a year ago. In Massachusetts, however, it is more than seven times.



LABOUR CONDITIONS

Conciliation and Arbitration in Great Britain

THE DEVELOPMENT OF ARBITRATION DURING THE WAR

Acts and Agreements

IN Great Britain conciliation and arbitration developed greatly during the war⁽¹⁾. Prior to the war, the only legal enactment under which authority could be taken by the appropriate Government Department for dealing with labour disputes was the Conciliation Act 1896. Under that Act, the Board of Trade could take such action as seemed expedient to promote an amicable settlement of a difference, or, on the request of either party interested, could appoint a conciliator to assist in securing a settlement, but could appoint an arbitrator to determine a difference only with the concurrence of both parties thereto. The nature of the powers entrusted to the Board of Trade is shown by Section 2 (1) of the Act, which reads as follows :—

2 (1) Where a difference exists or is apprehended between an employer, or any class of employers, and workmen, or between different classes of workmen, the Board of Trade may, if they think fit, exercise all or any of the following powers, namely :—

(a) inquire into the cause and circumstances of the difference ;

(b) take such steps as to the Board may seem expedient for the purpose of enabling the parties to the difference to meet together, by themselves or their representatives, under the presidency of a chairman mutually agreed upon, or nominated by the Board of Trade, or by some other person or body, with a view to the amicable settlement of the difference ;

(c) on the application of the employers or workmen interested, and after taking into consideration the existence and adequacy of means available for conciliation in the district

(1) *Twelfth Report of Proceedings under the Conciliation Act 1896; General Report 1914-1918*, London, 1919.

or trade and the circumstances of the case, appoint a person or persons to act as conciliator or as a board of conciliation ;

(d) on the application of both parties to the difference appoint an arbitrator.

The Conciliation Act as passed in 1896 contained also a number of provisions relating to the registration of Conciliation Boards. These provisions, however, soon became defunct, and the only effective provisions of the Act are those which have been quoted.

Not as much use was made of this Act as might have been expected. This was due to the fact that it was a traditional feature of industrial relations in Great Britain that in many trades permanent voluntary Conciliation Boards had been established by agreement between employers and workpeople, unsupported by legal enactments, and dependent for success only on the goodwill of the parties.

These voluntary Conciliation Boards, or other suitable arrangements for the settlement of labour disputes, had been established in all the well organized industries, and were instrumental in settling large numbers of disputes. There were certain important industries, however, in which the employers or workpeople, or both, were not organized, and in which no permanent procedure had been established.

The three years immediately preceding the war were years of very marked industrial unrest in Great Britain. The Conciliation Act was applied more frequently, and the Board of Trade had given serious consideration to the question of strengthening the powers under the Act ⁽²⁾.

During the war it became clear that the powers existing under the Conciliation Act were inadequate to meet the needs of the war period, and steps had to be taken to strengthen them. The steps that were taken were naturally hurried and the procedure that was developed was empirical, but the experience was in itself interesting and important, and it led directly to the passing of the Industrial Courts Act 1919, under which a regular and permanent system of voluntary arbitration was provided for. The successive steps which were taken to facilitate arbitration and conciliation may be considered by reference to the following:—

- (1) Committee on Production, established in February 1915.
- (2) Treasury Agreement, March 1915.
- (3) Munitions of War Act 1915.
- (4) Munitions of War (Amendment) Act 1916.
- (5) New Ministries and Secretaries Act 1916.
- (6) Munitions of War Act 1917.
- (7) Wages (Temporary Regulation) Act 1918.

(2) See the *Report* made by the Chief Industrial Commissioner, Sir George (now Lord) Askwith, 1915, and the *Report* of the Industrial Council, 1913, in regard to the Inquiry into Industrial Agreements.

(1) The establishment of the Committee on Production

The Committee on Production was appointed on 4 February 1915 by the First Lord of the Treasury "to inquire and report forthwith, after consultation with the representatives of employers and workmen, as to the best steps to be taken to ensure that the productive power of the employees in the engineering and shipbuilding establishments working for Government purposes shall be made fully available, so as to meet the needs of the nation in the present emergency". The first members of the Committee were Sir George (now Lord) Askwith, the Right Hon. Sir Francis Hopwood (now Lord Southborough), and Sir George Gibb, representing the Board of Trade, the Admiralty, and the War Office respectively. Although the terms of reference of the Committee were very broad, its functions were, in fact, limited to inquiring into and preserving continuity of work and increasing production by such action as the adjustment of labour differences and the removal of their causes by negotiation, especially as regards trade union restrictions on production or other similar matters affecting the rate of production on Government work.

In the early part of 1915 labour unrest, which at the beginning of the war had almost entirely ceased, again began to manifest itself. In view of this, the Committee on Production issued on 20 February 1915 a (second) Interim Report, which contained a recommendation on the subject of the avoidance of stoppages of work. It was suggested that the Government should publish the following recommendations to Government contractors and sub-contractors and to trade unions and request their adhesion to them :—

With a view to preventing loss of production caused by disputes between employers and workpeople, no stoppage of work by strike or lock-out should take place on work for Government purposes. In the event of differences arising which fail to be settled by the parties directly concerned, or by their representatives, or under any existing agreements, the matters shall be referred to an impartial tribunal nominated by His Majesty's Government for immediate investigation and report to the Government with a view to settlement.

This recommendation was immediately adopted by the Government, and on February 21 the terms of reference of the Committee were extended to enable them to accept and deal with any cases arising under this recommendation. From this time onwards the Committee sat as an Arbitration Tribunal.

In July 1915 the Ministry of Munitions was formed, and the functions of the Committee in relation to production in the engineering and shipbuilding establishments were absorbed

by that Department. By the terms of the Munitions of War Act 1915, the Committee became a statutory Arbitration Tribunal under that Act and developed into the principal Arbitration Tribunal.

In May 1917 the constitution of the Committee was altered, representatives of employers and workpeople being added. The number of members was from time to time enlarged to deal with the increasing number of cases, and when the Committee ceased to exist the number of members was thirteen.

With the repeal of the arbitration sections of the Munitions of War Acts by the Wages (Temporary Regulation) Act of 21 November 1918, the Committee, as such, ceased to exist, its membership being merged in the Interim Court of Arbitration instituted under the Wages (Temporary Regulation) Act.

Particulars of the work of the Committee on Production, whose awards constituted a type of case law in connection with wage developments during the war period, will be given below. In the meantime it will be desirable to survey briefly the other provisions for arbitration and conciliation which were made during the war period.

(2) The Treasury Agreement

Owing to the continuance of labour unrest in the early months of 1915 and the difficulty of reaching a general understanding on the subject of the suspension of restrictive rules, the Cabinet decided to summon a representative meeting of trade unionists, and a Conference was therefore held at the Treasury on 17 March 1915. The main proposals of the Government were, as regards employers, to take control of works and to limit profits; and as regards workmen, to prevent stoppages on Government work owing to trade disputes and to suspension, during the war, of restrictions on output. As the result of this Conference, what was known as the Treasury Agreement was signed on March 19.

From the standpoint of arbitration and conciliation, the most important portion of this agreement is the following:—

In all cases of failure to reach a settlement of disputes by the parties directly concerned, or their representatives, or under existing agreements, the matter in dispute shall be dealt with under any one of the three following alternatives as may be mutually agreed, or in default of agreement, settled by the Board of Trade:—

- (a) the Committee on Production;
- (b) a single arbitrator agreed upon by the parties or appointed by the Board of Trade;
- (c) a court of arbitration upon which labour is represented equally with the employers.

This agreement was signed by the Chancellor of the Exchequer, the President of the Board of Trade, Mr. Arthur

Henderson, as Chairman of the Workmen's Representatives, and Mr. William Mosses, as Secretary of the Workmen's Representatives. Most of the important unions in the country signed this agreement. It was not, however, signed by the Miners' Federation of Great Britain nor by the Amalgamated Society of Engineers, though subsequently another agreement was made with this very important society.

It was not necessary under the Treasury Agreement to set up any new arbitration machinery. The tribunals which it provided for were the existing Arbitration Tribunals. The Committee on Production had, as already indicated, been established earlier in the year, single arbitrators had been continually used under the Conciliation Act of 1896, and *ad hoc* courts of arbitration since 1908, when a scheme for their appointment under the Conciliation Act was adopted by the Board of Trade.

(3) *Munitions of War Act 1915*

Important provisions with regard to the settlement of disputes and arbitration procedure were laid down in the Munitions of War Act 1915.

Part I of the Act required that the Board of Trade should consider any labour differences reported to them as existing or apprehended, and should take such steps as seemed expedient to promote a settlement of the difference and, in any case in which they might think fit, refer the matter for settlement to arbitration or, if in their opinion suitable means for settlement already existed in pursuance of any agreement between employers and persons employed, for settlement in accordance with those means. Any award or settlement so made became binding both on employers and employed, and failure to comply therewith was subject to penalties through a Munitions Tribunal. It was further provided that an employer should not declare, cause, or take part in a lock-out, and a person employed should not take part in a strike, in connection with any difference to which this part of the Act applied, unless the difference had been reported to the Board of Trade and twenty-one days had elapsed since the date of the report, and the difference had not during that period been referred by the Board of Trade for settlement in accordance with the Act. Failure to comply with this section was also punishable by penalties through a Munitions Tribunal.

It will be seen, therefore, that the Act introduced compulsory arbitration at the option of the Board of Trade and prohibited strikes and lock-outs in certain circumstances. This step was a definite break with the voluntary procedure which had for many years prevailed in regard to labour disputes. It was necessitated and was made possible only by the military situation.

Attention may be called to the provision whereby, instead of referring a difference to arbitration, the Board might refer the difference for settlement by other procedure if, in their opinion, suitable procedure already existed in pursuance of an agreement between employers and workpeople. This indicated a desire not to enforce compulsory arbitration, if the difference was capable of adjustment by the parties. A few cases were so referred by the Board of Trade, but in practice differences, when referred to the Board, had in most cases already been through the procedure arranged by the parties and had not been adjusted; in some cases, too, procedure which had worked satisfactorily before the war proved to be unsuitable under war conditions. Accordingly very few cases were so referred.

Differences could also be referred to arbitration under other sections of the Act, in particular Part II, Section 4 (2) and Part II, Section 4 (3). Most of the references to arbitration under the Act were, however, in fact, in respect of differences reported under Part I.

Under the procedure established by the Munitions of War Act the number of differences referred to arbitration increased enormously. In 1915 the number of cases so referred was about 45, while in 1918 the number was rather more than 3,500. Most of the references arose out of reports of differences made by the unions on behalf of their members, differences with regard to wages or working conditions. The arbitration provisions of the Act were popular, because the ordinary Conciliation Board procedure in many cases proved too slow, and the unions found it quicker to report differences under the Munitions of War Act. A further advantage of a reference under the Act was that the award was legally enforceable through a Munitions Tribunal.

Some important industries such as mining, transport, and the cotton textile industry, were not included within the scope of the Act, except in so far as particular disputes might be brought in under a proclamation. Proclamations under the Munitions of War Act 1915, were sometimes issued in order to bring disputes under the Act, for example, in the case of the dockers in Glasgow, Liverpool, and London.

(4) *Munitions of War (Amendment) Act 1916*

This Act was passed on 27 January 1916. A clause in the Act required that, where a difference appeared to the Board of Trade to be a *bona fide* difference and the Board failed to settle the matter within 21 days, the difference should within 21 days from the date of the report be referred to arbitration. The Act defined the expression "workman" and "workmen" to include not only persons whose usual occupation consisted of manual labour, but also foremen,

clerks, typists, draughtsmen, and other persons whose usual occupation consisted wholly or mainly of work other than manual labour, and also considerably extended the definition of "munitions work".

Section 8 of the Act authorized the Minister of Munitions to constitute Special Arbitration Tribunals to deal with any differences reported relative to matters on which the Minister could issue Orders under the two preceding sections⁽³⁾, the Board of Trade having then the option to refer such differences to these Special Arbitration Tribunals instead of to the three Tribunals previously in existence. These new Tribunals were in due course established, and a considerable number of differences on questions relating to women's work were referred to the Tribunal dealing with that matter. Very few cases were referred to the Tribunal dealing with semi-skilled and unskilled men, and that Tribunal subsequently lapsed. The women's Tribunal issued a number of awards up to November 1918 (when it was replaced by the Interim Court of Arbitration established under the Wages (Temporary Regulation, Act 1918), and advised the Minister of Munitions as to the issue of Orders and policy in respect of rates of wages for women and girls.

(5) New Ministries and Secretaries Act 1916

This Act was passed in December 1916 to give authority for the establishment of certain new Ministries, including the Ministry of Labour. Under the Act and Orders in Council issued thereunder the powers and duties of the Board of Trade under certain Acts were transferred to the Ministry of Labour. Among the powers so transferred were those existing under the Conciliation Act and the arbitration sections of the Munitions of War Acts.

(6) The Munitions of War Act 1917

Section I of the Act, which was passed on 21 August 1917, provided that where a difference arose respecting matters in which the Ministry of Munitions had given directions as to the remuneration to be paid for work paid at time rates, being munitions work or work in connection therewith or work in any controlled establishment, the difference should be referred to a special Arbitration Tribunal. The Minister of Munitions issued orders under this Act relating to the granting of a bonus of 12½% on earnings to skilled time workers in the engineering and foundry trades, and subsequently to unskilled and semi-skilled workers in

(3) These matters were rates of wages, hours of labour, and conditions of employment of certain classes of female workers and of semi-skilled or unskilled men.

those trades, and to workpeople in shipbuilding and ship-repairing establishments. For the purpose of dealing with matters arising out of these Orders, the members of the Committee on Production were constituted a Special Arbitration Tribunal.

A further section of the Act authorized a Government Department to report a difference; the original Act required only that the difference should be reported by or on behalf of either party to the difference. Advantage of this clause was taken in certain cases.

Section 7 of the Act provided that the Arbitration Tribunal should make its awards on cases referred to it without delay, and where practicable within 14 days from the date of the reference.

The Act also authorized the Minister of Munitions to make certain awards binding on trades. The section referred to reads as follows :—

5 (1) Where an award as to a change in the rate of wages payable to persons engaged on, or in connection with, munitions work, or as to hours of work, or otherwise as to terms or conditions of, or affecting employment of, persons so engaged, has been made either under Part I of the Munitions of War Act 1915, or in pursuance of an agreement between representatives of employers and workmen, and the Minister of Munitions is satisfied that the award is binding upon employers employing the majority of the persons engaged on, or in connection with, munitions work in any trade or branch of a trade either generally or in a particular district, the Minister of Munitions may, by Order, direct that the award shall be binding on all or any other employers and persons so engaged, either without modifications or subject in any particular cases to such modifications contained in the direction as the Minister may consider necessary to adapt the award to the circumstances of such cases, and in particular in order that no such other employer shall be enabled to pay less wages than are payable in the like circumstances by employers who were originally bound by the award.

(2) Where any such directions are given, the award shall be binding not only on the employers and persons so engaged who are affected by the award as originally made, but also, subject to such modifications (if any) as aforesaid, on the other employers and persons so engaged to whom the directions relate, and any contraventions thereof or non-compliance therewith shall be punishable in like manner as if the award and the order in which such directions are contained were an award made in settlement of a difference under Part I of the Munitions of War Act 1915, and had been made in respect of a dispute affecting such employers and persons so engaged.

With regard to the question of making awards binding on trades as a whole, it may be mentioned that the Industrial Council of 1913 had reported in favour of the extension, in certain circumstances, of agreements between employers and workpeople. Resolutions at the Trades Union Congress in 1912 and 1913 in favour of voluntary agreements being made statutorily enforceable on all persons employing labour in any particular industry were, however, rejected by large majorities, and no effective action had been taken on the Industrial Council report.

On the other hand, an agreement arrived at in February

1917 in the engineering and foundry trades recorded the following memorandum as having been agreed between the parties, and a similar memorandum was subsequently adopted in other trades :—

The Engineering Employers' Federation and the unions whose signatures are appended hereto recommend to His Majesty's Government that arrangements should be made whereby all employers in the trade or trades affected should be subject to the awards which may be made by the Committee on Production in virtue of the agreement hereto attached.

No power for extending such awards existed at the time, but under the Munitions of War Act 1917 the Minister of Munitions took authority to make awards binding on trades. On the repeal of certain portions of the Munitions of War Acts, power to extend awards in certain circumstances was retained in the Wages (Temporary Regulation) Act 1918.

(7) Wages (Temporary Regulation) Act 1918

The Wages (Temporary Regulation) Act 1918 was passed on 21 November 1918, with the concurrence both of the employers' associations and of the trade unions. The main purpose of the Act was to prevent, after the conclusion of the war, a sudden fall in wages which, if no steps had been taken to safeguard the situation, might have occurred during the transition period, in which industry changed over from a war to a peace basis. The principal provisions of the Act were as follows :—

(1) Employers were required to pay during the period of the operation of the Act rates not less than the "prescribed" rates, (roughly the standard rates existing at the date of the Armistice), or such other rates as might be substituted by an award of the Interim Court of Arbitration established under the Act or by an agreement or settlement approved by the Minister of Labour. The Interim Court of Arbitration, which was established under the Act, was in reality the Committee on Production with the addition of certain members.

(2) The clauses of the Munitions of War Acts relating to the prohibition of strikes and lock-outs were repealed and also the clauses relating to compulsory arbitration, except as regards certain matters specifically indicated in the new Act, namely, a difference as to : (a) whether a workman is a workman of a class to which a prescribed rate of wages is applicable; (b) what is the prescribed rate of wages; (c) whether any rate should be substituted for the prescribed rate; (d) what is the substituted rate of wages.

Any differences on these points could be reported to the Minister by or on behalf of either of the parties concerned, and the Minister was required to consider the difference and to

take any steps that seemed to him expedient to promote a settlement of the difference, and, where the Minister failed to effect a settlement by such means, he was required to refer the difference to the Interim Court of Arbitration for settlement or if, in his opinion, suitable means for settlement already existed in pursuance of agreements made between employers and persons employed, for settlement in accordance with those means.

Before a claim for a substituted rate could be referred, the Minister was required to be satisfied that the claim was made by or on behalf of a substantial proportion of the workpeople to whom the prescribed rate in question was applicable, or by or on behalf of the employers employing a substantial proportion of such workmen.

(3) Where an award determining or varying a rate had been made by the Interim Court of Arbitration or an agreement or settlement for such purpose had been arrived at, the Minister of Labour might, on the advice of the Interim Court of Arbitration, by Order direct that the determination or variation effected by the award, agreement, or settlement should be made binding on all workmen, to whom the prescribed rate in question was applicable, and on the employers of those workmen.

(4) The proceedings for the enforcement of the terms of the Act were to take place before a Munitions Tribunal.

At the end of 1918, therefore, that is at the close of the war period, the only Acts in force relating to arbitration and conciliation were the Conciliation Act 1896, and the Wages (Temporary Regulation) Act 1918. The latter Act was passed, in the first place, for a period of six months only, and was subsequently extended for a further six months by the Wages (Temporary Regulation) Extension Act of 1919. The purpose of these Acts was to give industries an opportunity during the period of transition of placing working conditions on a permanent basis. The intention of the Government was to facilitate, as far as possible, a return to the pre-war position under which employers and workpeople normally settled their own disputes without Government intervention.

Arbitration in Practice

Wage Movements and Arbitration

The awards of the Committee on Production practically determined the general course of wages during the period of the war. At first the awards were, in general, of local or restricted application, but in 1917 a very important agreement was arrived at between the Engineering Employers' Federation and the unions connected with the engineering and foundry

trades. The agreement provided for periodical hearings every four months by the Committee on Production of claims for general advances in wages, existing agreements or practices for the determination of such claims being meanwhile suspended. Agreements on the same lines were subsequently made in a large number of trades, or at any rate the principle of a four-monthly revision of wages by the Committee on Production was adopted. These trades included the shipbuilding and shiprepairing trades, the dock industry, the clay industry, the Scottish iron and steel trades, railway shopmen, the Scottish building trades, the chemical industry, the explosives industry, the soap and candle industry, heating and domestic engineering, and others. The trades covered by these agreements and arrangements were of such importance, especially during the period of the war, that the awards given exercised a predominant influence on wage movements throughout the war. It is therefore of interest to give the following table, which shows the war advances in the engineering and foundry trades, together with the corresponding index number at the date of issue of the award showing the increase over July 1914 in the cost of living at the date in question :—

Date of Award	Total war wage advance, under Committee on Production awards, to end of 1918, to time workers in the engineering and foundry trades.	Cost of Living Index No.
1 March 1915	4s. per week	15
July 1916	7s. per week	45
1 March 1917	12s. per week	65.70
14 July 1917	15s. per week	75.80
6 Nov. 1917	20s. per week	75.80
5 March 1918	20s. per week (12½% bonus to time-workers had meanwhile been given under Order of the Minister of Munitions)	90
24 July 1918	23s. 6d. per week plus 12½% on earnings	100-105
9 Nov. 1918	28s. 6d. per week plus 12½% on earnings	115-120

*Statistical Records of Cases which came before Arbitration
Tribunals*

The following table shows the distribution by industry of cases dealt with by arbitration for each of the years 1914 to 1918. It will be noted that a remarkable increase took place in the number of cases and that the engineering and shipbuilding trades accounted for about 35% of the total number of cases. The next largest group was "other metal trades", accounting for about 9%. These trades were, of course, particularly the munitions trades.

Trade	1914	1915	1916	1917	1918	Total
Building and allied trades	28	31	75	182	273	589
Mining, quarrying, and coke oven workers	3	10	37	70	86	206
Iron and steel manufacture	7	29	146	219	203	604
Engineering, shipbuilding, and metals						
(a) Engineering and shipbuilding	2	164	632	826	1141	2765
(b) Other metals	2	35	139	208	383	767
Textile	7	18	45	143	191	404
Boot and shoe manufacture	11	16	29	10	15	81
Other clothing	1	3	8	37	44	93
Transport	2	21	75	133	218	449
Printing and allied trades	3	3	2	8	17	33
Woodworking and furnishing	4	17	39	98	153	311
Brick, pottery, etc.	3	5	8	27	49	92
Glass	—	7	7	8	8	30
Chemical	—	5	72	177	185	439
Leather	2	5	7	20	58	92
Food, drink, and tobacco	—	6	14	40	102	162
Public utility services	3	17	64	207	326	617
Other trades	3	5	13	61	131	213
Total	81	397	1412	2474	3583	7947

The following table shows the number of cases settled by the various tribunals for each of the years 1914 to 1918. It will be noted that a steady increase took place in the number of cases referred for settlement to the Committee on Production ⁽⁴⁾.

	1914	1915	1916	1917	1918	Total
Committee on Production	—	141	500	815	2,298	3,754
Special Arbitration Tribunal (Section I (2) of Munitions of War Act 1917)	—	—	—	—	64	64
Special Arbitration Tribunal (Sections 6 and 8 of Munitions of War (Amendment) Act, 1916)	—	—	35	107	204	346
Interim Court of Arbitration under Wages (Temporary Regulation) Act (1)	—	—	—	—	119	119
Single Arbitrators; <i>ad hoc</i> Courts of Arbitration and Conciliation Conferences	81	256	877	1,552	898	3,664
	81	397	1,412	2,474	3,583	7,947

(4) The total number of awards made by the Interim Court of Arbitration was 932, and in addition it advised the Ministry of Labour on about 45 cases relating to wages and conditions of employment. On the advice of the Court, the Minister of Labour made 15 Orders extending throughout the trade or branch of trade an award of the Court applicable to members of the Employers' Association and the trade union in dispute, and one Order fixing "prescribed" rates for women and girls engaged in making women's and children's clothing.

Co-ordination of war-time Arbitration

One of the difficulties which was experienced in the course of war-time arbitration was the difficulty of securing co-ordination between the awards of the various courts and also between the awards given in various industries. The difficulty was increased owing to the fact that the Government became a large direct employer of labour and that contracts were made directly by the various Government Departments. The financial interest of the Government Departments was such that they, more than the employers, were concerned with the determination of rates of wages. In addition, many Government Departments, from the point of view of production, were vitally interested in preventing labour disputes. Thus the Ministry of Munitions and the War Office were concerned with the settlement of disputes on munitions work; the Admiralty as regards war vessels and other Admiralty contract work; the Board of Trade as regards the coal-mining industry and the railways; the Ministry of Shipping as regards merchant vessels; the Air Ministry as regards the building of aeroplanes, the construction of aerodromes, etc.. All this had a tendency to result in lack of uniformity and absence of co-ordination.

This tendency was increased by the number of arbitration tribunals in existence. These arbitration tribunals were as follows :—

- (a) Committee on Production;
- (b) single arbitrators;
- (c) *ad hoc* Courts of Arbitration;
- (d) Special Arbitration Tribunal under Sections 6 and 8 of the Munitions of War (Amendment) Act (Women);
- e) Special Arbitration Tribunal under Sections 7 and 8 of the Munitions of War (Amendment) Act 1916 (Semi-skilled and Unskilled Men);
- (f) Special Arbitration Tribunal under Section 1 (2) of the Munitions of War Act 1917, appointed to deal with questions arising out of the Orders giving the 12½% bonus to skilled time-workers in the engineering and foundry trades, etc.;
- (g) Civil Service Arbitration Board.

But in spite of the number of arbitration tribunals so existing, uniformity of decision was, on the whole, fairly well maintained. This was due to the fact that in practice certain classes of cases were referred to certain tribunals; that all references to arbitration were made through the Ministry of Labour; that the membership of tribunals (a) and (f) were identical; and that the Committee on Production

occupied such a pre-eminent place that its decisions on general wages claims acted as a guide to other tribunals and to the several Departments dealing with labour matters.

PERMANENT PROVISIONS FOR ARBITRATION

The experience of arbitration acquired during the war was of such value that the Government determined to place on a permanent basis certain provisions with regard to arbitration in cases of industrial disputes. It was, however, clear that it would not be possible to establish permanently any system of compulsory arbitration. The system of compulsory arbitration and the legal prohibition of strikes and lock-outs which obtained during the war was made possible only by the abnormal conditions which then existed, and on the cessation of hostilities the legal prohibition of strikes and lock-outs was at once removed. Compulsory arbitration was maintained in the Wages (Temporary Regulation) Act, but only in a partial form.

Compulsory arbitration has never been popular in Great Britain. At trades union congresses resolutions in favour of compulsory conciliation and arbitration have always been defeated by large majorities. Further, the Committee on Relations between Employers and Employed (Whitley Committee) in its Fifth Report, issued January 1918, stated:—

We are opposed to any system of compulsory arbitration; there is no reason to believe that such a system is generally desired by employers and employed, and, in the absence of such general acceptance, it is obvious that its imposition would lead to unrest. The experience of compulsory arbitration during the war has shown that it is not a successful method of avoiding disputes and in normal times it would undoubtedly prove even less successful. Disputes can only be avoided by agreement between employers and workers and by giving to the latter the greater measure of interest in the industry advocated in our former reports; but agreement may naturally include the decision of both parties to refer any specified matter to arbitration, whether this decision is reached before or after a dispute arises.

For the same reason we do not recommend any scheme relating to conciliation which compulsorily prevents strikes or lock-outs pending inquiry.

At the same time the Committee made the following recommendations:—

(a) Whilst we are opposed to any system of compulsory arbitration, we are in favour of an extension of voluntary machinery for the adjustment of disputes. Where the parties are unable to adjust their differences, we think that there should be means by which an independent inquiry may be made into the facts and circumstances of a dispute, and an authoritative pronouncement made thereon, though we do not think that there should be any compulsory power of delaying strikes and lock-outs.

(b) We further recommend that there should be established a Standing Arbitration Council for cases where the parties wish to refer any dispute to arbitration, though it is desirable that suitable single arbitrators should be available, where the parties so desire.

It was clear that there was a general desire in the country for permanent arbitration machinery and that there was an equally general desire that this arbitration machinery should not be compulsory. An attempt was made to satisfy these two general desires, and the Industrial Courts Act of 1919 was passed.

The Industrial Courts Act 1919

The Industrial Courts Act 1919, which received the Royal assent on November 20, has two main provisions⁽⁵⁾.

(1) It sets up, in place of the Interim Court of Arbitration, a Permanent Court of Arbitration, with the name "Industrial Court", to which recourse can be had by parties to industrial disputes if both parties to the dispute consent. Various methods of settling disputes are provided under the Act. The Minister of Labour may, if he thinks fit and if both parties consent, either refer the matter for settlement to the Industrial Court, or refer the matter for settlement to the arbitration of one or more persons appointed by him, or refer the matter for settlement to a Board of Arbitration consisting of one or more persons nominated by or on behalf of the employers concerned, and an equal number of persons nominated by or on behalf of the workers concerned, and an independent chairman nominated by the Minister.

(2) It empowers the Minister of Labour in case of disputes, whether apprehended or existing, to appoint a Court of Inquiry, one of the objects of which is to put before the public an impartial account of the merits of the dispute.

With regard to each of these two main provisions a few further details may be given, both in connection with the provisions of the Act and the steps taken to carry it out.

(5) The Act also continued to 30 Sept. 1920 the principle of the Wages (Temporary Regulation) Acts 1918 and 1919 that, broadly speaking, the wages prevailing at the time of the Armistice should remain in force. As already indicated, these Acts provide that employers should pay, and workmen should be entitled to receive, the "prescribed" rate of wages or such other rate as had been duly substituted for that rate. The Industrial Courts Act provided that "prescribed" and "substituted" rates would remain in operation until 30 September 1920, and employees were still entitled to sue for such rates. Substituted rates might, prior to the passing of the Industrial Courts Act, be created by an award on a reference under the provisions of the Wages Acts to the Interim Court of Arbitration, or by an agreement or settlement approved by, or an Order issued by, the Minister of Labour.

The Industrial Courts Act, therefore, provided that the power to create new "substituted" rates having statutory effect ceased. With the consent of both parties to the dispute the Industrial Court might give an award laying down a new rate, but that award, though it would have moral sanctions, had no statutory force.

(1) The Industrial Court

While permanent provision for voluntary arbitration was made by the establishment of this Court, it was the desire of the Government that trade disputes should be settled, as far as possible, by negotiation between employers' associations and trade unions. In a considerable number of trades conciliation machinery, some of which had recently been created in the form of Joint Industrial Councils, already existed. Only in cases where the parties to the dispute could not settle it themselves was it the intention of the Government that disputes should be referred to the Industrial Court.

The Industrial Court normally sits in London, but it makes arrangements, where necessary, to hear cases at Glasgow, Newcastle, Manchester, Cardiff, and other important centres. The Court is also able to depute individual members of the Court to hear cases locally where the parties desire a speedy hearing and where the case is one which can be suitably heard by one member of the Court. As indicated above, various means of settling a dispute can be taken, but reference to the Industrial Court is the normal method adopted. Disputes regarding the existence of a "prescribed" rate, what is a "prescribed" rate, or what is a "substituted" rate, could be referred to the Industrial Court, if reported to the Ministry of Labour by one party only. (The prescribed rate, broadly, was the rate of wages generally applicable on 11 November 1918 to a particular class of people in a particular district. Employees had the right to prosecute an employer before a local Munitions Tribunal for non-payment of the prescribed or substituted rate.) With these exceptions, no reference could be made to the Industrial Court or to any of the other forms of arbitration described unless with the consent of both parties to the dispute.

The first members of the Court were as follows :—

President : Sir William W. Mackenzie, K.C., K.B.E.

Chairman : Mr. F. H. McLeod, C.B.

Members : Mr. D. C. Cummings, C.B.E.

Mr. J. McKie Bryce

Mr. Ernest J. Brown

Mr. F. S. Button

Miss Violet Markham (Mrs. James Carruthers)

Miss Cécile Matheson

Other chairmen and other members are available to form additional divisions of the Industrial Court, when this is found necessary, in order to ensure adequate provision for the prompt decision of matters referred to the Court.

Up to the end of January 1921, the Industrial Court issued 608 awards ⁽⁶⁾.

(2) Courts of Inquiry

The provision of the Act with regard to the appointment of Courts of Inquiry was made in response to widely expressed opinions and to the recommendation of the Whitley Committee that "in the case of disputes involving questions of general public interest, there should be a means by which the public could be supplied with an impartial account of the merits of the dispute". Under the Industrial Courts Act, the Minister of Labour is provided with power to establish a Court of Inquiry for this purpose, and he may exercise this power whether a dispute exists or is merely apprehended. Moreover, the consent of the parties to this course is not required.

Courts of Inquiry are furnished with considerable powers. They may require any person who appears to the Court to have any knowledge of the subject matter of the inquiry to furnish, in writing or otherwise, such information on the question as the Court may require, and where necessary to appear before the Court and give evidence on oath. The Minister of Labour may publish any information obtained or conclusions arrived at by the Court as the result of, or in the course of, their inquiry, but this report shall not include any information, obtained by the Court in the course of their inquiry, as to any trade union or as to any individual persons, which is not available otherwise than through evidence given at the inquiry, except with the consent of the secretary of the trade union or of the person, firm, or company in question, nor shall any individual members of the Court or any person concerned in the inquiry, without such consent, disclose any such information.

Courts of Inquiry have no power to settle a dispute by arbitration. Their function is limited to making a statement of the case with, if it is thought desirable, a recommendation as to the best course to be pursued with a view to its settlement.

A number of Courts of Inquiry have been constituted under this Act and their recommendations have, in all cases, been accepted by both parties to the dispute. The most important Court of Inquiry that has been held dealt with the questions of hours, wages, and conditions of work of dock labourers. This Court of Inquiry was appointed to inquire into a claim made by the National Transport Workers' Federation for a standard minimum wage of 16s. per day for a 44-hour week

(6) It is hoped to publish an article on the work of the Industrial Court, by the President, Sir W. W. Mackenzie, in an early number of the *International Labour Review*.

and for other alterations in the conditions of employment of dock labour in all British ports. It was agreed that the parties to the inquiry should be, on the one side, the National Transport Workers' Federation and its affiliated unions, and, on the other, firms and authorities and those whom they represented as agents or stevedores employing dock labour. It was further agreed that counsel could appear for either party, that the Court should be empowered to call for books and documents, and that, pending the final report (which was to be issued as soon as practicable), interim reports should be made on minimum wage rates, overtime rates, and other employment conditions. As a matter of fact, the only report issued, dated 31 March 1920, was an interim report and dealt with the minimum daily wage.

This Report was in two parts, a Majority and a Minority Report. The first was signed by the Chairman (Lord Shaw of Dunfermline) and six other members of the Court; the second by the remaining two members. Among the important recommendations made by the Majority Report were the following: a minimum wage of 16s. per day, with a view to establishing a national minimum standard; certain exceptions to be scheduled for the smaller ports; that a system of registering dock labour should be introduced into all the ports of the Kingdom, and that the principle of the maintenance of unemployed casual labour be approved; that wages be paid weekly; and that a National Joint Council be instituted for the dock labour industry on the lines of the Report of the Whitley Committee. An agreement on these lines was subsequently signed on 5 May 1920 between the Provisional National Council of Port Labour Employers and the National Transport Workers' Federation.

Three similar Courts of Inquiry of less importance were also held in the course of this year. They were the Courts of Inquiry into the hours of work of coal tippers, into the Electrical Trades dispute, and into the Tramways Industry dispute. The first was appointed to deal with the question as to whether two continuous shifts, from 6 a.m. to 2 p.m. and from 2 p.m. to 10 p.m., would be practicable and possible in those districts, e.g. South Wales, where they were not yet introduced, and whether, on such a system, the same amount of coal could be effectively dealt with as in the broken shifts hitherto obtaining. The Court issued a Report on 4 June 1920, dealing with the Bristol Channel ports. The Court recommended that the continuous shifts should be substituted for the broken shifts as from June 14, the men on their side undertaking to utilize for meals the many stoppages in work which unavoidably occur; thus, at the cost of sacrificing the regular meal hour, it was possible to abolish night work after 10 p.m., the Court relying on the men's promise about the stoppages as mentioned. A clause was, however, added allowing the employers to claim that a third shift should be

put on if the requirements of the trade should warrant it, any difference as to the necessity of this to be referred to a Court of Inquiry.

The Court of Inquiry into the Electrical Trades dispute was constituted in consequence of a strike on 2 July 1920, called by the members of the Electrical Trades Union employed at Messrs. Cammell, Laird, and Co., Ltd., Penistone, near Sheffield; the subject in dispute was the position of foremen as to trades union membership. Subsequently the firms members of the Engineering and National Employers' Federations declared a lock-out of the members of this Union; the lock-out notices, with few exceptions, expired on September 4. Efforts to obtain a settlement failed, and the Minister of Labour appointed a Court on 11 September 1920. The proceedings of this Court supply a good illustration of the elastic nature of the procedure established by the Industrial Courts Act, for, after the taking of evidence had actually begun, on the suggestion of the employers, supported by the Union, an agreement was reached out of court on the basis of a resolution adopted by the Joint Industrial Council for the Electricity Supply Industry. This resolution placed on record the readiness of the Union to withdraw the question of principle from the dispute; in view of this it was agreed that the strike should end and the lock-out notices be cancelled. The dispute having thus terminated, the Court did not proceed with the inquiry, and its existence was officially terminated by the Minister of Labour on 22 September 1920.

The Court of Inquiry into the Tramways Industry dispute dealt with a disagreement which a Joint Industrial Council, after repeated efforts, had been unable to settle. An application for increased wages had been submitted in October 1920 by the workers' representatives on the Industrial Council, the increase to include an immediate advance to all tramway employees aged 18 years and over of 12s. per week, and to all tramway employees under 18 years of age of 6s. per week.

As it proved impossible to reach an agreement on the Council, the Minister of Labour decided to set up a Court of Inquiry. The Court issued a unanimous report on 24 February 1921. In its findings on the wages claim, the Court pointed out that the cost of living figure, which had been taken as the basis of previous adjustments of wages claims, had varied considerably, both upwards and downwards, since the last application and the last settlement on this question, nor was the Court in a position to predict its future movements. They recommended firstly, that the Industrial Council should examine the position of those undertakings which had not observed previous agreements and arbitration awards in regard to wages advances, and the undertakings should be advised that, if possible, the advances should be paid in full; secondly, that the present wages standard should be maintained until 31 December 1921; thirdly, that the question of

standardization should be considered in the near future, also through the agency of the Joint Council; and lastly, that the Joint Council should examine the question of the lower-paid grades, with a view to adjusting their conditions on a more satisfactory basis.

It may be noted that in three important points the Court referred the questions at issue back to the Joint Industrial Council. The machinery set up under the Industrial Courts Act works, as it was intended to work, in close connection with the arrangements existing in individual industries between employers and employed for the direct settlement of such disputes as may arise.

The operation of the Act has been entirely consistent with the aims of those who framed it. It was intended to supplement, and not to supersede, already existing arrangements such as Conciliation Boards and Joint Industrial Councils for the direct settlement of differences. Only when it proves impossible to reach agreement in this way, is recourse had to the Act, and even when the machinery of the Act is set in motion, the difference may, as in the case of the Electrical Trades dispute, be settled "out of court".



Regulation of Employment Conditions in Soviet Russia

ON 17 June 1920, the Soviet of People's Commissaries issued an Order dealing with wages and kindred matters, superseding a similar Order issued on 1 May 1919, and applying throughout the territory of Soviet Russia. These Orders modify and develop certain provisions contained in the Code of Labour which came into being at the end of 1918, viz. those contained in Sections V, VI, VII, and VIII, concerning hours of work, output, wages, holidays, and conditions of engagement and dismissal. These matters are, therefore, at present governed jointly by the provisions of the Order of 17 June 1920, and those of the Code of Labour, as amended by the Order.

The People's Labour Commissariat and the All-Russian Central Committee of Trade Unions are responsible for supervising the administration of the Order (Section 4), and for the issue of general regulations for its application; but the Order provides for most of the detailed local work to be done by the local workers' organizations (the local assessment committee, usually working for a particular factory, the local trade union, the local joint trade union council).

The principal topics dealt with in the Order are :—

- (1) the duration of work (Sections 5-20, 82-87, 123-139);
- (2) wages questions (Sections 31-40, 47-98, 102-111 ; and standards of output (Sections 21-30);
- (3) the conditions of engagement and dismissal in general (Sections 140-153), and apprenticeship (Sections 41-46).

DURATION OF WORK

Daily Hours of Work

The 8-hour day (Sections 5-10) was adopted in 1917⁽¹⁾, and is retained in this Order, together with the English week (Section 123). Overtime is allowed, overtime rates being paid for work done by order of the management in excess of the normal hours (Section 83). Provisions in the Order itself define the normal daily limits of employment, and also fix a maximum limit of four hours (except in specified emergencies) for overtime (Section 82). Maximum and minimum periods for the daily meal-time pause, and its position in the working day are likewise indicated (Sections 15-17). Young persons below the age of 16, who are already in employment, are subject to an unqualified restriction of the working day to four hours falling between 6 a.m. and 9 p.m., while those under 18 may only work six hours, and are excluded from night-work except by special order of the central authority in extraordinary cases.

Little latitude is left for the local trade union to introduce variations in this scheme. The workers in each individual establishment, in agreement with the management, decide the exact times for beginning work and for breaks (Section 18). The approval of the trade union is required for ordinary overtime, and must in addition be confirmed by the labour council and the labour department⁽²⁾ for the province ("government"), even in the case of overtime within the limits of the legalized daily four hours (Section 82). In the case of emergency overtime, it is not the trade union but the labour department which must be notified (Section 82, note 2), while ordinary overtime beyond four hours can be authorized only by the People's Labour Commissariat. As regards the variation of the normal duration of night-work for the convenience of industrial organization and the

(1) International Labour Office, *Report on Labour Conditions in Russia*, p. 28.

(2) i.e. the local labour office established under the Soviet of Workers' and Peasants' delegates and functioning under the authority of the People's Labour Commissariat ; *op. cit.*, p. 108.

reduction of daily hours in arduous or dangerous occupations, the trade union may make proposals, but the central authorities retain the sole power to decide thereon (Sections 7, 9), and the trade union has to come to an agreement with the Central Council of Trade Unions respecting the application of orders made by the People's Labour Commissariat concerning such reductions in hours of work (Section 8).

Rest Days and Annual Leave

The English week (involving a weekly rest period of 42 consecutive hours) has been adopted as a standard, though Sunday is not necessarily the general rest day (Section 123)⁽³⁾. The local trade union council determines the weekly rest day for its area, and may fix not more than ten annual rest days for the locality (Section 126), in addition to New Year's Day and the five revolutionary anniversaries, which are proclaimed national holidays (Section 125). Continuous industries are exempt from the general scheme of local regulation on account of their special requirements, and rest days in establishments where such trades are carried on are granted to groups in rotation by internal arrangement (Section 124).

The provision for annual leave amounts to no more than a statement of the principle that leave should be granted, and that it should not be made an opportunity for the worker to supplement his normal earnings (Sections 132-139). The duration and conditions of leave are left for regulation by subsequent orders of the People's Labour Commissariat (Sections 132-133), and detailed arrangements are to be made for each establishment separately by the workers and the management in agreement (Sections 134-135).

WAGES

Rate Fixing in General

The principle of a uniform time rate for each branch of employment⁽⁴⁾ is established by the Order, and is based upon the training required, any strain or danger involved, and the responsibility of the work. The calculation of actual rates is left to the trade unions, subject to the approval of the People's Labour Commissariat (Sections 31-47). As regards piece rates there appears to be scope for local variations.

(3) Voluntary week-end work is apparently not unusual, being undertaken in response to Government appeals for assistance in combating national economic difficulties; *op. cit.*, p. 33 *sqq.*

(4) This principle is not new; it was established for the metal industry of the Petrograd district by a Decree of 17 January 1918; *op. cit.* p. 41.

Though they are calculated from the uniform time rates (Section 54), the factor of the standard of output is also involved ; and this factor is determined locally within the limits of the general standards established by the People's Labour Commissariat (Section 22), and may be revised in accordance with conditions peculiar to individual establishments (Section 25). Within the scope of any given rate, all workers over the age of 18 years performing the same work must be paid alike, irrespective of sex (Section 33)⁽⁵⁾ or of lack of educational qualifications (Section 34). Further, a minimum wage of two-thirds of the time rate is granted (Sections 28-65)⁽⁶⁾, though the People's Labour Commissariat may reduce or cancel this minimum for particular branches of production (Section 28, Note).

Standard Output

The requirement of a minimum output resulted from the guarantee of a minimum wage, and general rules are laid down by the Order (Sections 21-30) for the fixing in each branch of employment of a standard of output which no worker should fail to attain under normal conditions. These standards have to be determined locally by the assessment committees of the trade unions⁽⁷⁾ in accordance with the general standards already approved by the People's Labour Commissariat, subject to the approval of the trade union itself and of the local trade union council and the local labour department. They must be based primarily on existing records of the actual output of workers under normal conditions, which are defined (Sections 23 and 24)⁽⁸⁾. The trade union may take the initiative in proposing variations of the standards in cases where conditions are deemed to be abnormal, and is required to revise the standards at least every three months in any case, and to report upon the actual output as compared with them (Section 27). Persistent failure to attain the standard may be dealt with by transference to other work in the same or a lower class (Section 29); and culpable failure is punishable by summary dismissal and a fortnight's unpaid compulsory labour (Section 30).

(5) Established by the Decree quoted above ; *op. cit.* p. 51.

(6) Also adopted in the metal trades Decree ; *op. cit.*, p. 41.

(7) *Op. cit.*, p. 121.

(8) § 24 : " Normal conditions... shall mean : .

a) good condition of machines, benches, tools, and plant ;

b) the giving out at the proper time of raw materials, tools, and all the requisites for the performance of the work ;

c) an adequate supply of raw materials and tools ;

d) adequate installations in accordance with the requirements of hygiene and sanitation, and a corresponding condition of the workrooms (lighting, heating, etc.). "

Piece Rates and Premiums

Further provision for the adjustment of wages to work is made by the authorization of piece rates (Sections 54-69) and premium systems (Sections 70-81). The former are determined by a simple calculation, in which the two factors are the time rate and the standard of output, and may be revised in the same way as standards of output. Provision is made against the temptation to over-exertion by the limitation of earnings on piece work to 100 % above the corresponding daily time rate, except in special cases authorized by the trade union and approved by the People's Labour Commissariat (Section 68). The old bone of contention, time spent on work necessary as a preliminary to piece work proper, is dealt with by a ruling that such time shall only be specially remunerated, if spent in the preparation of special apparatus by the direction of the management, and in that case shall be paid for at its own appropriate rate.

General authority is given for the adoption of premium systems of various kinds, for enhanced output, for improvements in the quality of goods, or in the method of production, for economies of time, materials, or labour. Bonuses are to be given, not only to individuals, but collectively to groups and gangs of workers, and to whole establishments where technical improvements are made. In pursuance of the scheme for encouraging output in every possible way, the central and local administrative staffs connected with the Supreme Economic Council are promised premiums according to the output of the establishments in their respective areas. As in the case of piece rates, a limitation is placed upon the total possible addition to wages : 100 % on the schedule piece rate for premiums, or 200 % on the schedule time rate for additions of all kinds, including premiums (Section 78).

Over and above the general regulation of payment for normal work, provision is made for various special allowances, e.g. payment when the worker supplies his own tools and accessories (Sections 88-90), the provision, at the charge of the undertaking, of special working clothes, where such are prescribed by the management or necessitated by the destructive effects of the work (Sections 91-93), and of hygienic beverages and sanitary appliances in dangerous trades (Section 94). Defective work is dealt with somewhat vaguely; the worker loses his whole pay for defective work due to obviously negligent behaviour, but full pay is given for defective work "for which the worker is not to blame," and two-thirds for all work for which he is to blame, but not on account of obvious neglect.

Payments under exceptional conditions are also regulated, e.g. work at a distance from the normal place of employment, in which case detailed rules are laid down for the determination of the appropriate schedule rate and for travelling and subsistence allowances (Sections 102-111). Two-thirds pay is granted during a brief closing down (not more than one month), on condition that the worker report periodically. In case of the permanent closing down of a department, the management may assign the employees to other work, and in the case of a closing down extending beyond one month, they must be dealt with as unemployed by the local Labour Registration and Distribution Sub-section ⁽⁹⁾.

In the event of the removal of an establishment or of the transfer of a worker to another district in consequence of the closing down of an undertaking or the like, special allowances are made for the expenses of the removal of the worker and his whole household, in addition to travelling expenses, and time allowances for packing up and unpacking. In this case there is a *quid pro quo* ; the workers in receipt of removal allowances must do the removal work of the undertaking without special pay, on pain of dismissal.


ENGAGEMENTS AND DISMISSALS

The remainder of the Order deals with the terms of engagement and dismissal. Young persons under 16 years are not to be taken into employment (Section 140) ; those between 16-18 may become apprentices (Section 141), but must not be employed in that capacity on any work not connected with the learning of their trade (Section 41). Adults are required to undergo a period of probation of one to four weeks, according to the nature of the work, before final engagement. Dismissal is permitted only in specified cases—termination of the duties for which the worker is engaged, unsuitability for the work showing itself after the probation period, criminal offences, and illness lasting over two months (Section 145). A fortnight's notice or equivalent compensation must be given in case of dismissal. Workers may leave private undertakings at will (Section 146, Note), but no reference whatever is made to their leaving nationalized undertakings on their own account. If dismissed, they are placed by the employer at the disposal of the Labour Registration and Distribution Sub-section for re-allocation (Section 146).

(9) Created by a Decree of 1 November 1918, to take a census of labour and to organize the distribution of labour power, (superseding the old employment exchanges) ; *op. cit.*, p. 73.

ADMINISTRATION

It will be noted that the workers themselves, through the local assessment committees and the trade unions, to a large extent determine their own conditions of work, subject to the control of the People's Labour Commissariat. Thus the trade unions draw up the wage rates to be approved by the People's Labour Commissariat (Section 31), while the actual enrolment of each worker in his wage class is the duty of the local assessment committee (Section 32), subject to the approval of the competent trade union (Section 40). Standards of output are drawn up in detail by the local assessment committees, subject to general standards laid down by the People's Labour Commissariat (Section 22). These detailed decisions of the local assessment committee need the approval of the trade union, and are also subject to the supervision of the local bureau of the trade union council (representing all trades) and the local labour department. It is the local assessment committee, too, which has the duty of transferring workers to more suitable posts, if their standard of output is inadequate (Section 29), and of deciding as to the causes of defective work, according to which a worker may be paid in full, at two-thirds of his rate, or not at all (Sections 95-96). They have also the troublesome work of determining allowances for tools, etc., supplied by the workers (Sections 89-90), on the basis of the depreciation of such tools. In fact, most of the detail rests with the competent trade union and the local assessment committees, subject to the guidance of one or other of the bodies higher in the industrial organization, and under the final control of the highest labour authority, the People's Labour Commissariat.



INDUSTRIAL HYGIENE

Occupational Diseases in Germany ⁽¹⁾

A STUDY of the *Reports* of German Factory Inspectors for 1914 to 1918 shows a definite general increase in the death-rate and industrial disease-rate during these years. The war has certainly influenced the state of health of the industrial population by creating new economic conditions and new conditions of production. In certain cases the influence of the war is obvious (c.g. sicknesses caused by the use of toxic chemical products in the war industries); in other cases, on the contrary, it is much less perceptible at first sight, but a careful examination of the figures of the Sickness Insurance Societies (*Krankenkassen*) allows of an exact evaluation of this deviation from the average.

FACTORS COMMON TO THE WHOLE POPULATION

Underfeeding was one of the main causes of disease in the industrial world. All the reports of the district inspectors point to it as a more or less important cause of diminished production on the one hand, and of the increased death and disease-rates on the other. The influence of underfeeding

(1) The seventh General Congress of the Committee of the International Association for Labour Legislation, held at Zürich from 10 to 12 September 1912, had approved "the principle of an international understanding as to periodic reports concerning the application of the International Labour Conventions", drawn up by the fifth Commission.

In dealing with Art. 5 of the International Convention of 25 September 1906, on the prohibition of night work for women employed in industry, the Commission recalled the resolution that the Governments should communicate to each other "through diplomatic channels periodic reports concerning the application of the laws and regulations on the subject-matter of this Convention"; "it is desirable that these reports should be published by the signatory States in a form which will allow each of the Governments to compare the extent of the application in all the other signatory countries". In paragraph 3 of the resolution, provision is made for the publication every five years of a report containing also a statement of the activities of the medical inspectors.

The present article contains the most interesting of the data in the *Jahresberichte der Gewerbeaufsichtsbeamten und Bergbehörden* of Germany for the years 1914-1918; (3 vols. c. 4,300 pp. together, and one Appendix. Berlin, Government Printing Office, 1919).

was unequally distributed over the different districts; in some of them, indeed, (Lüneburg), it seems to have been more important for men than for women. This underfeeding brought in its train numerous cases of anaemia, especially in women, chlorosis, etc.; nor is there any need to point out the great extension of *tuberculosis*, especially of pulmonary tuberculosis, due to underfeeding; from the point of view of production alone it has been a cause of enormous loss. The following example is sufficiently significant. In the Chemnitz district, in a vehicle and typewriter factory, out of 4,000 workers, men and women, 40 to 50 persons per week had to stop working on account of tuberculosis. The tuberculosis death-rate has grown proportionately to the disease-rate⁽²⁾.

Digestive diseases also showed a perceptible increase, more especially marked among the workers in certain industries, e.g. tin-plate and lead. The progress of these diseases was usually characterized by a development slower than the normal, and by a significant behaviour due to the absence of fats in the food.

Among general causes, it is important to call special attention to the sickness-rate due to epidemics of *influenza*, the widespread occurrence of which, especially in 1918, weighed heavily on the whole population, and more especially on the industrial world.

FACTORS COMMON TO ALL TRADES

One of the main causes of the increase in the industrial disease-rate was the necessity for taking on very large numbers of non-resistant *women, young people*, and undersized and delicate persons, less fitted for work and in consequence with less power of resistance. The need for this grew more and more acute in the course of the war, on account of the shrinkage in the number of available workmen, who were continually absorbed by the combatant armies. On the other hand, with a personnel less physically fit, it became necessary to engage a larger number of workers and to lengthen the *hours of work*. Even the quality of the work changed, for, on account of the products handled, the greater proportion of the war industries were distinctly unhealthy. The first two years of the war were especially marked by extensions of the working time-table (night and Sunday work, overtime not compensated by regular rest-periods); in certain districts (Lüneburg) daily time-tables of 14 to 16 hours were reported. Not even in unhealthy trades, not to speak of normal processes, was

(2) In Prussia the growth of the tuberculosis death-rate was from 3.0 in 1914 to 70.0 in 1918 for the whole population of Prussia, and from 3.6 in 1914 to 68.0 in 1918 in towns of more than 15,000 inhabitants. Dr. HAESLER: *Weltkrieg und Medizinalstatistik*, in *Concordia*, June 1919.

it always possible to carry out the necessary *precautions* with strictness; either the call for production took precedence of all other considerations, or else it was impossible to procure the necessary safety appliances or to instal suitable fittings. Again, apart from technical precautions, which are essential in certain industries if the penalty of too high a sickness-rate is to be avoided, sufficient account has not always been taken of that minimum of *comfort*, which is necessary to the workers for the execution of their work. The necessary transport of the workers to the factory was not always ensured. In certain shops where the absolutely necessary *ventilation* could not be ensured by special apparatus, work was carried on with all windows open; in this particular case, the women, being much more sensitive than the men to the lowering of the temperature, paid a heavy tribute to pulmonary diseases. Finally, *sanitary inspection* in all its forms, preventive, curative, prophylactic, and in every sphere (family or occupational) was very limited, on account of the shortage of doctors, most of whom were with the armies.

Among the factors common to all trades, *industrial fatigue* played a large part. It is in connection with this that we can speak of the psychological condition of the workers, who in the first years of the war felt great interest in the work which they were doing, an interest which decreased progressively with the course of the war, finally giving place to weariness. The reports of the district inspectors draw very little attention to this general factor, although its influence was obvious. In certain districts, however, remarks showing considerable insight are found on the appearance of certain symptoms due to the effects of fatigue. As was easy to predict, the signs of fatigue were more frequently observed in the case of women and children than of men. In an electrical works in the Potsdam district, fatigue due to the duration and nature of the work showed itself among the women workers by an increase in abdominal complaints. Among 13,376 women 2,059 cases of abdominal complaints were reported, almost equally divided between unmarried and married women (unmarried 953, married 1,106). In the same district it was noted that pregnancy was more difficult for women employed on heavy work; unfortunately no detailed statistics or information were furnished in support of this observation. In a locomotive works at Potsdam the women employed in the transport of materials complained of an increase in abdominal pains, in consequence of the work they had to do. These examples could be multiplied indefinitely. In the same district Dr. Pryll remarks that, out of 50 women (50 young girls of about the same age and constitution), who had come from Berlin and were at first employed for four months on light transport work, and then were used during the following year on a machine process, 37 were attacked consecutively by abdominal troubles (of non-sexual

origin), among which must be noted ovarian hypofunction, constipation, and uterine anteversion.

The following statistical data are a striking confirmation of the influence of such factors : in 1914 the number of cases of sickness per 100 insured workers was 45.62 ; by 1918 it had risen to 68.9. The number of cases of illness in the metallurgical industries, which in 1914 was 50.94 per 100 workmen, had, in 1918, increased to 115.2.

The following figures are typical :

	Number of cases per 100 workmen		
	1914	1917	1918
Armaments (Düsseldorf-Bautzen)	157	258	—
Chemicals (Anhalt-Merseburg)	46.52	—	78
Explosives (Düsseldorf)	99.2	—	206.4
Aniline dyes and soda works (Palatinate)	56.5	—	98.1
Rubber (Hamburg)	39.6	—	56.1
Blast furnaces (Coblenz)	40.52	—	190

FACTORS PECULIAR TO CERTAIN TRADES

An examination of the *sickness-rate factors peculiar to certain industries* would involve a discussion of the whole of industrial pathology. Suffice it to remark that the majority of occupational diseases can be attributed either to the utilization of substitutes, or to the use of products containing harmful substances without appropriate means of protection.

We propose in this article to deal first with the cases of that occupational disease, which is the most widely spread, namely, dermatitis, and later with intoxications and infections.

Dermatitis

Cases of dermatitis and other skin diseases⁽³⁾ were the occupational disorders most frequently noted in all trades during the years of the war. For the most part they are due to the use of substitutes containing irritant substances. In certain cases the toxic action showed itself in general symptoms as well in local phenomena.

(1) Most of the cases of dermatitis observed were attributable to the use of substitutes for lubricating and cutting oils, substitutes containing substances which are very various,

(3) With a view to entering at once on the discussion of cases of dermatitis of more specific origin, we note, merely as a reminder, wounds, blisters, and ordinary suppurations, caused by machine processes, which, have been but rarely noted in the reports of the inspectors, except in the Bautzen district.

but all having irritant properties. These diseases were noted in all districts, or almost all, in the form of lumps ("oil-lumps") on the exposed parts (hands, forearms, arms, face), and fairly often on the chest, legs, and feet. At Gumbinnen and Hallenstein it was the combined action of polishing oils and polishing pastes which caused the accidents observed. At Potsdam, in a sewing-machine factory with 1,000 workers, 120 cases of dermatitis reported were attributed to the presence in these products of tar oils. At Frankfurt-on-the-Oder cases of dermatitis were due to substitute oils containing creosote. In a screw factory numerous cases of dermatitis were noted attacking the hands, the arms, and the face. Out of 200 cases recorded, 50, or one quarter, were declared to be occupational accidents. In a wet-process weaving factory numerous cases of dermatitis were caused by substitute oils, and their development was very much favoured by the nature of the work done. Among the workmen in a torpedo-assembling workshop, the use of oils of inferior quality caused dermatitis of the hands and forearm, accompanied by sensations of general discomfort. Certain serious cases required hospital treatment. Here the symptoms can be attributed to the fact that the oil, which replaced oil of turpentine, contained neither saponifiable fatty oils, nor tar oils, nor benzol or homologous products, nor mineral oils, but was composed mainly of non-saturated and easily resinified hydro-carbides, mixed with a small quantity of oil of turpentine. In the district of Stettin and Stralsund cases of dermatitis in the form of dermic pustules were reported in an oil mill. In another factory three serious cases of oil lumps each required three weeks' hospital treatment. A fire-brick factory in the North Palatinate suffered particularly badly. It is interesting, on the other hand, to report three cases of slight melanoderma as a definite consequence of the use of oil substitutes. At Leipzig, in a printing works, the compositors were attacked by dermatitis in the hands, which was at first put down to the paste used for cementing the slips, but was finally attributed, after inquiry, to the lubricating oil of the machines. At Zwickau the precautions taken, careful washing and use of soap, specifically reduced the number of cases of illness (1916, 34 cases; 1917, 28 cases; 1918, 6 cases).

The heavy paraffin oils also caused accidents. This was the case in a fire-brick factory in the Leipzig district, where the use of such oils was followed by fairly severe lesions (maculae, pustules on the hands, arms, and face). In the Saxe-Meiningen district "paraffin itch" was due to the use of unrefined petroleum. At Minden, among the turners, substitute oils caused cases of eczema and inflammatory lesions. The most susceptible workmen had to change their job. Absolute cleanliness reduced the number of accidents, but this was difficult to attain owing to lack of good soap. In the Hesse district a polishing oil formed of a mixture of

graphitic oil and similar products caused fairly slight lesions with rapid cures; numerous severe cases, however, were reported of the hands, arms, neck, and legs. The reactions differed in intensity according to the individual. In the Saxe-Coburg-Gotha district the cases of eczema due to substitutes for polishing oil became noticeably fewer in 1917 through the use of better oils and the dismissal of over-susceptible workmen. Among the prophylactic measures adopted there may be noted a minute attention to cleanliness, frequent change of jobs among the workmen, and early treatment. In the Brunswick and Düsseldorf districts the substitutes for lubricating oils caused numerous cases of dermatitis. In the Düsseldorf district fairly severe lesions (ulcerated pruritus) were reported, which were due to the particles of tar and perhaps of phenic acid contained in the oils. The irritant action was helped by the lack of application of fatty matter to the skin, which thus became less resistant.

In the same district, during the distillation of mineral oils, 15 cases of dermatitis were reported, known by the name of "paraffin eczema" and attacking especially the hands, the arms, and the legs. The lack of cleanliness and the absence of changes of clothing helped the action of the products used. Ordinary soap was inadequate and the special soaps could not be distributed.

(2) The *shortage of soap* was in many cases the sole cause of dermatitis. It was noted that the favourite soap was *Tonseife*. In Bavaria the absence of soap caused numerous cases of dermatitis in certain factories, for instance, in the porcelain factories which used certain products. *Soapy water*, on the other hand, sometimes caused irritations of the skin, in particular among turners, as was observed in the Wiesbaden district.

(3) The use of tar and pitch caused accidents known under the name of "tar acne" or "pitch acne". In the districts of Leipzig, Oppeln, and Upper Bavaria, pitch acne was observed during the manual processes of the preparation of pitch. In the Marienwerder district, in a factory for making tarred paper for roofs, numerous cases of dermatitis were caused by the tar and pitch dust, which come off in the course of operations. In the districts of Zwickau and Krantz tar and pitch caused cases of dermatitis (papulous and pustulous eruptions of the face, forearms, and hands) in the factories which made shoe-soles from paper impregnated with chlorinated tar products. In a factory in the Zwickau district the number of sick persons amounted to 27, of whom 20 were receiving medical attention, and 7 were unable to work. In the Arnsberg district cases of eczema of the hands and face were caused by the use of fatty tar oils; and workmen who were tarring wood suffered from ulcers of the throat

(naphthaline, anthracene). In an anti-gas mask fabric factory in the Düsseldorf district a tar acne was observed due to the material used, which was known by the name of "perna", and noted as dangerous by the Kaiser Wilhelm Institute. The factory which was preparing the perna did not report any accidents among its workmen, but it protected them. The perna was melted at 140° C., and the material was dipped in it by mechanical means. The workers were protected by a powerful exhaust apparatus, but they showed fairly strong cicatrices of the face and the throat, which suggested smallpox cicatrices.

(4) Cases of dermatitis caused by *paints, varnishes, lacquers*, and their solvents, are mainly due to the unrefined naphthas which they contain; thus at Berlin these naphthas caused by contact cases of dermatitis, and by inhalation sickness and general troubles. At Zwickau, in a carriage factory, the varnishing caused cases of dermatitis, and also attacks of giddiness with loss of consciousness. In a metal-working factory in the Beierfeld district and in a varnish factory in the Anhalt district, accidents were attributed to the action of the products used to dilute the varnishes. In the Merseburg district benzine colours and mastics caused cases of dermatitis. In a resin oil distillery accidents were due to the fact that the workers used chlorobenzene to clean their hands. In the Arnsberg district lesions and sight troubles were caused among the workmen by the use of a substitute for linseed oil containing tar. The injuries were aggravated by working in a warm atmosphere.

Turpentine substitutes were the cause of very numerous cases of dermatitis, especially among painters. The frequency of these cases was so remarkable, that on 6 September 1917, there appeared a circular from the Imperial Chancellor on the use of turpentine substitutes in painting (dockyards). In the Nüremberg district a turpentine substitute, made up of 85 % of carbon bisulphide and 15 % of nitrobenzol, caused intoxications, whose number unfortunately was not given exactly. In the Lübeck and Wiesbaden districts local troubles and skin diseases were caused by a turpentine substitute used in the book industries (printing and lithography) for cleaning pins and type. When petrol was used, these accidents disappeared. In the same district skin irritations were observed, also cases of conjunctivitis, attacks of coughing, headache, and giddiness, which can be ascribed to the same products.

(5) The use of *oils* in the *pelt* and *leather* industries also caused cases of dermatitis. Before the war the greasing of pelts and leathers was done with animal and vegetables greases, and very little by means of mineral oils. During the war sterilized mineral oils were used up till 1918, and afterwards crude mineral oils. The lesions reported in the

Hesse district were distributed over the whole body and were sufficiently acute to assume in certain places the form of ulcers. They were, in fact, lesions of the type of paraffin and tar acne. A specific element contained in the oil has been charged with this, but the same oils have only given trifling trouble in other factories. On the other hand, the pelts so treated caused trouble among the persons engaged in receiving and inspecting them, which might have been avoided by scrupulous cleanliness.

(6) *Dressing solutions* caused cases of dermatitis due to the substitutes which replaced the substances formerly used. The morbid symptoms were eczema and inflammation of the hands (Erfurt: boot factory). In the Zwickau factories numerous cases were observed in the dressing mills. The cases of dermatitis were due, on the one hand, to the action of salts contained in the dressing solutions and, on the other, to the fact that the workers were obliged to bleach their hands with chlorine. At Krantz cases of dermatitis were observed in the works, in which black gauze was stiffened by the addition of special salts increasing the penetrating power and permanence of the dye.

(7) The handling of *chemicals* sometimes produced eczemas and sometimes also general troubles. *Nitrous products* very often caused cases of dermatitis. In the Düsseldorf district picric acid was responsible for pruritus, eruptions localized on the throat, neck, and hands, cramps and sometimes even other phenomena showing a more advanced degree of general intoxication, such as attacks of giddiness. Trinitronaphthaline caused perceptible inflammations of the mucous membrane of the eyes. At Breslau it was nitrous powders which were the origin of the lesions (furunculosis). In the Upper Palatinate district eczemas of the hands and forearms were noted, due to handling the powder called "perdite", which contains ammonium nitrate.

In the districts of Gumbinnen, Luneburg, and Hallenstein in the the North Palatinate, it was *trinitroanisol* which caused accidents to eight women workers, who were filling bombs with this product. One of the cases required four weeks' treatment. In a general way, indeed, trinitroanisol, although very dangerous, did not give cases of intoxication, but more or less serious cases of eczema (hands, arms, etc.) and of œdema of the face. The cases observed affected the workers engaged in filling bombs with liquid trinitroanisol, and even more the persons exposed to the action of the dust (solid trinitroanisol) on the unprotected parts of the body. In these particular cases rednesses and swellings were observed, sometimes even irritation with heat of the skin after some hours of contact, especially among women and alcoholics. The precautions adopted may be summed up as ordinary care as to cleanliness, in wearing clothing and gloves which can be treated after

use by a solvent of trinitroanisol, and in the application of vaseline or of magnesium powder. Trinitroanisol was afterwards replaced by trinitrotoluol, and later on by trinitrobenzol. At Oppeln, in a wood-impregnating factory *trinitrophenol* caused cases of localized dermatitis. Special note should, however, be made of one case of acute cutaneous eruptions on the whole body. In the North Palatinate *dinitrochlorbenzol* caused two serious cases of widespread dermatitis. *Ursol* and analogous colours have caused cases of dermatitis in the fur dye works, similar to those observed in the Krautz district.

(8) *Chlorinated substances* were very often the cause of dermatitis. Thus, at Potsdam, reference is made to the harmful action of trichlorethylene and soda lye, and in anti-gas mask factories to the action of perchlorated naphthaline ("perna") in causing, by contact or by inhalation of its vapours, cases of acne, which are not described in detail. In the Anhalt district cases were reported of chloric acne in a calcium-chloride factory, and in the Potsdam district among workmen filling bombs with the substance known by the name of "Clark". This substance caused irritation of the nasal mucous membrane and œdema of the face, and could be neutralized by calcium chloride. The inspectors also describe cases of weak resistance to the action of chlorine gas among the women engaged in cleaning electrolytic baths. More or less serious ulcers due to the action of cobalt salts, which replaced the pre-war pure nickel, were recorded among the workers on the electro-plating baths, when a sulphurlye was used for mordanting instead of sulphuric acid.

(9) Cases of dermatitis due to *chemicals* were very numerous. Thus workers in the Merseburg district showed dermatitis due to contact with soda and calcium cyanate; it was noted, however, that in the long run the workers became immune. Injuries due to the local action (on the nasal mucous membrane) of *chromates* were recorded by the Düsseldorf inspector, who reported the following cases:—

13	out of 90	workmen in	1913
11	"	51	" 1917
5	"	50	" 1918

At Berlin in an aeroplane factory, from 1914 to 1918, cases of dermatitis were reported due to a glue used for sticking the wing fabric, made of a mixture of casein and quick lime. In the Oppeln district it was calcium azotate which was responsible for the cases of dermatitis observed. The workers in a metal-working factory at Zwickau were attacked by vesicular eruptions, due to the substitutes used for the scouring solutions. In this connection it is necessary to note a form of dermatitis known by the name of "polishers' acne", which attacks the polishers. One case was noted

in an ammonia factory. In the Potsdam district cases of dermatitis were reported due to *picric acid*, independently of any other morbid symptom. As elsewhere, cases of dermatitis due to substitutes were observed in the more susceptible workers. Cases were reported in the Hamburg district among lithographers, calenderers, mechanics, workers in factories for mineral oils, substitutes for vulcanized rubber, and hydrochloric acid, and in photographic developing workshops.

(10) In the Brunswick district cases of dermatitis were reported among the workers in *vegetable-preserving* factories (work on raw vegetables, asparagus, beans, etc.), which produced an eczema. Careful protection of the hands and forearms was not enough and recurrences were frequent.

(11) Work on certain *metals* causes dermatitis. Thus nickel, for instance, caused lesions, known by the name of "nickel acne", among the workmen in the Leipzig and Dresden factories. Mercurial intoxication in some cases produced cutaneous eruptions and running eczemas. At Spandau, for instance, real epidemics of cutaneous eruptions took place in a factory for the priming and unpriming of detonators and percussion caps. Other cases, caused by metals and chemical products, are discussed below (Intoxications).

Tumours

Certain fatty substances and certain amino-compounds caused tumours. The inspector of the Oppeln district reported the case of a worker in a factory working on fatty materials (tar oils), who died after six months' illness from tumour of the testicle. Cancers of the bladder among workers in the chemical industry in the North Palatinate district amounted to thirteen cases, including six carcinomas and three deaths. The following amino-compounds were in question : aniline, 4 cases ; dimethylaniline, 2 cases ; betanaphthylamine, 5 cases ; different bases, 2 cases.

Dusts

In a factory in the Arnsberg district, in which the transport of cast bomb-cores was effected by compressed air, lesions of the respiratory passages occurred. The manufacture of paper fabrics produced a thick dust; this required a reduction of working hours, which were brought down to 7½ and 8 hours a day (Hanover) ; in the Breslau district dusts were the cause of numerous morbid phenomena, diseases of the respiratory passages, neurasthenia, anæmia, chlorosis, syncope, intestinal and gastric diseases. Work on soda bauxite (Trier)

was the cause of rather serious damage, not only in the neighbourhood (vegetation), but also among the workers engaged on its transport. The lesions observed were attributed to the basic action of the dust on the skin (hands and arms).

Eye Diseases

In general, only cases of irritation of the conjunctiva were reported without, however, giving any information as to the seriousness of the attack. The causes were always traced to substitutes for chemicals. We may mention the cases observed in the soap-powder factories due to the action of soda, even among the women workers who were handling the soap (Stettin and Stralsund); among the workers in hat factories (Dresden), in the benzine dressing section; in a pencil factory (Nuremberg, Erfurt) from the use of methyl-alcohol and acetone; among the workers in contact with turpentine substitutes (Berlin, Potsdam), or exposed to the action of formic acid or aldehyde (croton-aldehyde) (Upper Bavaria), of sulphuretted hydrogen, calcium cyanate, etc.

Diseases of the Respiratory Passages

Nitrous and black powders caused numerous cases of intoxication and of diseases of the respiratory passages. The inspectors did not give figures, except the inspector of the Breslau district for one nitrous powder factory:—

	1913	1917
Number of workers	77	895
Number of sick persons	16	495
Days of sickness	506	15,509

In a *Thomas slag-mill* at Hildesheim there were, in 1918, three cases of death among the workmen due to pneumonia. The *glass, porcelain, and stone* industries were responsible for a certain number of respiratory diseases due to dust. The increase in the number of cases of pulmonary tuberculosis was especially perceptible in certain districts (Upper Franconia). In the Breslau district there were reported, from 1914 to 1918, six cases of respiratory diseases among the glass polishers, with a total of 261 days of sickness.

Dental Lesions

Certain occupations have an obvious effect on the dental structure. As far as we know, only one systematic research into the influence of occupation on dentition has been undertaken, in a large chocolate and sweet factory in the Dresden district. All the workrooms and all the operations are not dangerous. The only dangerous ones are manual

processes, carried on in rooms where the sugar dust is mixed with the air (sugar-milling rooms). Sweet-making also is to some extent harmful. In particular, the following classes of workers are especially exposed to the action of sugar and fruit acids: the "tasters", workers using their lips (*Lippenproben*), to test whether the mass has the right temperature (thermometers, although provided, never being used by workers, in order to save time), and workers engaged in making sugared almonds and similar sweets. Over and above the danger of dental lesions, this operation is particularly dangerous, because it risks the transmission of disease, the temperature not being sufficiently high for the destruction of injurious germs.

Intoxications

(1) *Arsenic* in all its forms causes a certain number of intoxications. In the Breslau district work on arsenical ores caused accidents, as shown in the following table:—

Year	1913	1914	1915	1916	1917	1918
Number of Insured Persons	107	91	64	116	137	148
All diseases: No. of cases per 100 insured . . .	73.8	78.0	156.2	180.2	231.4	167.6
No. of days' sickness per case . . .	9.8	8.5	11.8	13.0	13.5	14.3
Arsenicism: No. of cases per 100 insured . . .	6.5	4.5	39.1	36.8	81.0	37.8
No. of days' sickness per case . . .	9.7	5.7	12.0	10.8	13.2	14.1
Cases due to arsenic as percentage of whole	8.9	5.1	25.0	18.7	35.0	22.6

The accidents observed were principally cases of dermatitis and inflammatory lesions of the mucous membranes, probably due to the action of arsenic acid. The trachea, larynx, and bronchial tubes were fairly often attacked (trachitis, laryngitis, bronchitis), but the mucous membranes of the eyes and nose were more sensitive, showing cases of acute conjunctivitis and inflammations of the nasal mucous membrane, often accompanied by perforation of the septum. The figures in the foregoing table show that the average period of sickness in 1917-1918 was nearly 50% longer than in 1913. In a glass-works of Lower Bavaria a workman was attacked by an eczema which spread over his neck and face. In the same district there is a record of a corrosive wound in the hand of a workman engaged in mordanting pelts, which was probably due to the action of the arsenic acid contained in the bath.

The manufacture of *arsenical by-products* also caused accidents. The liberation of fumes in the course of operations produced chronic irritant lesions. Sometimes more acute local phenomena were produced, such, for instance, as tumours and inflammations on the exposed parts of the body. In the Nuremberg district *arseniuretted hydrogen* caused nine cases of intoxication, one followed by death, among the workmen in a ferro-vanadium factory. At Dresden, in a chemical works, two cases of fatal intoxication were produced during the handling of sulphuric acid constaining arsenic and guaranteed "chemically pure"

(2) All districts publish statistical data on *plumbism*. During 1915, 1916, 1917, and 1918, lead intoxication diminished perceptibly and actually disappeared in 1918 through shortage either of work and workers or of lead ore and lead paints. In any case, the authorities have always required preventive precautions to be taken against intoxication.

Out of 780 cases recorded, the following distribution may be noted :—

Paint and house painting trades	198
Accumulators	35
Lead foundries and machinery	23
Book trade	173
Pottery trade	14

Cases of *plumbism* were recorded in a factory making pharmaceutical products, among tin-plate workers, and one inexplicable case in a young locksmith. It must be said, however, that the different reports did not always give either the figures of the cases reported, nor the occupations in which the intoxications were observed. The reduction in the number of serious cases of *plumbism* is due also to the substitution of harmless products for toxic. In a file factory, for instance, lead beds were replaced by aluminium. Detailed precautions were exercised in lead-mercury soldering. In foundries, where the work was done in three shifts, gloves were distributed to the workmen.

Although the white lead works had to stop work in 1918, through shortage of raw materials, some of them nevertheless had tried to improve their technique, and in two white lead works a wet process had been applied, which continued automatically from the initial to the final operation. The report for the Saxe-Coburg-Gotha district records that the number of workers in one white lead works, which was 30 before the war, fell to 10. Production had ceased at the end of the war and was limited to minium and litharge. The number of cases of *plumbism* was 3 in 1914, 3 in 1915, and 1 in 1916. In a white lead works in the Hildesheim district the sickness figures were as follows:—

Factory	Year	No. of workers	Per 100 workers			
			No. of cases of sickness	No. of days of sickness	No. due to plumbism	
					Cases of sickness	Days of sickness
White lead Works	1912	95	26.3	686.3	4.2	141.0
	1913	73	10.9	317.8	2.7	89.0
	1914	33	54.5	900.0	6.0	181.8
Glausthal Factory	1914	173	54.3	1224.8	4.0	88.4
	1915	148	57.4	1767.5	6.0	131.7
	1916	164	50.0	1051.2	3.0	49.5
	1917	160	61.2	1498.7	1.2	16.2
	1918	150	70.6	2000.6	2.6	129.3
Lautenthal Factory	1914	66	37.8	1296.9	9.0	153.0
	1915	66	36.3	562.1	4.5	181.8
	1916	67	44.7	826.8	4.4	70.1
	1917	25	48.0	805.3	1.3	8.0
	1918	60	48.3	926.6	—	—

In the lead foundries of Hildesheim the figures for general and saturnine sickness were as follows :—

	Average number of workers		Total number of	
	examined	in contact with lead	cases of sickness	days of sickness
1914	516	164	700	6,676
1915	571	27	423	4,953
1916	605	23	369	3,363
1917	490	16	380	3,497
1918	677	6	612	5,788

In a Hamburg zinc foundry the following cases of sickness were given :—

	No. of workers	No. of cases of sickness	Saturnine colic and paralysis	Nephritis	Rheumatism	Digestive diseases	Respiratory diseases	Various
1914	675	312	18	—	11	100	11	169
1915	438	103	2	—	6	16	9	70
1916	246	68	3	—	6	10	10	38
1917	262 M	71	1	—	7	12	11	40
	188 F	46	—	—	4	10	3	29
1918	308 M	91	—	—	6	17	18	46
	136 F	27	—	—	1	2	4	18

Cases of plumbism were reported among the workers in an enamelling works in the Potsdam district, where a white powder was used, prepared by a German house and containing white lead. Previously an enamelling powder of French origin was used, which never caused any accidents. The symptoms recorded by the inspector as most frequent were

gastric and intestinal pains, myalgia, general and nervous asthenia. But cases of arthritis, nephritis, cephalgia, dental decay, etc., were also recorded. These were special cases, for which it would be necessary to take into account the influence of the substitutes used for solvents, which without doubt complicated the conditions of the disease.

(3) In the Arnsberg district accidents were recorded caused by the *gases* and *vapours* generated in the acid bath rooms, which made it necessary to instal exhaust apparatus. In a sulphuric acid factory in the same district the gases passed through an electric field of 80,000 volts, in which the ironised particles of dust were fixed on threads and sieves. The dust so collected was forced down by air compressed at four atmospheres into a dust chamber.

(4) The use of *mercury* has in all cases given rise to hydrargyriasis. At Munich, in the Stade and Magdeburg districts, cases of intoxication were reported due to the mercurial vapours evolved during the use of a mercury solder as a substitute for tin solder. Similarly, in a metal foundry (making chairs for rails), where an alloy containing mercury was used in the course of operations, mercurial vapours caused a certain number of intoxications. In the district of Upper Bavaria, symptoms of intoxication were reported in an acetone and acetylene works, where mercury was transformed into its oxide and then back into mercury in a closed cycle. Numerous slight cases were recorded among the workers engaged in determining the specific weight (hydrostatic equivalent) of compressed "Ammon" powder, by the process of the determination of its loss of weight in mercury (Coblenz, Hesse). These workers were attacked by mercurial intoxication, especially those engaged in handling the paste after it was taken out of the mercury baths, an operation attended by some danger. On this occasion, the Prussian Decree of 15 May 1889 on mirror factories was once more put into operation. Periodical inspection of the workers took place, and only a few cases in all of intoxication were recorded. However, the adoption of preventive measures was hindered by many difficulties, such as lack of good soap, and the difficulty of getting the country workers to take baths.

Fulminate of mercury gave rise to ordinary symptoms of mercurial intoxication, especially to cutaneous eruptions and running eczemas, in a factory for priming percussion-caps and detonators and unpriming unusable detonators (Spandau). At Merseburg, the only symptom occurring was a case of stomatitis, while at Erfurt, the accidents observed were more numerous and their pathogenesis could be studied with a fair amount of detail. During the operation of the nitration of mercury, toxic nitrous gas emanations were given off. The

washing and drying of the fulminate of mercury did not cause accidents, but the later manual processes were more noxious. The symptoms generally observed were headache, abdominal pains, and locally irritation of the neck and inflammation of the mucous membrane of the eyes. This was morbid syndrome, and was generally considered to be due to etheric products. The most dangerous operation of all was the mixing and homogenization of the detonating compound and the filling of the caps, an operation which attacked the hands of the workwomen. One of them even had two nails missing. Numerous cases of intoxication due to mercurial vapours were observed in a factory in the same district, in which rejected fulminate of mercury caps were destroyed by fire. The same accidents were observed in the Swabian cap and detonator factories, especially in the operations of compressing the charges and filling the caps (Düsseldorf). The very fine dust which came off settled on the face and back of the hands, especially in summer, and with the combined action of perspiration gave rise to ulcerations, lumps, lesions of the skin, and inflammation of the mucous membranes of the mouth and nose, these last being often accompanied by ulcers. Gingivitis and blackening of the teeth were also frequently observed symptoms. Workers who were also suffering from venereal diseases showed moist and running eruptions of the face. On the other hand, in Upper Bavaria no accident was recorded in establishments of a precisely similar character.

(5) In a safety-lamp factory (Zwickau), an interesting case was observed of a workman employed in a workshop for making *nickel-cadmium* plates for electric lamps. This workman had attacks of faintness, loss of appetite, and giddiness, which lasted three weeks. The doctor's opinion was that this form was due to cadmium oxide making its way into the digestive passages. The toxic action of the substance on the stomach was proved by experiments made at the *Zentralstelle für öff. Gesundheitspflege* at Dresden. The cadmium "dust" was not composed of pure cadmium, but of the oxide and of minute traces of insoluble cadmium salts which could not menace the health of the worker. In every case an exhaust apparatus for removing the dust was installed and gloves and masks distributed to the workmen.

(6) Before ending this rapid survey of the chief intoxications due to metals, we may refer to *foundry fever*, some cases of which were recorded in the Dresden district. The symptoms consist of headache, shivering fits, nocturnal sweats and high fever. The installation of a good system of ventilation in the workshops led to the disappearance of this morbid symptom.

(7) *Carbon monoxide*. We may first remind the reader of the intoxications which occurred in workshops, where the

lack of sufficient means of heating made it necessary to use brasiers (Minden). But the majority of cases of carbon monoxide intoxication occurred in the vegetable drying industry, which is carried on in ovens heated by coke or coal containing 1—1.25 % of sulphur impurities (Lüneburg). Experiment proved that, with a good ventilation system, the cases of intoxication could be reduced in number or even suppressed. In any case, the law excludes women under 18. One compulsory rest hour is prescribed after each hour of work. The statistics of the Schleswig district give a fairly high sickness-rate among the men and women workers in this industry. In fact, the average sickness-rate per month in summer was 11.1 % in one factory, and 20.5 % in another, while the average of the local sick benefit society was only 4 %. Another local society which showed an average sickness rate of 3.55 % gave as figures for the drying industry: 19.07 %, 11.64 %, and 17.01 %. The injuries reported can apparently be assigned to the harmful influence of hot air. In fact, an analysis of the air (taken at 1.50 metres from the floor), which was made in one factory showed the existence of traces only of carbon monoxide, 1.1 % of carbon dioxide, 0.6 % to 0.9 % of sulphurous acid, and 14 % to 16 % of oxygen. A mouse placed at different heights from 10 to 60 centimetres, at a temperature of 35–54° C., died after 1 hour and 45 minutes. The analysis of its blood did not show oxycarbonized methaemoglobin, and death apparently was due to the action of heat and of sulphurous acid.

Other cases of intoxication by carbon monoxide were reported in blast furnaces, and two cases also in autogenic soldering (Potsdam).

(8) *Carbon oxychloride* caused numerous slight cases of intoxication, and also some fatal cases, occurring in the form of lesions of the respiratory structure (Wiesbaden).

(9) *Nitrous gases* were the cause of numerous slight cases of intoxication (Wiesbaden) and some fatal cases. It is stated that after three or four hours' work, the use of an ordinary mask is insufficient to protect the workman.

(10) After a *bromo-methyl* explosion in a Wiesbaden factory, four workers were intoxicated by the vapours on entering the factory. One of the victims died on resuming his work after a fortnight's interval. A leak in the piping was the cause of six other cases of poisoning, two of them fatal. Bromo-methyl is a poison of the nervous system, fatal in a very short time. It is stated that the odour of this gas is not strong enough to indicate the presence of vapours in the air.

(11) Among the many cases of injuries caused by *benzene*, there should be mentioned cases of irritation of the conjunctiva, through the use of a substitute containing benzene for dressing straw hats. Cases of deafness, caused by the use of a preparation

analogous to minium ("Siderosth") for painting boilers, can be assigned to the solvent, which was a substitute analogous to benzene. Cases of dizziness after a bout of gaiety and cases of loss of consciousness among painters of the insides of holds of ships called for the intervention of the legislator. Some precautions were taken at Danzig, in particular in brush painting with colours containing benzene.

(12) The *nitro compounds* industry was regulated by the authorities of Anhalt as follows: Ventilation of the melting chambers with removal by suction of dust, gas, and vapours (15 times a day), washing of the floor and the walls, avoiding contact with the hands, strict individual cleanliness, wash basins, baths, foot baths, facilities for drying the hair, masks, shifts of 1½ hours, change of work for persons particularly susceptible, periodical inspection, oxygen within reach of the workers for cases of intoxication.

(13) Even when prepared and handled with all necessary precautions (closed vessels, localized ventilation, wearing of masks, education of the worker, individual cleanliness, sanitary supervision, etc.) *dinitrobenzene* everywhere caused numerous cases of intoxication, which were often fatal (of six cases, four showed serious acute jaundice). It must, however, be said that in certain cases it was not possible to determine the share of intoxication and that of another non-occupational cause. Dinitrobenzene is the most dangerous of the polynitrous derivatives of benzene, on account of its noxious action on the elements of the blood, on the haemoglobin, which it transforms into methaemoglobin, and on the liver. The means of entry of the poison are respectively the respiratory passages (for vapours), the digestive passages (for dust), and the skin and mucous membranes, even if they are unbroken (during the handling of the substances). It has been stated that individual pre-disposition plays a large part, but it must also be admitted that the weak powers of resistance of masses of workpeople, especially women and young persons, explain the frequency and the gravity of the intoxication. It was not possible to exclude women from the factories in which dinitrobenzene was handled (projectile filling), although the poor power of resistance of the women exposed to the action of D.N.B. was evident. The following were, however, excluded: old men; persons susceptible by reason of an already existing intoxication (alcoholism, tabacosis, plumbism), or of infections (syphilis), or other diseases such as diabetes; workers with a tendency to retinitis; workers rejected on account of a general special state (women during the menstrual period, or during pregnancy). The frequency of intoxication was very marked. The following figures are typical. In a Luneburg factory, during four months in 1918, among 200 workers (50 of them women) 68 cases (34%) were observed, with 769 days' absence. In two factories in the Upper Palatinate district 5.44% and

2.27% of the workwomen were intoxicated by D.N.B. in the course of twelve months. It was further stated that there was no immunity, and that the same workers could be intoxicated several times. The reports of the inspectors called attention to an increase in intoxication during the summer months, and insisted on the possibility of maintaining a relatively good state of health, even among the workers who showed cyanosis. The sanitary conditions of the workers in contact with D.N.B. are given in the following statistics (4).

SICKNESS AND DEATH STATISTICS FOR A DINITROBENZOL
FACTORY (HESSE)

	Work units (full-time workers) for 300 days or working periods	Cases of sickness per 100 workers	Cases due to nitro-compounds of	
			Sickness	Death
1916	1018	6.4	112	3
1917	1214	9.5	201	7
1918	1490	8.5	130	3
	335 women in this section		Only 165 men out of the total of 443	Only 3 men out of the total of 13

SICKNESS STATISTICS FOR WORKERS IN CONTACT WITH AROMATIC
NITRO COMPOUNDS (POTSDAM)

Average Numbers

<i>Men</i>	1916	145	<i>Women</i>	1916	380
	1917	340		1917	620

	Diseases of	Men		Women	
		Cases of sickness per 100 workers	Days of sickness per 100 workers	Cases of sickness per 100 workers	Days of sickness per 100 workers
1916	Skin	11.7	203	9.7	183
	Respiratory system . .	10.3	182	10.5	205
	Digestive system . . .	9.0	110	28.7	597
	Blood vessels	1.4	10	20.5	477
1917	Skin	7.1	100	10.5	186
	Respiratory system . .	16.5	273	13.7	394
	Digestive system . . .	20.3	330	46.1	994
	Blood vessels	4.1	121	27.4	664
	Jaundice	1.2(1)	34	1.5(2)	38

(1) 2 deaths included.

(2) 5 deaths included.

(4) The sickness societies, from 1 January 1915 to the end of the war, received notification of 1,000 cases (some of them slight, lasting five days), with 12 deaths. In a factory employing 874 workmen (123 full-time workers) from December 1916 to October 1918, out of a total of 68,767 work-days and an average of 119.6 full-time workers, there were 340 cases of intoxication (284.3 per 100 full-time workers) and a monthly average of 14.7 (12.2 per 100 full-time workers). In another factory employing 816 workers (77 full-time), in 8 months, out of a total of 17,756 work-days and an average of 88.7 full-time workers, there were 314 cases of intoxication (323.7 per 100 full-time workers), and a monthly average of 39.2 (44.2 per 100 full-time workers), nearly four times as high as in the first factory.

**SICKNESS AND DEATH STATISTICS FOR WORKERS IN CONTACT WITH
DINITROBENZOL IN AN EXPLOSIVES FACTORY (DÜSSELDORF)**

	No. of workers		Cases of sickness per 100 workers	No. of days' sick- ness per worker	No. of deaths
1912	Men	550	69	14	2
	Women	—	—	—	—
1913	Men	590	83	13	2
	Women	—	—	—	—
1914	Men	660	82	12	3
	Women	130	5.5	0.4	—
1915	Men	1603	64	7	7
	Women	710	84	12	—
1916	Men	1516	56.7	11	10
	Women	873	66	13	1
1917	Men	1998	89	11	25
	Women	1350	91	13	6
1918	Men	2209	100.5	18	26
	Women	909	119	26	3

**SICKNESS AND DEATH STATISTICS FOR WORKERS PREPARING
OR WORKING WITH TRINITROBENZOL GAS OR TRINITROANISOL
IN AN EXPLOSIVES FACTORY (DÜSSELDORF)**

	No. of workers	Intoxications : Cyanogen			Occupational diseases due to trinitroanisol			Other diseases		
		Cases per 100 workers	Days per worker	Deaths	Cases per 100 workers	Days per worker	Deaths	Cases per 100 workers	Days per worker	Deaths
1914	M. 254	1.6	7.0	—	3.1	6.7	—	65.0	14.0	8
1915	M. 2289	28.2	9.2	2	37.8	12.3	—	36.2	12.6	15
	F. 348	33.6	8.6	—	11.2	11.3	—	29.7	13.2	—
1916	M. 2517	9.4	9.7	4	20.9	12.7	—	57.5	13.2	17
	F. 796	13.8	9.6	—	16.0	11.4	—	51.2	18.2	—
1917	M. 4234	20.1	13.7	6	5.3	12.8	—	64.3	17.3	33
	F. 1298	18.6	9.2	—	3.4	8.2	—	58.3	11.9	2
1918	M. 2703	8.9	14.2	2	3.6	11.5	—	90.3	18.3	29
	F. 573	4.0	12.4	1	3.6	14.1	—	79.1	15.2	6

SICKNESS AND DEATH STATISTICS FOR WORKERS IN CONTACT WITH
DINITROBENZOL AND TRINITROANISOL IN AN EXPLOSIVES FACTORY
(DUSSELDORF)

	No. of workers	Cases of sickness per 100 workers	No. of days' sickness per worker	No. of deaths
1912	Men 407	40.0	5	1
	Women 16	12.5	7	1
1913	Men 478	47.7	6	1
	Women 12	—	—	—
1914	Men 1480	26.0	3.1	2
	Women 231	20.3	1.5	—
1915	Men 1650	55.2	5.6	17
	Women 535	62.2	10.0	3
1916	Men 1641	47.6	6.1	8
	Women 735	46.4	6.7	3
1917	Men 2055	57.7	7.6	19
	Women 952	41.7	8.8	5
1918	Men 1911	55.0	8.4	21
	Women 886	42.4	8.2	9

The workers who are sick usually report to the doctor sickness, faintness, loss of appetite, buzzings in the ears, nausea and vomiting, irritations, sweats, insomnia. The examination of the patient adds to these cyanosis of the lips, pallors, troubles of varying degrees of seriousness in the respiratory, circulatory, and nervous systems, cramps, and, among women, paralytic symptoms. There is also record of a special syndrome of the visual organs characterized by loss of central vision, but it is suspected that these cases had been caused deliberately.

For the prevention of intoxications, mechanical processes have been called in, with localized exhaust ventilation, and substitution, when possible, of other less toxic products, for instance, ammonium nitrate and dicyandiamide. In 1912 a decision was taken in Bavaria making obligatory the declaration of cases of intoxication by D.N.B., and a Ministerial Decree of 20 November 1911 laid down regulations for work in factories handling D.N.B.: instructions to the worker, individual cleanliness, and periodical medical supervision. As already stated above, however, the lack of soap, the difficulty in obtaining milk, etc., made it impossible to apply the medical prescriptions with the necessary strictness.

(14) At this point the cases due to the action of the *aromatic nitro-compounds* and especially of *nitrotoluene* may be mentioned. It may be said that the toxicity of these products increases with the number of the nitro groups. The nitro-compounds form a large part of the explosives used for filling bombs and shells, either alone or mixed with ammo-

nium nitrate. Cases of intoxication were recorded also among the workers handling donaunite containing 15.2% of nitro-aromatic derivatives, and even among the super-phosphate workers, who were using sulphuric acid which was the waste product of a powder factory. The workers intoxicated complained of sickness, general faintness, a sensation of lassitude, headache, dryness of the throat, giddiness, anorexia or very acute feeling of hunger, tingling in the legs. Several workers had even to leave work on account of these troubles. In the more serious cases pallor or oedema of the face was recorded, distortion of the face, cyanosis, yellow colouring of the integuments and mucous membranes, irritations of the eyes, nose, and larynx. There are records of cases of disease of the respiratory or digestive passages and even of the circulatory system. Behind the list of symptoms there are gastric troubles which are connected with bad feeding. The kidney also may be attacked, and hence the necessity of examination of the urine for albumen. In six fatal cases sudden acute atrophy of the liver was in question. Mention has already been made of irritation of the skin due to nitro-aromatic substances, showing itself in dermatitis of every kind, usually serious and accompanied by general troubles. Three cases were reported among women workers, one of whom was 14 years old. The cases in general lasted a fairly long time. Two cases of blindness (Düsseldorf) were given, one of them fatal, but it was supposed that this last was a case of poisoning by methylated spirit or benzene. It must be remembered that several cases were ascribed to tetronitromethane and dinitrobenzol, but it must be said that the toxicity of these substances is closely connected with the degree of their purity. The wearing of gloves is a good preventive measure against dermatitis. An order of the Imperial Chancellor dated 28 September 1916 regulates work on nitro-compounds.

(15) *Nitrophenol*, better known by the name of *picric acid*, is chemically a trinitrophenol, 1-2-4-6, which is the final product of the action of azotic acid on phenol. It is used both in the solid and liquid states, and in consequence, its action on the organism can be exerted either by dust or by vapours. Absorption can thus take place either through the skin or through the digestive passages. Frequent intoxication was reported in all districts in which there were explosive or projectile factories. In general, it was a question of women who were engaged on the compression of explosives. There is a statement (Potsdam) that the workers become immune to the action of the picric acid even without the appearance of slight troubles.

If cases are on record of workmen who did not suffer from the picric acid, there is, on the contrary, a long series given of more or less serious cases with yellow colouration of the skin and hair, headache, anaemia, gastric trouble (through

swallowing dust), with pains and nausea. With reference to the respiratory system, bronchial catarrhs and even hæmoptysias were recorded. Cases of insomnia were also frequent. In the Dresden district, the greatest care was given to hygiene, both of the mouth and of the teeth, in order to avoid troubles of gastric origin. Cases of irritation of the skin with eruptions, eczemas, etc., were the most frequent of all.

Here it may be useful to recall the importance of the technical knowledge required by doctors treating these cases ; in fact, cases due to picric acid have been diagnosed and treated as phosphorous anaemia and intoxication because the doctor did not know the analogy of the picric and phosphorous accidents⁽⁵⁾. The duration of picric accidents varies greatly according to the gravity of each case. Slight cases of digestive troubles last on the average about ten days. One case in a factory manager, who had conjunctivitis provoked by contact with fingers soiled by picric acid, lasted nearly three months. The precautions adopted were almost always similar ; an attempt was also invariably made to improve the diet of the workers handling picric acid.

Dinitrophenol also caused numerous cases of intoxication (with cyanosis), several of them fatal but there are no details on this subject.

(16) *Nytraglycol*. This product, which is more volatile than nitro-glycerine, was used in loading cartridges with other explosives, but the most exposed workers were those whose job it was to enter the generating chambers. Although staying there but a very short time, workers complained of cerebral congestion and violent attacks of giddiness. Nevertheless, fairly rapid immunization was observed. Precautions taken were the installation of a powerful exhaust system, and the lowering of the temperature during the nitration and washing of the substances.

(17) *Tetranitromethane*. is a frequent impurity of nitrotoluenes and especially of T.N.T. It appears that several cases of intoxication attributed to T.N.T. were due to tetranitromethane. This substance is very toxic and has caused numerous very serious cases of intoxication, several of them fatal, after pulmonary cedema. The gas when breathed exerts a local irritant action and a general toxic action on the blood and on the circulatory system. In serious cases, foci of broncho-pneumonia were observed with pulmonary cedema, but without the well-known latent period of intoxication by nitrous gases.

(5) After having eliminated the biliary pigments in the urine examined, picric acid is tested for by the Grimbart method, which makes use of the Mithouard reaction.

(18) Among the halogen derivatives of the homologues of methane, we have *tetrachlorethane*, which is to-day obtained in industry by means of chlorine and acetylene in the presence of chloride of antimony as a catalytic. This product is a good substitute for benzene, ether, etc., because it is incombustible and can be easily recovered. It is used as a solvent of acetylcellulose for varnishing aeroplanes on account of the special properties possessed by it. We are here dealing with a very dangerous substance which may cause a more or less serious list of symptoms, ranging from ordinary sickness, giddiness, and vomiting to cerebral congestion and death, characterized by coma and jaundice with tumefaction of the liver. Lacquers containing *tetrachlorethane* have been prohibited, and in practice other solvents have been found less dangerous than *tetrachlorethane* (Munich, Potsdam).

(19) On boiling *tetrachlorethane* with lime and water it loses hydrochloric acid and gives *trichlorethylene*, which is used as a de-greasing agent, and in the extraction of perfumes. The vapours, composed of light gases, cause cases of illness, with feelings of fatigue, giddiness, and sometimes even deafness, but without a fatal termination.

(20) Another substitute for benzene is *carbon tetrachloride*, used in mordanting pelts. It was the cause of numerous cases of intoxication, which were accompanied by a feeling of oppression, anæsthesia, and so on.

(21) Colours, varnishes, lacquers, and paints were the cause of numerous cases of intoxication due to substitutes for the solvents and diluents used before the war. In general, *light tar oils* are concerned, or impure products such as acetone, benzene, methyl alcohol, formic ether, etc., substitutes for turpentine and for ethyl alcohol. These products were the cause of local lesions aggravated by working in a warm atmosphere, dermatitis of the hands, arms, and face, and eczemas, which usually were accompanied by an intoxication characterized by sickness, nausea, giddiness, drunkenness; and headache. There are records of cases of pains localized in the eyes, with sight trouble, and respiratory and digestive trouble. The danger was fairly great among ship painters, especially when it was a matter of submarines and torpedo-boats, on account of the smallness of the space in which the workers had to operate. This question has been the object of an inquiry on the part of the Factory Inspection Office at Hamburg since 1909 and was dealt with in a circular of the Chancellor dated 18 July 1917. The Circular laid down regulations for good ventilation in the work-places, to be obtained by means of electric appliances. Another Circular, dated 8 April 1918, imposed the precautions which were

to be taken inside snips' holds, even when substances were being used which were defined as inoffensive.

(22) *Naphthalene* and *anthracene* caused ulcers of the throat among the workers who were tarring wood (Arnsberg). Perchlorinated naphthalene caused nine cases of death and five cases of sickness among 90 persons in a Potsdam factory. The Bavarian Inspector stated that nitrated naphthalene, on the contrary, could be considered an inoffensive substance.

(23) One case of intoxication by *paranitroaniline* was reported in the North Palatinate district.

(24) *Ursol* was the cause of two cases of intoxication in fur dying (Chemnitz), due more particularly to paraphenylenediamine.

Infections

(1) In a meat-preserving factory (Hamburg), twelve women showed a kind of general intoxication in consequence of a small scratch in removing meat from bones.

(2) During the war period, the number of cases of anthrax was markedly less, on account of the stoppage of the importation of foreign raw materials (Königsberg, Bavaria). The only figures for the Stettin and Stralsund district were four cases in 1914. One fatal case of anthrax was recorded at Oppeln following a fly sting. In the Nürnberg district one fatal case, that of a brush maker, was recorded for the period 1914 to 1918; at Dresden there were three cases of anthrax in the brush and paint-brush factories. Of the three, two were fatal. In two of the cases the workers were handling foreign hairs and silks, and in one case home-grown silks. At Chemnitz a girl 17 years old, engaged in sorting sheep and goat skins, was attacked by a malignant pustule on the nape of the neck (without serious consequences). At Leipzig three cases were recorded, one case due to mohair, two cases from beating sheep and goat skins, which came from the battlefields. One of the latter cases was fatal after three days. In the Stade district, anthrax was reported in the wool-combing mills. At Cassel, one case, followed by a cure, was recorded in a woman working in a hair and silk factory. It was a case of foreign horsehair disinfected by steam, but the disinfection had been insufficient because the bale was too tightly packed. At Wiesbaden, three cases, followed by cures, were recorded among the workers working on foreign skins.

The general diminution in the number of cases of anthrax is very clearly shown in the following table:—

	1910	1911	1912	1913	1914	1915	1916	1917	1918	Remarks
Schleswig . .	7	12	11	5	6	1	—	1	2	11 fatal cases in the period 1914-1918
Hamburg . .	—	—	—	—	18	13	1	1	1	
Hesse . . .	—	—	—	8	4	1	—	—	1	The last 6 cases (1 fatal) in the same factory.
Saxe-Weimar .	—	—	—	11 (tanners)	1	—	—	—	—	
Württemberg	—	—	—	9 (boot-making)	1 (felt hat factory)	—	—	—	—	Reduction through stoppage of importation of foreign pelts

On the other hand, a noteworthy increase was recorded elsewhere. Thus the following figures are given for the district of Frankfurt-on-the-Oder :-

	Total No. of workers	No. of cases	Remarks
1915-16	500	2	—
1917	350	3	—
1918	320	9	including 2 deaths

WORKERS COMPENSATION AND INSURANCE

Compensation of Occupational Diseases in the United States ⁽¹⁾

OF the 46 compensation jurisdictions in the United States only eight (California, Connecticut, Hawaii, Massachusetts, New York, North Dakota, Wisconsin, and the Federal Government) provide compensation for occupational diseases. In Massachusetts, North Dakota, and the United States this inclusion has been effected through the commissions and courts, whereas in the other States it has been brought about by statutory enactment. The New York law limits compensation to certain specified diseases enumerated in the Act, while in the other States presumably all occupational diseases are covered. In the remaining 38 compensation jurisdictions occupational diseases are excluded, in theory at least, from the operation of the compensation acts. This exclusion has been brought about (1) by limiting the scope of the law to injuries by "accident", (2) by adverse rulings of the courts and commissions, and (3) by express provisions in the compensation Acts themselves.

Of foreign countries, Great Britain and most of the Canadian Provinces provide compensation for occupational diseases, limited, however, to certain diseases and processes stipulated in the schedule. In most of the European countries occupational diseases are taken care of under their sickness and invalidity insurance Acts.

The failure to include occupational diseases in the early American Acts was due, in part at least, to lack of information as to their prevalence and probable cost. At the time there existed no reliable statistical data showing the number of industrial diseases in the United States.

Since then the experience under the United States, California, and Massachusetts compensation Acts, together with investigations made by the Actuarial Committee of the National Council on Workmen's Compensation Insurance, have thrown considerable light upon both the number and

(1) Reprinted from *Cost of occupational Diseases in the U. S. under the Workmen's Compensation Acts*, by Carl HOOKSTADT, in the *Monthly Labor Review*, Washington, February 1921, p. 151.

cost of occupational diseases as compared with industrial accidents in the United States. The several reports and investigations show that the maximum cost of occupational diseases, if included in workmen's compensation Acts, would not be greater than 2 per cent of the aggregate cost of industrial accidents. The cost would probably be a great deal less than 2 per cent. The occupational diseases experience in California, Massachusetts, and under the Federal Act is shown in subsequent tables. Moreover, the Actuarial Committee of the National Council has come to the conclusion, after a detailed study, that the additional cost of occupational diseases is not of great importance, and consequently recommended that no special factor be used in the rates to measure the cost of occupational diseases. The Committee came to this conclusion because the experience of California and Massachusetts showed no results radically different from those obtained by the experience of other States, where the occupational disease hazard is not specifically covered by the statute. Furthermore, continued the Committee, "a large proportion of so-called occupational disease cases have already been carried into the experience. Such cases as lead poisoning and anthrax have, in many jurisdictions, been classified as accidents and compensated under the terms of the workmen's compensation laws provided they occurred under certain conditions" ⁽²⁾.

The conclusion of the Actuarial Committee to disregard the occupational disease factor in the computation of insurance rates is particularly significant in view of the fact that heretofore insurance rates had been loaded 2 per cent. in order to take care of the occupational disease hazard ⁽³⁾. This 2 per cent. loading had been based upon the report of a Committee on loadings and differentials made to the joint Conference on workmen's compensation insurance rates held in New York City in 1915, supplemented by a memorandum on the compensation cost of occupational diseases submitted by J. D. Maddrill to the joint Conference.

The probable increased cost of occupational diseases will depend somewhat upon the definition of an occupational disease. At the present time there is little uniformity among

(2) *Proceedings of the Casualty Actuarial and Statistical Society of America*, 1919-1920, vol. AI, p. 280.

(3) All classifications have some industrial disease hazard. To cover this, 1 per cent. is added to the pure premium for each class. Certain classifications have specific industrial disease hazards; as for example: lead poisoning, mercurial poisoning, compressed air sickness, etc. For each of these classifications an industrial disease pure premium is added to reflect the specific hazards. The combination of 1 per cent. on all classifications and the specific loading represents an average increase of 2 per cent. in pure premiums for those States where payments are made on account of industrial disease. (*Report of the Work of the Augmental Standing Committee on Workmen's Compensation Insurance Rates, 1917*, p. 85; issued by the National Workmen's Compensation Service Bureau.),

the several States, either as to a definition of occupational diseases or as to their practice in awarding compensation.

Occupational diseases may be classified according to cause and nature of injury, as follows :—

- (1) diseases due to gradual absorption of poisons (lead poisoning);
- (2) diseases in which the poison or germ enters the system through a break in the skin (anthrax);
- (3) skin affections from acids or other irritants (eczema, dermatitis);
- (4) diseases due to fumes or dusts entering the system through respiratory organs (tuberculosis, gas poisoning);
- (5) diseases due to vibrations or constant use of particular members (neuritis, telegrapher's, cramp, housemaids' knee);
- (6) Miscellaneous diseases (caisson disease, miner's nystagmus).

There are, however, two additional classes of diseases, non-occupational in character, for which compensation is usually granted : (1) those diseases, such as typhoid fever, erysipelas, pneumonia, and ivy poisoning, which arise out of, and are proximately caused by, the employment ; these diseases, to be compensable, however, must have had their origin in the employment and must be definitely traceable to it ; (2) those diseases which either result from an accident or are aggravated, accelerated, or developed by the accident. In these cases compensation is awarded not for the disease *per se*, but for the results of the accident. Had the accident not occurred the disease would presumably never have developed ; consequently the resulting disability is justly attributable to the accident.

However, in many States in which the compensation laws do not cover occupational diseases the courts and commissions in actual practice have awarded compensation for most of the diseases enumerated above (4). They undoubtedly feel that an employee who contracts an occupational disease is just as much entitled to compensation as one who sustains the loss of an arm. Consequently, in their decision under the law they have no doubt been influenced by their desire to remedy as far as possible the economic injustice of the

(4) For example, New York, before occupational diseases were included in the Act, had awarded compensation for anthrax, gas poisoning, ivy poisoning, dermatitis, and sunstroke; Illinois for arsenical poisoning, gas poisoning, traumatic peripheral neuritis, and sunstroke; Wisconsin, for miliary tuberculosis, skin affections from acids, typhoid fever, and frostbite; Michigan, for throat infection from inhalation of dusts; Minnesota, for gas poisoning and sunstroke; Ohio, for gas poisoning and sunstroke; Connecticut for housemaid's knee, erysipelas, and frostbite; and Indiana, for nephritis.

statutes. Compensation has been usually granted if one or more or all of the following conditions were present : (1) if the disease resulted in violence to the physical structure of the body, i.e. if it was traumatic or produced a lesion ; (2) if the injury occurred unexpectedly or not in the usual course of events ; (3) if the injury can be traced to a definite time and place in the employment ; and (4) if the injury was not due to a known and inherent risk of the occupation, or, even if inherent in the occupation, if the employer had neglected to provide reasonable safeguards which would presumably have prevented the injury.

The guiding principle adopted by most of the courts and commissions in occupational disease cases is stated by the Pennsylvania Workmen's Compensation Board, in awarding compensation for dermatitis due to the fortuitous presence of poison in hides handled by the employee, as follows :—

Where injuries received in the course of employment are of untraceable inception and gradual and insidious growth and cannot be traced to having been received at some certain time, and in which there is no sudden or violent change in the condition of the physical structure of the body, they must be regarded as the results of an occupational disease. However, if the disease can be traced to some certain time when there was a sudden or violent change in the condition of the physical structure of the body, as, for instance, where poisonous gases were inhaled which damage the physical structure of the body, it is an accident within the Workmen's Compensation Act of 1915, and is compensable⁽⁵⁾:

Thus it will be seen that the additional cost to a State desiring to include occupational diseases in its compensation law will not be materially increased, because many of such diseases are already being compensated, not as diseases but as accidents.

The following table shows the number of cases of occupational diseases and average number of days lost under the Federal Compensation Act for the year 1919. It will be noted, however, that this list includes injuries, such as pneumonia and typhoid fever, poisoning from gas and fumes, etc., which have been compensated in States that do not include occupational diseases in their compensation Acts.

(5) *Roller v. Drueding Bros. Pennsylvania Workmen's Compensation Board Decisions for 1916*, p. 86.

Cause of injury	Total cases	Deaths and permanent total disabilities	Permanent partial disabilities	Temporary total disabilities	
				Number	Average number of days lost
Poisonous substances (ivy, brass, copper, T. N. T., etc.)	71	2		69	18
Gases and fumes	48	6		42	31
Corrosive substances (acids)	154		5	149	17
Occupational diseases (lead poisoning, neuritis, pneumonia, rheumatism, and typhoid fever)	25	(⁶) 8		18	33
Total	299	(⁶) 16	5	278	21
Total, all injuries ...	19,354	(⁷) 617	607	18,130	22

The following table shows the number of cases of occupational diseases and extent of disability as compared with all injuries under the Federal Compensation Act for the year 1919. It will be noted that occupational diseases constitute less than 2 per cent. of the total injuries.

	All injuries	Occupational diseases	Per cent. occupational diseases are of all injuries
Total number of cases	19,354	299	1.5
Death and permanent total disability cases	617	16	(⁸) 2.6
Permanent partial disability cases	607	5	0.8
Temporary total disability cases	18,130	278	1.5
Total number of days lost in temporary total disability cases	397,395	5,740	1.6

The following table shows the number of cases of occupational diseases, the number of injuries caused by poisonous and corrosive substances, and the total number of injuries in California for the year 1919. The injuries due to poisonous and corrosive substances are taken from the cause classification table of the Commission's report, whereas

(6) Includes one permanent total disability and six deaths from pneumonia.

(7) Includes 30 permanent total disabilities.

(8) Only 1.6 per cent. if the six pneumonia cases are excluded.

the occupational diseases are taken from the nature of injury table. Both types of injuries are here given in order that the California data may be comparable with that of the other States.

	All injuries	Injuries caused by poisonous substances		Occupational diseases	
		Num-ber	Per cent. of all injuries	Num-ber	Per cent. of all injuries
Total number of cases	58,577	671	1.1	455	0.8
Deaths.....	586	1	0.2	3	0.5
Permanent disabilities.....	1,714	8	0.5	—	—
Indeterminate disabilities....	695	5	0.7	6	0.9
Temporary disabilities.....	55,582	656	1.2	446	0.8
Total number of days lost..	7,228,983	30,161	0.4	—	—

The following table shows the cases of occupational diseases as compared with the total number of injuries in Massachusetts for the four years 1915-16, 1916-17, 1917-18, and 1918-19. A large number of these so-called occupational diseases would be considered accidents in other States and compensated as such. It will be noted that the percentage of fatal occupational diseases to total fatal injuries for the four-year period is 2.9, whereas the same percentage for non-fatal injuries is 1.3.

	Fatal injuries			Non-fatal injuries		
	Total cases	Cases of occupational diseases		Total cases	Cases of occupational diseases	
		Num-ber	Per cent. of total cases		Num-ber	Per cent. of total cases
1915-16	463	26	5.6	68,180	1,351	2.0
1916-17	481	16	3.3	78,789	992	1.3
1917-18	438	8	1.8	77,067	891	1.2
1918-19	356	1	0.3	66,884	554	0.8
Total.....	1,738	51	2.9	290,920	3,788	1.3

The following table shows the number of cases of occupational diseases and extent of disability as compared with the total tabulatable injuries in Massachusetts for the years 1917-18 and 1918-19.

	Total tabulatable injuries		Occupational diseases (including poisonous and corrosive substances)		Per cent. occupational diseases are of total number of injuries	
	1917-18	1918-19	1917-18	1918-19	1917-18	1918-19
Total number of cases	77,505	67,240	899	555	1.2	0.8
Deaths	438	356	8	1	1.8	0.3
Permanent total disabilities	17	7	1	—	5.9	—
Permanent partial disabilities	2,177	1,750	2	4	0.1	0.2
Temporary total disabilities	74,873	65,127	888	550	1.2	0.8
Total number of days lost in temporary total disability cases ...	1,661,845	1,361,649	18,379	12,916	1.1	0.8

The following table shows the number of cases of occupational diseases in Massachusetts for the two years 1915-16 and 1916-17, classified by kind of disease. The table also shows the total number of days lost on account of the non-fatal diseases for the year 1915-16. It will be noted again that many of these so-called diseases are being compensated in States which do not cover occupational diseases in their compensation Acts.

	Cases of occupational disease				Days lost on account of non-fatal diseases, 1915-16
	Non-fatal		Fatal		
	1915-16	1916-17	1915-16	1916-17	
Harmful substances (causing constitutional disturbance :					
Brass	1	5	—	1	4
Dusts	5	7	—	—	60
Gases, vapours, and fumes.	76	62	10	2	1,118
Anthrax	20	20	5	4	814
Lead	49	53	3	1	3,063
Miscellaneous	—	13	—	1	—
Harmful conditions :					
Compressed air.....	383	36	4	—	7,734
Extreme cold	77	78	2	4	2,402
Extreme heat.....	74	114	2	2	622
Eye strain	7	2	—	—	164
Strain, fatigue, cramp, faulty positions, "occupational neuroses", blows, vibration, pressure, etc., causing injuries to nerves, muscles, and bones.....	84	67	—	—	4,194
Miscellaneous	4	13	—	—	162
Irritant fluids and substances (causing local affections):					
Brass	21	26	—	—	600
Cement.....	4	4	—	—	97
Chemicals	—	72	—	—	—
Chrome	16	32	—	—	269
Cyanide and plating solutions.....	10	10	—	—	123
Dyes	32	27	—	—	1,028
Hides	14	25	—	—	352
Lime	51	16	—	—	580
Oil	48	58	—	—	514
Paint	4	13	—	—	340
Poisonous vines and shrubs.	45	44	—	—	981
Raw wool.....	8	9	—	—	104
Washing and cleansing fluids.....	15	27	—	—	198
Local irritations from constant vibrations, etc	132	78	—	1	2,234
Miscellaneous.....	171	81	—	—	3,576
Total.....	1,351	992	26	16	31,333

BOOK NOTES

Arbeitgeber und Arbeitnehmer: Handbuch für Industrielle und Gewerbetreibende. Herausgegeben vom Hauptverband der Industrie Deutschösterreichs. (Employers and Employed. Text-book for Manufacturer- and Business Men. Published by the Central Association for Industry in Austria). xv-416 pp. Vienna and Leipzig, Franz Deuticke. 1920.

This manual consists of a collection of the laws and decrees, which, since the institution of the Republic, have regulated the relations between employers and workers, and effected considerable modifications in the social legislation of Austria. It includes a detailed commentary on the Works Councils Act of 15 May 1919, a criticism of the Act of 18 December 1919, concerning the establishment of Conciliation Offices and Collective Labour Agreements, a study of Labour Courts, and a summary of protective legislation and of new regulations as to labour conditions. A precise examination is also made of the present state of legislation on old age sickness, accident, and unemployment insurance. The book concludes with a summary of laws and regulations issued between 1 November 1918 and 31 August 1920, and with a useful index.

BIANCHI, GIUSEPPE. *Russia Sindacale: Commissione Confederale in Russia. (Trades Unionism in Russia: The Confederal Commission in Russia).* 407 pp. Milan, Codara, 1921.

A book of considerable interest, containing the report on their journey to Russia during the summer of 1920 of the representatives of the Italian General Confederation of Labour. It deals especially with Russian trade union organization. After describing the development of trade unionism in Russia under the Czarist régime, the author analyses the organization and functions of the factory committees, their subordination to the trade unions, and their successive transformations. A good deal of the book is devoted to the study of the organic structure of the trade unions and of their function as organs of economic reconstruction in Russia. Other problems are also examined, such as the collective management of works, the relations between trade unions and Labour Commissariat, the payment of wages in kind, bonuses on output, the feeding of the workers, illicit trading, compulsory labour, and the results of the nationalization of industry. The report is based entirely on the official documents which the author was able to obtain in Russia.

BUDISH, J. M., and SOULE, GEORGE. *The New Unionism in the Clothing Industry.* 344 pp. New York, Harcourt, Brace and Howe, 1920.

This book traces the organization and growth in power of the clothing unions in the U.S.A. and the improvement effected thereby in the standard of life of the clothing workers. The aims of the "New Unionism" are conveniently summarized in the clause from the Preamble of the Constitution of the Amalgamated Clothing Workers of America: "The industrial and inter-industrial organization, built upon the solid rock of clear knowledge and class-consciousness, will put the organized working class in actual control of the system of production, and the working class will then be ready to take possession of it". The authors contend that this objective is the natural outcome of the inevitable protest by the workers against the economic conditions incidental to the clothing industry, and in origin and

sentiment is thoroughly American. They maintain that such aims alone have proved sufficient to organize the clothing workers and hold them together. The objects of the "New Unionism" are shown to differ essentially from those professed by the "Old Unionism", and their influence on structure and strategy, their expression in education, labour publications, co-operative enterprises, and inter-industrial relations, is described and explained. An interesting chapter speculates on the future of the movement.

DELAISI, F. *Le Pétrole (Oil)*. 158 pp. Paris, Payot. 1921.

After sketching the history of the oil question, the different phases of the rivalry between Great Britain and the United States and the position of France in this economic struggle, the author examines the origin of the San Remo agreement, criticizes French policy in the matter, points out its immediate and remote dangers, and extols the system of free competition.

FRANCKE, Dr. E. und BUCHFELD, Sanitätsrat Dr. *Die Meldepflicht der Berufskrankheiten. (Compulsory Notification of Industrial Diseases)*. 50 pp. Berlin, Julius Springer. 1921.

No. VI of the series published by the Institute of Industrial Hygiene at Frankfurt-on-Main is devoted to the question of compulsory notification of industrial diseases, a question which has been discussed for many years. The report is written by Drs. Francke and Buchfeld. After expounding the various laws in force in Germany, England, the Netherlands, Austria, New York, France, and Hungary, compelling medical practitioners to notify certain industrial diseases, the report gives a summary of the replies to a *questionnaire*, sent out by the Institute, from a number of doctors, technical experts, manufacturers, and public officials. The first question was as to the desirability of adding to existing formulae of declaration, and the second was as to the agent by whom declaration should be made. The replies to the first question were in the affirmative, but very divergent views appear as to the persons and bodies who should make and receive declarations. The persons interrogated were in favour of extending the obligation to notify to the following industrial diseases: tuberculosis among workers dealing with organic dust, in the baking industry, in the slaughter of tuberculous cattle, and in the pottery, stone-cutting, and building industries; pneumoconiosis; pneumonia due to scoriae (described by Thomas); rheumatism; deafness in noisy trades; industrial eczema in the book-producing industry and the building industry; dermatitis due to "satin" wood; cataract and syphilis among glass blowers. Some also recommend the notification of retraction of the hands and feet, and certain injuries to the eyes and hearing.

But the most important question, and the one which undoubtedly forms the kernel of the problem, is exactitude in diagnosis. In many cases the diagnosis of industrial diseases is undoubtedly very difficult, but as the medical diagnosis is the basis of notification and of the right to compensation, it follows that the physician should be well instructed in the task which he has to perform. The training of the physician should, therefore, begin while he is still at the university.

The report concludes with two draft forms of declaration proposed by the Institute.

FRIDAY, DAVID. *Profits, Wages, and Prices*. 256 pp. New York, Harcourt, Brace and Howe. 1920.

This book was apparently very rapidly put together from the knowledge gained by the author while working as an expert in the Internal Revenue Bureau of the United States Treasury Department. Some interesting statistical material is presented on the changes in the functional distribution of incomes during the war period. The chapter headings give an idea of the subjects dealt with and the method of approach. These are: The Curse

of Peace; the Growth of Profits; Normal Profits and Profiteering; the Uses to which Profits are put; the Rate of Interest; the Course of Wages; the Division of the Product; How Europe raised American Prices; Prices since the Armistice; General Prices and Public Utility Prices; the Theory of the New Taxes; Has the Excess Profits Tax raised Prices?; the Part played by the Banks; How can real Wages be raised? The chapters on "The Growth of Profits", "Normal Profits and Profiteering", and "Has the Excess Profits Tax raised Prices?" are especially interesting and instructive.

GOMPERS, SAMUEL. *Labour and the Employer*. 320 pp. New York, E. P. Dutton & Co, 1920.

A compilation of writings, addresses, and testimonies by Mr. Samuel Gompers, President of the American Federation of Labor, covering the period 1887—Jan. 1920. This book, a companion to *Labor and the Common Welfare*, already issued, deals with the whole subject of employment relations, from the root questions of wages, working hours, and unemployment, to the challenging issues of strikes, boycotts, the so-called closed shop, arbitration, collective bargaining, profit-sharing, and the labour view of a true democratization of industry.

JULIN, ARMAND. *Principes de Statistique théorique et appliqué (Principles of Theoretical and Applied Statistics)*. xxiv+712 pp. Paris Marcel Rivière; Brussels, Albert Dewit. 1921. 35 francs.

This volume, containing the substance of lectures given at the University of Louvain and elsewhere by the Principal Secretary of the Ministry of Industry, Labour and Food, deals with the explanation and discussion of modern statistical methods. It is to be followed by a second and third volume dealing with the application of statistics to economic and labour questions respectively. The basis of treatment is mathematical, but, except to a slight extent towards the end, no mathematical knowledge is assumed beyond a little elementary algebra. Nearly half the volume is given up to a discussion of the difficulties and pitfalls to be avoided in the collection and preparation of statistical material, and to the description of the methods and precautions to be adopted in order to ensure the maximum usefulness of the results. In view specially of the chaotic state of international statistics, where it is almost impossible to find figures which apply to things or groups which are really comparable, it is impossible to lay too much stress on the need for more uniform theories of classification and more scientific criticism of statistical material. This part of the book will be found of interest not only to the statistician, but to everyone who wishes to understand the meaning and real value of any kind of statistical statement. The last section discusses the ordinary statistical processes—means, measures of dispersion, correlation, graphical methods, and the law of errors; the problem of fitting a group of observations to a standard curve of error and the determination of probable errors are rather beyond the scope of the book, and are only briefly referred to. The reader who wishes to go more deeply into the theory of the subject will find full lists of references at the end of each section.

LORENZ, Dr. J. *Zur Einführung in die Arbeiterfrage unter besonderer Berücksichtigung schweizerischer Verhältnisse. (An Introduction to Labour Problems with special reference to Switzerland)*. 64 pp. Zürich, Orell Füssli. 1921. 3.50 francs.

After a brief examination of the industrial position in Switzerland and the origins of the social problem, the author discusses prevalent conditions among the working classes, and formulates his results thus: (1) the modern worker lives at a distance from his work; (2) he lives a hand-to-mouth existence; (3) he is no longer influenced by tradition.

Another chapter deals with the development of the class struggle, the modern working class movement, and the evolution of syndicalism from

the date of the foundation of the Swiss Syndicalist Union in 1881. The book concludes with a discussion on the carrying out of social reform, which is envisaged, not as a factor contributing to the class struggle, but rather as an idealist principle, such a principle as shall, by the use of an exact knowledge, solve the problems arising out of population movements and productive processes, as also educational problems.

PRATO, GIUSEPPE. *Problemi del Lavoro nell'ora presente. Riassunti di lezioni tenuti all'Università Commerciale Bocconi dal 4 al 10 maggio 1919. (Present Day Labour Problems : Lectures delivered between 4 and 10 May 1919 at the Bocconi Commercial College)*. 148 pp. Milan, Trèves, 1920.

In this series of lectures given at the Bocconi Commercial College in Milan, the author reviews the present position of those problems of labour and social legislation, which have especially occupied the attention of organizers and Governments since the war. He lays special stress on the problem of unemployment, and describes the methods adopted to cope with it in different countries. He also deals with women's work, which in his opinion should be reduced to a strict minimum, and with scientific management (Taylor's system). In the following chapter, the author describes the different movements towards the democratization of industry, e.g. English Guild Socialism, the recent claims of the French General Confederation of Labour, the setting up of a National Labour Parliament in Italy. The last chapter is devoted to the preliminaries and future of the International Labour Organization.

RENARD, G. and WEULERSSE, G. *Le Travail dans l'Europe moderne (Labour in Modern Europe)*. 524 pp. Paris, Félix Alcan. 1920. 12 francs.

The series entitled *Histoire universelle du Travail* published under the direction of M. G. Renard, Professor at the Collège de France, is continued by the issue of a first volume on Modern Europe, which follows on the volumes dealing with labour in the Roman World, the Greek World, etc. It contains a study of the economic evolution of the social classes, covering the period from the middle of the XVth to the end of the XVIIIth century. The authors examine the parallel progress of agriculture, industry, and commerce in various countries, side by side with their political progress. They describe the economic and social revolution which preceded the modern era taking as their theme the idea that it is through a study of national economic systems and colonial expansions that we can learn to understand contemporary society. Each chapter closes with bibliographical notes. To obviate the disadvantages of the study of each country separately, the authors give, by way of conclusion, a comparative view of the evolution of the principal States.

SAND, R. *Organisation industrielle, médecine sociale, et éducation civique en Angleterre et aux Etats-Unis, (Industrial Organization, Public Health, and the Education of the Citizen in England and in the United States)*. 890 pp. Paris, J. B. Baillière; Brussels, M. Lamertin. 1920.

The notes which the author has gathered together in this abundantly documented and admirably arranged volume are the results of three inquiries successively undertaken in the United States (1918-1919) and in England (1918), and of investigations into factories, workshops, large retail shops, insurance companies, public departments, educational establishments, and social welfare institutions. In the first part, the author studies the present organization of English and American industry, and considers the labour problems which arise out of it, such as technical equipment, social welfare, medical and educational work in factories, fatigue, hygiene, work of women and children. The second part is devoted to social medicine, namely, the organization and nature of public hygiene, the Ministry of Public Health, eugenics, housing, the fight against contagious diseases, tuberculosis, alcoholism, crime, etc., protection of children and young persons and so on. The third part deals with school and civic education. The

author furnishes evidence rather than opinions, and leaves every reader to draw his own conclusions.

TURATI, FILIPPO. *L'orario di lavoro delle otto ore. Relazione e disegno di legge approvati dal Consiglio Superiore del Lavoro nel luglio, 1919. Con prefazione di Giuseppe PRATO.* (*The Eight-Hour Day Report and proposed Bill adopted by the Supreme Council of Labour, July 1919. With a Preface by Giuseppe Prato*). 152 pp., Milan, Treves, 1920.

M. Turati, the well-known leader of the Right wing of the Socialist Parliamentary group, and a member of the Supreme Council of Labour, traces the history of the 8-hour day in different countries, and especially in Italy, where in 1919 four million workers had the benefit of an 8-hour day and a 48-hour week on the English system (one day's rest in seven, and a weekly half-holiday). He mentions proposals for international Conventions for an 8-hour day; he also examines the effect on production of a reduction in working hours and suggests possible remedies.

The report is followed by the text of a proposed Bill providing for the application of the 8-hour day to all undertakings, including those of agriculture, and for the prohibition of overtime work at home.

WILLIAMS, WHITING. *What's on the Worker's Mind.* 329 pp. New York, Charles Scribner's Sons. 1920.

This book gives the experiences of the author during his studies at first hand of employment conditions from the standpoint of a manual labourer in the iron and steel industry, coal mining, shipbuilding, and other big industries. Part II, called *Findings*, gives the author's interpretation of the causes of discontent and unrest among the workers, and his suggestions as to the "way out". Mr. Williams holds the management largely responsible for labour unrest. He is especially struck with the incompetence, lack of training, and brutality of the gang foreman or "straw boss". His experience as an overall-clad manual worker indicates that most of the intelligent, zealous efforts on the part of the workers to assist in keeping up production are nipped in the bud by the "straw bosses", who discourage any independent initiative from members of their gangs. This suppression of independent thinking and initiative is not confined to common labourers, but pervades all grades of workers up to the general superintendent. The cure is to give every man in an organization a chance to do his best and to identify himself with the work turned out by the establishment.

On the side of the public, legislation is recommended to ensure the creation of an employment service that will be impartial as between employer and employees, and, what is immensely more important, to make possible an organization of industry and of all the institutions of society which will give the greatest possible stability and regularity in employment.

WILSON, Dr. M. R. *The Care of Human Machinery.* 238 pp. London, Henry Frowde and Hodder and Stoughton. 1921.

The author examines various questions relating to industrial fatigue, hours of work, the problem of loss of time by workers in its effects on industrial and social finance, labour of women and young persons, waste of corporal movements in productive processes, the danger of dust, tuberculosis, ocular fatigue, and accidents, and the costs thereby occasioned, whether arising out of sickness or due on account of compensations. Dr. Wilson also discusses the principles of industrial welfare, feeding of workers, and their physical education, and concludes by an exposition of the American programme, which has been made known by the recent publication of the Public Health Service of the United States. It is of considerable value that books should be written on the subject by physicians possessing Dr. Wilson's ability to handle it in a simple and agreeable manner.

I. THE METRIC AND BRITISH SYSTEMS OF WEIGHTS AND MEASURES (1)

A. Metric Measures in terms of British.			B. British Measures in terms of Metric.		
UNIT	EXACTLY	ROUGHLY	UNIT	EXACTLY	ROUGHLY
A. Lineal Measures					
Millim.	0.0394 inches	one 25th of an inch	Inch	25.399 mm.	4 in. = 10 cm.
Centim.	0.3937 "	10 cm. = about 4 in.	Foot	30.479 cm.	30 cm.
Metre	39.371 "	11 metres = 12 yards	Yard	0.9144 metres	11 yards = 10 metr.
Kilom.	0.6214 miles	5 furlongs	Mile	1.6093 km.	5 miles = 8 km.
B. Square Measures					
Sq. Metre (centiare)	1.196 sq. yds.	1½ sq. yds.	Square Inch	6.451 sq. cm.	
Are	3.954 poles	10 ares = ¼ acre	Square Yard	0.836 sq. metr.	6 sq. yds. = 5 sq. metr.
Hectare	2.471 acres	2½ acres	Acre	0.40467 hect.	1 acre = 2½ hect.
			Sq. Mile	2.5899 sq. km.	100 sq. miles = 260 sq. km.
C. Measures of Capacity					
Litre	1.76 pints	4½ litres = 1 gallon	Pint (liquid)	0.5679 litres	1 litre = 1¾ pints
Décalitre	2.201 gallons	5 décalitres = 11 gallons	Quart (liquid)	1.1359 "	
			Gallon (liquid)	4.5435 "	4½ litres = 1 hectol.
Hectolitre	22.01 "	22 gallons	Peck (dry)	9.087 "	9 litres
			Bushel	36.3476 "	36 litres
D. Measures of Weight					
Gramme	0.353 oz.	454 grs. = 1 lb.	Ounce	28.35 grs.	7 oz. = 200 grs.
Hectogr.	3.527 "	nearly ¼ lb.	Pound	453.59 "	½ kilo
			Hundred-weight	50.802 kilos	22 lbs = 10 kilos
Kilogr.	2.2046 lbs.	5 kilos = 11 lbs.	Short Ton (2000 lbs)	901.6 "	50 kilos
Metric Ton	2204.6 lbs.	1 Long Ton	Long Ton (2240 lbs)	1016.04 "	900 "
					1000 " (1 Met. Ton)

II. Table showing the par values of the pound (£), the dollar, and the franc in the currencies of the principal countries (1).

Country	Monetary unit	£1 =20 shillings =240 pence	One dollar =100 cents	One franc = 100 centimes
		<i>equals</i>	<i>equals</i>	<i>equals</i>
United Kingdom	£ 1	1.00	4s. 1½ d.	9½ d.
Australia	£ 1	1.00	4s. 1½ d.	9½ d.
New Zealand	£ 1	1.00	4s. 1½ d.	9½ d.
South Africa	£ 1	1.00	4s. 1½ d.	9½ d.
Canada	dollar	4.8665	1.00	0.193
United States	dollar	4.8665	1.00	0.193
Belgium	franc	25.222	5.181	1.00
Bulgaria	leve	25.222	5.181	1.00
Finland	mark	25.222	5.181	1.00
France	franc	25.222	5.181	1.00
Greece	drachma	25.222	5.181	1.00
Italy	lira	25.222	5.181	1.00
Roumania	leu	25.222	5.181	1.00
Serbia	dinar	25.222	5.181	1.00
Spain	peseta	25.222	5.181	1.00
Switzerland	franc	25.222	5.181	1.00
Argentina	peso	5.04	1.036	0.200
Austria	krone	24.00	4.93	0.951
Brazil	milreis	15.00	3.14	0.606
Chili	peso (gold)	13.33	2.74	0.53
Denmark	krone	18.15	5.73	0.720
Germany	mark	20.43	4.198	0.811
Hungary	krone	24.00	4.93	0.951
India	rupee	10.00	2.09	0.403
Japan	yen	9.80	2.006	0.387
Netherlands	florin	12.11	2.49	0.480
Norway	krone	18.15	3.73	0.720
Portugal	escudo	4.53	0.92	0.176
Russia	rouble	9.48	1.94	0.374
Sweden	krona	18.15	3.73	0.720
Turkey	piastre.	111.10	22.73	4.386

NOTE. This table is read as follows: £1 is equivalent to 12.11 Dutch florins; 1 dollar is equivalent to 2.49 Dutch florins; 1 franc, is equivalent to 0.4 Dutch florins.

(1) In order to assist the reader in converting the long, square, and cubic measures, weights, and currencies quoted, it is proposed to print the above two tables at the end of each number of the *International Labour Review*.