

## HOW GERMANY DEALS WITH WORKMEN'S INJURIES

“THE worst of it,” said the head of a large railroad corporation after the New Jersey legislature had passed its Workmen’s Compensation Bill, “is that they probably won’t be able to prove that it is unconstitutional.” Admitting that there are American employers who are showing an active humanitarian interest in the welfare of their employees, it is no exaggeration to maintain that the attitude disclosed by that remark is the attitude of the majority. They cannot understand why the protection of the lives and limbs of the people who are paid to work for them should constitute an important item in their budget, because they have not yet learned to appreciate the value, to themselves, of the health and the lives of their labor force. They are apt to regard all schemes of compensation and insurance as charity, not as justice or economy, and for charity they see no place in the business world, where everything is getting and not giving.

A study of the results of similar laws enforced in other countries might help to convert these unbelievers. It might awaken in them an understanding of the system and perhaps, in the end, create a willingness to experiment here. It is the purpose of this article to show what results the system as applied in Germany has achieved with respect to the protection and the preservation of human life. Although every European country has had in effect, for a number of years, laws similar to those passed in New Jersey, I have chosen Germany, not only because it was one of the pioneers in the movement, but because it has developed the possibilities of the scheme to the utmost, and because the recommendations made by the Congressional Committee on Employer’s Liability and Workmen’s Compensation and by the National Civic Federation, for state and federal legislation in these fields, contain fundamental principles which Germany has tried out and has shown to be sound.

The Bismarckian law on the subject, passed in 1881, is a very simple measure. It was framed by legislators with a clear

insight into human nature, who realized fully that, if they wanted the law to succeed, they must arouse through it not a humanitarian interest, not a philanthropic impulse, but the instinct of self-preservation. In framing the law they adopted the motto: "Take care of the workmen, and the employers will take care of themselves." They made the saving of the employer's income dependent upon the saving of the employee's life, and they thus coupled with self-interest an interest in the welfare of the laboring force. And, as they realized that special provisions for all the various cases that might arise would never cover the field nor prevent litigation, they made but one clause—with a finality the significance of which was appreciated only in time—that, unless it can be shown that the employee has wilfully injured himself, every employer must pay a fixed sum as indemnity for any injury received by a person in his employ.

It was a painful experience for the German manufacturers—their awakening to the significance of the law—for it cost them, in the first two years of its existence, the sum of 150 million marks in compensations. But instead of allowing themselves to be crushed by these losses, or of rising up in rebellion against the law, they rallied their forces and indicated a determination to get the better of the situation.

The first thing they did was to combine, realizing that the only safeguard against the enormous debts into which the new law was plunging them lay in coöperation. The second was to form insurance companies—the safest way of unifying and making precise provision for large accident liabilities. Employers engaged in similar trades formed insurance companies of their own, called *Berufsgenossenschaften* (there is no English term for this, except perhaps "mutual associations of employers," but the connotation here is inexact). The idea was that these companies should pay workmen's compensations out of the annual premiums contributed by the individual firms. The employers managed these companies themselves, delegating to them all the unpleasant tasks that the employers did not wish to take care of separately and all the responsibilities that they could not well shoulder alone. Of the functions that were delegated to them, the *Berufsgenossenschaften* have made such

good use that to-day they are the most powerful factors in the industrial system. They act as intermediaries between employer and employee. They shoulder the entire responsibility of making payments under the law for the employers, and they look out for the welfare of the employees; they are trade policeman, judge and jury, as well as executive head and legislative body.

Within five years after the law was passed, almost all the *Berufsgenossenschaften* now flourishing sprang into existence. Since it is their business to collect from employers all the money needed for the payment of damages and to pay it out, in case of accident, to the employees, it is to their interest to pay out as little as possible. This they do, not by trying to evade their obligations, but by providing an ounce of prevention in order to save themselves a pound of cure. They began by making suggestions for preventive measures; later they assumed the authority of making them compulsory; and, finally, they enforced them through factory inspection. Then, seeing that employers could not obey the instructions unless the manufacturers delivered the improved machinery or the required safety appliances, they went still further: they forced the manufacturers to deliver the desired goods by threatening boycott in case of refusal.

But how can they, without the force of the law behind them, compel manufacturers to spend great sums of money on improvements which are neither money-saving nor labor-saving devices? They accomplish this result by means of a cleverly conceived sliding scale of dues, based on the amount of improvements made in the factory. The insurance to be paid by the owners of the factories for their workers varies inversely as the dangers to which the workers are exposed. That is, the man who has the best-equipped factory pays the least insurance for his employees, and the man who refuses to make improvements pays the most. When he has reached the maximum, when he has entered the highest class of premium payers and still refuses to comply with the regulations of his *Berufsgenossenschaft*, he has to pay a fine equal to his annual premium.<sup>1</sup>

<sup>1</sup> In the case of *Franklin v. The United Railways and Electric Company of Baltimore* the Court of Common Pleas of Baltimore declared the compensatory law of Maryland (1902) unconstitutional because it put the entire matter of regulating the amount of in-

This arrangement naturally results in a competition among employers to see who can do the most in safeguarding the employees—an almost incredible state of affairs.

Statistically, it is rather difficult to prove that these measures have benefited the employees or to show in what way they have helped the employers. The figures fail to show that there have been fewer injuries among industrial and agricultural laborers than formerly: on the contrary, they make it clear that there have been many more.

NUMBER OF ACCIDENTS REPORTED IN AGRICULTURE AND INDUSTRY

YEARS	AGRICULTURE	INDUSTRY
1885	. . .	10,687
1897	18,343	25,747
1904	26,920	65,205
1907	24,900	75,370
1908	25,676	74,581

At the same time, the cost of the system has greatly increased: in 1885, the sum of 58,800,000 marks was used in the prevention and compensation of injuries; in 1908, the amount was 734,701,955 marks.

There are two ways of explaining the increase in the absolute number of injuries in spite of the strenuous efforts made to prevent them. In the first place, new inventions bring new dangers; and so the number of injuries fluctuates as the adoption of live-saving devices keeps pace with the invention and application of time and labor-saving machinery. In 1908, for instance, there was a distinct revolution in agricultural machinery, and, as the preceding table shows, there was an increase in the number of accidents. Secondly, in former years, an injury

surance every employer had to pay into the hands of one commissioner, thus giving the commissioner judicial power and depriving the individual of the right of trial before a jury. (This decision is not reported; but an extract from the opinion of the court, which was filed April 27, 1904, is printed in U. S. Bureau of Labor Bulletin, no. 57, pp. 689, 690.) The German system has avoided this situation—the concentration of power in the hands of a governmental officer—by providing that the employers, through their representatives, shall govern themselves and settle one another's affairs. Experience has shown that they are more apt to be strict than lenient with each other, and that there is here no opportunity for bribery or graft.

had to be pretty serious before a workman would go to the trouble and the expense of a law-suit to collect damages. Now that the trouble is minimized and there is no expense, he is not at all slow to report the slightest injury that may be regarded as entitling him to compensation.

As these figures seem to show that the greater the sums of money expended to prevent accidents, the more accidents occur, it would seem that the statisticians who compiled them did not, like Hamlet's statist, "hold it a baseness to write fair." Instead of employing their black art to produce evidence, convincing on its face, of the merit of the system, they leave the system to justify itself by facts less easily stated in statistical form: better relations between employer and employee, a higher grade of efficiency among the workers, fewer costly damage suits, a decrease in the mortality of industrial workers *etc.* Anyone who has watched the progress that Germany has made within the last fifteen years will not hesitate to agree with Professor Seager, of Columbia University, when he says: "The adoption of her elaborate system of workmen's insurance was coincident with the beginning of a period of industrial expansion that has brought her to the front rank among the commercial nations of the world."<sup>1</sup>

Although the government has put the matter of the medical treatment of injured workmen and the prevention of industrial accidents entirely into the hands of the employers, it has by no means thrown off its own responsibility nor turned aside its watchful eye. To be sure, it has been relieved of the task of legislating for factory reforms and of organizing factory inspection, and its court calendars have been cleared of all industrial quarrels and damage suits. But the money which it saves through this lightening of its burden, it uses partly in helping the *Berufsgenossenschaften* in their statistical work and their factory inspection but principally by maintaining a compulsory system of sickness and old-age insurance. The government bureau which is concerned with these things is the *Reichsversicherungsamt* or Bureau of Insurance.

<sup>1</sup> H. R. Seager, *Social Insurance* (The Macmillan Company, 1910), p. 76.

There are three kinds of compulsory insurance in Germany: (1) sickness, (2) invalidity and old-age and (3) accident insurance. Of the third, the *Berufsgenossenschaften* shoulder the entire expense. If a man is injured in the workshop, he is paid the cost of his medical treatment and a certain percentage of his yearly wage, according to the gravity of his injury. If he is totally incapacitated, he gets two thirds of his annual wages; for slighter injuries the payment is less. In the case of his death, his family gets a sum representing twenty times his daily wage plus a minimum of thirty marks for funeral expenses. Of the sum indicated, the widow and older dependents gets twenty per cent and each child under fifteen years of age, fifteen per cent, provided that the total amount paid to the family does not exceed twenty times the daily wage. In the sickness and invalidity and old-age insurance schemes, the workers share in the payment of the premiums with the *Berufsgenossenschaften* and the government. In this way, the employers are relieved in part of the cost of maintaining incapacitated workmen, and the employees in turn are made less dependent upon the employers and are forced to interest themselves in their own future by a system of compulsory saving. This arrangement provides, moreover, for a fund to take care of cases of illness not due to accident, as well as for a pension fund to take care of laborers who have passed their working years. To the government insurance fund for the sick, the worker earning less than 2000 marks a year must contribute two-thirds of the required premium (*ca.* seven to sixteen pfennigs a week, according to the amount of his wage), and his employer must pay the remaining third. To the fund for invalidity and old-age insurance, employer and employee make equal contributions, and the state increases the fund by contributing fifty marks *per capita*.

Thus the *Berufsgenossenschaften* and the government work hand-in-hand, taking care of 24 million employees or more than one-third of the entire population. The following table for the three classes of insurance may give some idea of the scope of the system. It is dated 1908, but it is the most recent available.

	SICKNESS	ACCIDENT	INVALIDITY AND OLD AGE
Number insured . . . . .	13,189,600	23,674,000	15,226,000
Men . . . . .	9,880,540	14,795,400	10,554,000
Women . . . . .	3,309,060	8,878,600	4,672,000
Applications for pensions. . .	5,701,180	1,008,677	1,118,749
Income of funds (marks) . . .	365,994,100	207,550,500	285,882,100
Paid by employers . . . . .	114,913,900	181,596,600	92,211,200
Paid by laborers . . . . .	236,220,200	. . . . .	92,211,200
Expenses. . . . .	350,544,100	183,818,700	200,339,100
Compensations . . . . .	331,049,900	157,884,700	181,476,800
Management . . . . .	19,494,200	25,934,000	18,862,300
Payment <i>per capita</i> . . . . .	58.07	158	165
Cost of insurance <i>per capita</i> to state and employer . . . . .	26.55	7.75	15.50

The middle column represents the work of the *Berufsgenossenschaften* alone, for, as was shown above, neither the government nor the laborers contribute to the accident fund. In both the other columns, they carry part of the expense: one-third of the aggregate sum in the first instance and one-half in the last. It has been estimated that as much as six per cent of the expenditures of some of the largest and most progressive firms, such as Krupp and Company in Essen, the Doerentrupper Sand- und Tonwerke in Lippe, and the Schultheiss brewery in Spandau, is taken up by the payment of pensions, accident insurance and improvements for the worker's welfare.

The money left over after the compensations and the costs of management have been paid<sup>1</sup> is spent on hospitals and on

<sup>1</sup> James Harrington Boyd, chairman of the Employer's Liability Commission of Ohio, writes in the July, 1911, number of *The World To-day*:

"During the years 1906, 1907, 1908, ten insurance companies which kept employer's liability records, doing business in the State of New York, received in premiums from employers \$23,524,000; they paid to injured employees \$8,560,000; waste, \$14,964,000.

"Nothing could more strikingly set forth the waste of the present system than the fact that 36.34 per cent of what employers pay in premiums for liability insurance is paid in settlements of claims and suits. Thus for every \$100 paid out by employers for protection against liability to their injured workmen, less than \$37 is paid to those workmen, \$63 goes to pay the salaries of attorneys and claim agents whose business it is to defeat the claims of the injured, to the cost of soliciting business, to the cost of administration, court costs, and to profit. Out of this 34.36 per cent the injured employee must pay his attorney. The same report shows that the attorney gets 26.3 per cent of what is paid to the injured employee."

tubercular and convalescent homes; for the *Berufsgenossen-schaften* believe that a man partially cured and able to do a little work is better than a man totally incapacitated. The result is that the number of men and women who have been able to go back to work—even though it be work of a lighter nature—increases rapidly from year to year. There are figures to show that of the 24 workers annually injured per thousand employed, 16 are cured, three become what is known technically as “half-invalids,” one a “three-quarter” invalid, one a total invalid, and three die.

Though there are practically no statistics of industrial accidents and deaths in the United States—a fact which is “indirect evidence of backwardness in the field of accident prevention”—it has been estimated by a trustworthy authority<sup>1</sup> that there are about two million non-fatal industrial accidents a year, of which at least two-fifths are avoidable or postponable. Such avoidance or postponement would bring about a saving of a billion and a half dollars to the wage-earners and the government.<sup>2</sup> Professor T. S. Adams of Wisconsin has said<sup>3</sup>: “American states blindly persist in modifying old laws, based upon the assumption that when an accident happens, somebody is to blame, and that the best way to prevent accidents is to

<sup>1</sup> F. L. Hoffman, U. S. Bureau of Labor Bulletin no. 78 (September, 1908), pp. 417-465.

<sup>2</sup> The death rate in the United States in 1908 was 15.3 in the thousand; the total number of deaths about one and one-half million. In a report on National Vitality, its Wastes and Conservation, prepared for the National Conservation Commission in 1909 and published in Bulletin no. 30 of the Committee of 100 on National Health, Professor Irving Fisher estimated that through medical, sanitary and industrial preventive measures 42.3 per cent of these deaths could be prevented, or rather postponed; *i. e.* that two-fifths of the illnesses could be avoided or checked and the average life prolonged by one-third. He remarks further, that, if one accepts the conclusion of Dr. Farr, the English sociologist, that for every death there are two persons ill, there are three million cases of continued illness in the United States in each year. As it may be safely assumed that one-third of this number are wage-earners, the annual loss of wages must be about \$500,000,000. Add to this \$459,000,000 for medical attendance (for, according to the report of the Bureau of Labor, the average amount spent by every laborer on medicine *etc.* is \$27 a year, and this multiplied by the possible 17,000,000 workers makes the half-billion), and the cost of illness in the United States amounts to a full billion dollars a year.

<sup>3</sup> Sewall and Adams, *Labor Problems* (The Macmillan Company, 1905, p. 485.)



make the blamable parties bear the consequences." Twenty-six other nations (including Russia and Spain, which we are prone to regard as being on a lower plane of civilization than ourselves) have adopted the policy of throwing the burden of the accident on the industry and not on the workman. In other words: "They have accepted the principle that each industry shall bear the burden of personal accident losses in the same way that it already bears the burden of accident losses to plant and machinery." They have learned, in consequence, to value the ounce of prevention above the pound of cure.

Most of the grains in Germany's ounce of prevention are "inspection." Inspection, in that country, does not mean simply looking about to see that everything is in order, but the giving of good counsel and practical, scientific advice. A law passed in 1900 provides for two classes of inspectors: the *technische Aufsichtsbeamten*, whose special province is the study and elimination of the industrial and hygienic dangers to be found in factories, and the *Beauftragte*, inspectors of a lower order, whose duty it is to see that the laws of the *Berufsgenossenschaft* are obeyed and its recommendations put into practice. The purpose of this law was to secure, as inspectors of the higher grade, skilled specialists not connected with any trade, and thereby to prevent the employment of *Vertrauensmänner*, or controllers with private or political interests in the trades they should control; and further, having secured the services of such men, to relieve them of the routine work of inspection and thus enable them to grapple with the problems of accident prevention. The *Berufsgenossenschaften* themselves insist that these inspectors shall be "gentlemen of tact, refinement and diplomacy, from whom no suggestion will be taken amiss."

The technical inspectors have formed an organization of their own, separate from the insurance companies to which they belong; not only for the reason that when two Germans meet they have to organize, but also because they think they can help each other with suggestions and thus attain better results than if each were to keep exclusively in his own field. Their reports, with diagrams and full descriptions of suggested improvements, are printed and circulated by their respective

*Berufsgenossenschaften*. If the inspectors fail to hit upon a good scheme, or if the employers are dissatisfied with those that have been devised, the companies open up a prize competition in which anyone may take part. There have been seventy-four competitions of this sort, and they have brought in many valuable suggestions. As a result of all these efforts, there is to-day a protective appliance for practically every dangerous machine in use. Lately, thirty-six *Berufsgenossenschaften* put aside a fund yielding 177,500 marks yearly, for the purpose of encouraging the invention of safety appliances and of stimulating study and research of all kinds for the protection of life, health and labor. This is known as the Kaiser-Wilhelm-Kaiserin-Augusta-Viktoria fund. Aside from eliciting valuable suggestions, this foundation tends to develop a keen interest in the subject among the workers themselves, and gives them an opportunity to do something for their own welfare and protection. They not infrequently compete with the inspectors in this field. It may be opportune to suggest that some of the American firms that spend over \$5500 annually on prizes for employees who invent labor and money-saving devices might devote an equal sum to prizes for the invention of life-saving devices.

The question of the training and selection of inspectors, of the numbers required and of the powers that should be accorded to them, is one of the most important for economists, manufacturers and statesmen who are interesting themselves in accident prevention in this country. Our factory inspection is inadequate and lax. In a recent report (December, 1910) of the committee on improvement of state inspection of factories, one of the branches of the department on compensations for industrial accidents of the National Civic Federation, recommendations were made looking to the development of a system of inspection similar to the German. According to this report: "There is no unanimity of action, no unanimity of law in the several states, and in most instances, the machinery is inadequate for carrying out the statutory provisions for the promotion of the health, safety and comfort of the working classes." Four states have no inspection whatsoever; in but two are the inspectors skilled workers; such inspectors as there are have from 300 to

3000 factories under their supervision. Yet only two of the state commissioners reporting are of the opinion that a more thorough factory inspection would be of no avail, and one thinks it "desirable, but hardly feasible." This is a reform that is not dependent upon constitutional changes, as are workmen's compensation laws in some of the states, but merely upon awakened public opinion.

The *Berufsgenossenschaften* are naturally proud of their work; and, in order to make it better known, to awaken a more general appreciation of its value and importance, they endeavor to have courses on workmen's insurance given in all the higher schools; they also organize exhibits and maintain permanent museums, where employers and employees may go to get an idea of what is being done along these lines. The museum in Berlin (*ständige Ausstellung für Arbeiterwohl-fahrt*) is the outgrowth of a small exhibit formed by two well-known pioneers in the movement, Drs. Reichel and Hartmann, and sent by them to the world expositions in Chicago, in Paris and in St. Louis. Upon its return from the latter city, in 1906, the exhibit was taken over by the government, was put into the hands of the Imperial Insurance Commission and was set up in a building of its own in Charlottenburg.<sup>1</sup>

A visit to this museum gives one a very clear idea of the breadth of the work and leaves one with a profound admiration for the country which takes such admirable care of the health and the life of its workmen. The government has given the building and is paying the running expenses; the manufacturers and their insurance companies provide the exhibits. It is not a place where inventors show the advantages of new devices: nothing may be put on exhibit that has not been tried out in actual practice. Although the government prints pamphlets setting forth the purpose of the various exhibits, it

<sup>1</sup>In organizing an educational campaign in Minnesota, the commissioner of labor of that state recently (1910) organized a state museum of safety and sanitation. To the state fair he brought a special exhibit of this museum, including four hundred pictures of safety devices in use in the state, and distributed cards to all visitors, giving advice to employers and employees on the prevention of accidents. The American Institute for Social Service has established a museum of safety and sanitation, organized by Wm. H. Tolman, at 29 W. 39th St., New York City.

leaves each device to speak for itself and does not recommend one above another. In order to make the preventive character of the machines and appliances more prominent and more comprehensible to the lay mind, those parts which serve as a protection against bodily injuries are painted red, and those parts which protect the general health of the worker against the dangers of dust, odors and gases are colored blue. Although the government invites any and all to contribute, it reserves the right to demand the removal of any machine that has become antiquated or that has proved inadequate to the demands made upon it.

In the main hall there is a vast collection of machines used in about twenty different industries, put up there to show how the dangers coupled with them can be avoided. They are all connected with a central power plant, and there are always competent persons in attendance to explain the safety devices. One of the things shown is a centrifugal wash-machine, with its cover and the wire netting encasing its wheels painted red. The purpose of the netting is to prevent the workers from getting their clothing or limbs caught in the machinery. (Most of the companies have added the precaution of forbidding the wearing of loose kerchiefs or aprons, long beards or long pigtailed.) The cover is so adjusted that the connection with the motor power cannot be made, and hence the kettle cannot turn, so long as the cover is up. This is to prevent the worker from putting his hand into the kettle while it is going around. The same principle of getting the hands out of the way before the connection can be made is illustrated in many of the other models. The soap-presses, for instance, are worked by two levers, one for each hand, instead of by foot-power, and not until both hands are away from the danger-zone, pulling levers at either side, can the press descend. Other models show how a machine should be fed automatically, so that the hands need not come into direct contact with it. Another precaution upon which the *Berufsgenossenschaften* insist is that, if anything goes wrong with a machine, it shall stop of its own accord, so that the worker shall not be tempted to repair it while the wheels are whirling. There are safety guards about such dangerous

objects as grindstones, which at high speed have a way of splitting and hurling their fragments about the room; and there are similar guards about the shuttles of weaving looms, which have been known to jump out of their places. There is also a series of inventions on exhibit for the substitution of machine labor for human labor where too great demand is made upon the strength of the worker and overstrain may result, as in the moving of cars, the emptying of boats and trains, the carrying of material in building trades *etc.*

The second part of the main hall is devoted to the exhibition of exhaust (suction) systems for removing sawdust, steeldust, woolen and silk fibers which menace the lungs and the digestive organs of the workers. Their installation in all German factories where dangerous particles fill the air is now compulsory.<sup>1</sup> In chemical factories, where the dangers from acids, poisonous gases and vegetable substances cannot be prevented by the exhaust system, the regulations call for protective masks against the fumes, for medical attendance and supervision, for lectures

<sup>1</sup> The number of lives that might be saved in the United States by a similar regulation is suggested by the following table, taken from the records of the Prudential Insurance Company from 1897 to 1905, compiled by Mr. F. L. Hoffman. It shows the number of deaths in various trades subject to dust infection and the percentage of deaths due to such infection.

OCCUPATION	TOTAL NUMBER OF DEATHS	DEATHS FROM PULMONARY TUBERCULOSIS	
		NUMBER	PERCENTAGE
Steel grinders. . . . .	117	60	52.1
Metal polishers . . . . .	225	98	40.4
Tool makers . . . . .	264	89	24.8
Engravers. . . . .	164	61	38.4
Stone workers . . . . .	763	274	36.7
Potters . . . . .	346	110	33.
Glass workers . . . . .	716	213	30.8
Glass blowers . . . . .	251	76	30.3
Printers . . . . .	1384	527	39.3
Compositors . . . . .	147	53	36.1
Pressmen . . . . .	178	81	45.5
Hatters . . . . .	750	248	34.4
Cigar makers . . . . .	1349	389	29.8
Spinners . . . . .	167	50	31.1
Weavers . . . . .	818	228	28.8

and literature to call the workers' attention to dangerous symptoms and dangerous practices and for signs urging them to report immediately any indications of infection. Professor George Schlesinger, of the Charlottenburg technical high school, in his book on accident prevention,<sup>1</sup> says:

Even the best preventive measures do not forestall accidents, unless the entire system is arranged with that end in view. There are certain dangers which cannot be averted by mechanical devices, and against these the only safeguard we have is continued preaching and warning. The only real safety comes from the coöperation of employer and employee: the one must supply the safeguards and the other must apply them.

To this end the factories must display, in a conspicuous place, the rules and regulations of the *Berufsgenossenschaft* to which they belong, and every laborer must report immediately when anything is wrong or out of order. If he fails to observe the danger signs, he is fined six marks; and if he willfully injures himself, he is sent to prison. The court which has jurisdiction over these matters is made up of the board of directors of the *Berufsgenossenschaft* and four other persons, two of whom are taken from the employees.

Some of the most drastic and far-reaching regulations have been established in the mining industries. Among other things, the ruling has been made that stone quarrying and sand work be done stepwise, in pyramid fashion, and not by excavation from beneath. As the malady known as "caisson disease," common among tunnel-diggers, has called forth much comment

A report by Mr. Nodler, printed in the *Minnesota Journal*, October 1, 1905, shows the ratio of deaths in eighteen other trades to deaths among farmers. It indicates how much greater is the mortality in industrial than in agricultural occupations:

Farmers . . . . .	602	Copper workers . . . . .	1381	Coopers . . . . .	1083
File workers . . . . .	1810	Iron and steel workers . . . . .	1301	Brick and stone workers . . . . .	1001
Lead workers . . . . .	1783	Zinc workers . . . . .	1198	Wood workers . . . . .	994
Potters . . . . .	1702	Stone quarriers . . . . .	1176	Tin workers . . . . .	991
Cutlers . . . . .	1516	Cotton mill workers . . . . .	1141	Carpet weavers . . . . .	973
Glass blowers . . . . .	1487	Printers . . . . .	1096	Bakers . . . . .	920

<sup>1</sup> Unfallverhütung und Betriebssicherheit (Carl Heymann's Verlag, Berlin, 1910).

in the American press, it may be interesting to give in full the preventive measures adopted in Germany:

(1) Every laborer must present a medical certificate, to show that he does not suffer from any nose or throat trouble.

(2) If more than one atmospheric pressure is to be used, he must be supplied with a breathing outfit.

(3) Every laborer must be examined by a physician at least once in two weeks. In one atmospheric pressure, he may work eight hours; in less, no more than ten.

(4) The feeding-in of oxygen must be automatic.

(5) Every worker is to have twenty cubic meters of fresh air per hour, and this from outside, not from a room. If this can not be provided, he must have more pure oxygen at 18° C.

(6) Only electric light may be used; all other kinds pollute the air.

(7) Before coming out, the worker must be provided with warm wraps. He must then have a special room in which to rest, wash and dress.<sup>1</sup>

German regulation is not confined to the land industries but extends to the industries of the sea. Of the millions of passengers who cross the ocean every summer in German ships, few are aware of the extent to which they and the crew are protected by German laws. If the steamer has water-tight cross-sections to shut off the undamaged part from that which has sprung a leak, if it is not overloaded and if there is enough of it above sea-level, it is because the German government and the *See-Berufsgenossenschaft* have declared it shall be so. They inspect the health and the eyesight of the crew, the anchors, the chains and the capstans, and they see to it that the railings can bear the weight which the passengers are wont to put upon them. A keen rivalry has been stimulated between the competing steamship lines in devising new safety appliances and

<sup>1</sup> These regulations of the *Berufsgenossenschaft der Luftdruckarbeiter* are taken from Schlesinger, *op. cit.* Demands for such regulations were formulated at the tenth delegates' meeting of the International Association for Labor Legislation, in Lugano, Switzerland, September, 1910. Similar laws have been in force in New York since October 1, 1909; cf. Ninth Annual Report of the Commissioner of Labor of the State of New York.

safeguards.<sup>1</sup> The latest innovation is the provision of glasses and respirators for the men who have to work in the dust that is stirred up by the packing and the loading.

The recent report of the American Department of Commerce and Labor on occupational diseases presents a most appalling picture.<sup>2</sup> It is reassuring to know that in Germany, where these diseases have been combated systematically for a long time, many of them are claiming fewer victims every year. One of the first to call the attention of the public to this problem was Dr. Somerfeld of Berlin, who set up the first exhibit of workers' lungs and of wax models to show the ravages of diseases due to infection from chemicals, dyes, human hair and parts of animals. This he sent all over the world, with the purpose of demonstrating the dangers of these insidious industrial evils; and it is due in great part to his insistent demand for reform that the *Berufsgenossenschaften* have come to pay so much attention to the question of the personal hygiene of their employees. Every factory, if it wishes to avoid the payment of high insurance premiums, must now provide lessons in "first aid" and a hospital room, and it must keep a medical expert in attendance who is to examine each worker, to see whether he is fit for his job. No deaf or epileptic person is to be employed to superintend machinery, none with a tendency towards dizziness as a mason, nor any flat-footed man as a porter, because they are "wiggly and unsafe." Drunkards are to be dismissed immediately, and no distilled liquor is to be allowed on the premises. (No German would have the heart to put a ban on beer.)

On the second floor of the Berlin museum (described above) are to be found the exhibits concerning personal hygiene, sanitation, housing, nourishment *etc.*, which suggest means of com-

<sup>1</sup> At the time of the "Titanic" disaster, the German steamship companies were insistent in making it known that the conditions contributing to the sinking of the ship and the loss of life could not have existed on one of their steamers, as the *See-Berufsgenossenschaft* inspects cross-sections and bulk-heads before each sailing and enforces the carrying of sufficient life-boats to accommodate the passengers.

<sup>2</sup> In January, 1911, a commission appointed by the Illinois Legislature to investigate the causes and conditions of occupational diseases published its report, making many recommendations for desirable and necessary legislation. This is the first step in this direction taken by an American legislature.



bating occupational diseases. There are shown models and pictures from factories in all parts of the empire which are particularly progressive in the arrangements they have made for the comfort and well-being of the workmen.

It is, of course, a part of their campaign against disease that the *Berufsgenossenschaften* should make regulations regarding cleanliness, fresh air and pure food. Many demand that there be a private locker and a separate washstand, towel and tooth-brush for every employee, and that he be *required to use them*. In one of the biggest champagne factories of the Rhine country, that of Henckel-Trocken in Wiesbaden, the following placard is posted on the wall of the communal dining room: "These rooms are fitted up for your comfort. Use them as you would your own. If anyone forgets to use the soap and water at his disposal, the firm will feel constrained to dismiss him as an unfit associate for the rest of the community." This firm provides for all its employees a dinner of soup, meat, vegetable and potatoes and a supper of tea and bread and butter, for the inconsiderable sum of 1.25 marks a week. Few others do as much as this, but many provide at least an oven where the workers may warm the dinners that they have brought with them.

Since the cry of the high cost of living has gone up in all the corners of the earth, the *Berufsgenossenschaften* of Germany have undertaken to do work similar to that carried on by the Department of the Interior in the United States in educating the people to an appreciation of the values of food-stuffs. They have put up charts in the factories and have sent out pamphlets with suggestions for cheaper and better dishes.

Next to the pure-foods exhibit, in the Berlin museum, stands that of the anti-alcoholic societies of Germany, which are well launched on a vigorous campaign against the prodigious consumption of alcohol that has always seemed a necessary part of life in the fatherland. The *Berufsgenossenschaften* have taken up neither this question nor that of infant mortality as separate issues; but they have shown their interest by giving up a part of their space in the museum to the societies that make this their special work.

In the fight against tuberculosis, of course, they take an ac-

tive interest: it is a part of their curative work. At first they failed to see any reason why they should pay attention to the "first-aid" work; but once they were persuaded that they must concern themselves with everything connected with injuries, they went ahead in the characteristically thorough German way and stopped at nothing. To-day, they are negotiating with the *Rotes Kreuz* and with the *Samariter Verein*, the two most important hospital organizations in the country, to establish clinics in the large centers of industry.

The fact that the members of the big business firms take an active part in the management of the *Berufsgenossenschaft* to which they belong and are frequently members of its board of directors has had its effect upon them: it has awakened in them a certain unaccustomed humanitarianism. As Dr. Konrad Hartman says, in his introduction to Dr. Schlesinger's book:

It is not only through the law behind the *Berufsgenossenschaften* that the employers are goaded on to add improvement after improvement until they have covered the entire field of workmen's welfare, but through the work which they do on the committees. Through this they come into such close contact with the misery and the trouble which accidents occasion, that they develop a sense of charity, a sympathy quite unknown to them before, which serves as an added incentive to more far-reaching efforts.

If similar feelings of interest and sympathy could be instilled into the manufacturers of the United States, we would not have to read that barely one-eighth of the industrial accidents are paid for, and that the best showing has been made by Wisconsin, where fifty per cent of the injured workmen received some compensation, if only for medical expenses. If we continue to kill two and one-half times and to injure more than five times the number of railroad employees that are killed and injured in Germany, and if we do nothing to stop the killing of miners and industrial workers at the rate of three and one-third in every thousand, we need not be at all surprised if we are compelled to witness a demonstration by injured workmen, such as the industrial cripples of France gave when they paraded through the streets of Paris last spring.

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### TURKEY IN EUROPE. III.

OF what the near future in Turkey is likely to bring forth, the events of last summer and of this have given the strongest proof; and it is well worth while to examine the facts, making a test, as it were, in a tiny chemist's tube, of the mighty forces and interests behind these recent events. To do this requires no access to chancelleries and archives. The game of diplomacy is now played with the cards on the table.

Our rapid survey of the race and religious problem, as given in preceding numbers of this Quarterly,<sup>1</sup> suffices to pose the innumerable social and political questions which have to be answered for Turkey in Europe by peoples and rulers. Awakening from intellectual stupor is a very dangerous stage of consciousness. All these antagonistic peoples have a superficial knowledge of the higher civilization, but they more easily fall into its vices than rise to its restraints. To the stage of clanship in the slow evolution of history there generally succeeds that of kingship, which in turn is succeeded by aristocracy, and last of all comes democracy. The rights of man can be defined only in the light of historic environment; and when Balkan demagogues prate to a stupid, stolid peasantry the doctrines of the eighteenth and nineteenth centuries as held in Great Britain, America and France, they are kindling a conflagration which can be extinguished only from without.

Then there is the ludicrous "ification" process of eastern Europe: Russification, Turkification, Magyarization, Germanization and all the rest. A Pole is not turned into a German, nor a Finn into a Russian, nor a Rumanian into a Hungarian, nor a Slav into a Turk, by violently imposing on him another language, a new education, a compulsory point of view, unfamiliar manners, customs and laws. Force begets repulsion and rebellion, hardening the heart against all receptivity. There is no fallacy of statecraft so dangerous as that of homo-

<sup>1</sup> Vol. xxiii, pp. 297-319; vol. xxvi, pp. 676-696.