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ROYAL MEEKER, Commissioner

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WORKMEN'S INSURANCE AND COMPENSATION SERIES: No. 9

PROCEEDINGS OF THE THIRD ANNUAL MEETING
OF THE
INTERNATIONAL ASSOCIATION
OF INDUSTRIAL ACCIDENT
BOARDS AND COMMISSIONS

HELD AT COLUMBUS, OHIO, APRIL 25-28, 1916



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BULLETIN OF THE U. S. BUREAU OF LABOR STATISTICS.

WHOLE NO. 210.

WASHINGTON.

MAY, 1917.

PROCEEDINGS OF THE THIRD ANNUAL MEETING OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS, COLUMBUS, OHIO, APRIL 25-28, 1916.

INTRODUCTION.

On April 14 and 15, 1914, representatives from several of the newly created industrial accident boards and commissions assembled at Lansing, Mich., and formed the National Association of Industrial Accident Boards and Commissions. The primary object of this association was to bring together the officials charged with the duty of administering workmen's compensation laws to discuss the interpretation of the laws and the puzzling problems of administration and to adopt, so far as possible, uniform practices and statistics.

A special meeting of this association was held at the Hotel La Salle, Chicago, January 12 and 13, 1915. The particular subject of discussion at this conference was the standardization of accident statistics. Certain definitions and standard rules were tentatively adopted for presentation to the second annual meeting at Seattle, and some progress was made toward working out classifications of industries as a basis for accident reporting and tabulating. A resolution was voted instructing President John E. Kinnane to appoint a committee on statistics and compensation insurance cost. This committee, being appointed, was instructed to complete the formulation of standard definitions and rules, the classification of industries and employments for the purpose of accident statistics, the classification of causes of accidents, the classification of nature, extent, and location of injuries, and the construction of standard tables for the presentation of accident statistics by the several States. It was voted that when standard definitions, methods, and tables were agreed upon the States should collect and tabulate their accident statistics according to the standards adopted and that, at the earliest possible date, the data tabulated in the standard tables should be sent to the United States Bureau of Labor Statistics. This bureau was requested to combine and publish the statistical material furnished by the several

States, in order that such material should be presented in strictly comparable form and disseminated as widely as possible.

The second annual meeting of this association was held in Seattle, Wash., September 30, October 1 and 2, 1915.¹ At this meeting the Province of Ontario, Canada, was received as a member, and the title of the association was changed to the International Association of Industrial Accident Boards and Commissions.

The most important action taken at this second annual meeting was the adoption of the tentative report of the committee on statistics and compensation insurance cost and the continuance of this committee.

At the third annual meeting of the association, held in Columbus, Ohio, April 25 to 28, 1916, the proceedings of which appear in this number of the Bulletin, I expressed my willingness to publish the proceedings of the conference as a bulletin of the United States Bureau of Labor Statistics, if the association so desired. Accordingly the following resolution was adopted:

Resolved, That the Federal Bureau of Labor Statistics be requested to publish from this time the proceedings of the conventions and conferences of this association.

As United States Commissioner of Labor Statistics it has been my endeavor to make the Federal Bureau of Labor Statistics the center for the dissemination of useful information regarding developments in the industrial field, to cooperate with the State agencies, and to secure their cooperation in making labor studies, so as to eliminate useless and irritating duplication of effort to work with the States for the standardization and improvement of the administration of labor laws, and to standardize industrial accident statistics so that comparisons may be made, industry by industry, year by year, and State by State. The United States Bureau of Labor Statistics has already published the proceedings of the first three annual meetings of the American Association of Public Employment Offices² and the Report of the Committee on Statistics and Compensation Insurance Cost.³

The publication of the proceedings of the International Association of Industrial Accident Boards and Commissions as a bulletin of the United States Bureau of Labor Statistics is merely carrying out what has become the established policy of this bureau.

Another most important action at the Columbus meeting was the election of the United States Commissioner of Labor Statistics as secretary-treasurer of the association. If this election means the selection of the Federal bureau as the permanent secretarial headquarter-

¹ An account of this meeting appears in the MONTHLY REVIEW of the U. S. Bureau of Labor Statistics for November, 1915, pp. 27-37.

² See Bulletin No. 192.

³ See Bulletin No. 201.

ters, it will give the association greater permanency in organization, greater consistency in policies, and will make it more useful and influential in bringing about standardization both of laws and of administration. This will result, not from any superior virtue residing in the United States Bureau of Labor Statistics, but from the fact that this bureau is the natural and obvious medium to unify and coordinate the activities of all State agencies operating in the labor field. More and more the State labor agencies are turning to the Federal bureau for information, guidance, methods, and standards. The leadership and assistance required of the Federal bureau by the States should be of the greatest mutual benefit to all—to the Federal bureau quite as much as to the State bureaus, departments, and commissions. If the United States Bureau of Labor Statistics is to assume and maintain the functions which should pertain to a national labor office, the head of a Federal system, it must receive the hearty cooperation and help of the States and it must be developed and expanded so as to meet promptly the demands of the important and ever increasing work of such a central office.

ROYAL MEEKER,
United States Commissioner of Labor Statistics.

PROCEEDINGS.

TUESDAY, APRIL 25—MORNING SESSION.

[In the absence of Mr. Floyd L. Daggett, president of the International Association of Industrial Accident Boards and Commissions, the convention was called to order at 10.35 a. m. by Mr. Wallace D. Yaple, vice president of the association and chairman of the program committee.]

Mr. WALLACE D. YAPLE, Ohio. The program has been so arranged as to leave only a few topics for discussion on the opening day. That was done by the committee on arrangements for two reasons: First, it was not expected that a great number of the delegates would arrive here until to-morrow, and, second, in order to give those in attendance an opportunity to get thoroughly acquainted before the real work of the meeting begins.

Half a dozen years ago workmen's compensation in this country was but a theory, and while the principle had been in operation in European countries for a quarter of a century it was thought by most constitutional lawyers that the principle was antagonistic to certain of the provisions of our State and Federal constitutions. This feeling was intensified when the first workmen's compensation law enacted in this country was declared by the Court of Appeals of New York to be violative of the provisions of both the State and the Federal constitutions.

The first New York act was passed in 1910 and the decision of the court of appeals holding it unconstitutional was rendered early in 1911, at a time when commissions were at work in a number of States investigating the subject of employers' liability and workmen's compensation with the purpose of recommending to the legislative bodies of their respective States bills on the subject of workmen's compensation. As a result of the decision setting aside the New York act of 1910, legislation on the subject in the several States took a peculiar turn and resulted in the enactment of so-called elective or optional laws, of which a number were passed in 1911. Since that time one State after another has fallen into line, until now 32 States and the Territories of Alaska and Hawaii have such laws, so that more than 80,000,000 of our 100,000,000 population are now living under workmen's compensation.

All of the States in the Union north of Mason and Dixon's line and east of the Mississippi River, with the single exception of Delaware, now have such laws. Of the States west of the Mississippi, all ex-

cept the Dakotas, Idaho, Utah, New Mexico, Missouri, and Arkansas have such laws. In the South, Maryland, Kentucky, Louisiana, Oklahoma, and Texas have adopted the compensation principle, and a number of the other Southern States are considering the question, so that the prediction may be made with safety that within a very short time the old common-law principle of employers' liability will be abandoned in all of the States and the principle of workmen's compensation substituted. Similar progress has been made in the several Provinces of the Dominion of Canada.

No principle has been injected into our jurisprudence that has had a more revolutionary effect than that of workmen's compensation. Only a few years ago the proposition to create a liability upon the part of the employer on account of an injury to one of his employees for which he was not at fault would have been met with almost unanimous disapproval by the bench and bar and by almost the entire body of our citizenship. Yet the adoption of the principle of workmen's compensation means that the question of fault is no longer a determining factor in the fixing of such liability. At first many employers regarded the new principle as a dangerous innovation. But the practical operation of the laws that have been passed in this country has been so beneficial to both employer and employees that now there is scarcely any opposition to the principle. It is fair to say that the laws on the subject are now meeting the general approval of all classes of people, and that there will be no return to the old methods, with the attendant costly litigation, with its delays and disappointments, and the bad feeling thereby engendered. The courts of last resort of at least 20 States have upheld workmen's compensation laws, and it only remains for the Supreme Court of the United States to place the seal of approval upon the principle involved.

Four States—Ohio, New York, California, and Pennsylvania—have amended their State constitutions to remove any doubt that might have existed as to the right of their legislative bodies to enact workmen's compensation laws.

As might be expected, there is a lack of uniformity in the legislation adopted by the several States. Some have followed closely the English law, which provides in substance that all employers are under the obligation to pay compensation in the event of the injury of their employees, if such injury is accidental and grows out of the employment and occurs in the course of employment. Most of the States not only require the payment of compensation but in addition thereto require the employer to secure its payment by some form of insurance, usually by giving the employer a number of options as to the method of carrying his insurance, whether through a commercial insurance company, through mutual

organizations, or through the medium of an insurance fund maintained by the State. Other States have made insurance in a State insurance fund practically the exclusive method. The experience developed under the laws of the several States ought to demonstrate which of the methods of providing compensation is best suited to attain the end sought.

Then there is great variation in the method of administering the laws enacted in the several States. In a few States the acts are administered by the courts as in the case of other laws; but in most of the States boards or commissions possessing quasi-judicial powers have been created, whose duty it is to administer the workmen's compensation laws. In some cases they are also required to administer the safety laws, child labor laws, female labor laws, and other laws of a similar nature.

The International Association of Industrial Accident Boards and Commissions was organized for the purpose of enabling the members of the boards and commissions of the several States to become familiar not only with the provisions of the laws of the several States, but with the practical administration of the same, and also with the idea of securing greater uniformity in laws, and of being mutually helpful to each other in the handling of the many questions arising for determination under workmen's compensation.

Many people seem to be of the opinion that the workmen's compensation laws have done away with the great body of the law of master and servant, and that the practical application of the new plan is a comparatively simple and easy matter. It is true that abandoning the idea that the employer must be at fault before an employee is entitled to compensation on account of injury sustained in the course of his employment has simplified matters very much. But there still remain many interesting and difficult questions to be determined, such, for instance, as whether, in a given case, the claimant was an employee; whether the person from whom he claims compensation was an employer within the meaning of the act; whether that for which he claims compensation resulted from an injury within the meaning of the law; whether it was the result of an accident or occurred in the course of or grew out of the employment; or whether a recognized disability is due to injury or disease; or, granting that an injury occurred which was followed by a period of disability, whether the disability has ceased.

In cases of death of an employee there is the question as to whether an injury sustained in the course of employment was the proximate cause of the death, and whether the persons seeking compensation on account of such death are dependents within the meaning of the law; and if so, the degree of dependency. Then there is the question of conflict of laws, which is encountered most often in cases

where the question to be determined is whether the Federal employers' liability act or the State law applies, or whether what is known as the maritime law or the law of the State governs; for in all cases in which the Federal laws govern they are supreme, and the acts of the States do not apply. These and many other questions are involved in the determination of cases arising under workmen's compensation laws, and, while it is true that the abandonment of the common-law principle of liability and the substitution of the new theory of compensation has resulted in the doing away with practically all of the litigation with which the dockets of our courts had come to be congested and has resulted in the injured employee being able to receive his compensation promptly without the long delay usually attending litigation in the courts, there always will be a few cases in which the questions of law and fact involved in their determination are of such a nature as to call for the application of well-known general principles of law. But difficulty in determining the right of the parties under workmen's compensation laws is met with in but a comparatively small percentage of the total number of cases arising. In Ohio the commission charged with the administration of the law has found that determination of the rights of the parties in the average claim for compensation is a very simple matter and that in only about 5 per cent of the claims coming before it for determination do questions arise which are really difficult to solve.

Although methods of procedure under workmen's compensation laws are much simpler than in court proceedings at common law or under employers' liability acts and comparatively few cases determined by the commissions reach the courts, almost four hundred reported decisions have been rendered by the courts of this country under the workmen's compensation laws of the States.

While it is conceded by all that the adoption of the workmen's compensation principle in this country has brought a great and much needed reform to a branch of our jurisprudence that was fast bringing our laws on the subject of employers' liability into disrepute, its adoption has brought other problems, the natural result of the adoption of the compensation principle, such as the physical examination of employees and the question of old age and liability insurance.

One provision of the Ohio law has been before the Supreme Court of the United States and has been sustained by that court, but the vital principles of the law have not been involved. (*Jeffrey Manufacturing Co. v. Blagg*, 235 U. S., 571.) In Ohio the number of appeals that have been taken from the decisions of the commission has not exceeded 100, out of approximately 200,000 claims decided by the commission. The adoption of the principle of workmen's

compensation has brought about a campaign about which there can be no very great difference of opinion; that is, "the safety first" movement. Prior to the enactment of workmen's compensation laws this country was not only wasteful of its resources, but careless of human lives. No accurate or dependable statistics have been compiled showing the number of deaths occurring in industries in the past, but the number, if known, would be almost unbelievable. As soon as workmen's compensation laws were passed the employers knew they were required to pay for all injuries and deaths occurring in the course of employment, so there was immediately started by them a "safety first" campaign, in which the employer as well as the employee participated.

No one knows definitely just what the result of that campaign has been, but there is no doubt that it has resulted in a very large decrease in the number of accidents and deaths.

I noticed coming up on the car this morning that the local traction company had posted in the car the result of its safety campaign for the first three months of this year, as compared with the first three months of last year. I think it is true there has been more travel this year than last. The result of the campaign has been: Collisions between street cars and automobiles, decrease 2.3 per cent; collisions between street cars and wagons, decrease 20.2 per cent; accidents occurring when leaving moving cars, decrease 53.4 per cent; accidents occurring when boarding moving cars, decrease 25.3 per cent. These figures are remarkable. They show what can be done when everybody is interested in the safety movement.

It is not my purpose to discuss any of the subjects that I have mentioned at this time, but all of them are proper subjects for discussion before an organization such as this. Some of them have been assigned to members of the association whose experience in the administration of the laws of their States has been such as to entitle their opinions to great weight. And no doubt subjects which have not been especially assigned will be taken up and discussed during the progress of our meeting, as it is my belief that the discussions following the topics especially assigned and of questions brought up during the course of the meeting of this association are of as great value as the papers and addresses specifically set forth in the program.

The first number on the program is the address of welcome by Hon. George J. Karb, mayor of this city. I regret to state that the mayor has lost his voice. His secretary is with us and will be glad to extend the welcome of the city to the members of our association. I have the pleasure of introducing to you Mr. A. J. Thatcher, the mayor's secretary.

Mr. A. J. THATCHER, representing the mayor of Columbus. It is with regret, as the president announced, that the mayor is compelled to be absent. I want to say that he extends to you his best wishes; he would like to do so in person. We extend to you the welcome of the city. Not only would we honor you as guests and serve you as friends but we welcome you as students and administrators of one of the most humane institutions of government that has recently been established. In the old days, in the beginning of this Government, the thought was largely the preservation of peace, the establishment of justice, the perpetuation of liberty; but men have recognized that in attending to all three functions of government there has come the necessity of doing those things which society can best do as a whole, and, in the discussion of the work of your body along the lines I hear your president refer to, we hope and trust and know that out of your deliberations will come good things that will be helpful both to yourselves and, in the administration of the duties you perform, to the people whose interest you are to serve.

We welcome you to the city. We are proud of Columbus, and only wish you might see some of the things that have made Columbus noted throughout the country. Some of its different forms of activity are representative of such work as you are engaged in.

The mayor extends to you the keys of the city, prescribing only that while you are here you remember the motto, "safety first."

Mr. YAPLE. No doubt you have observed in looking over the program that we were to be favored with an address of welcome by our governor, Hon. Frank B. Willis. I regret to state that Gov. Willis is unable to be present this morning, but he will endeavor to be present at some one of our sessions, either later in the day or on another day.

I have another disappointment to announce. I have a telegram from Mr. Daggett, president of the association, saying he will be unable to be present. It is as follows:

OLYMPIA, WASH., April 24, 1916.

HON. WALLACE D. YAPLE,

Vice President International Association of

Industrial Accident Boards and Commissions, Columbus, Ohio:

Please tender greetings to convention upon its assembly, express regrets at not being able to be present, together with best wishes for pleasant and profitable session. Personal regards to each delegate present. Washington maintains interest in workmen's compensation and ready to cooperate in furtherance of this great cause.

FLOYD L. DAGGETT.

I received in the mail a copy of the president's address. I have asked Mr. Holman, of Massachusetts, to read it.

PRESIDENT'S ADDRESS.

BY FLOYD L. DAGGETT, PRESIDENT, INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS.

[Read by Mr. D. M. Holman, of Massachusetts.]

On behalf of the association I desire to thank his excellency, the governor of the great State of Ohio, and the mayor of the city of Columbus, for their greetings.

Coming from the State of Washington, which I will liken to the granddaughter of New England, New York, and Ohio, we bring to you, from the far Pacific Northwest, the filial greetings of our young State and desire the privilege of sitting at the feet of Gamaliel and learning from your storehouse of experience.

I am a Badger—a native of Wisconsin—and I have always thought of the Middle West—the Mississippi Valley—as being the daughter of the great States of New England, New York, and Ohio—then, the Pacific slope as being the granddaughter. We have handed down to us, on the Pacific slope, the sterling qualities of magnificent citizenship and the splendid heritage from the Middle West—on back to the Eastern States. Even to-day you can trace these types to the third and fourth generations; therefore it is with a great deal of pleasure that I find myself privileged to return your greetings and to assure you that we are proud to belong to the great American people and to be a part of this glorious country, reaching from the Atlantic to the Pacific and from the Gulf of Mexico to and including our fair neighbor on the north.

Our Canadian brothers and sisters are very dear to us, and I trust that sometime the imaginary line dividing us will be no more and that we will be what I think we are in heart—a great American people having for our motto: “One God, one country, and one rule of justice to all,” standing forth in our integrity making the fight for a better civilization.

There is no body of men meeting anywhere on this continent whose actions and aims have more to do with the solving of humanitarian and social questions of moment to the employing and employed class of people in our great country, than this body. We come from a large number of States and Provinces for the purpose of exchanging ideas, gathering information, and better fitting ourselves for the administration of the plan, fast coming in vogue, of caring for workmen injured in our hazardous industries. I do not know of a more

fascinating occupation than the administration of workmen's compensation, on account of the tremendous field for thought and study of social and humanitarian phases of industrial life and the call for men of deep convictions, breadth of intellect, and experience, to whom this field opens. The personnel of the men engaged in the administration of the various boards and commissions shows that it has largely attracted men of the type mentioned. It is needless for me at this time to make any argument as to compensation, and suffice it to say that with the evident extension of the principles of workmen's compensation we must continue our organization and broaden its scope so far as necessary to meet the demands upon it.

I shall not attempt in this address to cover all of the points of interest to us, but there are a few subjects that I think should have our attention, and I shall endeavor to treat them as briefly as consistent with their importance.

This address is prepared prior to the receipt of the completed program, and if it appears that some subjects are being discussed here that appear upon the program, I wish it understood that it is not with the desire to anticipate the discussion by papers or otherwise, and if such occurs I trust you will pardon the seeming intrusion.

UNIFORMITY OF COMPENSATION LAWS.

I am convinced that it is not practicable, and I doubt if desirable, for the various compensation acts to be entirely uniform in their theory as to the manner in which compensation shall be paid the injured workman or as to the manner in which provision shall be made therefor. As I now recall them, there are scarcely two compensation laws exactly alike in these respects. From the Michigan act, providing four methods by which the employer may elect to provide compensation for his injured workmen, to the Washington act, which provides compulsory State-administered compensation without the insurance feature involved at all, we have various gradations of these questions involved in the various laws. This gives us an opportunity of observing which plan is the better adapted to this system of workmen's compensation and under various conditions and circumstances involved therein. To my mind, at least during the formative period of this governmental function in this country, the trial of the several plans is desirable.

There should be, as far as possible, a uniformity of interpretation of the basic principles involved in compensation and, as largely as possible, a uniformity in administration. For instance, one law provides for "injuries occurring in and arising out of the employment." Another for "injuries occurring in" and not to those "arising out of the employment." Again one defines an accident as a fortuitous

event. Others pay for what are termed occupational diseases. The question of hernia has many various interpretations and methods of administration; the question of the one-eyed man; the one-armed man; one leg or other similar disabilities; injuries that are termed "act of God"; the question of the deficient man who is under employment, and when injured these deficiencies add to the amount of disability.

How far shall we go in paying for alcoholic, syphilitic, tubercular, or other similar conditions? Shall we pay for psychic injuries? Some States do; some do not. In fact, there is such a variety of interpretation and administration of the various laws as to create more or less confusion; especially is this true of an employer having to do business in more than one State.

We have also what I term "border-line cases"—those which come under the law or do not—the decision being solely based upon one's interpretation of the law in question. Would it not be well—and I am going to suggest it for your consideration—to have a strong committee appointed by this body, whose duty it would be to survey the various laws and situations and recommend a plan for uniformity in these matters? It may be argued that uniformity will naturally evolve as time goes on, and, while I agree that this is true, I am still of the opinion that we can facilitate this desired end by some such action as I have outlined.

It occurs to me that we could arrive at what appears to be the desirable method to be pursued in these and similar cases, and then, if our laws are not so constructed as to carry out this generally agreed idea, we should endeavor to have them so amended.

FEDERAL JURISDICTION.

The question of Federal jurisdiction and the consequent limitation of the covering of State statutes brings us, in the administration of these departments, quite often to vexing questions. For instance, a Federal judge interpreting the Washington act has ruled, in substance, that in the case of a longshoreman or stevedore trucking merchandise from the dock to the vessel, if injured after he leaves the dock—that is, between the dock and the vessel or in the vessel—he is subject to Federal jurisdiction, and if injured on the dock, to the jurisdiction of the Washington act.

The question of admiralty jurisdiction is one far-reaching and requiring very careful handling, but it should have our attention from an administrative standpoint.

Some of the States have provisions whereby the employees engaged in interstate commerce can come within the provisions of the act. This is not true of a great many compensation laws. Is it desirable

to uniformly extend this State function to interstate employees, or is it more desirable to handle this under a Federal statute?

I note some laws are extending their jurisdiction beyond the confines of their State or intrastate operations. The point has arisen in my mind as to whether they were legally doing this or simply getting away with it. Can we not have more uniformity in our statutes or in their interpretation covering this point?

ACCIDENT PREVENTION AND SAFETY FIRST.

The desideratum in workmen's compensation and the end to which we are all working is "accident prevention." This not only decreases the cost to the employers or to those contributing to the payment of workmen's compensation, but a much greater benefit is derived from lessening the loss of earning power to the injured workman. Whenever the earning power of a workman is diminished the State—the body politic—suffers loss; therefore the much-desired end is to decrease this loss to a minimum. Great strides are being made in accident-prevention work in nearly all the States. "Safety first" has become a slogan reaching from ocean to ocean and to all classes of industry. The workman is becoming educated to the point where he realizes that he is "his brother's keeper," and that he not only owes it to himself but to his fellows to refrain from doing that which will place himself or his fellows in unnecessary danger. Into this great question comes the matter of proper first aid—the proper treatment of injuries previous to the advent of the surgeon.

The American Red Cross Society and other similar institutions are starting a great educative work in sending their representatives about the country teaching proper first handling of injuries. In our young State of Washington we have been having one of these representatives going into the camps and workshops and places of congregation of workmen, teaching them how to care for injuries. The employer needs educating even as much as the workman, and safety councils have been organized in many parts of the country under the direct efforts of Mr. L. R. Palmer, of the Pennsylvania Department of Labor and Industry, who is vice president of the National Safety Council. One of our commissioners, Mr. Clarence Parker, has had active charge of the work in our State, in conjunction with Dr. W. N. Lipscomb, the local representative of the National Red Cross Society. Through moving-picture films, exhibited to thousands of workmen, and by practical demonstrations a great deal has been done in creating a tremendous interest throughout our section of the country in the short time in which they have been engaged therein. Experience shows us also that the children of the working

people who are taught these subjects in school, or through the means just mentioned, have a great influence upon their parents, especially those of foreigners who are unable to understand or read our language.

I am mentioning this for the benefit of those States where this work has not yet been used, and suggest that you avail yourselves of any opportunity to have this instruction.

EXTRATERRITORIAL RIGHTS.

Those of us who were privileged to hear the exceptionally able paper of the Hon. Wallace D. Yaple, chairman of the Ohio commission, upon this subject at the meeting of our second annual convention, or who have read the same in the published proceedings, have been compelled to give grave consideration to this very important question. I am referring to it again here in order to keep it before your minds, and suggest that so far as practicable we work out some uniform plan of administration of workmen's compensation laws in this regard in our various States and Provinces.

MERIT RATING.

Merit rating is essential to the proper development of workmen's compensation. A very few of the States have attempted to carry this into effect. I believe our sister State of Ohio has at this time the most comprehensive attempt to reach this desired end.

The question of merit rating, as applied to workmen's compensation, is becoming one of the great questions for solution in compensation laws. Many and varied are the plans and systems suggested. There are certain basic principles underlying this subject that must not be lost sight of.

Merit rating is a natural evolution of workmen's compensation and as such must come into practice wherever this theory of caring for the injured workmen is in vogue. It has been so clearly demonstrated in actual practice that definite and amazing results can be obtained through the efforts of the employers and employees that every incentive should be given to the reduction of accidents through the means of accident prevention.

The employer and employee must be taken into consideration in working out the principles herein. Cause and effect also enter in. The employer should not be penalized for the carelessness of the injured workman, and it must be so arranged that the employer can not take undue advantage of this fact but must thoroughly and properly equip his plant so that the greatest amount of safety that is practicable can be obtained. The small employer who has not the opportunity or incentive to thoroughly equip his plant for safety

must also be taken into consideration. There are so many phases to this question that it should not be worked out quickly nor thoughtlessly and I shall suggest for your consideration the appointment of a committee to recommend to this body a practical system that we may attempt to embody in our various laws.

Perhaps this can be better worked out by the committee on statistics and compensation insurance cost, as their findings must be necessarily taken into consideration in developing a practical system.

COMMITTEE ON STATISTICS AND COMPENSATION INSURANCE COST.

In my judgment, this committee should be continued and be made practically a permanent part of our organization. In this same connection I beg to refer to the topic of permanent organization, which is discussed herewith.

PERMANENT ORGANIZATION.

This matter has been discussed in a more or less desultory manner ever since the organization of this association. At our recent convention in Seattle quite a little discussion was had without any definite plan proposed. It is my personal judgment that the time is at hand for opening permanent quarters, centrally located—for instance, Chicago—with a permanent secretary in charge, whose duties it will be to gather and disseminate information useful in the administration of compensation in the various States and Provinces. If this is done, the secretary in charge should be a man thoroughly conversant with compensation and to whom inquiries could be addressed for information regarding any phase of this question.

With the large number of States and Provinces now having workmen's compensation the expense would be very light upon each one and, to my mind, the benefit would be very large. It is suggested that you give this matter, at this time, your very careful consideration. It would be useless to adopt any plan unless the groundwork could be of a permanent character.

COURT DECISIONS.

I am not the first one to raise this question in regard to our courts; if I were, it would not be raised, because I would fear to raise the issue, believing I might be misunderstood, and in doing so I wish it well understood that I have the highest regard for the judiciary of our country, both as to its intelligence and its integrity.

The point I am raising is the tendency of our courts to assume in part the duties of our legislative bodies. My understanding of the duty of the court is to interpret the laws upon the statute books. It appears to me that the court is exceeding its province when it

attempts or does read into the laws what in its opinion should be there rather than what the legislative body, in the exercise of its function, put into the law. Have we not noted instances, especially in the interpretation of compensation laws, where the courts have done this? One very able judge said to me that compensation was a new proposition, one not well understood by attorneys or the bench, and it marked out a new line of jurisprudence. My one idea in raising this question in this manner is to suggest that so far as practicable we undertake to see that our legal brethren—both bench and bar—get the correct theory of workmen's compensation, not with the idea of influencing their decisions on law points raised, but that they will study along the new line of jurisprudence which is being marked by this comparatively new condition affecting compensation to injured workmen.

PHYSICAL EXAMINATION OF EMPLOYEES.

As was so well stated in the valuable contribution to this topic by the Hon. F. M. Wilcox, of Wisconsin, at the last annual session, this is a question confronting workmen's compensation administration, whether we like to admit it or not. If the physical condition of the workman prior to his injury is a factor in determining the extent and amount of the injury which must be recognized, the employer will argue that he has a right to discriminate in the selection of his workmen. On the other hand, the deficient workman must not be deprived of the means of earning his livelihood, and thus becoming a care upon the State. The selection must be based upon some theory equitable to both. It occurs to me that some form of State supervision, having to do with placing the deficient man in a position where he can earn his livelihood and be of value to his employer, without becoming, in the event of an accident, an excessive liability, would be the correct method.

LUMP-SUM PAYMENTS.

Some acts, notably our own, provide for lump-sum payments for permanent partial disabilities. After having to do three years with the administration of this feature, I am not convinced that it is wise. I think discretion should be given the accident commission, but that as a usual thing the claimant would be better off under a monthly payment system.

TENURE OF OFFICE.

If workmen's compensation is to arrive at its true state and be put upon the plane to which it is entitled to be put, if it is to have

an existence at all, in my judgment there must be more permanency given to the various boards and commissions. The administration should be removed from politics. Under the system prevailing in most of the States, the commissioners are appointed or removed at the will of the executive, and we have noted instances where men of the highest type and of great value to this work have lost their positions solely on account of politics or political changes. This should not be so. The taxpayers pay for the education and experience of a commissioner to the point of reasonable efficiency, and this is lost as soon as a change occurs—some one else has to go over the same formula; but the most regrettable part is the lack of permanency to the position and the consequent failure to attract our best men and the lack of incentive to spend sufficient time and energy in preparing themselves for their duties. Can we not with reason endeavor to so adjust conditions in our various States that at least men serve the time for which they are appointed, part retiring at a time, thus making a continuing body of a board or commission, rather than one subject to removal for political reasons? I am confining these remarks wholly to the United States as I understand this is not the custom in the Provinces.

CONCLUSION.

Concluding, I wish to thank the members of this body for the honor conferred upon me in electing me president of the association. Being one of those interested in its formation and having taken somewhat active interest in its affairs, I am more than ever convinced of the benefit of such association and these annual conventions, believing that such an organization is almost an absolute necessity in order to get the best results in the administration of this great humanitarian and governmental function of workmen's compensation. We should all give it our very best efforts and place it upon a plane devoid of personal, political, or other adverse interests. No other interests should be permitted to use this organization, but it should be held strictly aloof from any entangling alliances. As the present members go out new ones come in. I trust that in the future years this association will have the benefits of the zealous, intelligent interests of its members as it has had so far in its career.

Again thanking you for the honor conferred upon me, and anticipating a pleasant and profitable session, I will conclude with a word of appreciation for the members of the committee on program and arrangements, together with their associates, who have arranged such a splendid program.

Dr. LESCHNER, Minnesota. I think President Daggett's paper should be printed as part of the proceedings. He suggested that we submit certain questions to a committee, or take them up for discus-

sion. It seems to be the proper thing, if it meets with the approval of the rest of the members, for the secretary to make note of these matters, and have them dropped into the question box, so that they may come before us for consideration at a later session. I will make it a motion.

(Motion seconded and carried.)

Mr. YAPLE. Mr. Daggett being absent, this session is without a presiding officer. What is the pleasure of the convention?

Mr. HOLMAN. I suggest that we have a very good presiding officer now. I would like to have some one second the motion that our present chairman preside over our meeting.

(Motion seconded and carried.)

Chairman YAPLE. I thank you, gentlemen; I will do the best I can to act as presiding officer. I will, no doubt, find it necessary to call on some of you for assistance. I have the following telegram from Mr. Kinnane:

BAY CITY, MICH., *April 24, 1916.*

HON. WALLACE D. YAPLE,
Columbus, Ohio:

It will be impossible for me to attend the Columbus session of International Association of Industrial Accident Boards and Commissions. This message is sent with profound regret, as I had planned to attend. I sincerely hope that the present session will even surpass in excellence the splendid record of our former meeting.

JOHN E. KINNANE.

The CHAIRMAN. I will say for the information of those who may not have attended the first two meetings of this organization that Mr. Kinnane and Mr. Daggett were two of the men who first interested themselves in the organization of this association. The first meeting was held and the association was organized in Lansing, Mich., in April, 1914.

The CHAIRMAN. This concludes the program for the morning, except that there are some committees to be appointed—a finance committee, a committee on time and place of next meeting, so that the report of this committee can be made at the last session; also, probably a committee on nominations. I would be pleased to hear from those interested in the matter who have any suggestions to offer.

Mr. KINGSTON, Ontario. I believe it would be wise to have a committee on both of those subjects—possibly one committee. I think the interests of the association can be much better served by a committee.

The CHAIRMAN. Is it agreeable to act on Mr. Kingston's suggestion that the chair appoint a committee on nomination of officers for the ensuing year, the committee to select the time and place of the meeting next year?

Mr. WILCOX. I should suggest an auditing committee.

Mr. ARCHER, New York. I believe we should have a resolutions committee also. Several of us may have resolutions to offer from time to time.

(Chairman Yapple then appointed the following committees:

(Committee on nominations and selecting time and place of meeting: George A. Kingston, Ontario; Fred M. Wilcox, Wisconsin; Dudley M. Holman, Massachusetts.

(Finance committee: A. J. Pillsbury, California; W. L. Blessing, Oklahoma; Carle Abrams, Oregon.

(Resolutions committee: W. C. Archer, New York; L. A. Tarrell, Wisconsin; J. B. Vaughn, Illinois.)

Dr. MEEKER, Washington, D. C. I move, Mr. Chairman, that a committee be appointed at this time to consider the matter of permanent organization. I make this motion with the stipulation that I am not to be appointed on that committee.

(Motion seconded and carried.)

Mr. BLESSING, Oklahoma. Before the committee is announced, Mr. Chairman, I want to make a motion that the presiding officer be chairman of this committee on permanent organization.

The CHAIRMAN. I will not refuse to serve if chosen, although I have selected other names.

Dr. MEEKER. It might be well for me to make clear my objection to serving on this committee. I think the permanent organization should be centered in Washington. The Federal Bureau of Labor Statistics would be a sort of a head for the International Association of Industrial Accident Boards and Commissions. A resolution was passed at a meeting held in January of last year in Chicago requesting the Federal bureau to bring out in bulletins the assembled statistical reports on industrial accidents in the several States. I was heartily in favor of this resolution. I do not wish to act on this committee. I want the committee to decide whether it wishes to act in conjunction with the Federal Bureau of Labor Statistics. I think in that way we would more rapidly acquire standardization of accident statistics.

The CHAIRMAN. It appears to me that the work of this committee is of great importance. If it is agreeable to the delegates I will not make the appointment at this time but announce this committee at a later session. A delegate suggested this morning that he would like to have the opportunity to see the department of the Ohio Industrial Commission in operation and that the afternoon session be fixed at a later hour, or that it be postponed.

Mr. ARCHER. The Ohio plan is so different from the New York plan that I should like to have the privilege of going through the department and see it working. It will give an opportunity to see how the Ohio plan works, looking into every detail of method.

(On motion by Mr. Vaughn the afternoon session was postponed until 8 o'clock, thus giving the members an opportunity to visit the Ohio Industrial Commission.)

The CHAIRMAN. I would like to direct the attention of those present to one feature of the program that has not appeared on former programs. It is designated as the "question box." Suggestions for discussions can be put in the form of questions and handed to Mr. Tarrell to be put in the "question box." These can be discussed at the end of each session.

Dr. THOMPSON, Oregon. Mr. Chairman, I would like to suggest that this convention authorize an organization of the chief medical advisers of the various States, to elect their officers independently, and to be subject to the central organization.

The CHAIRMAN. I suggest that you prepare a resolution to that effect and present it in proper form.

(Thereupon the session adjourned to meet at 8 o'clock the same evening.)

TUESDAY, APRIL 25—EVENING SESSION.

Chairman YAPLE. Ladies and gentlemen, it was with considerable regret that I was compelled to announce this morning that the governor was unavoidably absent from the city. We have him with us to-night. I now have the honor of presenting to you Hon. Frank B. Willis, governor of Ohio.

ADDRESS OF WELCOME.

BY HON. FRANK B. WILLIS, GOVERNOR OF OHIO.

I regret that I could not be present at your opening session, where I understand I was expected to deliver a brief word of welcome. I am sure, however, those who have heard the greeting that has already been extended to you understand perfectly well the delight the city has in having this important meeting in Columbus. I take this occasion further to assure you that not only are you welcome here now, but you are welcome in as many of your future annual meetings as you see fit to hold here. Unfortunately for me and fortunately for you the meeting came at a time I was engaged elsewhere or otherwise. This being election day, I left the city this morning and came back here to learn your meeting had made progress.

I am especially glad you decided to visit and spend the afternoon studying the Industrial Commission of Ohio, because the Industrial Commission of Ohio has many things with which to commend itself to you in the administration of the workmen's compensation law. Its duties are tremendous; it has tremendous responsibilities.

I may note the various bureaus under the jurisdiction of the Industrial Commission of Ohio. Of course, the first and most important is the department of workmen's compensation, which administers the compensation law. Others are the divisions of workshops and factories, boiler inspection, mines, steam engineers, investigation and statistics, free employment offices (State and joint State and city offices), mediation and arbitration, and film censorship. I don't know of a commission whose duties are more varied or extensive. I do not desire to make any comparison, but I think it only fair to the Ohio commission to say that no similar body in the United States works harder or more earnestly than the Industrial Commission of Ohio.

I am exceedingly proud of the work done in the various bureaus I mentioned, especially in the division that has to do with the administration of the workmen's compensation funds.

I want to call attention to those facts that to me seem interesting. I noticed in a morning paper a statement that something like eighty million people in the United States are under the operation of workmen's compensation laws. I am very strongly of the opinion that that sort of legislation is here to stay. I don't think any one of the States undertaking this work would question or would abandon its operation. With the limited experience we have had, I think there is no one in the State of Ohio who would consider for a moment the abandonment of the workmen's compensation proposition, nor would consider any amendment to that law which would weaken the benefits growing out of its organization, not only to the workmen but to the employer as well. It is a benefit not only to those spoken of as beneficiaries but a benefit in a larger sense to the employer as well. So in Ohio no abandonment of the proposition will be considered, for we feel it has been a success. No amendment to the law will be considered unless it is clearly shown it would strengthen and simplify its operation. I point with a great deal of satisfaction to the record our industrial commission is making in the enforcement of this law. Just a little while ago, when I was visiting in a city of Ohio, I came across what seemed to me a beneficent example. A young man who had had his hand caught in machinery had lost the arm. Under the old order of things there would have been endless litigation, but now the situation was different. I said, "How does this thing work out?" He said, "Fine"; and was as happy as a man could be suffering such misfortune. He had received twenty-four or twenty-five hundred dollars. His employers also were happy about it. This is a splendid illustration of the operation of this law. The help came when the man and his family needed it. This was a good deal better than to receive it after a long period of litigation or, perhaps, not at all.

Hundreds of letters come to the commission from mothers and daughters who are beneficiaries of a lump sum. They say it was kind to send it in time, and express their gratitude to the commission. Letters like that are worth all the efforts that are put forth in the maintenance of this board, and the work illustrated by such letters is borne out by figures showing results in this State. For example, from April, 1915, to April, 1916, there were filed in Ohio with our industrial commission 85,400 claims. In March, 1915, 4,615 claims were filed; in March, 1916, 10,082 claims were filed. Notwithstanding the fact that the work of the department in all these bureaus has probably doubled in the year, we have done that work. It is tremendously hard work. I call your attention to the

fact that while the number of claims filed is considerably more than double, at the same time with the increase in claims the fund available to make these claims good has increased considerably over \$1,000,000.

If we take three months' premiums, \$3,077,000, and compare that figure with the same three months of last year it will show an increase of almost \$700,000. Everybody is in favor of strengthening the work of the department; nobody is in favor of undermining it or weakening it. Along with this sentiment is a sentiment in favor of the plan which takes care of the unfortunates. If it is the duty of the State to supervise, to provide indirectly a fund out of which the unfortunate may receive sustenance, in other words, if it is the duty of the State to provide indirectly the means whereby the widow and the orphan may be cared for and the workman may be provided for, then is it not much more the duty of the State to put forward whatever it can to prevent this excessive waste? We have a campaign on for the elimination of industrial accidents. That campaign can never be entirely successful until the conclusion has been reached that the first thing is a better understanding between the employer and the employee. It is a splendid thing to see the workmen and the officers of the State cooperate in different places of the State for the purpose of exhibiting safety devices and different plans and arrangements for the elimination of accidents.

In this State last year, in round numbers, we had 80,000 industrial accidents. Think of what that means, putting aside for the moment the important consideration of the amount of human suffering involved and the tremendous economic waste through loss of time. We read in the history of the War of the Revolution of that great campaign that resulted finally in establishing a new nation, conceived in liberty and dedicated to the purpose that all men are created equal. Why, more people were injured in industrial accidents last year than fought in both the Continental and the British Armies. When we have the aggregate, the basic facts, we find that probably two-thirds of such accidents are easily preventable.

Now, if it is the business of the State to provide for those who suffer as a result of accidents, is it not the business of the State to prevent the occurrence of the accident? Here is an illustration. I heard a man say right here in Columbus, "Let them alone, those things work themselves out." Yes; maybe they do, but if we can save human lives, save suffering and at the same time conserve our funds, is it not well to do it? The State is a public insurance business; it ought to use all sane methods, from a financial if not from a human standpoint, to eliminate loss. The Columbus Railway & Light Co. has been conducting a campaign for "safety first." A sign is posted in the street cars giving the result of that campaign.

Have you heard the figures? (Chairman Yaple answered he had given the figures in the morning.) Then I will not quote them to you again, but I think of this every time I board a car (for I ride on the street cars). Those figures are a practical illustration of what has been accomplished by this campaign.

I urge you as an association not only to give the best possible administration of the law committed to your hands, but to see to it that in those States where you have jurisdiction the "safety first" campaign is instituted. You will conserve your insurance funds and at the same time render an honest service to humanity.

Gentlemen, I hope by your visit among us you will be able to carry away some suggestion of our work that will be of benefit to you. We know our commission and officers will be able to gain from your presence many suggestions in working out problems in our State. I assure you, gentlemen, you are welcome; I hope you will come back to Columbus again.

The CHAIRMAN. Mr. William C. Archer, of the Industrial Commission of New York, is on the program for the next address. Mr. Archer informs me that inasmuch as Mr. Mitchell, chairman of the New York Commission, is on the program for Thursday, he would rather defer his address until he learns definitely whether Mr. Mitchell will be here. He will take Mr. Mitchell's place if the latter does not come. I take it upon myself to excuse him. The next address on the program is by Mr. Wilcox, a member of the Industrial Commission of Wisconsin.

(Mr. Fred M. Wilcox thereupon delivered an address on "The right of appeal under workmen's compensation laws, the constitutional necessity therefor, and the most appropriate method of taking the same." A copy of this address could not be secured for insertion in this report.)

DISCUSSION.

Mr. WILCOX. I referred to the case in Ohio of *Yaple v. Creamer*—one of the important cases wherein the relator in the case was not satisfied to allow an attorney to present the case but insisted on doing it himself. I have been interested myself to know just what his views are.

The CHAIRMAN. As Mr. Wilcox has said, the right to compensation under the compensation acts is a new right. It was unknown to the common law. It is an entirely different right from the old right of action under the common law, because that right was founded on the fault of the employer. This new right is based on the economic necessity of the present day; that industry should bear the burden of industrial accidents and their results, and a cer-

tain measure of compensation should be granted to the injured person without regard to the question of negligence. The right given by the workmen's compensation act was unknown to the common law. It is not a right of action at all. I think the decision of the Supreme Court of Washington states the question about as well as any I have seen. The Washington act abolishes in terms the cause of action arising on account of injury resulting to the employee. The point is just this: If there is no cause of action on account of injury to the employee, he has no right to go into court, because there is no cause of action to try; therefore no right of trial by jury. But I do think some method of review of the action of the industrial accident board or commission should be given. Their judgment may not be perfect, for these men are not all lawyers, and even if they were they would make mistakes. Because of the vast volume of business that comes up before them it is utterly impossible to give all claims the consideration they should have. While I think a board, with the experience it gets in the handling of such great numbers of cases and with the advice it obtains from its experts, is much more competent to pass on the facts than the average jury, yet such boards make mistakes on questions of law. I think under the Ohio law, and perhaps under the laws of many of our States, provision is made for an appeal from the decision of the commission to a jury in the common pleas court or to the circuit court, as it is in some States. This is a very foolish provision. The law provides that the claims be appealed from a body of men supposed to be experts in determining such matters to a jury composed of men who are not experts. They are in no position to judge. The law ought to require or grant a claimant a rehearing on any claim if the application is made in a specified time. Then on the rehearing the board would have an opportunity to give the claim more thorough consideration; then if the board's decision is adverse to the claimant he should have the right to take an appeal or procedure in error to the supreme court of the State on questions of law.

The Ohio law provides that there shall be no appeal unless the claimant is denied the right to participate in the insurance fund. When the industrial commission rejects a claim it has certain evidence on which it acts. Within 30 days the claimant has the right to appeal to the common pleas court in the county in which he lives or where the accident occurred. He is not required to make application to the commission for a rehearing, but he can take his appeal. When the case gets into the common pleas court it is then tried *de novo*. I see Mr. Price, of the attorney general's office here. That is correct, is it not, Mr. Price?

Mr. PRICE. That is correct.

The CHAIRMAN (continuing). The claim is not tried on the evidence the industrial commission had, but very often the claim or proceeding before the industrial commission is made the subject of a "fishing" excursion, to find out what evidence the industrial commission believes sufficient to support it. If that information is obtained, the claimant generally succeeds, on appeal, in finding a medical man who is willing to testify that certain conditions prevailed. I don't say that as a reflection on the medical profession, but if the case is important you will find an array of testimony on both sides, sometimes by very reputable men in the profession. This is all wrong. I think the claimant ought to have the right to appeal his claim to some court, but when the claimant goes to the court for review, there should be no new evidence taken; it should go up on the record of the claim before the commission, the court should have that record, and from that record the court should determine whether the commission erred, and then it should be remanded back for further proceedings by the board, as in civil cases in the courts.

Mr. KINGSTON. I assume, in cases coming before you, you have not gotten all the testimony in shorthand. That could hardly be possible in all cases.

The CHAIRMAN. Practically all cases are taken in shorthand, and nearly always transcribed.

Mr. HOLMAN. We have in Massachusetts a simplified form of appeal. The hearings are before an arbitration committee. Any man is allowed the right of a rehearing before the appellate board on a question of fact. The appellate board may grant him a rehearing, but it is seldom done. We had 1,454 arbitration hearings last year; we had only 24 cases appealed to the superior court. When we pass on a case the superior court will not decide these questions of fact; it simply gives its decision on the question of law. Seven days are required for an appeal to the appellate board, 10 days from the decision of the appellate board to the appeal to the superior court. We are getting it all over quickly.

Mr. PILLSBURY, California. We have a right to a rehearing, and they must apply for a rehearing before taking an appeal; then if they have the proper ground for a rehearing we grant it. I think out of 2,400 cases we had about 50 appeals. The question has come to my mind whether the tendency to increase the demand for appeals did not depend upon us. We should give a just consideration to the facts. If we don't grant justice there will be a demand for more appeals. It should be our first consideration to get at the facts. It is better and more to the public's interest to get at what we might call average justice than to go on and reach exact justice at the expenditure of time and effort that audits up in the

cost to the State. I don't think we can do this in a slipshod way. In our haste and urgency to get speedy decisions we should not overlook the primary importance of getting just decisions.

Mr. KINGSTON. I think, Mr. Chairman, I may extend my sympathy to the officers of the compensation board on the question of appeals. We are fortunately situated in Ontario; we are supreme courts in ourselves. There is no appeal from our decisions except as to rehearing, and that is taken very informally. I think in the year and three or four months since our act has been in force action for rehearing has not been taken in more than 1 per cent of the cases, probably not that number. The lawyer has been absolutely read out of our act. The chief justice of Ontario was the instrument in framing our law, and he has on more than one occasion, in addressing bar associations of our Provinces, stated this very frankly.

Mr. ARCHER. I have listened with interest to Mr. Wilcox's address, and especially to his outline of the ideal method of appeal in workmen's compensation cases. I think the New York law as recently amended meets all his requirements. This law is in the hands of the governor to be signed. Let me read the section governing appeals.

SEC. 23. Appeals from the commission. An award or decision of the commission shall be final and conclusive upon all questions within its jurisdiction, as against the State fund or between the parties, unless within 30 days after a copy of such award or decision has been sent to the parties, an appeal be taken to the appellate division of the supreme court of the third department. The commission may also, in its discretion, on the application of either party, certify to such appellate division of the supreme court questions of law involved in its decision. Such appeals and the questions so certified shall be heard in a summary manner and shall have precedence over all other civil cases in such court. The commission shall be deemed a party to every such appeal, and the attorney general, without extra compensation, shall represent the commission thereon. An appeal may also be taken to the court of appeals in all cases where the decision of the appellate division is not unanimous and by the consent of the appellate division or a judge of the court of appeals where the decision of the appellate division is unanimous in the same manner and subject to the same limitations not inconsistent herewith as is now provided in civil actions. It shall not be necessary to file exceptions to the rulings of the commission. The commission shall not be required to file a bond upon an appeal by it to the court of appeals. Otherwise such appeals shall be subject to the law and practice applicable to appeals in civil actions. Upon the final determination of such an appeal, the commission shall make an award or decision in accordance therewith.

Mr. WILCOX. I would like to ask Mr. Archer if they have certified any questions to the courts for determination?

Mr. ARCHER. Yes, we do; we often reopen cases. First, we certify the question before the commission, the question we should like to hear discussed.

The CHAIRMAN. Is there no provision for a jury trial at all in the New York act?

Mr. ARCHER. With one exception—when the appeal is not made in the court of appeals but to a particular division of the supreme court.

Mr. WILCOX. What change is effected by an appeal to the intermediary court, so far as a question of law is to be determined?

Mr. ARCHER. I don't see any particular change except as to the State in that instance; the care of workmen's compensation would come directly to them.

The CHAIRMAN. As the hour is getting late, if there are no further questions, I think we had better adjourn until to-morrow morning at 9 o'clock. There is to be a conference of safety men in the hearing room of the industrial commission to-morrow morning. Anyone desiring to be present may have that opportunity.

(On motion the session adjourned.)

WEDNESDAY, APRIL 26—MORNING SESSION.

CHAIRMAN YAPLE. The first address on the program is that of Mr. Pillsbury, his subject being, "Conflicts between Federal and State jurisdictions in commerce cases."

**CONFLICTS BETWEEN FEDERAL AND STATE JURISDICTIONS IN
COMMERCE CASES.**

**BY A. J. PILLSBURY, CHAIRMAN, INDUSTRIAL ACCIDENT COMMISSION OF
CALIFORNIA.**

SYNOPSIS.

There are conflicts of jurisdiction between the Federal Government and States having compensation laws dependent upon whether or not, at the instant of the injury, the employee was engaged in interstate or intrastate commerce.

This conflict often makes it necessary to try cases, first, to determine the jurisdiction, and afterward to find out whether or not applicant is entitled to recover.

There are in the United States approximately 2,000,000 railroad employees more or less subject to the costs, annoyances, and uncertainties of this conflict on the division of jurisdiction.

For the year ending June 30, 1915, 2,195 railroad employees were killed in the United States and 139,550 injured.

The Federal employers' liability law of 1908, as amended in 1910, was, when it was enacted, a great advance on what the States had done for the indemnification of railroad men for injuries received in the course of their employment, but since then 31 States have enacted compensation laws far in advance of the liability law of 1908.

The liability law was based on negligence, but with old, drastic common-law conditions greatly modified. The compensation laws are without regard to negligence.

The courts have been able to lay down no rule for determining, without a hearing, whether or not an injury happened in interstate or intrastate commerce.

The Federal laws have exclusive jurisdiction over all injuries happening while the employee is engaged in interstate commerce, and in cases where it is impossible to determine whether or not the injury happened in interstate or intrastate commerce.

The Federal law has, and can have, no jurisdiction over injuries happening in intrastate commerce, thereby making it impossible for Congress to enact a uniform liability or compensation law covering all injuries sustained in commerce by railroad.

The well-being of railroad employees, and efficiency in administration or execution of such laws, requires that all such cases within a State be under one jurisdiction.

It would be preferable, were it possible, for the whole subject matter to be under the jurisdiction of the Federal Government.

Inasmuch as, according to the decisions of the Supreme Court of the United States, such a consummation is not possible, the next best thing is for the Federal Government to relinquish the whole subject matter to the jurisdiction of States having adequate compensation laws.

The best interests of railroad employees working in States not having adequate compensation laws require that the Federal authority maintain its jurisdiction over such States.

The crucial question involved is as to whether or not Congress can constitutionally enact an ununiform liability or compensation law, that is a law operative in some States and not in others.

There is no specific requirement in the Constitution of the United States that all laws shall be uniform, but only that all shall be entitled to the equal protection of the law.

The Webb-Kenyon liquor law has declared it unlawful to transport liquors into any State to be consumed in any manner contrary to the laws of such prohibition State. In other words, Congress has divested liquors of their interstate character as to prohibition States.

May not Congress likewise divest injuries received in the operation of railroads of their interstate character whenever they happen in States having adequate compensation laws?

Injuries sustained in the operation of railroads are not proximately of concern to the Nation, but to the States and their political subdivisions which must care for those crippled, widowed, or orphaned as results of such injuries.

The interests of the Nation in the subject matter are relatively remote and inconsequential.

Two States of the Union, New York and New Jersey, have recently denied that there is any conflict between the Nation and such States in relation to compensation.

The Federal law fixes liability only where there is negligence on the part of the carrier or the fellow servants of an injured employee. State compensation laws fix liability without regard to negligence. It is claimed that the two jurisdictions do not relate to the same field and therefore can not conflict. The issue is now before the Supreme Court of the United States for determination.

The crux of the issue has been missed by both sides to the controversy.

That crux is that compensation for industrial injuries, however and wherever suffered, has, and should have, no essential, constitutional connection with commerce, either interstate or intrastate, but belongs to the realm of local, domestic, social insurance against hazards of poverty with which the Federal Government should have only a general concern.

"Compensation" is one factor in a forthcoming general scheme of social insurance and, as such, differs in no important particular from insurance against the hazards of sickness, unemployment, old age, premature death, invalidity, maternity.

Could a railroad company plead for exemption from the operation of a sickness or unemployment insurance law of a State on the ground that its employees were engaged in interstate commerce? If not, then why against insurance against the consequences of industrial accident?

Why is this power of the Federal Government asserted only in relation to industrial injuries and not in relation to taxation, the compulsory insurance

of passengers against injury, their baggage against loss, freight against destruction, and farmers' crops against fire caused by sparks from locomotives—all without regard to negligence?

A Federal compensation law would be impracticable because:

- (a) It can not occupy the whole field, interstate and intrastate.
- (b) The jury system is constitutionally requisite, but wholly unsuited to compensation cases.
- (c) Courts are little better fitted for this service than juries.
- (d) A national commission covering all States would culminate in a huge and undesirable bureaucracy.

RECOMMENDATIONS.

1. Ask Congress to so amend the employers' liability act as to divest injuries of their interstate character when they happen in States having compulsory compensation laws covering injuries to railroad employees.
2. Include the same provision in any Federal compensation law that may be enacted.
3. Permit railroads in States having elective compensation laws to accept such acts in lieu of Federal laws on the same subject.

THE PROBLEM.

Rather roughly speaking, for there are available no up-to-date, precise statistics covering the entire field, there are in the United States about two millions of employees of steam and electric railroads, if we include the employees of terminal companies in great centers, operated separately from the transportation lines which use such terminals and yet in close relation to them.

The steam railroads alone have a trackage of 384,145 miles, or did have on the 30th day of June, 1914. In the maintenance and operation of this great mileage of railroads fully 90 per cent of the two millions of employees may be said to be employed in hazardous pursuits, and it goes without saying that this vast army of toilers, subjected to physical danger, should be adequately protected against the risks of poverty and deprivation arising out of accidental injury. They are not now and never have been so protected.

THE TOLL OF DEATH AND INJURY.

The Interstate Commerce Commission makes a careful and comprehensive study of personal injuries befalling employees of railroads and their causes, and from this record I find that for the year ending June 30, 1915, there were killed 2,152 persons in the employment of steam railroads and 43 in the employment of electric roads, or a total of 2,195.

During the same period there were injured (and all who survived their injuries for 24 hours were classed as injured, although they may subsequently have died of their injuries) on the steam railroads

138,092 employees and on the electric roads 1,458, or a total of 139,550. Only those injuries are counted which result in disability for more than 3 days during the 10 days following the receipt of the injury. I am not certain whether these statistics include injuries sustained by employees of terminal companies, but am under the impression that they do not. If these were included there would be a material increase of the totals given, inasmuch as the greater number of those employed by terminal companies are engaged in switching and other hazardous employments.

CALIFORNIA'S QUOTA.

The number of injuries happening in California to employees of railroads operating both inside and outside the State, for the year ending June 30, 1914, was 8,337, and for those operating wholly within the State, 1,540, making a total of 9,877. Of this total number, 82 proved fatal and 118 involved permanent disabilities of varying degrees. Of the whole number injured the disabilities of 1,876, or almost 19 per cent, lasted longer than two weeks, whereas the average for all industries of the State, including railroad employees, was 13.25 per cent, showing that railroad accidents average more serious than those happening in industries taken as a whole.

Although the railroads of California paid to their injured employees during the year ending June 30, 1914, the total sum of \$90,328.36, exclusive of cost for medical treatment (the burden of which is mainly borne by the men themselves in the shape of hospital dues) or an average of \$9.14 per injury reported against an average of \$12.73 paid under our compensation law per accident reported, I have not been able to institute a satisfactory comparison between the compensations paid to injured men and their dependents by the railroads in California and the general average of compensation benefits under our industrial accident law. The average death benefit paid by the railroad companies of California during 1914, in 65 fatal cases, commuted into a lump sum was \$305.17. The average death benefit paid under the compensation law of California during 1914, for 613 industrial fatalities (including 17 deaths suffered on street railways and interurban lines) was \$364.64, but inasmuch as these benefits were to continue three years the ratio would be \$305.17 to \$1,093.92, and not \$305.17 as to \$364.64, the payments made during a single year. I am quite certain that, however the averages per case reported and covering all injuries may compare, a much larger percentage of railroad employees who sustain injuries receive no compensation whatever under the liability law than would hold true with other industries under compensation laws.

This, then, is the problem: How shall it be dealt with?

THE EXISTING STATUS.

We have in this country, in round numbers, 2,000,000 persons engaged in commerce by railroad who are under diverse jurisdictions dependent upon what they happen to be doing at the instant of the befalling of the accident or injury, the greater portion of them, the greater part of the time, being under the scanty and uncertain protection of a law of liability based upon want of reasonable care on the part of the employer or of fellow servants, and yet many hundreds of thousands of them, for at least a portion of their time, are under the jurisdiction of the compensation law of the State in which they live or in which they receive their injuries. The situation is not desirable and should be bettered if remediable.

THE FEDERAL EMPLOYERS' LIABILITY ACT.

While we may justly criticise the Federal Employers' Liability Act of 1908, as amended in 1910, because of its many shortcomings, we shall do well to remember that, at the time it was enacted, it marked a great step in advance and was a godsend to railroad workmen. Until this law was enacted, those injured while in the employment of the railroads were mainly under the domain of the old common law of liability based upon want of reasonable care, and often without mitigating statutes modifying the harsh doctrines of fellow servant, assumption of risk, and contributory negligence. It was after the time when this statute received its latest amendment, 1910, that States in this Union began to legislate with reference to so-called "compensation" without regard to negligence.

The Federal Employers' Liability Act of 1908, as amended in 1910, while it still adhered to the negligence theory of reparation for injuries, reduced contributory negligence to comparative negligence, not barring recovery but diminishing the damages allowed in proportion to the degree of negligence contributed by the injured employee as a factor in bringing about his injury, and providing, further, that neither contributory negligence nor assumption of risks should be pleaded as a defense in cases where an injury was suffered by reason of the failure on the part of the railroad to comply with any safety appliance law. Finally, this act prohibited "contracting out" from under its provisions and established one law throughout the Union governing injuries received by railroad employees while employed in interstate commerce, but only while so employed.

This law has proven so satisfactory to a substantial minority of railroad employees that they are loath to see it superseded by a so-called "compensation" law. These are mainly those who prefer to take the gambler's chance at a big verdict rendered by a jury, where

a case of negligence can be established against the employing railroad, to taking a moderate recompense in all cases of injury resulting in disability without regard to the negligence of either party. I am led to believe that this is the real reason for such opposition to a Federal compensation law, although such opposition may at times be urged on the ground that the bigger the damage allowable the more safe will railroading be made by the railroad companies.

A PERSISTENT PLAGUE.

But there is one persistent issue which rises to plague, in its operation, this otherwise highly beneficent act. That is the issue as to whether or not, at the instant of the injury, the employee was employed in interstate or intrastate commerce. The issue thus raised is jurisdictional and therefore fundamental, and often necessitates the trial of the cause in order to determine whether or not the judicial or other tribunal which has undertaken to hear it has any jurisdiction at all over the subject matter in dispute. If it has it can go on with the cause to final determination. If it has not it must dismiss for want of jurisdiction and permit some other tribunal to hear the case de novo. It scarcely needs to be pointed out that this plague is costly to the parties in time and money, and vexatious to the tribunal that hears the case only to learn that it had no right to hear it at all. I have not been able to secure exact statistics to show just how far this conflict between Federal and State jurisdictions as to interstate versus intrastate injuries has interfered with the orderly and effective administration of justice throughout the Union, but I do know that in California we have found the conflict of jurisdiction intricate, perplexing, and a serious embarrassment to the satisfactory administration of the workmen's compensation, insurance, and safety act. It seems impossible for the courts to lay down general rules for discriminating between the two jurisdictions that can be confidently applied to any case until the tribunal before which the case is brought has, in each instance, so far proceeded with the hearing as to be in a position to decide the whole cause on its merits before being able to decide whether or not it has any jurisdiction in the premises.

SOME CONCRETE EXAMPLES.

A brakeman running on a division wholly within the State was stabbed and thrown from a freight train, the employer being without fault. We held that we were without jurisdiction when it was proven that the train contained cars loaded with interstate freight.

A switchman was injured without fault on the part of the company, while coupling the air hose on a train carrying interstate

freight. Ten minutes before he might have been coupling air hose on a train carrying no interstate freight, in which event he would have been entitled to compensation. As it chanced he was entitled to nothing at all.

A laborer injured while loading timber in a railroad yard at Fresno, the timber to be used in repairing stockyards at another station, such stockyard being used both for handling interstate and intrastate animals, but chiefly the latter.

A car repairer had eye injured while driving out knuckle bolt of flat car used in general commerce, but mainly intrastate.

Laborer injured while building a temporary track to a pile driver to be used in building a bridge on a main line.

A railroad policeman injured while chasing tramps off an interstate passenger train at Colton, Cal. Held by the commission that it was without jurisdiction, which decision was affirmed as sound by the district court of appeals, although had the accident happened while chasing tramps off a local train a contrary decision would have been reached.

All the foregoing cases, and many more, were dismissed, after rehearing by the commission, for want of jurisdiction, but if compensation without regard to negligence is justifiable on any grounds it should have been awarded in each of the foregoing instances.

PER CONTRA.

The Industrial Accident Commission of California held hearings and awarded compensation in the cases following, among others, notwithstanding the fact that the defendant railroad companies had pleaded want of jurisdiction:

A pantry woman in a railroad restaurant at the depot in Los Angeles.

A machinist's helper, injured while grinding a rod with an emery wheel, it not being shown what use was to be made of the rod. In this case the jurisdictional issue was not pleaded by defendant, but in another similar case, where it developed in the testimony that a bolt being threaded at the time of injury was for use on a dining car employed in interstate and intrastate commerce, the proceeding was dismissed for want of jurisdiction.

A freight handler was injured while loading an asphalt cooker into a car at Sacramento to be shipped to an intrastate point, the car so loaded finally containing four pieces of freight coming from without the State, but destined to intrastate points, the same not having been loaded into the car at time of injury.

A baggageman at Orange, near Los Angeles, injured while closing door to baggage room, having just gone to the room to see if there

was a consignment of fresh vegetables to be shipped to the Los Angeles market. Held compensable, but if he had just gone to the baggage room to see if there was a crate of vegetables to be shipped to a point outside the State the proceeding would have been dismissed for want of jurisdiction.

Charles B. Ruth was killed by accident at Roseville, near Sacramento, while repairing a switch engine, such engine having been out of commission several days and not being returned to service for three days after the accident. While in use 70 per cent of the freight it handled was interstate and only 30 per cent intrastate, and neither the engine nor the injured mechanic ever went outside the State in the course of employment. Held compensable by the commission, but on appeal to the supreme court of the State the decision of the commission was reversed and the award annulled on the ground that decedent was at the time of the accident employed in interstate commerce and the industrial accident commission was without jurisdiction.

CASES GOING UP ON APPEAL.

A flagman at a crossing of a principal thoroughfare by an inter-urban line running from the Southern Pacific mole, opposite San Francisco, to the city of Berkeley, was struck by such a train and so injured that he died. Doubtless 99 per cent of all the traffic over this line is interurban and intrastate, perhaps as much as 99.9 per cent. Want of jurisdiction was pleaded as a defense, but compensation was awarded on the ground that at the time of the accident, if the injured workman was employed in commerce at all, it was intrastate, but that in fact he was not so employed, and although paid by the railroad company for his services his function was not to guard commerce, but, in obedience to an ordinance of the city of Berkeley, such watchmen are required to be maintained at certain crossings for the protection of citizens using the street.

A flagman at San Mateo was injured while striving to head off an approaching team about to run under the gate which he was lowering, subsequently dying of his injuries. His employment was also by the Southern Pacific Co., but in obedience to an ordinance of the city of San Mateo in order that citizens might not be injured by passing trains while crossing the line of the railroad, and not chiefly, if at all, for the protection of commerce either interstate or intrastate.

These two cases will be appealed to the supreme court of the State, and the decision of that court will be awaited by the industrial accident commission with patience as well as interest.

COURT DECISIONS ON THE ISSUE.

Of course, it is not the holdings of industrial accident boards and commissions on the issue of interstate versus intrastate commerce

and resulting jurisdictions that count, nor yet the decisions of supreme courts of States, but rather the decisions of the Supreme Court and courts of appeal of the United States; and there have been decisions enough in such cases to settle with definiteness most of the constitutional questions involved if not enough to lay down rules for determining jurisdiction which courts and commissions may safely apply without, in most cases, first holding trials or hearings for the determination of jurisdictional facts. It is this inability that is the chief cause of uncertainty, cost, and delay, and which makes it evident that jurisdiction over injuries to persons engaged in commerce can not permanently remain two-thirds Federal and one-third State.

**A UNIFORM, ALL-EMBRACING FEDERAL COMPENSATION LAW
PREFERABLE.**

To my mind it borders on the self-evident that, other things being equal, an adequate compensation law enacted by the Federal Government and taking under its protection all persons engaged in commerce without distinction with regard to whether, at the instant of the receipt of the injury complained of, the workman chanced to be engaged in the performance of an act of interstate or intrastate commerce, would, if it could be administratively administered, be the most desirable consummation to be reached. While it is natural for persons occupying positions of official responsibility to reach out after, instead of relinquishing, power and prerogative, I think that, so far as the Industrial Accident Commission of California is concerned, it would be glad to be relieved of the whole compensation business as it relates to commerce by railroad and by river and sea, but only with the knowledge that, under Federal control, the brave fellows who risk their lives and limbs in the transportation service shall be adequately protected. It is the consciousness that under the existing system they are not so protected that has prompted this effort on their behalf. I am equally of the opinion that if the Federal Government can not or will not take over the entire field of compensation to injured railroad men, then the Federal Government should relinquish the entire field to the States of the Union, or at least to such States as have adequate compensation laws. Our shibboleth should be "All or none," as applied to this issue.

FEDERAL JURISDICTION SPECIFICALLY LIMITED.

I have faith in the unlimited power of supreme courts in general, and especially in the omnipotence of the Supreme Court of the United States, and believe that this high court, under our form of

government, possesses power to make the law what it wants the law to be made, and that there is none to stay its hand, but its won't is as puissant as its will, and it has declared with emphasis and repeatedly that the Federal Government can not take cognizance of injuries arising out of intrastate commerce. That settles it.

In the case of *Brooks v. S. P. Company* (207 U. S., 461-463), Mr. Justice White, speaking for the court, said:

The expediency of this act (employers' liability act of 1906) is not in issue. The question is as to the power of Congress to enact such a statute. To the extent that regulations adopted by Congress in regard to master and servant are solely confined to interstate commerce, they are within the grant to regulate commerce.

Again, in the same case:

The statute deals with all the concerns of the individuals or corporations to which it relates if they engage as common carriers in trade or commerce between the States, and it has not confined itself to the interstate commerce business of such carriers; that is, it regulates the persons because they engage in interstate commerce, and it does not alone regulate the business of interstate commerce. * * * As the act thus includes many subjects wholly beyond the power to regulate (interstate) commerce and depends for its sanction upon that authority, it results that the act is repugnant to the Constitution.

To be sure, the foregoing was a four-to-three decision in which the late Mr. Justice Moody filed a dissenting opinion, in my judgment much more persuasive than that of the honorable Chief Justice. Nevertheless, the court has since evinced no desire to retreat from the position then taken, viz, that Congress has no power to legislate with reference to intrastate commerce, and the precedent then established has since been reaffirmed again and again.

CUMULATIVE EVIDENCE.

In the case of *Mondou v. New York, New Haven & Hartford Railroad Co.*, reported in *Negligence and Compensation Cases*, volume 1, page 881, Mr. Justice Van Devanter summarized the doctrine as laid down by the Supreme Court of the United States substantially as follows:

1. Commerce between two or more States is to be exclusively regulated by Congress.
2. Commerce wholly confined to a single State is to be exclusively regulated by such State.
3. To regulate is to foster, protect, control, restrain, with appropriate regard for the welfare of those who are immediately concerned and of the public at large.
4. The power of Congress over interstate commerce extends to all employees in anywise engaged in such transportation.
5. The act of interstate commerce is done by men with the help of things, and these men and these things are the agents and instru-

mentalities of commerce. * * * Therefore Congress may legislate about the agents and instruments of interstate commerce and about the conditions under which those agents and instruments perform the work of interstate commerce wherever such legislation bears upon the reliability or promptness or economy or security or utility of the interstate commerce act.

Mr. Justice Van Devanter referred to the foregoing as "settled conclusions" and declared that, in view of such conclusions, it does not admit of a doubt that Congress may regulate the relations of common carriers by railroad and their employees while both are engaged in such commerce, subject to the qualification that the particulars in which these relations are regulated must have a real or substantial connection with the interstate commerce in which the carriers and their employees are engaged.

UPON HOW SLENDER A THREAD DOES ALL THIS LAW HANG!

Constitutional sanction for Federal control of workmen's compensation or liability laws are found in two provisions of section 8, article 1, of the Constitution of the United States. Stripped of all else, these provisions read as follows:

1. To provide for the common defense and general welfare.
2. To regulate commerce with foreign nations and among the several States.

So far as I know the only serious effort to induce Congress to enact a compensation law founded upon the general-welfare clauses of the Constitution was made by Mr. Miles M. Dawson, a distinguished attorney and actuary of New York, who essayed to adapt the German system to Federal uses under the sanction of these clauses. Although ably contended for, he was scarcely able to secure a second to his motion.

The contention that a Federal compensation law may be founded upon the commerce clause of the Constitution is justified upon the grounds—

1. That it would, by making railroad men more content with their condition, promote safety in the transportation of persons and property.
2. That by the elimination of economic waste attendant upon the liability system, based upon want of reasonable care, great savings could be effected to go into railroad betterments.
3. That the assurance that in the event of injury provision will be made for themselves and their families will attract to the railroad service a higher class of men than otherwise.
4. That by being relieved from the present anxiety as to injuries railroad employees will be freer to give to the service a higher efficiency.

5. That by dealing directly with the problem of master and servant in this department of social service the Federal Government will be placed in a position to bring about more just relations between such interests in other departments of our industrial life.

6. That such legislation will tend to lessen friction between capital and labor throughout the Nation and so advance the interests of commerce in general.

THE PROXIMATE PARTY IN INTEREST.

Without doubt much may with justice be said on behalf of these contentions, but taken at their best how remote, incidental, inferential, and inconsequential are the interests of the Federal Government in the welfare of railroad employees as compared to the interest of the States in which they do their work and make their homes.

Industrial injury, where not adequately provided for, ranks third among the greatest causes of poverty in the world, only sickness and unemployment exceeding it, and poverty is a local problem, not a national. Is an engineer killed leaving dependent and unprovided for a wife and family of minor children? It is the State and not the National Government that must provide a widow's pension, as we do in California, or some subdivision of the State that must take the stricken family in charge and do for it lest its members sink into that delinquency that grows out of poverty.

Nor is the promotion of commerce between the States exclusively a national function. It is the States which create and transact the internal commerce of the Nation, and the chief function of the Federal Government in relation to such commerce is to prevent friction among the States and citizens thereof engaged in commerce. The injuring of 9,877 and killing of 82 railroad men in California during the year ending June 30, 1914, affected the interests of California, and the cities and counties thereof, and the friends and neighbors and fellow citizens of these unfortunates, at a hundred points to one where the interests of the Nation were involved. And these points of contact were mainly social, not commercial. Commercially there was some one to take the place of each man killed or disabled. Socially, there was made many a void that never will be filled. I doubt the moral warrant for the Nation to assume jurisdiction in a field where its interests are relatively so remote as compared to the more vital and proximate interests of the several States which make up the Nation.

If "compensation" were a burden placed by the several States upon railroads alone and not upon other employers a different view as to jurisdiction might be justified, but such is not the fact. Compensation laws apply to practically all employers of consequence,

including railroads, and for the common purpose of preventing poverty in each of such States.

THE FIELD.

It may have been considerations of this character which prompted at least two States of the Union openly to question that compensation for injured employees of railroads has anything to do with interstate commerce or that the National Government has, or should have, any jurisdiction over or concern with such issue.

I myself took this view more than two years ago when this issue of conflict of jurisdiction first arose to plague our commission, but, unfortunately for me, and as I think for the railroad men of our State, I allowed myself to be convinced that in case of an injury to a railroad employee engaged in interstate commerce under circumstances which involved no negligence there could be no liability whatever for compensation any more than for damages. I now think that this conclusion was fundamentally wrong.

In the case of *Winfield v. New York Central & Hudson River Railroad* (216 N. Y., 284), the highest court of the Empire State reached the following conclusions:

1. Where the Constitution of the United States has granted power to Congress by express terms, legislation by Congress supersedes all State legislation on that subject matter.

2. Congress has, through the Employers' Liability Law of 1908, as amended in 1910, provided a remedy for railroad employees injured under conditions where negligence can be established.

3. Congress has not, in those cases where negligence can not be established, provided any remedy.

4. When the Constitution of the United States gives Congress power to legislate, and Congress has not exercised such power, the States may legislate in relation to such subject matter until Congress does.

5. The New York law provides an insurance fund to which employers contribute, and from which payments are made to persons injured without regard to negligence.

6. Under the Federal Employers' Liability Law relief is obtainable only through a court; under the State law, by means of an administrative act and informally, showing that the methods of procedure are wholly different.

7. The purpose of the New York law was to give compensation where no claim of negligence can be made.

8. These two laws do not cover the same field or subject matter because—

- (a) The underlying principles of the two laws are essentially different.

(b) The purposes to be accomplished are different.

(c) The scope of the Federal law is narrow, that of the State law broad.

9. Congress—whether designedly or not is open to dispute—left the issue of compensation without regard to negligence to be covered by State legislation until Congress gets ready to enact a national compensation law. This is evidenced by the fact that Congress has enacted a compensation law applicable to Federal employees, but not to persons engaged in interstate or foreign commerce.

10. The State compensation law rests upon the police power, and is for the protection of the State, and puts no special burden upon interstate commerce.

11. Federal and State statutes are not in conflict unless they can not be reconciled and stand together, which is not the case with reference to these two laws.

12. That portion of the New York law which allows compensation when negligence exists is null so far as injury sustained in interstate commerce is concerned.

13. The State law does not attempt to release from liability where it can be held to exist under the Federal law.

14. If an employer pleads as a defense to a proceeding under the State compensation law that the injury was caused by the employee's own negligence, the injured man will not be awarded compensation if negligence is established. Therefore there is, by reason of the operation of these two laws, no double liability imposed on interstate carriers.

It is noteworthy that the highest court of the State of New Jersey, in the case of *Rounsaville v. Central Railroad Co.* (94 Atl., 392), takes a similar view of a similar issue, but with the difference that the compensation law of New Jersey, being an elective statute, and applicant and defendant both having elected to abide by that statute, the obligation to pay compensation is founded upon contract and not status as in the New York case.

The Supreme Court of the State of Illinois, in the case of *Staley v. Illinois Central Railroad* (186 Ill. App., 593), refused to accept the leadership of New York in championing the cause of the States and reached a contrary conclusion. Therefore we have an unfortunate conflict on the issue among the States themselves.

These cases are, I believe, now before the Supreme Court of the United States, which has not until recently had an opportunity to pass upon the jurisdictional issue.

ALL HANDS MISS THE CRUCIAL POINT.

With all deference to these high authorities, and after having carefully read the briefs submitted by the New York Industrial

Commission in these cases on appeal to the Supreme Court of the United States, I am strongly of the opinion that the crucial point in the issue has been missed, or at least not sufficiently emphasized, and the fact that it has been missed is largely due to the unfortunate circumstance that the compensation laws of several States, in their drafting, were made to contain provisions limiting the application of such laws in those cases where they might come in conflict with legislation enacted by the Federal Government. The workmen's compensation, insurance, and safety act of California contains such a provision in subsection (c) of section 83, for which I am in part to blame inasmuch as I helped in drawing the act. If we had waited until we got to that bridge before undertaking to cross it it is not impossible that we should never have reached it at all or found it at all in our way.

The point I desire to make is that compensation for industrial injuries has or should have no essential, constitutional connection with commerce, either interstate or intrastate, but belongs to the realm of local, domestic, social insurance, with which the Federal Government should have no concern.

Before we can proceed further with this phase of our subject we must come to a clear understanding of what "compensation" really is.

WHAT, THEN, IS "COMPENSATION"?

At the outset we must perforce agree that, whatever else it may be, it is not compensation. In no instance does it compensate any claimant for the injury suffered. It allows nothing for pain and suffering, little for disfigurement, and when it undertakes to indemnify one for disability, it does so only partially, limiting the per cent to anywhere from 50 to 66 $\frac{2}{3}$, and then commonly leaves off a waiting period of one or two weeks during which the injured man receives nothing other than medical expenses. In the event of death these laws ordinarily allow the widow and minor children the equivalent of what the husband and father might have earned in three years had he been permitted to live. I submit that it is a poor stick of a man who is not worth more to his family than what he could have earned in three years had he continued to live.

If, then, "compensation" is not compensation what is it? It is one factor in a scheme of social insurance. It is a limited insurance, limited to what, on an average, it is supposed will be required to tide an injured workman over his period of adversity, due to injury, until he can rehabilitate his earning capacity and so again reach a self-sustaining status. In the event of death it is presumed that the three years' average annual earnings which usually constitute the death

benefit will suffice the family until some of them reach an earning age or the widow develops an earning capacity.

CORROBORATIVE DEFINITIONS.

Mr. James A. Emery, counsel for the National Association of Manufacturers, addressing the Sutherland Commission, said:

Compensation is a term written into the contract of service by which the employer is to become a limited insurer of the employee against the economic consequences of injuries received in the course of the employment.

Mr. Robert J. Carey, representing the New York Central lines before the Sutherland Commission, said, in part:

This proposition (compensation), call it by what name you wish, is simply a question of insurance. * * * It is the obligation of the employer created by the State to pay a specific sum upon the happening of a contingency, namely, an injury * * *. It is pure insurance.

Mr. Miles M. Dawson, before the same commission, declared:

The sole legal justification of a compensation law is that the cost must be paid by the ultimate consumer. My view is that that makes compensation essentially an insurance scheme, whatever the form of the law.

It would be tedious and unprofitable, but not at all difficult, to multiply evidence from publicists of note to the effect that "compensation" is but one element of a comprehensive scheme of social insurance.

WHAT WOULD THE WHOLE SCHEME BE LIKE?

Social insurance, comprehensive in scope and elaborate in detail, is coming, not too rapidly, I trust, but coming nevertheless and for the reason that it seems to offer the only safeguard against the evils of widespread if not quite universal poverty.

Dr. I. N. Rubinow, as good an authority on social insurance as we have in America, in his book on that subject, declares that between one-half and two-thirds of the adult male working population of the United States and nineteen-twentieths of the adult females, have an earning capacity of less than \$600 a year, and yet, as was ascertained through a "survey" of a number of districts in this country a year or two since, the cost of maintaining what we like to call an American standard of living for a family of five persons requires an expenditure of anywhere from \$900 to \$1,000 a year. Less than 10 per cent of the adult workers in America earn in excess of \$800 during the year. How, then, are old age and sickness and unemployment, industrial accident and premature death—the principal causes of poverty—to be guarded against? The answer is, through a comprehensive system of social insurance.

Such a system will finally come to embrace insurance against sickness, unemployment, industrial accident, premature death, invalidity, maternity, burial. California already has a commission investigating the subject with the view of legislative action at a later date.

INTERSTATE COMMERCE AND SOCIAL INSURANCE.

Suppose that California, for instance, acting on the advice of its commission of investigation, should undertake to inaugurate a system of contributory (on the part of employers) insurance against sickness and unemployment, will it be met at the threshold by employers engaged in interstate commerce by railroad with the claim that they are exempt from such legislation because of their employment in commerce between the States? What has such employment to do with the problem of poverty resulting from sickness or being out of work? If such a plea can not be urged with reference to these forms of social insurance, how then against liability for "compensation" for industrial injuries? The only rational answer is that, with regard to such "compensation," and jurisdiction over interstate commerce, certain commissions and courts got off wrong foot first.

NOT AN ISSUE BETWEEN MASTER AND SERVANT.

Controversies between employers and their employees over claims for compensation are, strictly speaking, only incidents to and have little to do directly with the legal relation between master and servant. That relation is incidental to, rather than the essential basis of, the contract of hire. "Compensation," being a limited insurance and not a quid pro quo or indemnity for the injury sustained, such as a sufferer seeks in a suit for damages under the law of liability based upon want of reasonable care, the States say to the employer: "We make you the insurer of your workmen, without regard to negligence, not because you owe him any personal obligation beyond reasonable care, but because, in the name of the general welfare, it has been found necessary to require each industry to take care of its own killed and wounded and those dependent upon them, which can only be done through a distribution to the ultimate consumer of the burden, in the form of insurance premiums, levied upon all who engage in each such industry."

To the injured employee the State likewise says, in effect: "This insurance money is not yours. It is not the result of anything that you have done to safeguard you and yours against the calamity of industrial injury. It is primarily a provision made for the State's own protection against consequences likely to flow from your falling below the poverty line and, therefore, this so-called disability indemnity will be paid to you in installments suited to your weekly needs

until you are tided over your period of enforced idleness and not longer."

It would seem from the foregoing reflections fairly clear that, whatever power to legislate Congress may have in the premises, it has gained that power by encroachments upon powers that should be reserved to the States by reason of the paramount interests of the States in the subject matter in dispute.

WHY IS THIS POWER OF CONGRESS ASSERTED ONLY IN RELATION TO INJURIES?

A vast body of railroad legislation has grown up in this country, but relatively little of it was enacted by Congress. Where persons other than railroad employees are killed or injured by the operation of railroads redress is furnished by State legislation and not by national, and yet it has not been successfully contended that such legislation conflicts with the jurisdiction of Congress over interstate commerce. State laws make railroads operating in such States, whether interstate or intrastate, virtual insurers of the safety of travelers, with the result that while, during the year ending June 30, 1915, hundreds of millions of passengers were taken to and fro, only 257 were killed as against 2,195 employees, and the roll of passengers injured totaled 14,575 as against a total of 139,550 employees. If the States, for the prevention of poverty among their citizens resulting from the risks of travel, may, without interference with Federal jurisdiction over interstate commerce, require common carriers to insure their passengers against injury and death, why may they not likewise, and for the same reason, require such common carriers to insure their employees against similar hazards?

Not only do State laws require railroads, whether interstate or intrastate, to be the insurers of the safety of passengers, but also of freight and baggage against loss or damage, and of farmers' crops and hay and forests along their rights of way from risk of fires set by sparks from locomotives.

Furthermore, the property and franchises of railroads, without regard to whether or not they are interstate or intrastate, are taxed by the States for the support of the governments of such States and their political subdivisions without interference from the Federal Government.

In all of these instances there is as much interference with and opportunity to place burdens upon interstate commerce by State action as could possibly attend a full scheme of social insurance imposed by one or more States upon all employers, railroad companies in common with other persons, firms, or corporations.

It is as unfortunate as it is inconsistent with principles of uniformity in the assertion of Federal jurisdiction that circumstances

should have ordained that there shall be Federal interference with the sovereignty of the States in relation to interstate commerce only in the realm of compensation for injuries and not elsewhere, save, of course, the field occupied by the Federal Interstate Commerce Commission.

It should be borne in mind that Congress is not, up to this time, blameworthy for this extension of its prerogative to the exclusion of the authority of the States. As already pointed out, Congress acted because the States did not, and acted in order that the condition of injured railroad men might be ameliorated, as it has been. Since the employers' liability law was enacted a majority of the States of the Union have gone farther along the path of justice than has the National Government, and so, in my judgment, the Federal Government should withdraw from that field of legislation, at least as far as those States which have compensation laws applicable to railroad employees are concerned.

There are those who will call to mind that, some years since, Hon. Elihu Root declared that the national prerogative would be extended as far as the inaction of the States of the Union made it necessary for Congress to go in order that justice may be done throughout the land. The enactment of the Federal employers' liability act seems to have been a case in point.

It should be borne in mind that there are, so far as compensation laws are concerned, 17 backward States in our Union, and, in these States the Federal employers' liability act is of inestimable advantage to injured railroad men, as a national compensation law no doubt would be. In all such States Federal jurisdiction over railroad employees should not be disturbed until compensation laws are enacted.

MAY CONGRESS ENACT AN UNUNIFORM LIABILITY OR COMPENSATION LAW?

I think so. Many State constitutions contain provisions prohibiting special legislation and requiring that all laws enacted shall have uniform operation throughout the State, but the Federal Constitution contains no such provision. And it goes hard with the legislatures and supreme courts of States having such provisions in their constitutions if they can not create as many classes as there are special purposes with reference to which it is desirable to legislate, to the end that legislation for each such class shall be held to be general and therefore constitutional.

THE WEBB-KENYON ACT.

By reason of lack of time, if such instances exist, I have not been able to find in the statutes of the Federal Government, confirmed by

decisions of the Supreme Court of the United States, examples in which Congress has legislated with reference to certain States and not others, but if the constitutionality of the Webb-Kenyon Act, now before the Supreme Court of the United States, shall be affirmed by that court as it has been by others, it would seem that the way would be cleared for such legislation as I have suggested.

There was a time when prohibition did not undertake to prohibit traffic in intoxicating liquors, and during that time it was the law that commerce in liquors was free and untrammelled between the States.

But prohibition finally became a "cause" and prospered, until now, in the territory of the United States, there is as much "dry" territory as "wet." As prohibition laws were enacted within States, liquor dealers outside such States, by the aid of express companies, did a profitable business in shipping liquors in original packages to consumers in dry States, thereby incurring the hostility of prohibitionists. Congress was appealed to and in 1890 enacted the Wilson law, which, in effect, declared that the fact that Congress had not seen fit to legislate in relation to commerce in liquors should not be taken as implying that the several States might not, through their police powers, and, while they were prohibiting, prohibit the importation of such liquors inside their borders. This law may be regarded as evidencing the negative friendship of the National Government for prohibition, and it served until Congress took affirmative action.

This it did March 1, 1913, when it enacted the Webb-Kenyon law which, in a nutshell, declares that the transportation of intoxicating liquors into any State to be used in violation of the laws of any such State shall be unlawful. That is, interstate commerce in intoxicating liquors is prohibited as to a certain class of States—States having laws prohibiting the use of such liquors as a beverage—but permitted as to all other States.

The constitutionality of the Webb-Kenyon Act has been affirmed by courts of Iowa, North Carolina, Mississippi, Kansas, and perhaps Kentucky, in at least 11 cases, and although resisted by united distilling interests, and now pending before the Supreme Court of the United States, the law has not been attacked in that court on the ground of its unconstitutionality, through fear, as I have been informed, that if declared unconstitutional Congress might return to the charge and enact yet more drastic laws inimical to the liquor interests.

THE FORM OF PROVISIO REQUIRED.

The title to the Webb-Kenyon Act reads as follows: "An act divesting intoxicating liquors of their interstate character in certain cases."

The title to the Federal Employers' Liability Act of 1908, as amended in 1910, reads: "An act relating to the liability of common carriers by railroad to their employees in certain cases."

The use of the phrase "in certain cases," in both of these acts implies that such acts are not to apply in all cases, and also carries the implication that legislation in regard to the subject matters of the two laws need not be uniform throughout the United States.

If liquors may be divested of their interstate character upon arrival at the boundaries of a prohibition State, may not injuries to railroad employees, by act of Congress, be divested of their interstate character whenever they are suffered within the boundaries of a State having a workmen's compensation law affording adequate protection to such employees?

And if the Federal liability law of 1908, as amended in 1910, is to be applicable only in "certain cases," may not Congress, by an amendment to that act, provide that its provisions shall apply only in those States not having workmen's compensation laws affording adequate protection?

Such exemptions would apply, not to certain States specifically named, but to certain classes of States, the classifications being with reference to their having, or not having, workmen's compensation laws of a certain standard. This would not be permitting the State legislatures to legislate for Congress, for Congress, by sanctioning such laws, would make them laws of the United States.

So far as the Federal employers' liability law of 1908, as amended in 1910, is concerned, the desired end could, perhaps, in some measure, be reached by making section 5 of such act read, in part, as follows:

Any contract, rule, regulation, or device whatsoever, the purpose or intent of which shall be to enable any common carrier to exempt itself from any liability created by this act, shall to that extent be void, except that in States having adequate workmen's compensation laws applicable to employees of railroads the acceptance of the provisions of such compensation laws by railroad companies and their employees shall not be held to constitute such attempted exemption from such liability, etc.

Such a provision would have the effect of making workmen's compensation laws, otherwise compulsory, elective as to injuries sustained in interstate commerce; but I am of the opinion that railroads, once assured of being relieved of liability in damages where want of reasonable care can be proven, would readily accept operation under compensation statutes.

Perhaps a more definite and positive method of reaching the difficulty would be for Congress to adopt a new section to be added to the employer's liability law, or any Federal compensation law which may be adopted, reading as follows:

This statute shall not apply in any case of injury or death occurring in any State, Territory, or District which has enacted a workmen's compensation statute applicable to railroads; all rights and remedies of the parties, as defined in such several compensation statutes, shall be given full force and effect.

A FEDERAL INTERSTATE COMPENSATION LAW IMPRACTICABLE.

After having carefully read all the reports and findings of the Sutherland Commission, together with such other literature on the subject as came within my reach, including the opinions of many courts, and in the light of our own experience in California, I have reached the conclusion that a Federal compensation law dealing alone with injuries received in interstate commerce is impracticable and therefore undesirable, and, briefly, for the reasons following:

1. Because Congress can not, under judicial decisions as they now stand, take over and occupy the whole field of compensation for injuries sustained in commerce by railroad without regard to whether the injury was received while engaged in interstate or intrastate commerce.

2. There is no good reason why Congress should assume jurisdiction of interstate injuries by railroad and not by water, jurisdiction over which is now in conflict between State courts and commissions and courts of admiralty.

3. The greater or less use of the jury system is constitutionally a prerequisite to a Federal compensation law, and a jury is unsuited to determining issues of fact under compensation laws. That is a task for trained experts.

4. The pending draft of a Federal compensation law provides that controversies shall be determined by or through Federal courts, and court procedures are wholly unsuited to the task. The cost and delay and attorney fees will prove tantamount to a denial of justice in most cases of temporary disability.

5. If Congress were to create a national commission to administer a national compensation act, the mechanism would necessarily be huge in order to cover the entire Union, and tend injuriously to augment the Federal bureaucracy, which every consideration of governmental efficiency should seek to minimize. Per contra, the several States can cover all injuries sustained in railroad operation with relatively trifling additions to their commission machinery and little increase in cost.

6. The issues and interests involved are essentially local and not national, and the spirit of our dual form of government requires that the Federal Government shall take under its exclusive jurisdiction only those concerns which are national and not local in their scope.

7. The determining in each case of the issue of whether or not, at the instant of the injury, the employee was engaged in interstate or intra-

state commerce, as a prerequisite to assuming jurisdiction, will prove a never-ending vexatious and costly proceeding both to National and State tribunals charged with the administration of their respective compensation acts.

RECOMMENDATIONS.

To the end that this discussion may not prove wholly academic and productive of nothing, I move, Mr. Chairman, that this convention, at such time in the course of its proceedings as it shall elect so to do, memorialize the Federal Congress to take the following action in relation to compensation for injuries sustained while engaged in interstate commerce either by railroad or by water transportation:

1. Pending the enactment of a workmen's compensation law covering injuries received while performing service arising out of and happening in the course of interstate commerce by railroad the Federal employers' liability law be so amended as to provide that, in States having compensation laws for the coverage of such injuries, such injuries shall be divested of their interstate character and jurisdiction over them relinquished to such States.

2. That in the event that Congress enacts a Federal workmen's compensation law to supersede the Federal employers' liability law of 1908, as amended in 1910, such law likewise contain a provision that it shall be inapplicable to that class of States which possess and maintain workmen's compensation laws for the coverage of injuries sustained in the operations of commerce by railroad and that such injuries shall be divested of their interstate character and Federal jurisdiction over them relinquished to such States.

3. That pending the enactment of the foregoing suggested legislation Congress so amend section 5 of the Federal employers' liability law of 1908, as amended in 1910, as to permit railroad companies and their employees, in States having compensation laws adapted to coverage of injuries sustained in the operations of commerce by railroad, to accept the provisions of such acts in lieu of the provisions of said Federal law whether such injuries happen in the course of interstate or intrastate commerce.

DISCUSSION.

Mr. PILLSBURY. Gentlemen, I have come East in the hope of starting something. I do not have the hope that this problem can be settled here now; we may have started on a 10 years' fight; we have got to fight and fight. These men have an inalienable right which has been invaded; they have a right to a gambler's chance. It is a fact that is going to work very greatly in favor of bringing these men under these acts. Railroads will oppose this unless we establish

the principle that cost shall be taken into consideration; that the railroads should be made one when making the laws.

I want to get before you before this session closes, if it seems right, a resolution favoring the method of handling this proposition of which I have spoken. I will then take it to the railroad attorneys, to some of the big organizations of railroad men, and then to Washington, and see what I can start. If we can get the right kind of a resolution we can start it; it will go, and we will have been the instrument in conferring a great benefit on two millions of our fellow citizens in this Union, by giving them adequate protection against the consequences of injury and suffering in their grades of employment.

Mr. ABRAMS, Oregon. Without going into the discussion, I wish to say that Mr. Pillsbury has opened up probably the most important question confronting the compensation boards to-day.

The CHAIRMAN. I am sure Mr. Pillsbury has discussed with great ability this question that is of great interest to nearly all commissions having workmen's compensation laws to administer. Under the law as it exists in Ohio the question is not so important, because those who framed the law realized the many problems that would arise on account of conflict between Federal and State laws and provided that in all cases where railroads and their employees are engaged in both interstate and intrastate commerce the act should not apply except as to injuries occurring when the employer is engaged in intrastate commerce, and then only when the election of both the railroad and the injured employee to operate under the act was made prior to the time of the injury.

I believe that is true of the California act.

Mr. PILLSBURY. No, sir.

The CHAIRMAN. Therefore, they are not under the protection of your act?

Mr. PILLSBURY. No, sir; they are not.

The CHAIRMAN. There is no reason why railroad employees should not be protected under workmen's compensation acts. Mr. Pillsbury has given us something entirely new to think about. I understand simply that the situation in the State grows out of the workmen's compensation act and applies to cases of injuries occurring where the railroad and the employee are engaged in intrastate commerce, where the injury was not caused by negligence of the railroad company, the theory being that compensation is provided in case of injury where the employer is not at all negligent. Therefore, the compensation law has not invaded the same field of restriction that the Federal Employers' Liability Act occupies.

I don't remember any of the courts rendering a decision dealing with this particular point. While Mr. Pillsbury has stated that the association can not in itself solve the question and can only start something, nevertheless it is an interesting question. I will be very glad to hear an opinion of those present if there is no further discussion.

Mr. VAUGHN, Illinois. Following up the suggestion, I move that the request concerning the matter be referred to the committee on resolutions, with directions to report out before terminating this session a resolution on the subject; the same then to be subject of discussion.

(Motion seconded and carried.)

Mr. PILLSBURY. If we can start before Congress, say, with a pressure of 32 States we are going to make a good start. Congress has so much to do it is pretty hard to center its attention on an action unless it is proved to be a popular one and that it is the right thing to do.

The CHAIRMAN. I think the committee on resolutions should confer with Mr. Pillsbury in drafting this resolution.

Mr. ARCHER. I hope Mr. Pillsbury will have time to frame this resolution.

The CHAIRMAN. The next address on the program is by Mr. Watson, of the Industrial Commission of Ohio. Mr. Watson has been chief actuary of the Ohio commission ever since it was created, prior to that time occupying the same position with the State liability board of awards.

MERIT RATING IN WORKMEN'S COMPENSATION INSURANCE.

BY EMILE E. WATSON, ACTUARY, INDUSTRIAL COMMISSION OF OHIO.

I have requested the privilege of restricting this paper to merit rating as it has been developed in the United States.

MERIT RATING IN WORKMEN'S COMPENSATION INSURANCE DEFINED.

Merit rating in workmen's compensation insurance is an effort to make a more equitable distribution of insurance charges by refining the rating unit, substituting as the unit for rating (within specified limits) the varying degrees of hazard within the classification.

RESTRICTIONS PLACED UPON ANY GIVEN TYPE OF MERIT RATING.

1. No form of merit rating must be individualized to the point of disturbing the basic principle of insurance, viz: That of distributing an individual loss over a group so large that each individual of the group will feel the loss but lightly.

2. No form of merit rating must be adopted that will tend to cause a loss of control over reserve computations, thereby endangering solvency.

It must ever be borne in mind that the fundamental purpose of any rating system is to establish rates, and rates that will create reserves sufficient to guarantee solvency; moreover, that merit rating is in every way subservient to insurance principles.

Three types of merit rating have come into existence in the United States. They may be classified as follows:

1. Experience rating only.
2. Schedule rating only (not the universal analytic schedule).
3. Combination of schedule and experience rating.

Ohio is sponsor for the first, Pennsylvania for the second, and the Workmen's Compensation Service Bureau of New York for the third.

I. EXPERIENCE RATING ONLY, AS A BASIS FOR MERIT RATING.

I think Ohio has a pardonable pride in the fact that the State liability board of awards, appointed to administer Ohio's elective State insurance fund law of 1911, was the first in the United States to apply merit rating to workmen's compensation insurance.¹

¹ It was 2 years later, in the spring of 1914, that the next merit-rating system was inaugurated, which was by the Workmen's Compensation Service Bureau of New York. A few individual stock companies, however, did apply schedule rating as early as the fall of 1913.

It would hardly come under the purview of this paper to go into the details of the development of Ohio's merit-rating system, which is based solely on experience. While the original system was necessarily crude, it possessed two fundamental virtues. One of these virtues was the establishment of the principle of merit rating; the other was the establishment of minimum rates which made a bid for the insurance of those employers who during the last three years had produced a good experience, and the establishment of heavy charges against those employers who within the last three years had produced a bad experience, thereby safeguarding the plan against an adverse selection of risks.

As experience accumulated and the plan was placed upon a more secure foundation the severity of the individual charges was gradually reduced.

I come directly to Ohio's merit-rating system as it stands to-day.

OHIO'S MERIT-RATING SYSTEM.

I have gone somewhat into the detail of Ohio's merit-rating system because we have received special requests from without the State that this be done.

The basic, or what we term the preferred, rate is the minimum rate. This is the printed manual rate.

Briefly stated, the basic rate contemplates the total cost of all accidents, with the exception of the individual debit charges which determine the basis for the operation of our merit-rating system.

Let us roughly construct a basic rate of \$1 per \$100 of pay roll:

1. Basic compensation allowance.....	\$0.40
2. Total medical, hospital, and funeral costs.....	.22½
3. Catastrophe reserve charge.....	.05
4. Distributive insurance loading resulting from serious accidents.....	.32½
	<hr/>
Basic rate per \$100 of pay roll.....	1.00

On the basis of \$1,000 per \$100,000 of pay roll it would be as follows:

1. Basic compensation allowance.....	\$400.00
2. Total medical, hospital, and funeral costs.....	225.00
3. Catastrophe reserve charge.....	50.00
4. Distributive insurance loading.....	325.00
	<hr/>
Basic rate per \$100,000 of pay roll.....	1,000.00

Accidents are divided into the five well-known groups:

- a. Temporary total disabilities.
- b. Temporary partial disabilities.
- c. Permanent partial disabilities.
- d. Deaths.
- e. Permanent total disabilities.

If an employer's basic rate is \$1 and the compensation costs of his accidents falling under a, b, and c¹ do not exceed a ratio of \$400 per \$100,000 of pay roll, and the employer has experienced no accidents falling under d and e, such employer qualifies for the basic or preferred rate of \$1.

A charge of 3 per cent is made against the basic rate of \$1 for every \$40² the compensation costs of a, b, and c exceed the ratio of \$400 per \$100,000 of pay roll. Thus, if the ratio were \$440, the employer's rate would become \$1.03; if \$600, the rate would become \$1.15; if \$720, the rate would become \$1.24. The basic rate can never be increased more than 24 per cent. Moreover, this 24 per cent charge is not accumulative.

The employer's rate will come back to \$1 just as soon as he can reduce his ratio to \$400 per \$100,000 of pay roll.

We have seriously considered wholly removing d and e, i. e., deaths and permanent total disabilities, from the realm of merit rating. It was decided, however, to subject d and e to the influence of merit rating only to a slight degree, controlled by the following rules:

1. A death is treated as the equivalent of the "basic compensation allowance" which, in the above illustration of a basic rate of \$1 is noted to be \$400.³ Thus, if an employer had a pay roll of just \$100,000, one death, and no compensation costs falling under a, b, and c, he would still qualify for the basic rate of \$1; if a, b, and c amounted to \$200, his ratio would become \$600, which, as previously explained, would increase his rate of \$1, 15 per cent; if a, b, and c amounted to \$320, his rate would be increased 24 per cent. As heretofore stated, the basic rate can never be increased more than 24 per cent.

2. A permanent total disability is treated precisely as a death except that it is considered as the equivalent of 150 per cent of the "basic compensation allowance," which, in the case of the foregoing illustration, would be \$600.

I inquire, is there anything in the foregoing that is difficult to understand? I have not experienced difficulty in explaining this rating system to our own risks.

A rate of \$0.50 per \$100 of pay roll would be constructed as follows:

1. Basic compensation allowance.....	\$0.20
2. Total medical, hospital, and funeral costs.....	.11½
3. Catastrophe reserve charge.....	.02½
4. Distributive insurance loading resulting from serious accidents16½
Basic rate per \$100 of pay roll.....	.50

¹ Excluding medical and hospital costs, which costs are a constant in the rate, and will probably continue as such as long as there develops no tendency to abuse this factor.

² The unit being 10 per cent of the basic compensation allowance.

³ Or \$200 for a rate of \$0.50; or \$100 for a rate of \$0.25, etc.

On the basis of \$500 per \$100,000 of pay roll:

1. Basic compensation allowance.....	\$200.00
2. Total medical, hospital, and funeral costs.....	112.50
3. Catastrophe reserve charge.....	25.00
4. Distributive insurance loading.....	162.50

Basic rate per \$100,000 of pay roll..... 500.00

It will be borne in mind, of course, that the nature of the construction of a rate necessarily varies with the classification, e. g., the medical cost and the distributive insurance loading will vary with different classifications carrying basic rates which are the same.

Expressed in comparative tabular form:

	Basic rate per \$100 pay roll.			Basic rate per \$100,000 pay roll.		
	\$1.00	\$0.50	\$0.25	\$1,000	\$500	\$250
1. Basic compensation allowance.....	\$0.40	\$0.20	\$0.10	\$400	\$200.00	\$100.00
2. Total medical, hospital, and funeral costs.....	.22½	.11½	.05¾	225	112.50	56.25
3. Catastrophe reserve charge.....	.05	.02½	.01¼	50	25.00	12.50
4. Distributive insurance loading.....	.32½	.16¼	.08¾	325	162.50	81.25

The principles that apply to the basic rate of \$1 in the determination of a debit charge apply precisely in the same manner to every other rate, the variation in the internal factors of the rate varying according to the variation of the rate, though this variation is not entirely constant.

Thirty-five per cent of the total cost of a death is charged against the classification in which the death occurred, the remainder of 65 per cent being distributed as a charge over the schedule in which the classification is located. The cost of a permanent total disability injury is similarly distributed, except on the basis of 20 per cent and 80 per cent.

The total cost of a catastrophe accident is a charge against the catastrophe reserve fund.

If subjected to thorough analysis, I believe it will be found that this rating system violates no principle of insurance, and conserves every principle of merit rating.

BRIEF EXHIBIT OF OHIO'S EXPERIENCE ON DEBIT CHARGES FROM JULY 1, 1915, TO JANUARY 1, 1916.

Classifi- cation.	Description.	Percentage receiving debit charges.		
		Fatal and perma- nent total disabili- ties only. ¹	Nonfatal except perma- nent total disabili- ties.	Total.
1-1.....	Bakers.....	0.6	14.9	15.5
2-2.....	Drug manufacturers.....		6.4	6.4
3-1.....	Automobile manufacturers.....	2.4	26.8	29.2
4-1.....	Coal mining.....	7.2	10.2	17.4
6-1.....	Electric Light & Power Co. maintenance, etc.....	9.0		9.0
7-17.....	Shoe and boot manufacturers.....		8.7	8.7
8-17.....	Planing and molding mills.....	1.5	17.9	19.4
8-19.....	Sawmills, etc.....	1.4	15.5	16.9
9-4.....	Packing houses.....		18.5	18.5
10-88.....	Machine shops—no foundry.....	1.2	12.9	14.1
10-89.....	Machine shops—with foundry.....	1.2	23.3	24.5
10-121.....	Rolling mills.....	7.7	15.4	23.1
12-1.....	Clay and shale mines.....	2.4	2.4	4.8
13B-5.....	Ice (artificial) manufacturers.....	4.0	20.0	24.0
13B-8.....	Laundries.....		5.2	5.2
15-2.....	Blast furnaces.....	17.1	11.4	28.5
16-2.....	Paper manufacturers.....	10.0	25.0	35.0
17-2.....	Brick manufacturers.....	2.9	13.1	16.0
18-3.....	Printers.....	.9	8.2	9.1
19-6.....	Rubber tire manufacturers.....	5.2	10.4	15.6
25-24.....	Hotels (except laundry).....	.7	9.3	10.0
26-22.....	Furniture manufacturers.....	1.1	23.9	25.0

¹ Where an employer has developed both a fatal and a nonfatal charge the same has been entered as a single charge under this caption.

Out of our total number of risks, 16 per cent received debit charges within the period dating from July 1, 1915, to January 1, 1916.

Our debit charges to November 15, 1915, have developed a premium equal to 7 per cent of the total premium. These charges, of course, vary with the different classifications. For instance, the application of the debit charges to November 15, 1915, have created a premium developing a rate of (a) \$0.40 in blast-furnace classification; (b) \$0.30 in electric light and power classification (maintenance and operation); (c) \$0.28 in coal-mining classification; (d) \$0.06 in machine shops, with foundry; and (e) \$0.02 in machine shops, no foundry.

MERIT-RATING SYSTEM FOR THE CONTRACTORS' SCHEDULE.

As of July 1, 1915, we converted our merit-rating system, as applied to the contractors' schedule, from the basis of debits or charges to one of credits.

It proved inadvisable to rate this schedule on the basis of minimum rates, for the reason that it tended to work a hardship on the permanent class of contractors of the State. Certain foreign contractors would come into the State for a brief period, in which time they would experience heavy losses. A similar problem was presented by

that large class of contractors whose lives, as such, are of short duration, being contractors to-day and journeymen to-morrow, which class in particular naturally tends to produce an adverse experience. We believed a credit system, instead of a debit system, would more satisfactorily control this condition. Whether we shall subsequently make any application of the debit system to the remaining schedules remains for future determination.

A credit premium factor has been established for each classification of the contractors' schedule, the same being equal to 40 per cent of the rate. If the compensation costs of the individual employer absorb, or more than absorb, his credit-premium factor, such employer fails to qualify for a credit or refund premium, and will so continue until he is able to bring his compensation costs below the credit-premium factor established for his classification.

If the employer is able to bring his compensation costs below the specified premium factor, such employer qualifies for a credit or refund premium equal to 10 per cent of the difference between the credit premium factor and the compensation cost that his experience has developed.

Illustration: The rate for the classification "Masonry contractors" is \$2.30 per \$100 of pay roll, or \$2,300 per \$100,000 of pay roll. The credit premium factor is, therefore, 40 per cent of \$2,300, or \$920 per \$100,000 of pay roll.

Assume that a "masonry contractor" has a pay roll of \$100,000, and his compensation costs are \$500; such contractor would qualify for a credit or refund premium of \$42.¹

It is perfectly true that these credits are not very liberal. They are purposely made so by reason of the fact that this system is new. As we accumulate experience, these credits will become more liberal. I think that we shall very soon create groups or zones for which we shall establish scaled percentages.

I believe this system is going to prove a splendid solution of the problem of merit rating for contractors.

II. SCHEDULE RATING ONLY, AS A BASIS FOR MERIT RATING.

[Not the universal analytic schedule.]

Schedule rating only, as a basis for merit rating, has been adopted by the State of Pennsylvania, becoming operative as of January 1, 1916, which is the date on which the Pennsylvania workmen's compensation law became effective. Charges in dollars and cents are made for violation of physical standards; and credits, on a percentage basis, are given for the existence of so-called moral standards.²

¹ \$920 - \$500 = \$420 - 10 per cent of which is \$42.

² A rather complex point system has been worked out for coal mines. No merit-rating system of any kind has been developed for contractors, stone quarries, stevedoring, coal and lumber yard merchants.

The physical standards are, substantially, the laws of the State regarding the safety of employees.

A FEW OF PENNSYLVANIA'S PHYSICAL CHARGES.

1. Floors, defective, per square foot.....	\$0.02
2. Gears, unguarded, each train.....	1.00
3. Clutch, pulley, sprocket or coupling within 6 feet of floor or platform, unguarded, each.....	1.00
4. Belt (rope, chain) vertical or inclined, unguarded, each....	.25
5. Key, set screw or bolt, exposed, each.....	.25
6. Steam engine, not equipped with governor.....	5.00
7. Stairs, without standard hand rail, each flight.....	1.00

There is no maximum limit specified for physical charges.

THE SO-CALLED MORAL HAZARD PERCENTAGE CREDITS.

	Per cent.
I. Organization, inspection service, and education (if com- bined)	12
Subdivided as follows:	Per cent.
(a) Organization and inspection service.....	5
(b) Inspection service	4
(c) Education	2
II. Emergency hospital on premises.....	6
Subdivided as follows:	
(a) Dispensary with trained nurse.....	3
(b) Dispensary with attendant.....	2
(c) Sanitary room with attendant (first-aid kit)	1
III. General order and cleanliness.....	6
Subdivided as follows:	
(a) Aisles and passageways kept clear of ob- struction.....	1
(b) Materials piled in an orderly and sub- stantial manner.....	2
(c) Light.....	1
(d) Sanitation	2
Total maximum percentage credits.....	24

ILLUSTRATION.

Let us assume—(1) Estimated pay roll, \$25,000; (2) basic rate, \$1 per \$100 of pay roll. The initial rating will be: Estimated pay roll, \$25,000; initial rate, \$1; initial premium, \$250.

After inspection has been made, let us assume that the so-called moral standards develop a credit of 12 per cent and that the physical conditions of the plant develop a total charge in dollars and cents, amounting to \$75.

The adjustment will be made as follows:

	Premium.
1. Assumed actual pay roll, \$25,000; adjusted rate, \$0.88.....	\$220
2. Physical charges developed by inspection.....	75

Total actual premium.....	\$295
Advance estimate premium.....	250
	45
Additional premium account adjustment.....	45

Thus, physical charges in terms of dollars and cents are developed substantially to the extent that an employer fails to comply with the statutory laws regarding the safety of employees, and percentage credits are developed to the degree that the employer voluntarily adopts the so-called moral standards, which are not statutory requirements.

An employer can call for a reinspection within his policy period, thereby enabling him to remove physical charges, and add percentage credits.

The foregoing system is carried out through a bureau known as the "Pennsylvania Compensation Rating and Inspection Bureau." Practically all the workmen's compensation insurance carriers of the State have become members of this bureau, which members are assessed an amount sufficient to defray the expenses incurred by the bureau in carrying out its work.

The governing committee of the bureau is composed of seven members—three stock companies, two mutual associations or companies, the State workmen's insurance fund, and the State insurance commissioner's representative.

III. THE UNIVERSAL ANALYTIC SCHEDULE AS A BASIS FOR MERIT RATING.

The universal analytic schedule was inaugurated by the Workmen's Compensation Service Bureau of New York in the spring of 1914.¹ It is in use in New York, Wisconsin, California, New Jersey, and several other States. The Massachusetts system is very similar, but is not identical with the universal analytic schedule.

Under the New York and Massachusetts systems risks not subject to schedule rating are subject to experience rating only. It will be noted from the table which follows, giving the results of merit rating in New York for the calendar year 1915, that out of a total of 27,897 risks schedule rating alone was applied to 24,951 risks, schedule and experience rating combined was applied to 2,134 risks, and experience rating alone was applied to 812 risks.

It is my understanding that experience rating is not practiced in the States of Wisconsin, Colorado, and California.

The basic or manual rates are based upon actual, pure premium experience.

¹ Some individual companies applied schedule rating in the fall of 1913. Experience rating was inaugurated in the latter part of 1914.

The maximum increase or decrease permissible under the universal analytic schedule is 40 per cent on all risks subject to merit rating. This result is controlled by two factors—the physical and moral hazard, 20 per cent being the maximum merits granted or demerits charged for each hazard.

Risks not subject to physical merit ratings are subject to a maximum reduction of 30 per cent for moral hazard and experience, and are subject to a maximum charge up to 30 per cent for bad moral conditions or bad experience.

This schedule is constructed on the theory that the credits allowed will be sufficiently offset by debit charges to avoid a serious disturbance of manual rates, which, as previously stated, are pure premium or average rates.

I understand that the universal analytic schedule has recently undergone a very extensive revision, which, in the light of the experience it has had, should correct several of the defects which the present schedule has revealed. The revised schedule has not been published and as yet is not actually in use.

In my judgment, the Pennsylvania merit-rating system is decidedly preferable to that inaugurated by the Workmen's Compensation Service Bureau.

The Pennsylvania system is so constructed that it should tend to produce a balance of credits and charges, it being impossible to produce a large reduction from base rates. If the employer receives no charges and receives every credit for which the schedule provides, his net rate will be but 24 per cent less than the base rate.

Under the universal analytic schedule it is possible for a plant to obtain as much as 65 per cent, or even 75 per cent, credit from base rates. In view of this excessive maximum credit, a stop limit was imperative, which was fixed at 40 per cent.¹

Another fault of the universal analytic schedule, in connection with its system of credits, and one which I consider extremely serious, is its progressive duplication of credits. The employer will secure a credit as the result of new and reduced base rates, and further credits from the new and reduced rates will be given for the existence of precisely the same improvements which have already been reflected in the pure premium experience. In other words, it gives a credit in the way of reduced base rates for improved pure premium experience and then reduces this same base rate on account of the very improvements which were reflected in the pure premium experience.

¹ This necessarily means that in many cases an employer does not receive all the credit to which he is entitled, since the maximum credits allowed are 40 per cent. In other words, a plant which is not in perfect condition, as per the standards of the schedule, may receive as much credit as a plant which is in perfect condition.

The statement of New York's experience for the calendar year 1915, in connection with its merit-rating system, is as follows:

Merit rating.	Number of risks.	Pay roll.	Premium at manual rate.	Increased premium account charges.		Decreased premium account credits.		Per cent net decrease.
				<i>Amount.</i>	<i>Perc't.</i>	<i>Amount.</i>	<i>Perc't.</i>	
Schedule rating only	24,951	\$456,427,793	\$5,477,319.18	\$76,464.31	1.4	\$657,401.51	12.0	10.6
Schedule and experience.	2,134	127,000,000	2,300,000.00	7,880.00	.3	391,000.00	17.0	16.7
Experience rating only ¹ .	812	130,000,000	3,150,000.00	75,600.00	2.5	800,000.00	25.4	23.0
Total.....	27,897	713,427,793	10,927,319.18	159,944.31	1.5	1,848,401.51	16.9	15.5

¹ Experience rating has come into disrepute in New York and justly so in view of the application that has been made of it in that State. It is optional whether or not an insurance carrier submits a risk that is subject to experience rating to the "New York Compensation Inspection Rating Board." I believe a fertile imagination should not be required to foresee the outcome of such optional provision.

If the New York pure premium rates have been accurately computed, the results contained in the foregoing table present a serious situation, showing that the application of New York's rating system, as applied to the calendar year 1915, has produced a net reduction from manual premium of \$1,688,457.20, or 15.5 per cent. I hardly think there is anyone who would claim that this was a true expression of what has been accomplished in the field of accident prevention as the result of the operation of New York's merit-rating system.

The report on the effects of merit rating in New York, as of April 1, 1915, represents an average of less than six months' application of the New York merit-rating system. Notwithstanding this brief experience, the April 1, 1915, report shows that out of a total of 39 of the most important industrial classifications of the State, 36 of these classifications, representing several thousand employers, a pay-roll exposure of \$105,957,779, and a premium (at manual) of \$868,408.29, failed to develop a debit charge of a single dollar, but developed a total of credits amounting to \$115,146.66; whereas the three remaining classifications, representing a pay-roll exposure of only \$3,900,918, and a premium (at manual) of \$39,757.78, developed debit charges amounting to just \$2,384.49.

It will be noted by referring to the above table that the credits allowed in New York for the year 1915 developed a premium of the remarkable figure of \$1,848,401.51, a reduction from manual premium of 16.9 per cent, whereas the debit charges for the same period developed a premium of only \$159,944.31, or an increase over manual premium of but 1.5 per cent.

I cite the foregoing to demonstrate the futility of attempting to establish a code that will serve as a measurement of the true hazard of risks.

I seriously question whether the effects of merit rating in New York in the latter half of the year 1915 have even offset the increase

in the frequency and severity of accidents that has been caused in that State within this same period by the sudden and violent increase in industrial activity, wherein: (a) an army of inexperienced employees have been placed upon the pay rolls; (b) the employers have frequently been compelled to arrange makeshift conditions, crowd employees, and place both experienced and inexperienced employees under heavy strain, in an effort to control the sudden and large increase in the volume of orders; (c) these orders have frequently been of such character as to necessitate the modification of the regular methods and processes of manufacture; (d) employers have been too busy to think of accident prevention.

Accepting the faulty basis upon which it is constructed, I can not understand how the New York merit-rating system could have failed to develop a large volume of premium as the result of debit charges accruing from subnormal conditions.

OHIO'S ATTITUDE TOWARD MERIT RATING.

We are opposed to schedule rating in Ohio as the basis for merit rating in workmen's compensation insurance for the following reasons:

1. We believe it is not humanly possible to construct a code that will serve as a measurement of the true, or even approximate, hazard of a risk.

2. We believe if it were humanly possible to construct a dependable code that a uniform application of the same could not be secured.

3. We believe if it were humanly possible to construct a dependable code, if it were possible to secure a uniform application of the same, that the expense of efficiently carrying out such a plan would be absolutely prohibitive.

4. We believe schedule rating is a positive deterrent and that it will tend to stultify and demoralize the "safety first" movement.

1. We believe it is not humanly possible to construct a code that will serve as a measurement of the true or even approximate hazard of a risk for the reason that it is the subjective or human phase that primarily determines the hazard of the risk, and this phase is not subject to code analysis.

I have in mind a plant that is a museum of safeguards and safety devices. It has a most elaborate safety organization. The company pays subnormal wages on the theory that it can make bigger profits by employing cheap labor. As soon as one of the employees becomes efficient, he secures employment elsewhere. This employer produces a uniformly bad accident experience. I challenge the schedule-rating system that claims to possess a code that would enable an inspector to enter this plant and make a true measurement of the hazard presented by this risk.

I have in mind another employer whose plant is not a museum of safeguards and safety devices. Moreover, there exists no elaborate safety organization. But this employer does pay high wages and, consequently, has a permanent set of efficient and loyal employees. This employer has a superintendent of remarkable ability and personality, also a superior set of foremen. It is an ironclad law that no employee be placed on a piece of work involving danger until he has been thoroughly apprenticed. This employer produces a uniformly good accident experience. Why? He has emphasized the subjective or human phase of the hazard of his plant. Undoubtedly, he would profit by giving more attention to the mechanical phase of his hazard. But I challenge the schedule-rating system that claims to possess a code that would enable an inspector to enter this plant and make a true measurement of the hazard presented by this risk.

There are many other problems which a code could not possibly control, which must be controlled if such a merit-rating system is to perform its proper function, such, for instance, as the effect of a sudden and violent increase or decrease in industrial activity on the frequency and severity of accidents.

2. But, assuming we possessed the mass of statistics which made it possible to construct a code so elaborate, so exhaustive, that theoretically it presented a dependable standard for the accurate measurement of every physical and moral hazard of every risk of every classification, thereby eliminating all discretionary values, a staff of inspectors, necessarily of varying abilities, viewpoints, and judgments, would not make a uniform application of the code.

3. If a dependable code could be established, if it were possible to secure a uniform application of the same, the cost of efficiently carrying out the limitless details of such a plan would be absolutely prohibitive.¹

But, assume that the cost of efficiently carrying out schedule rating were not prohibitive; that it were humanly possible to construct a dependable code; that it were possible to secure an accurate, uniform, and impartial application of the same, just what has been accomplished? We have simply reduced to code form experience.

4. We believe schedule rating is a positive deterrent, and that it will tend to stultify and demoralize the "safety first" movement, for the reason that in using it as a basis for merit rating a premium is placed on an employer's stopping at just that point in his accident-

¹ One of the largest stock companies writing workmen's compensation insurance in the United States, and using schedule rating, reports that it takes 12 per cent of its workmen's compensation insurance premiums to pay the cost of its inspection service. The Industrial Commission of Ohio is operating every branch of the Ohio State insurance plan at an expense ratio of less than 12 per cent.

prevention program beyond which the efficiency of accident prevention is determined.

It is our firm conviction that the most effective schedule-rating system that it is humanly possible to construct will be so fallible that it will demoralize the intended function of merit rating, serving as a cloak under which a wholesale juggling of rates will be carried on for competitive abuses.

We believe that experience is the only correct basis for merit rating, for the following reasons:

1. There is just one thing that determines rates, and that, therefore, should serve as the basis for differentiation in rates, viz, cost. There is just one thing that determines cost, and that is experience.

2. The more equitable distribution of insurance charges (which is the acknowledged function of merit rating) must be based upon the results rather than the anticipation of the results of accident prevention.

3. It is the function of the statutory safety laws regarding the safety of employees, the workshops and factory department, and the special safety department to serve the Ohio employer in the development of his accident-prevention program.

The Ohio merit-rating system is not concerned about the exact type of safeguard, or safety device, or safety organization the employer has adopted.¹ What it wants to know is, Has that type which the employer has adopted secured the result of preventing accidents?

Therefore, while it is the primary function of the Ohio merit-rating system to take recognition of the results rather than the anticipation of the results of accident prevention, it presents to the employer the strongest possible inducement to inaugurate an intelligent accident-prevention program.

Summarized.—Under schedule rating the employer can remove debit charges and even add credits by the mere act of installing a safety organization, a safety program, independent of its degree of efficiency; whereas, under the Ohio merit-rating system the employer can remove debit charges only by installing an accident-prevention program that will prevent accidents.

4. All possibilities of discrimination in rates are automatically eliminated, every possible condition or combination of conditions controlled by definite and fixed rules.

5. Reserve computations are not disturbed.

6. There is no difficulty in satisfactorily explaining to an employer an individual rate increase, because it is done in terms of dollars and cents rather than in theoretical and intangible code values.

7. It is simple of application.

¹ Would it not be on dangerous ground if it did?

8. Last, and certainly not least important, there is substantially no expense incurred in efficiently carrying out Ohio's merit-rating system.

OBJECTIONS THAT HAVE BEEN ADVANCED AGAINST EXPERIENCE RATING.

The objections offered to experience rating are:

1. That it runs counter to the law of averages. Neither experience nor schedule merit rating is a proposition of averages. In view of accident variation, due to variation in processes of manufacture, in demand and supply of orders and labor, it surely could not be said that any employer had produced an average experience—one that would serve as a dependable basis for the projection of his future rate. *The law of averages must have its expression in the basic rates.* Experience merit rating is nothing more nor less than requiring an employer to take a higher group rate within his classification if his experience becomes subnormal. This increase in rate does not create an additional premium that would represent the abnormal loss that has been produced. On the contrary, such premium is the equivalent of but a minor fractional part of such loss. In other words, the basic rate of the Ohio plan contemplates all normal losses and the major part of all abnormal losses. The minor fractional part of the abnormal losses forms the basis for establishing what we consider to be the true function of merit rating, viz, to make (within fixed limits) a more equitable distribution of insurance charges within classifications. It is not a proposition of averages. It is not an effort to forecast the future experience of the individual employer. It is simply that the employer has produced an experience, which experience is made to serve as the basis for rate differentiation within the classification. The differentiation is made upon the only possible basis that can be used with safety and equity, and that is cost.

I wonder, in this connection, just what the proponents of schedule rating, who freely admit the paucity of statistics on which to determine and assign dependable accident values, and who also freely admit the difficulty of securing such statistics, claim for schedule rating.

1a. That experience rating will not be applicable to small employers by virtue of the fact that a serious accident in such a group is most probably due to chance or conditions beyond the power of the employer to control.

In the first place, I trust I have succeeded in making the point that merit rating is not for the purpose of anticipating the future experience of an individual employer, and is neither a proposition of averages nor a proposition of classifying accidents according to whether their occurrence is or is not due to chance.¹

¹ When carried to its ultimate analysis, is it not found difficult to point out accidents that may be said to be due purely to chance?

It is stated that the application of merit rating imposes an undue hardship on the smaller employer as compared with the larger. I admit that in practically every avenue of business the larger employer has certain inevitable advantages over the smaller, whether it is in the purchase of raw materials, the cost of production, or otherwise. It has been the effort of the Ohio plan to overcome this normal disparity as applied to workmen's compensation insurance. Let us take a concrete illustration, using one of the most extreme cases we can select:

A millinery store has an annual pay roll of \$10,000. The basic rate is \$0.12 per \$100 of pay roll, making an annual premium of \$12. The basic compensation allowance is, therefore, \$48 per \$100,000 of pay roll.

One morning an employee, in attempting to get a hat from an elevation, slips, falls into the showcase and loses both eyes. It is necessary to set up a reserve of \$10,000 to cover this claim. Just how does this claim affect the individual rate of this employer under the Ohio plan?

On renewal, his rate of \$0.12 is increased 24 per cent, or \$0.029, thereby making his renewal rate \$0.149, increasing his annual premium \$2.90.

The basic compensation allowance for this classification is \$48. A permanent total disability is treated as the equivalent of 150 per cent of the basic compensation allowance, and 150 per cent of \$48 is \$72. The debit charge applies against the rate of this employer until his pay roll accumulates to a point that reduces his ratio to \$48 per \$100,000 of pay roll. It is then removed. In this instance, therefore, the debit charge would be removed when the accumulated pay roll reached \$150,000, i. e., $\$72:\$150,000=\$48:\$100,000$. Thus, the total premium actually developed by the application of this entire debit charge is less than \$45.

I inquire, does even this extreme illustration violate any principle of insurance or fail to conserve every function of merit rating?

I repeat, merit rating is not a proposition of averages; it is not an effort to forecast the future experience of the individual employer or to differentiate between accidents on the basis of whether their occurrence was or was not due to chance.

2. It is suggested that experience rating will tend to cause employers to frown upon their employees reporting injuries. This is overlooking the fact that a normal injury does not influence the individual rate of an employer, and it is assured that a serious injury will be reported. No such tendency has asserted itself in Ohio, and surely our broad experience would have brought such a condition to the surface had it existed.

I do not consider this objection comparable with the corresponding one that may be offered to schedule merit rating, viz, the bid that is made to the employer to stop at that point in his accident-prevention program beyond which its efficiency is determined.

3. Another objection to experience rating is that it will tend to cause an employer to look upon a chance good experience as a basis for his own future rate. This would be true if experience merit rating claimed to serve as the basis for the projection of an employer's future rate. I trust I have succeeded in pointing out the fallacy of this idea. I supervise 35,000 premium adjustments and renewal quotations a year. Taken as a whole, only a small percentage of our risks have advanced their individual experience as the basis for a rate reduction, and it has proved a minor problem to convince such employers of the error of such a claim.

4. Another objection offered to experience merit rating is that in those States where the liability insurance companies are competing for workmen's compensation insurance business this plan will offer opportunities for competitive abuses which State insurance departments and rating bureaus will find difficulty in controlling.

From this viewpoint experience rating does present a problem. These departments and bureaus have found themselves unable to control the pure premium computations of these companies; these departments and bureaus have found themselves unable to prevent the transferring of the expense loading of workmen's compensation insurance to other branches of insurance. It is only natural, therefore, that from the viewpoint of competitive abuses as between insurance companies experience rating should present a problem.

An experience rating system, however, constructed on a basis that is fair to experience rating will produce a solution of this problem. The problem is substantially restricted to serious accidents, a system and organization effectively controlling which can be perfected at an expense that will be but a small fractional part of the expense that is necessary to operate the elaborate machinery, from which only illogical results follow, of schedule rating.

I believe the application of merit rating to workmen's compensation insurance would be no less imperative, even though it did not affect accident prevention in any way, shape, or form. The worst group of "machine-shop" employers presents a greater hazard than the preferred group of "machine shop with foundry" employers. There exists, therefore, substantially as much foundation for differentiating in rates within each of these two classifications as there exists for differentiating in rates between them.

Fortunately, however, experience rating will directly tend to cause accident prevention for the logical reason that it is based upon the

actual results of accident prevention. I have previously pointed out why I believe schedule rating will directly tend to stultify accident prevention, aside from the fact that it makes an inequitable, I am tempted to say, iniquitous, distribution of insurance charges within classifications.

The only merit that is contained in an experience-rating system that makes it optional whether or not a risk is submitted for experience rating is from the viewpoint of the insurance carrier desiring to create a condition whereby competitive abuses will be subjected to no restraint. Such a plan can not be too severely condemned. Experience rating must be applied uniformly or it must not be applied at all.

The principal objections that have been offered to experience rating have emanated either from those who were in a position to speak from the viewpoint of theory only or from those who have been in a position to observe the operation of none other than the indefensible experience-rating system promulgated by the Workmen's Compensation Service Bureau, wherein its inherent virtues have been fettered hand and foot.

Experience rating has had a test of over four years in Ohio, applying to total pay roll of over \$1,500,000,000. In this period of time the plan has been thrown entirely upon its merits. We were not prejudiced in its favor or against it. We would not have hesitated for an instant to adopt schedule rating if it had ever appeared that such an action would have strengthened our rating system. We have, however, given experience rating a fair opportunity to express its strength as well as its weakness.

Just what have been the results? The results are that in Ohio experience rating has stood that which is the supreme test—it has worked—and to the satisfaction of the Ohio employers, to the full satisfaction of the Ohio employees, and to the full satisfaction of the commission.

Had the Ohio experience-rating system possessed a minor fractional part of the evils that have been attributed to experience rating by recent papers, the employers of Ohio would long ago have compelled its abandonment, the employees would have long ago compelled its abandonment, and the commission being in a position to first detect these evils would have been the first to discard the system.

In other words, the evils that have been charged to experience rating have come from those who have been compelled, unfortunately, to consider the problem primarily from the viewpoint of abstract theory. It is, therefore, not surprising to note the faulty deductions that have followed.

We surely do not claim that the Ohio plan presents the final solution of merit rating. This is one of the very important and serious tasks for the future in the field of workmen's compensation insurance, and one that should command the closest attention and best efforts of everyone who is able to contribute to a better solution of this great problem.

(On motion, the session adjourned to meet at 2 p. m.)

WEDNESDAY, APRIL 26—AFTERNOON SESSION.

Chairman YAPLE. Gentlemen, I have a letter of some interest which I will read, dated Rio de Janeiro, April 1, 1916:

RIO DE JANEIRO, April 1, 1916.

MR. WALLACE D. YAPLE,

Chairman Committee on Program and Arrangements.

DEAR SIR: I thank you for your kind invitation. It will be for me a pleasure to receive some copies of the program and later on an account of the proceedings.

The conditions in South America are very different from what they are in the United States and Canada, and I intend to write you later on the subject.

I should suggest you send a copy of the program and other pamphlets concerning the International Association of Industrial Accident Boards and Commissions to Mr. Adolpho Gordo, Senator, of Sao Paulo, Brazil.

With many thanks,

Yours, very truly,

E. OLIFIERS,

Companhia Sud America.

Rua do Ouvidor 80, Rio de Janeiro.

(Chairman Yaple read some letters, addressed to President Daggett, referring to the next meeting place of this organization. Two were from Milwaukee and two from Boston. They contained urgent invitations to choose the places named as the meeting place of this body next year. These letters were referred to the committee on place of meeting.)

(Mr. Kingston was asked by Chairman Yaple to take the chair for the afternoon.)

Mr. YAPLE. I suggest that as Mr. Downey is obliged to take a 5 o'clock train we proceed with the regular order of business. Dr. Meeker, whose address is next on the program, suggests that if it is the pleasure of this body the report of the committee on statistics and compensation insurance cost, of which Mr. Downey is chairman, be taken up next.

**REPORT OF COMMITTEE ON STATISTICS AND COMPENSATION
INSURANCE COST OF THE INTERNATIONAL ASSOCIATION OF
INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS.¹**

Statistics are commonly thought to be dry as dust. Newspapers and others whose office it is to instruct and admonish the public serve statistical information in homeopathic doses only. The bulky and ill-arranged tomes issued by too many State and Federal departments find their way only to the desk of the technical expert and the wastebasket of the layman. Yet statistics are simply a collection of facts, so selected and arranged as to bring out the bearing of experience upon a particular problem. As experience is the chief school of wisdom, so statistical analysis is an indispensable aid in the study of social problems. If statistics have fallen into disrepute, the fault lies with the incompetence of statisticians, their pedantry, their failure to understand the problems with which they deal, and their lack of intelligible and interesting presentation.

No department of statistical inquiry more closely touches the public weal than the study of personal injuries by accident. Statistics of industrial accidents should serve for accident prevention, for the due administration and intelligent revision of workmen's compensation laws, and for the computation of compensation insurance rates. For accident prevention it is needful to know how and why accidents occur. For the better administration of workmen's compensation laws it is necessary to have an accurate statistical record of the disposal of compensation cases, not only the comparatively few cases which are formally passed upon by the administrative board, but the immensely larger number of claims which are settled between the parties with only a pro forma administrative approval. For the intelligent enactment and revision of compensation legislation legislators must know the number and character of accidental injuries, the extent of wage loss, and the cost in per cent of pay roll of any proposed scale of benefits. Lastly, for the computation of insurance rates it is necessary to have not only the actual pure premiums by industries, but a detailed analysis of the accidents which occasion the pure premiums.

¹ The complete report of this committee, showing in detail industry classifications, accident causes, and nature and location of injuries, is printed as Bulletin 201 of the United States Bureau of Labor Statistics.

To serve these ends, accident statistics must be analyzed by industry, by cause of accident, and by nature and location of injury and extent of disability, and must be so cross-analyzed as to show the correlation of each of these sets of facts with every other. Still other analyses are necessary. It is important to know the number, ages, and relationships of dependents in fatal cases, and the age and wage groups of the injured in all cases. In certain industries an occupational analysis will be of value. It goes without saying also that the pay-roll exposure should be obtained by industries, and that the wage loss and the amount of compensation and of medical aid should be shown by industry, by cause of accident, and by nature and location of injury and extent of disability. Many other statistical studies will prove necessary for particular purposes. Nevertheless, the classifications by industry, cause, and nature and extent of injury are primary. Faulty analysis in these respects will vitiate the whole statistical output. Vice versa, if these three fundamental classifications are sound and adequate, everything else can be added as opportunity and occasion arise.

The most cursory examination will show that the official industrial accident statistics of the United States are lamentably weak in just these vital particulars. No one State has yet published statistics that are at all adequate to its own needs, and no two States have produced results that are in any way comparable. One State department follows the census classification of industries, another uses the schedules of the old liability manual, a third the literal classifications of the compensation insurance manual. The classification of accident causes is sometimes so meager as to be of little value for prevention, sometimes so prolix and ill-digested as to afford no comprehensive view. The classification of injuries ranges from the simple division into fatal and nonfatal to an individual list of permanent disabilities—the mere raw material of statistics. While weightier matters have been thus neglected, much time and labor have been expended upon such unprofitable subjects as race, conjugal condition, day of the month, day of the week, and hour of the day.

After the approval of the first report of the committee on statistics and compensation insurance cost by the association in its annual meeting at Seattle, in 1915,¹ there remained for the committee the preparation of the final subdivisions of classifications under each of the various industry groups, the preparation of classifications of causes of accidents and of nature of injuries and the drafting of uniform tables for the presentation of accident and compensation statistics. All of these subjects, except the drafting of uniform

¹ The first report of the committee was printed in full in the November, 1915, issue of the MONTHLY REVIEW of the United States Bureau of Labor Statistics.

tables, have been taken up and are dealt with in the committee's report. During the year four meetings of the committee have been held, and besides this a very large amount of work has been done by members of the committee individually.

In continuation of its work the committee met in New York City February 3 and 4, 1916, in a joint session with representatives of the Casualty Actuarial and Statistical Society of America and the Workmen's Compensation Service Bureau.¹ The meeting was given entirely to the discussion of the classification of causes of accident. In general, the classification included in the preliminary report of the committee on classification of causes, appointed in accordance with the action of the joint conference held at Chicago, October 12 and 13, 1914, was taken as the basis of discussion and was accepted in large part by the committee. This preliminary report was printed in Bulletin 157 of the United States Bureau of Labor Statistics.²

A second meeting of the committee was held at Columbus, Ohio, February 21-22, 1916. Four members of the committee—Messrs. Downey, Meeker, Watson, and Croxton—were present. Further consideration was given to the classification of causes of accidents, and the classification of accidents by location and nature of injury and extent of disability was taken up.

A third meeting of the committee was held in New York City March 16, 1916, jointly with representatives of the Casualty Actuarial and Statistical Society of America and the Workmen's Compensation Service Bureau.³ The meeting was devoted to the discussion of the classification of industries and of causes of accidents.

The fourth and final meeting of the committee for the year was held at Philadelphia March 31 and April 1, 1916. Members of the committee present were Messrs. Downey, Hatch, Magoun, Watson, and Verrill, and, by invitation, F. S. Crum of the Prudential Insurance Co. Four long sessions were devoted to the discussion and final revision of the classification of causes of accident and of location and nature of injury and extent of disability.

¹ Those present were: E. H. Downey, chairman, special deputy, Pennsylvania Insurance Department; H. E. Ryan, associate actuary, New York Insurance Department; L. W. Hatch, chief statistician, Industrial Commission of New York; W. N. Magoun, Massachusetts Insurance Department; C. H. Verrill, representing Commissioner Meeker, U. S. Bureau of Labor Statistics; I. M. Rubinow, president, Casualty Actuarial and Statistical Society of America; C. E. Scattergood, Workmen's Compensation Service Bureau; and W. H. Burhop, chief statistician, Wisconsin Industrial Commission.

² Pages 160 to 162.

³ Those present at this meeting were: Royal Meeker, U. S. Commissioner of Labor Statistics; L. W. Hatch, chief statistician, Industrial Commission of New York; C. H. Verrill, U. S. Bureau of Labor Statistics; W. N. Magoun, general manager, Pennsylvania Compensation Rating and Inspection Bureau; I. M. Rubinow, president, Casualty Actuarial and Statistical Society of America; and G. F. Michelbacher, statistician, Workmen's Compensation Service Bureau.

At the Seattle meeting of the association your committee presented a preliminary grouping of industries which was adopted by the association. In the present report these groups of industries have been further subdivided into classifications corresponding as nearly as possible with the detailed classifications customarily used by compensation commissions and insurance companies in fixing premium rates. There are also presented classifications of causes of accidents and of accidental injuries by nature and location of injury and extent of disability.

These classifications are not presented as in all respects perfect or the embodiment of all wisdom. They are necessarily the result of compromise. Your committee had to consider, on the one hand, the requirements of scientific classification, and, on the other hand, the limitations of time and means at the disposal of administrative boards. Due regard for these limitations enforced the omission of much detail which may be within the reach of some favored States, and which is very desirable for certain purposes.

Nevertheless, your committee believe that these classifications will serve the most important immediate needs of industrial accident statistics. They are the fruit of much thought and discussion by experienced statisticians. They embody the best that could be found in the official classifications of the United States and Europe. Further improvement may well be left to further experience.

All of the classifications herewith recommended are designed to admit of expansion or contraction, according to the varied needs and facilities of different administrative boards. If a particular board is unable to undertake more, the industry groups will suffice for many purposes and will facilitate comparisons with the accident statistics of other States. In the same manner the classification of accident causes can at need be limited to the primary and secondary divisions of the standard classification. Per contra, if time and means permit, the items may be expanded to any desired extent within the general framework and without impairing the comparability of the resultant tables. Every capable statistician will naturally undertake such expansion as may be suitable to his own problems and the facilities placed at his disposal. There are somewhat narrow limits to the detail which can with advantage be shown in general tables, but no classification can be too detailed or too specific for the needs of accident-prevention work in particular industries. It should be remembered, moreover, that the combination of separate items in a detailed code is always easy, whereas the opposite process is extremely laborious and often impossible.

CLASSIFICATION OF INDUSTRIES.¹

In all tabulations of industrial accident statistics the most important factor is the classification of industries, as to this all other items relate. For example, the number of accidents of a certain nature, such as the loss of an arm, must be assigned to the industries in which such accidents occur, and similarly the number of accidents attributable to a specific cause, such as the lack of a proper safeguard, must be distributed by industries. Uniformity in the classification of industries is therefore of first importance and is absolutely essential if the data prepared by the various States are to be comparable.

The task undertaken by your committee was to prepare a logical arrangement of all the various industries of the United States according to the "nature of the business." The committee, after very careful consideration, adopted a grouping of industries covering all of the classifications used by insurance companies for writing workmen's compensation risks in this country.

In order that statistics pertaining to industrial accidents may be comparable, it is obviously essential that they shall be on the same basis. The accident data now being rapidly accumulated by industrial accident boards and commissions are of great value. The light which statistical data throw upon the subject of accident prevention is of primary importance. Accident statistics are also of tremendous importance in pointing out the relative hazard of industries, and as a corollary thereof the rate of insurance which the respective lines of industry should properly be called upon to pay.

At the present time workmen's compensation insurance rates are provided by the insurance companies for some 1,500 different classifications. For the various industrial accident boards and commissions to keep and publish their accident data in the detail indicated by so many classifications is well-nigh impossible, and would result in too minute a refinement for practical purposes. If, however, a logical table of industries can be prepared in such a manner that the 1,500 insurance classifications can be arranged under a reasonable number of headings, then the value of the industrial accident statistics will be greatly enhanced and their usefulness extended. Industrial accident board statistics and insurance statistics will "dovetail," and all doubt as to just what is intended to be covered under a given designation will be removed. This is one of the chief objects which your committee has attempted to accomplish.

¹ See Bul. 201, p. 17 et seq.

The classification grouping which the committee submit is drawn up in accordance with the following arrangement: .

Divisions.

Schedules.

Groups.

Classifications.

Divisions.—There are seven principal divisions or primary headings corresponding to those adopted by the committee appointed by Commissioner Meeker at the Chicago Conference of October, 1914.¹ These divisions are:

- | | | |
|---------------------------|--|--|
| (A) Agriculture. | | (E) Transportation and public utilities. |
| (B) Mining and quarrying. | | (F) Trade. |
| (C) Manufacturing. | | (G) Service. |
| (D) Construction. | | |

Schedules.—The seven divisions are divided into 43 schedules corresponding to the secondary headings adopted by the committee appointed by Dr. Meeker. These secondary headings explain the details into which the primary headings are separated. For example, the primary heading "Manufacturing" is divided into 18 schedules, such as lumber and wood, leather, textiles, chemicals, paper, etc.

Groups.—The group headings, of which there are 272, are the most important in the series and show a refinement of the secondary headings. Each group heading is intended to be significant of the industries covered under it, and it is the belief of the committee that these tertiary or group headings will prove acceptable to the various industrial accident boards and commissions for general use in tabulating their accident data.

Classifications.—The final subdivision consists of the classifications of industries appearing in the manuals used by insurance companies in connection with their writing of workmen's compensation insurance. These final subdivisions are of special value to industrial accident boards and commissions, serving as an index to show what industries are intended to be covered by the respective groups.

CLASSIFICATION OF CAUSES.²

The whole purpose of a classification of accidents by causes is accident prevention. The classification, therefore, should point to the most immediate and tangible preventives. Doubtless every accident is, in fact, the outcome of a long train of events. If only complete information were available, it should be possible to trace any

¹ See Bulletin 157 of U. S. Bureau of Labor Statistics, p. 153 et seq.

² See Bul. 201, p. 73 et seq.

accident to some remote initiating cause—ultimately to some failure of insight or foresight on the part of some human agent, in many cases. If a tower falls, it is because the builder has miscalculated the strength of its materials in relation to the strains put upon them, or the contractor has failed to carry out the specifications, or a workman has slighted his task. So the death of those who are buried in the ruins might be attributed to the neglect of the brickmaker, or to the incompetence of the supervising architect. But it is very seldom possible to ascertain the primary cause of an accident in this sense. The attempt, indeed, would generally prove of doubtful utility. The immediate cause is a tangible fact, capable of definite ascertainment. To go further is to venture into the speculative field of personal fault, where the bias of witnesses and the predilection of the statistician will too often determine the result.

It is recommended, therefore, that accidents be uniformly assigned to the proximate or immediate cause. In the immense majority of cases, the analysis will perforce stop at this point. The comparatively rare catastrophic accidents, however—such as train collisions or coal-mine explosions—should be further analyzed with respect to the antecedent circumstances which produce the catastrophe.

The committee adopted the following definition of proximate cause: “That the accident should be charged to that condition or circumstance the absence of which would have prevented the accident; but if there be more than one such condition or circumstance, then to the one most easily prevented.”

The meaning of this rule may be made clear by illustration. A workman passing through an aisle stumbles upon a defective floor and throws his hand into an open gear which mashes off two of his fingers. Under the rule adopted this accident is to be charged to the gear and not to stumbling. Had the gear been properly covered the workman might still have been injured by his fall, but the injury which did occur—namely, the loss of two fingers—would not have happened.

It will be seen that the committee has grouped the causes of accidents, as above defined, into 12 divisions, and that these again have been subdivided into general classes. Machinery, for instance, is divided into prime movers, power-transmission apparatus, power-working machinery, hoisting and conveying apparatus, and miscellaneous machinery. Vehicles are divided into cars and engines of steam and electric railroads, mine and quarry cars, automobiles and other power vehicles, animal-drawn vehicles, and vessels for water transportation.

The committee was unable to prepare a proper classification of power-working machinery. The number of machines is so great

and their relationships so intricate that much engineering study would have to be given to the subject. The Workmen's Compensation Service Bureau, however, has prepared an elaborate list of power-working machines, comprising all the principal classes of machinery. Mr. L. W. Hatch, of the Industrial Commission of New York, has made a grouping of these machines by industry, and within each industry by operative hazard.¹ It is believed that any industrial board can find in the bureau list above referred to all the machines which it will have occasion to use for accident statistics, and it is recommended that for the present Mr. Hatch's grouping should be followed. It is hoped that further experience will evolve a grouping which can be officially adopted.

Under "Hoisting apparatus and conveyors" the committee have recommended that elevator accidents should be analyzed in some detail because of the large number and seriousness of these accidents. In mining States a similarly detailed analysis should be made of accidents on mine cages, skips, and buckets. In those States where building construction is an important industry derrick accidents should be similarly analyzed.

The committee have further recommended a detailed analysis of machine accidents by manner of occurrence and by part of machine on which the accident occurred. Such an analysis may not be practicable for publication in the general statistical tables, since it would require a very large amount of space to show the accidents upon each listed machine by manner of occurrence and part of machine. Nevertheless it should be practical to give this information in a summary without reference to the individual machines, and the statistical department should be able to obtain the information for any specific machine or group of machines when required for special studies.

The committee have given more attention to nonmachine accidents than has been customary in most States and indeed in foreign countries. Experience, both in the United States and abroad, has shown that machinery of all descriptions—taking even the broad definition here adopted—accounts for not more than one-fourth of industrial accidents, whether considered from the standpoint of mere numbers or from the standpoint of both number and severity. Indeed, less than one-fourth of fatal injuries occur in connection with power machinery. It has been customary to give a somewhat detailed analysis of machine accidents, and to lump all nonmachine accidents under a few general headings. Your committee believe,

¹This grouping is printed as Appendix A to Bul. 201, p. 85 et seq.

however, that 75 per cent of the accidents should receive at least half of the time and thought of the statistical departments.

In the analysis of railroad equipment accidents, your committee have followed the latest classification of the Interstate Commerce Commission, consolidating, however, to reduce the amount of detail.

It will be noted that under all vehicles objects falling from the vehicle not in loading or unloading are charged to the vehicle itself. Accidents in loading or unloading are charged to the handling of objects. This distinction appears to be logical. In the same way falls of persons from the vehicle are considered vehicle accidents. Of course a proper code system will enable any statistician who desires so to do to throw these accidents into the groups of falling objects and falls of persons, respectively.

Hand trucks are not treated as vehicles, but are included under Division IX, "Objects being handled." It is of course true that a hand truck falls within the common definition of vehicle. The committee believed, however, that hand trucking is not a part of the transportation industry, and that the hazards of hand trucking are more analogous to the hazards of handling objects than to those of power vehicles.

The treatment of water-transportation equipment is very incomplete and unsatisfactory. It is strongly recommended that in those States where water transportation industry is important and is included under workmen's compensation, a more detailed analysis should be worked out.

Accidents in the use of hand tools are analyzed by manner of occurrence. It was not believed worth while to analyze these accidents by the type of tool which was being used.

The list of accident causes herewith submitted will require expansion in different States to provide for special industries. In logging States, for example, more extended treatment should be given to animal-drawn vehicles, to falling objects, and to hand tools. The general classes here provided should be made more specific in order to satisfy conditions peculiar to the logging industry.

Similarly, wherever an administrative authority is carrying on a safety campaign in the building industry, a special classification of falls of persons and of falling objects in building construction should be introduced. Doubtless there are still other industries which will require special treatment. It is hoped that all these special classifications can be fitted into the general framework here provided.

CLASSIFICATION BY LOCATION AND NATURE OF INJURY AND EXTENT OF DISABILITY.¹

The committee has recommended four classifications of accidental injuries as distinguished from the accidents themselves, namely, the location of injury or part of body injured, the nature of injury, the extent of disability, and, as a subdivision of the last, the degree of partial disability.

In assignment of the location of injury, the committee has followed the common anatomical divisions, beginning with the head and ending with the feet. Special provision has been made for injuries involving two or more parts. The amount of detail given is not so great as that called for by the specific indemnity schedules of some States, but it is believed sufficient for all ordinary statistical purposes. Any State which needs more detail can easily provide same. It is specially to be noted that accidents involving dismemberment or permanent loss of use of members should be listed in detail.

The nature of injury classification is confined to the injuries sustained at the time of the accident, and is designated by popular rather than technical medical terms. Special provision is recommended for infections, so that the infection shall be correlated with the nature of injury and also with the extent of disability.

With respect to extent of disability, injuries are divided into the generally recognized classes of fatalities, permanent total disabilities, permanent partial disabilities, temporary total disabilities, and temporary partial disabilities. Permanent disabilities are further divided into dismemberment and others. It would probably be advisable to extend this division with respect to permanent partial disabilities so as to show some of the more common causes of permanent partial disability other than dismemberment, e. g., ankylosis, shortening of limb, and stiffness other than ankylosis.

The degree of partial disability need be shown only with respect to permanent disabilities other than dismemberments. By degree in this connection is meant the degree of impairment of the member affected, and not the degree of disability of the injured workman. Any attempt to determine the degree of disability of the workman or his loss of earning capacity will be more or less arbitrary. In any given case the measure adopted by the statistician will probably reflect the compensation law of the particular State as interpreted by the administrative authorities thereof. The California schedule, e. g., would show the degree of disability from the loss of an index finger to a piano tuner. But statistics of degree of disability in this sense would add nothing to our information. With regard to par-

¹ See Bul. 201, p. 81 et seq.

tial impairment of members, however, it is highly important to know the extent of impairment, and this is a matter which can be ascertained with a fair degree of accuracy.

All of which is very respectfully submitted.

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ROYAL MEEKER,
Commissioner of Labor Statistics, Washington, D. C.

ROBERT K. ORR,
Manager State Accident Fund, Lansing, Mich.

W. N. MAGOUN,
*General Manager, Pennsylvania Compensation Rating and
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H. E. RYAN,
Associate Actuary, State Insurance Department, New York City.

FLOYD L. DAGGETT,
Chairman, Industrial Insurance Commission, Olympia, Wash.

FRED C. CROXTON,
Chief Statistician, Industrial Commission, Columbus, Ohio.

L. W. HATCH,
Chief Statistician, Industrial Commission, Albany, N. Y.

E. E. WATSON,
Actuary, Industrial Commission, Columbus, Ohio.

DISCUSSION.

Mr. ARCHER. Please tell us, Mr. Downey, in regard to the statistical analysis of injuries regarding rate making, whether or not the rates will be made by statistics.

Mr. DOWNEY, Pennsylvania. That depends on how you control the insurance rate making. Of course if the State does not go any further than to allow the insurance companies to make rates as they please, statistics will not be of much value. Accident statistics will be the only possible guide to sound rate making. Secondly, injuries must be analyzed by the cause of the accident. Third, the analysis of the nature of the injury extends to the result of the disability. Those are three primary classifications; it is possible to go a good deal further, but those are three fundamental classifications. Without this, accident statistics would be of very little value. Statistics depend primarily on the soundness of those three classifications.

Dr. LESCOHIER. Where, for instance, a jobber in a mercantile business also does a manufacturing business—is there any classification of this man's business as a whole?

Mr. DOWNEY. The idea should be to classify your industry by quoting the hazard to which the workman is exposed. For instance,

in a store you have two distinct hazards—the hazard of the store and the hazard of the delivery service. We assign the driver to the driver classification. We assign the man working inside to another class. The hazards are entirely different.

Dr. LESCOHIER. The employer doesn't think of his business in those terms. He thinks of his business as a unit. He wants to know how the hazard in his unit compares with a loss in another similar unit. Have you taken into account the industrial unit?

Mr. DOWNEY. That question is largely solved under workmen's compensation by insurance compensation. All industrial accident boards are familiar with industrial classifications.

(Dr. Lescohier here stated that in his department he was just getting ready to install some sort of a table that would afford a tangible guide for statistical reference in particular industries. For instance, the men in the mining industry want to know how many accidents occur in that industry; they want to know this next year and so on. We must get together some general industry statistics that are easily gotten hold of and then prepare a separate record of statistics for the man doing exhaustive analytical work in this field.)

Mr. DOWNEY. I should publish both general and detail tables in the same report. In the general table, go no further than the schedules go. Have the pay rolls, the number of accidents—or, at least, the number of compensable accidents—the number of deaths, the number of permanent injuries, and the total loss of time, this loss to be compared with the pay roll. It doesn't mean much to say you had 1,000 accidents, say, in logging, unless you know something about the size of the industry. Then I should give more information in detail of the industry, the accident causes, the number of injuries, the nature of the injuries, etc., and group some of them. A great many of the States haven't taken enough interest to try to ascertain how much compensation is costing employers. This is true in the neighboring State of Michigan, and it happens that in both Minnesota and Michigan the act is costing \$2 for every dollar the workman gets. The industrial accident board has not enough interest even to try to ascertain the cost to the State.

I am speaking of the State as a unit. I want to say that this report of the committee on statistics and compensation insurance cost is a free report. It has cost a great deal of serious work. We have built up classifications which we believe to be the best and most competent. We ask the association to adopt this classification and recommend the classifications in each State. We have tried to make the classifications such that each State, where time and means are available, can go on and build up on them. Where time is more limited,

the State can take simply a larger division and frame the work on that, and have results which will be valuable so far as they go.

Mr. KINGSTON (temporary chairman). Do I understand this to be a motion to adopt this report of the committee?

A MEMBER. I do not think this committee should be discharged at this time. I sincerely hope the report of the committee will be adopted, but I believe the committee should be continued to work out statistical tables that the States should be required to formulate.

(The Secretary was asked to read the names of the committee on statistics and compensation insurance cost, which were as follows: E. H. Downey, Pennsylvania, chairman; Royal Meeker, Washington, D. C.; Robert K. Orr, Michigan; W. N. Magoun, Pennsylvania; H. E. Ryan, New York; Floyd L. Daggett, Washington; Fred C. Croxton, Ohio; L. W. Hatch, New York; E. E. Watson, Ohio.)

Dr. MEEKER. I think this report of the committee requires no formal motion to bring it before the meeting; it is now before the house.

Mr. KINGSTON (temporary chairman). The question before the house now is that the report of the committee as presented be adopted and the committee be continued in their work.

Mr. TARRELL, Wisconsin. I don't know how many of the members of the association have had an opportunity to examine the report. I know I haven't seen it. May I suggest that the adoption of the report be delayed until the members of the association can examine it; at least until to-morrow morning.

Mr. VAUGHN. I move that the report of this committee be received and laid on the table to be taken up at the pleasure of the association. (Motion seconded and carried.)

Mr. KINGSTON (temporary chairman). Referring to the first order of business, we will now listen to the address of the Hon. Royal Meeker, commissioner, United States Bureau of Labor Statistics.

Dr. MEEKER (introductory remarks). I want to interpret right here some of the remarks Mr. Downey made in speaking of and including in his report the change made at a special meeting of this association in Chicago, which was called January 12 and 13, 1915.

Some matters were discussed, and certain standards were adopted. I want to present anew those standards to this large assemblage of compensation boards and commissioners.

It was agreed to adopt the standard blank for reporting accidents as reported at that meeting. The definition of a tabulatable accident was agreed upon and adopted. How much further those agreements went I don't recall. I think the whole subject should be presented anew. We should agree what is the proper method of

getting at the accident rate, so that the time loss may be shown and the money loss in wages or compensation costs computed, reducing this to a usable unit, according to some plan similar to that which has been suggested by the Federal Bureau of Labor Statistics. As it is, we don't know what an accident rate of 3.50 means.

How can we accomplish these desirable results? If we are to have uniform statistics published by the Federal Bureau of Labor Statistics, which would express the wishes of this association, we must have statistics gathered in some uniform way, treated by some uniform statistical method.

THE WHY AND HOW OF UNIFORM INDUSTRIAL ACCIDENT STATISTICS FOR THE UNITED STATES.

BY ROYAL MEEKER, UNITED STATES COMMISSIONER OF LABOR STATISTICS.

THE WHY.

Industrial accident statistics for the United States do not exist. Sixteen States of the Union have no workmen's compensation laws, and the act passed by the Legislature of Kentucky last winter has not yet become operative, so there are 17 States in which there is as yet no incentive to collect statistics of industrial accidents. Consequently, in these 17 States little or no attempt has been made to collect such statistics, except for the mining industry in those States having mines. The reports of mining accidents have thus far been confined almost entirely to fatal accidents. Even if we exclude the noncompensation States and confine our attention to those States having workmen's compensation laws in force, we find the statistics of industrial accidents most incomplete and utterly heterogeneous and incomparable State by State and industry by industry. This unsatisfactory state of our statistical information on industrial accidents, even in the States where accidents must be reported in order to get compensation, is due in part to wide and irreconcilable differences in the State laws, in part to the niggardliness of the State legislatures in making appropriations for compiling statistics of industrial accidents, but it is also due in part to the failure both of the compensation commissions and their statisticians to see clearly the essential things that need to be shown and their inability to set those things forth interestingly, emphatically, and convincingly.

Each compensation State goes its independent way in determining what shall constitute a compensable accident, what industries shall be covered, what medical and hospital service the injured employee shall be entitled to, the amount of compensation to be granted, and the time during which it shall be paid. Probably the number of industrial accidents can be obtained in most of the compensation States by industries and by length of time of disability above one day. In fact, such information has been obtained in some of the States. But comparisons of the costs of compensation in the various

States are rendered difficult because of the different requirements as to waiting time, amount of compensation payable for various disabilities, medical service, lump-sum settlements, etc., while a summarization of compensation costs for all the States would be totally meaningless.

If the size of the appropriations for statistical purposes is a fair measure of the extent and intensity of the interest of our lawmakers in accident statistics, it is clear that the legislators in many of our States do not regard statistics of industrial accidents as important or else they have no idea of the time and labor necessary to gather and compile such statistics. Indeed, legislators are not alone in holding statistics in light esteem. There is a widespread belief that statistics are dry, uninteresting, untruthful, and useless. It all depends. Some statistics are dry, so are some rivers; some statistics are uninteresting, so are some novels; some statistics are untruthful, so are some statesmen who use statistics; some statistics are useless, so are some colleges and churches. Statistics may be called the science or the method of estimating. There are just as many varieties of statistics as there are kinds of estimates. The defects ascribed to statistics are no more characteristic of statistics than dryness is a characteristic of rivers, untruthfulness of statesmen, or uselessness of colleges and churches. The goodness or badness of statistics depends upon the matter presented and the manner of presentation. It must be admitted that the accident statistics published by some of our States have not been as complete, as illuminating, and as worth while as they could have been made, despite the peculiarities of State compensation laws and the inadequacy of appropriations available for statistical work.

It is no doubt a work of supererogation to prove to this body that statistics are productive in the same way that agriculture and manufacturing are productive, but I can not refrain from pointing out the valuable results accomplished by statistical studies of industrial accidents, poisons, and diseases, made by the Federal and State bureaus. Largely as a result of statistical studies of the Federal Bureau of Labor Statistics, which set forth quantitatively the number and the cost of accidents in steel making, the industry has set to work systematically and successfully to reduce the number and proportion of accidents in all departments. The accurate counting and classification of accidents have had the effect of arousing not only the public conscience, but, what is more to the point, the conscience of the responsible officials of the steel plants. The studies of lead poisoning, made by the Federal Bureau of Labor Statistics, have induced some of the manufacturers of lead paints, pottery, tile, and storage batteries to eliminate or modify some of the most dangerous

processes in their industries, which subjected workers to needless hazards from lead poisoning. Other studies have had the same results in eliminating or decreasing hazards from poisons and diseases in other industries. Similar studies of industrial accidents, poisons, and diseases, made by State agencies, have had commendable results in cutting down the number and percentage of cases of accident, poisoning, and illness, because a few State agencies have been able to make more comprehensive and detailed studies than was possible for the Federal bureau.

In view of the great value of the statistical studies of accidents and occupational diseases already made, it can not be maintained that statistics on these subjects are vain and profitless. As a matter of fact, the compilation of statistics is a productive industry of equal importance with bookkeeping and accountancy and second in importance only to the industries that create and transport commodities. A farmer can grow potatoes, corn, and hogs without the aid of a set of books, but he can not know accurately how much he makes or loses or, indeed, whether or not he makes or loses by his farming operations, unless he keeps some kind of books. In the same way a State may provide for the compensation of injured workmen without providing for statistical compilations showing the number of accidents occurring, by industries, causes, and results; but if a State should rush headlong into haphazard compensation in this way, it would be likely to have some unpleasant experiences soon. It is, of course, utterly impossible to make any equitable adjustment of the costs of accident compensation among industries and between employer and employer without very complete statistical compilations and analyses of accident experience.

While all statisticians and members of the various accident boards and compensation commissions will undoubtedly agree that the right kind of accident statistics is useful and necessary, it does not therefore follow that all will agree that standardized, uniformized statistics of accidents for the whole country are needed. Some may feel that if uniform standards are to be adopted, the thing for the other States to do is to adopt their particular standards. After all, why should we concern ourselves about uniform statistics of industrial accidents? What useful purpose will be served by uniform accident statistics? Perhaps the greatest advantage to be gained by standardizing statistics of industrial accidents in the United States on a more nearly uniform basis is to call attention to the excellences, as well as the shortcomings and absurdities in the workmen's compensation legislation in the different States.

Take, for example, the waiting time—that is, the period during which disability must continue before compensation will be awarded.

The usual waiting time is two weeks. Twenty-one of the 33 States and Territories having compensation laws in force require a waiting period of two weeks, if we include the Territory of Hawaii, which prescribes 14 days. Arizona provides that the waiting time shall be at least 2 weeks and then grants compensation from the beginning of the disability. Massachusetts has just legislated herself out of this group by cutting down the time from 2 weeks to 10 days. Of the 21 States in this group, 3—Alaska, Michigan, and Nebraska—provide for payment of compensation from the date of the incurrence of disability, if the disability persists for eight weeks. Maryland, which I have included among the States having a two weeks' waiting period, grants payment after one week if the disability is permanent. Wyoming and Connecticut provide 10 days, Wisconsin, Nevada, Texas, West Virginia, and Ohio 1 week, the Canal Zone "7 full consecutive days," Illinois 6 working days, Oregon no waiting time, the United States 15 days, Colorado 3 weeks, and Washington until the loss of earning power is 5 per cent of the monthly wages. In Wisconsin and Nevada the compensation dates from the beginning of the disability, if the incapacity lasts more than four weeks in the one case and for three weeks in the other.

The presentation of statistics of comparative costs of compensation and the wage losses to injured employees should convince legislators of the absurdity of a waiting period of two weeks, during which time the injured worker is left to get along as he can without any income at all. It should suggest the advisability of agreeing upon a uniform waiting period and a uniform provision to govern the payment of compensation from the beginning of disability, if the disability persists beyond a fixed time limit.

The exclusion from compensation of agricultural, domestic, and casual labor, either explicitly or by definition, is all but universal in the United States. Thirty-one States exclude both agriculture and domestic service. The limitation of compensation to hazardous and extrahazardous employments obtains in 13 States. It would be very instructive to publish uniform statistics of accidents in all industries side by side for purposes of comparison. The unfairness of excluding agricultural, domestic, and so-called nonhazardous employments would thus be made apparent.

In the provisions for medical service we find the greatest degree of heterogeneity. Washington and Wyoming have enacted compensation laws which make no provision whatever for medical, surgical, and hospital treatment. Alaska, New Hampshire, Kansas, and Arizona are united in refusing to grant medical, surgical, and hospital costs, unless the injured worker dies leaving no dependents. The logic of this limitation of medical costs is impossible to discern.

Ten States, Maine, Vermont, Massachusetts, Rhode Island, Pennsylvania, New Jersey, Louisiana, Iowa, Montana, and Hawaii, have limited to two weeks the time during which medical, surgical, and hospital services shall be furnished, but the amounts granted vary from \$25 in Pennsylvania for ordinary cases to \$30 in Maine, \$50 in New Jersey, Montana, and Hawaii, \$75 in Vermont, and \$100 in Iowa and Louisiana. Four States, Maryland, West Virginia, Oregon, and Ohio, set no definite limit on the time during which medical service shall be furnished, and ten States, Michigan, Wisconsin, California, New York, Indiana, Oklahoma, Massachusetts, Nevada, Rhode Island, and Texas, prescribe no definite limit to the money allowance for medical costs. Connecticut and the Canal Zone grant what the physician thinks reasonable, with no specific limitations as to time and amount. Texas limits the time to one week, while Nevada provides for reasonable medical services for four months.

I think it is necessary for the States to agree upon a uniform system of weighting industrial accidents, so that the time loss resulting therefrom may be shown and the money loss in wages or compensation costs computed. Only by the publication of such figures arranged on a uniform basis can the degree of peculiarity, liberality, or inadequacy of the different systems of compensation for death, total disability, and partial disability, provided by the several States, be brought out sharply and measured by a common standard. As an illustration of the blind groping of our legislatures in the wilderness of compensation legislation, take Alaska and Wyoming, both of which passed laws which became operative during 1915. Alaska provides in case of death a minimum lump-sum payment of \$3,000 and a maximum of \$6,000 to a surviving widow or minor orphan, while Wyoming grants a minimum of \$1,000 to a widow and \$60 a year to each minor orphan, and a maximum of \$2,000 for all. For permanent total disability Alaska grants a lump sum of \$3,600 to a single workman, \$1,200 additional if he has a wife living, and \$600 for each child under 16, the maximum not to exceed \$6,000. Wyoming grants \$1,000 to the single workman, \$1,200 if he has a wife living, and \$60 for each child under 16, the maximum not to exceed \$3,000. For temporary total disability Alaska grants 50 per cent of weekly wages for not over 6 months; Wyoming grants \$15 per month to a single workman, \$20 if he has a wife, and \$5 for each child under 16, the total monthly payment not to exceed \$35 and the aggregate not to exceed \$3,000.

For permanent partial disability Alaska grants fixed sums, varying capriciously from \$120 for the loss of any toe other than the great toe up to \$3,000 for the loss of either an arm or a leg. Wyoming grants for permanent partial disability sums varying from \$50 for

a toe other than a great toe up to \$1,000 for the loss of an arm or a leg. Conjugal condition is given no recognition in the schedule of payments for dismemberments fixed by Wyoming, while in the Alaska schedule a minimum sum is granted to a single workman, a larger sum is granted in case the injured workman has a wife living, and a maximum is granted in case he has a wife and minor children. The fixing of compensation according to the conjugal condition does not obtain, however, in case of the loss of fingers other than the thumb and index finger, the toes, the ears, and the nose. Probably the theory followed, if any, was that the loss of these members does not impair the injured workman's earning power appreciably.

The differences in compensation provided by these two acts are totally irreconcilable and incomprehensible. Both appear to be guesses crystallized into law. I have the temerity to hope that the presentation of tables showing the experience of other States, and perhaps of foreign countries, reduced to a common denominator, may help to bring about the enactment of laws that differ less violently and less capriciously in respect of compensation granted.

There can scarcely be two opinions about the value and necessity of publishing the accident experience of the different States in such form as to enable comparisons to be made State by State, industry by industry, employment by employment, by cause, and by result.

At present it is impossible to compare accurately the accident experience of California with that of Oregon, Massachusetts, New York, Ohio, or any other States. It is extremely important that the States publish their industrial accident reports in such form that accurate comparisons of this kind can be made, so as to enable the industrial accident boards and commissions of the various States to check up their accident records and the results of their safety work with other States. It is important to know accurately which industries and employments are contributing the largest and the smallest number of accidents. It is also important to know which industries have the highest and the lowest accident rates and which industries make the best record in cutting down the number of accidents and the accident rate. Individual States can show these things in their statistical reports, but in comparing one State with another we can never be sure what the figures mean until the same facts are obtained in the same way and treated by the same methods by all the States. When we have published accident statistics compiled from like material arranged on a common basis, for a period long enough to give us complete reports of all tabulatable accidents, we shall know that a reduction of 5 per cent in the accident rate in cotton manufacturing in Massachusetts means the same proportionate reduction as a decrease of 5 per cent in the accident rate in steel manufacture in Pennsyl-

vania; we shall know that a reduction of 10 per cent in the number of accidents due to falling ladders in New York State means a greater gain than a 4 per cent reduction in those accidents in Illinois; we shall know that a fatality rate of 3 per thousand in coal mines shows that mines are safer than they were when the rate was 3.50. Until we get uniform statistics for the whole country we shall have no statistics at all, for statistics is the science of estimating, not the science of guessing.

THE HOW.

The committee on statistics and compensation insurance cost of the International Association of Industrial Accident Boards and Commissions has been working in conjunction with various other committees interested in bringing about uniform statistics. Your committee is ready to report, recommending standard classifications of industries, of causes of accidents, and of nature, location and extent of injury. I assume that the recommendations of your committee will be adopted by this body. When that is done the first real step toward standardizing and uniformizing the accident statistics of the various States will be taken.

Horace Greeley in discussing the resumption of specie payments after the Civil War said: "The way to resume is to resume." This formula will hold good in regard to securing uniform accident statistics. The way to get uniform accident statistics is to get uniform accident statistics. This is not said to convey the idea that gathering uniform accident statistics is easy.

Let us trace the steps necessary to attain the result desired.

First. All the States, or at least the more important ones, must be convinced that the object desired is worth while. I think most of the important industrial States are already convinced that uniform accident statistics are worth while.

Second. The States must collect promptly and accurately the information agreed upon as necessary. This is the most important work of all. Most books and articles dealing with statistics discuss almost exclusively questions of theory such as the relative merits of the arithmetic, the geometric, and the harmonic mean, the superiority or the inferiority of the mode as compared with the average or the median, the theory of probability, the application of the law of error, and the limits of correlation. Always the body of facts—the raw material from which statistics are made—is taken for granted. Now I venture to assert that it makes not very much difference what reasonable thing you do with your facts after you get them, but it does make all the difference in the world what kind of facts you get—whether you get facts that are so or facts that are not so. The more

scientifically and accurately you refine and work over mathematically the latter kind of facts, the more erroneous will your result be. One ounce of accuracy in gathering the raw facts is worth a thousand tons of mathematico-scientific accuracy in working over the material collected.

Third. The States must work up the raw material into statistical tables constructed on common bases, showing the fundamental things that all the States must know as to loss of time due to accidents, cost of compensation and medical service, causes of accidents by industries, nature of injury, and the like.

Fourth. The statisticians of the several States should agree upon the manner of selecting and sorting the raw material and the methods to be employed in compiling the tables agreed upon. This is nothing like as important as the gathering of the facts, but it is by no means negligible.

The special meeting of the National Association of Industrial Accident Boards and Commissions, held at the Hotel La Salle, Chicago, January 12 and 13, 1915, adopted a resolution requiring the States which are members of the association to turn over to the Federal Bureau of Labor Statistics all accident material as soon as tabulated. The idea in the minds of those present at the Chicago meeting was that by turning the tabulated results over to the central Federal bureau comparisons and deductions can be made which will be important to all, and these results can be given wider circulation than would be possible in any other way. I was heartily in favor of this resolution, but I did not then and do not now harbor the illusion that the adoption of that resolution inaugurated a new and more glorious era in the history of accident statistics in the United States. More than a year and a quarter have elapsed since the Chicago meeting at which this association highly resolved that accident statistics should be standardized and uniformized and should be published by the United States Bureau of Labor Statistics. So far as I am able to discern, our actual, tangible output of accident statistics has undergone no revolutionary change since January 13, 1915, either in form, content, or manner of publication. This is not meant as a criticism. It is merely a statement of fact.

It must not be imagined, however, that in the meantime no progress has been made toward standardization and uniformization of our accident statistics. We have, in fact, been progressing as rapidly as it was possible for such a huge, heterogeneous, uncoordinated mass to progress. It takes much time and enormous quantities of well-directed effort to bring to pass useful, social, political, and economic results in this country of ours. The committee on statistics and compensation insurance cost has been busy, as I have indicated, and has prepared a report. When this association has adopted the classifica-

tions of industries, causes of accidents, and nature, location, and extent of injuries; when it has resolved upon the form of accident reports to be turned over by the States to the United States Bureau of Labor Statistics, we shall then be ready to take the next and the most important step toward the goal of standard, uniform accident statistics.

This next step consists in getting right down to the serious business of doing the things we have thus far been talking and resolving about. There are great difficulties to be overcome. Local pride and prejudices must be set aside. Each State must be willing to concede something in the common interest. The individual accident reports must be promptly collected by the States and as promptly tabulated and turned over to the United States Bureau of Labor Statistics. If the States are remiss and negligent in these matters, much of the value of the statistical material will be lost, and it may lead to the necessity of inaugurating a plan for the reporting of industrial accidents and diseases to the United States Bureau of Labor Statistics similar to the system of reporting births and deaths to the United States Bureau of the Census.

DISCUSSION.

Mr. DOWNEY. I want to say what I was thinking of saying when the discussion of the report of the committee on statistics and compensation insurance cost came up. Simply this: These classifications that have been recommended have been worked out on the basis of existing classifications. New York will use them, Minnesota will do the same, Wisconsin will use them, and Mr. Holman says that Massachusetts will also. I have been given to understand that Pennsylvania will use them. Consequently, if they are adopted by this association, you will be adopting classifications that are in use in half a dozen of the large industrial States of the United States.

In regard to the continuation of that committee, certain things, it seems to me, should be carried on in connection with the committee's work. The next step should be the outlining of tables, in order to secure a greater degree of uniformity in the reports of the various States. I hope the committee will be continued. I believe the committee should be made up of persons representing the workmen's compensation commissions. It seems better to have the members on the committee all officers of the accident boards. I would like to have my place filled, for I can now work only indirectly, as my position is changed. One or two others on the committee have left their places to be filled.

Mr. PILLSBURY. I would like, in a way, to get the substance of the report of the committee on statistics and compensation insurance cost. I understand there are some half dozen approved copies of the report

here. I suppose some of the members will have access to these reports. It might be well to have a motion that this part of the program be put on for a definite time and place—to-morrow or possibly Friday—so that we may not lose sight of it.

(On motion by Dr. Lescohier the report of the committee on statistics and compensation insurance cost was made a special order for the next afternoon at 4 o'clock. In the absence of Mr. Burhop, of Wisconsin, his paper on "The use of accident statistics for accident prevention" was read by **Mr. L. A. Tarrell.**)

THE USE OF ACCIDENT STATISTICS FOR ACCIDENT PREVENTION.

BY W. H. BURHOP, STATISTICIAN, INDUSTRIAL COMMISSION OF
WISCONSIN.

[Read by L. A. Tarrell.]

To conduct a campaign for the prevention of industrial accidents with intelligence and efficiency, detailed accident statistics are indispensable. Above all, we must know precisely how accidents occur, hence the most essential information is that pertaining to the causes of accidents. Very frequently an accident occurs due to a chain of circumstances, and since in a statistical presentation each accident can be assigned to but one cause or circumstance, some uniform rule must be adopted. The Wisconsin Industrial Commission has interpreted "cause" to mean the immediate physical instrumentality which produced the injury, or, in other words, the manner in which the accident immediately occurred. The antecedent circumstances which contributed to the injury are not considered. These secondary or contributory causes are important in studying particular classes of accidents intensively, but the proximate cause is responsible for the nature of the injury which did occur and should have prime consideration in the prevention of accidents. The following hypothetical case has often been used to illustrate this point: A workman in walking along a dark gangway stumbles over a pile of scrap, and by striking an open gear he has several fingers crushed off. It may be assumed that if ample light had been provided he would have seen the scrap and would not have stumbled; also if the scrap had not been placed in the gangway the accident would not have occurred. Nevertheless these factors are only contributory to the injury which did result, and the open gear must be considered the proximate cause. Had the gear been properly guarded, some injury might still have resulted from the fall, but the injury which did occur would not have occurred. As a further illustration, assume that a man while grinding was struck in the eye by a particle from the emery wheel. Logically the injury may be charged to the emery wheel or to flying particles, but when we have in mind the prevention of accidents, we must assign the flying particle as the cause. The hood of a wheel does not retain all the particles, and the only preventive is a pair of safety goggles to be worn by the operator.

In order to show the desired information the causes of accidents must be analyzed in detail. It is not sufficient to say that the elevator dropped, but we must know why it dropped. The cable may break, the hoisting machinery may be at fault, or the overhead support may collapse, and our statistics should show precisely what caused the fall. Likewise, it is not enough to know that a certain number of workmen were injured by falling from ladders. The falls *from* ladders should be distinguished from falls *with* ladders, and these two classes again subdivided. Falls from ladders may occur on account of rungs breaking, loss of balance, etc., and falls with ladders due to ladders slipping or toppling over. The methods of prevention are different; proper inspection, and care will prevent the former, while safety shoes or hooks or stationary ladders are means of preventing the latter.

The above illustrations are intended merely to show how detailed a classification of causes is necessary to meet the purpose. It must always be kept in mind that causes are to be distinguished according to the modes of prevention. This will require a large number of classes, especially in large industrial States. For Wisconsin industries alone about 675 separate classes are used, of which 300 cover accidents not occurring on machinery.

To know the number of accidents which occurred due to the various causes is not sufficient; we must also know the gravity or the nature of the resulting injuries. The causes of those accidents which result in the greatest loss of time and the most serious injuries should have the first attention in a campaign for prevention. One cause may produce more injuries than another, but the nature of the injuries may be less severe, and hence to gauge the relative importance of causes we must correlate the nature of injuries with the causes. We find that during two years in Wisconsin 84 accidents were caused by objects falling from conveyors and striking workmen. The total time loss was 26,800 days. During the same time 287 men were injured by objects falling from machines, benches, and racks, but the total time loss was only 15,400 days. The injuries in the first case were more severe, due to the greater weight of the material falling. But in order to bring out the characteristics of accidents in the various industries we must go still further and show the causes of accidents by nature of injury in the various industry groups. The number and character of accidents due to the "handling" of material does not indicate means of prevention so long as we group stevedoring, logging, metal, and trucking accidents. The method of preventing these accidents varies according to industries.

In order, then, to be properly guided by accident statistics in the prevention of accidents, we should have tables showing the causes of

accidents by nature of injury in the various industry groups and a tabulation showing the causes of all accidents by nature of injury. The former will indicate the causes which are peculiar to certain industries, while the latter will show the relative weight of all causes.

With information as outlined above before them, administrative bodies or committees engaged in drafting safety rules and orders can do their work with proper intelligence and with confidence. Statistics have been valuable and instrumental in promulgating safety orders in Wisconsin. During the past year a set of rules aiming to reduce the number of logging accidents has been formulated by a committee of logging operators, with the assistance of the industrial commission. The rules were based on accident statistics, and without such information they could not have been intelligently made. Rule 1 reads:

Carrying ax: The only safe way to carry an ax is with the handle on the shoulder and the head back of the shoulder. Many men who have carried the ax with the head under the arm have stumbled and fallen and have been seriously injured. Two hundred and seventy-one men were injured while handling axes.

Rule 5 reads:

When tree starts to fall, get out of danger at once. Look up and watch for falling limbs. Two hundred and eleven men were injured and 15 men were killed by falling trees and limbs.

It may be reasonably assumed that accidents due to the above causes occur, but the importance and the relative importance can not be appreciated unless the actual figures are available. The safety orders of the Wisconsin Industrial Commission, having the force of law, have been extended from time to time, and in all cases accident statistics have been consulted in determining the advisability of adopting such orders. For example, the large number of eye injuries to grinders and chippers has been responsible for the order that employers must furnish goggles to men engaged in those occupations. Figures showing the causes of elevator accidents have assisted in drafting the orders for safety on elevators, etc. Within the last two years the lead and zinc mine operators of Wisconsin, with the cooperation of the Industrial Commission, have formulated a set of rules for their employees with the aim of reducing the number of accidents. Here again statistics showing the causes of accidents in such mines were of material assistance.

Aside from aiding in drafting safety rules and standards, the mere compilation of accident statistics will be of little use in the prevention of accidents unless this information is presented in simple intelligible form to the manager, the foreman, and the laborer. The fact that only about one-fourth of all accidents are caused by machinery emphasizes the point that educative work is fundamental to

the safety movement. It is in the education of the shopmen for industrial safety that accident statistics must play their most important rôle. To place this valuable information at the disposal of shopmen the Industrial Commission of Wisconsin has adopted various means. Safety "round tables" have been organized in practically all the important industrial cities of the State. The managers and superintendents meet and discuss safety problems of common interest. Usually each meeting is devoted to one particular subject or distinct class of accidents; as, for example, the prevention of eye injuries, or a discussion of the merits of various kinds of saw guards or stamping-press guards, etc. In order to place accident statistics in the hands of the foremen and workmen the commission issues "shop bulletins." Each of these bulletins treats of some one class of accidents, as eye injuries, molten metal burns, gear accidents, falls of workmen, written in ordinary shop language and illustrated with cuts. The number of accidents which have occurred due to the cause treated is given, and in addition specific accidents are related in detail and means of prevention indicated.

One great advantage in treating the different causes in separate bulletins is that the foremen are not burdened with a lot of information of no interest or use to them. One employed in a sawmill would care little about molten-metal burns, and, conversely, a foreman in a foundry would not be interested in the number of saw accidents. No bulletin can be of service unless it is read, and in order to have it read and understood by shopmen, it must be simple and brief. The Industrial Commission of Wisconsin also issues monthly "safety bulletins" to be posted on the factory bulletin board. These posters, 12 by 18 inches in size, contain pictures of how serious injuries occur and also stories of recent accidents. Each bulletin aims at one particular class of accidents, as stepping on nails, loose clothing, infections, etc. The number of accidents which so occurred is given and preventive methods suggested. Such bulletins have become so popular that they have been extended to the building trades and logging operations, where they have met with like favor.

Lastly, accident statistics are of great value in securing the cooperation of employers in complying with safety orders. It is no doubt better to educate the factory owner in the value of guards than to use the power of law in forcing him to provide safety appliances. It is frequently difficult to convince the small employer, who has operated his mill 10 or 20 years without a serious accident occurring to any of his men, that the safety movement is more than a modern fad, with little or no practical value. He believes that the set screw which has revolved around the shaft for years without

maiming or bringing injury to anyone is an entirely harmless object. Men in the field hear the story every day that this or that point has never injured a workman. But when the actual figures are placed before such an employer, showing how many men have lost their lives or limbs due to unprotected set screws, and what the actual cost of compensating such injuries has been to employers, he assumes a different attitude. He begins to realize that it is not impossible for a similar injury to occur to one of his men. Accident statistics have helped to secure his cooperation; he will safeguard his plant, not because he has to, but because he wants to protect himself and his men.

DISCUSSION OF QUESTIONS IN QUESTION BOX.

Mr. KINGSTON (temporary chairman). The questions in the question box will now claim our attention.

Secretary Tarrell announced the following questions:

Question 1.—Assume that the compensation act requires the employer to furnish such medical care as may be reasonable or necessary to cure and relieve from the effects of the injury; that the employer's liability therefor is limited to the charges prevailing in the community for persons of like standard of living as the injured, and that the commission is given the right and duty to determine the reasonableness of the physician's charges.

The physician in a given case renders a bill for \$500. The commission holds that the liability of the employer under the law is but \$300. Suppose now the physician appeals to the courts against the commission's ruling, and the courts sustain the ruling. Can the physician then institute an action against the employee for the other \$200?

(Signed) D. D. LESCOHIER,
T. N. DEAN.

Question 2.—What is the opinion of the members of the convention as to the question of street risks? Can it be properly said that accidents happening to an employee on the public street arise out of his employment?

(Signed) G. A. KINGSTON.

Question 3.—Is it advisable to consolidate the State department of labor with the compensation department?

(Signed) CARLE ABRAMS.

Dr. LESCOHIER (taking up the first question). Assume the employer says this bill is excessive, and the commission rules that \$300 is sufficient. The doctor appeals from the commission's ruling to the courts. The court holds with the commission. The doctor gets \$300. Has he any recourse or right to collect the bill from the employer?

A MEMBER. The matter is settled by the action of the court.

Dr. LESCOHIER. The object of the law is to make compensation an exclusive remedy and thereby protect the employer against suit as well as a possibility of being defeated in the courts. The decision of the commissioners is an exclusive remedy in a dispute existing be-

tween the claimant and the commission. If the decision is not satisfactory his appeal is to the courts, which is provided by law.

Mr. ABRAMS. Compensation is a contract between the workmen and the employer and the State; an exclusive remedy whereby the State has assumed all liability existing against the employer. No action can be taken against the employer if he has paid his premium.

Mr. YAPLE. The point in question is rather one between the doctor and the patient. The patient is injured and goes to the doctor for treatment and he renders the service at his request. There is an implied contract. The State comes in as a third party and makes a provision with the employer that the State funds shall pay up to a certain limit for such medical aid. One can easily conceive how many accidents will involve medical expenditure of \$300, \$400, or \$500. A good many of the States have a provision limiting the cost to the employer to \$200. Are you going to deprive the doctor of his inalienable right as regarding the value of his services?

This provision of the compensation law is purely between the employer and the employee. It seems to me well and right for the doctor to get the balance of his fee.

Dr. LESCOHIER. Minnesota has a limited law; the employer is required to pay \$200. Supposing a reasonable bill to be \$400, I say the doctor is right regarding the other \$200. It looks to me as though the doctor can institute action against the employer for the extra.

Mr. KINGSTON (temporary chairman). In such cases we always call it a third party proceedings. If the doctor sues the patient the State can bring up the employer.

Mr. PILLSBURY. We have had this question up a number of times. Our supreme court holds that under certain conditions the employer is liable under the law for reasonable value of medical care. If he neglects or refuses to furnish such service, or if the employee refuses or neglects, after the employer has hired the doctor, we have nothing to do; but if he neglects the employee then he shall pay for the services obtained by the employee after the employer's refusal to furnish treatment.

We do that on the basis which I think is just. Before we passed any law we all knew as a matter of fact that physicians and surgeons have a sliding scale, which they charge according to the ability of the patient to pay. It occurs to me that if the charge to the State fund was made as to a rich patient, our medical cost would run pretty high. Our payment is made and based on what would be a reasonable charge for the man himself. We can only allow and say how much can be paid where the employer has neglected and refused treatment; we make it a charge against the employer.

A MEMBER. Between the patient and the doctor the agreement was to pay, say, \$500. If we really would conform to the law the patient would then be liable for the balance, or \$200, as there was an implied contract.

Mr. KINGSTON (temporary chairman). I think possibly we have exhausted this subject; it has been suggested the other questions be left over until to-morrow, as the hour is getting late and the program to-night is one of much interest.

(On motion the session adjourned.)

Chairman YAPLE. The program to-night, gentlemen, is devoted exclusively to medical subjects. In our meeting last year this section of the work was perhaps more interesting than any other. We have with us to-night Dr. Raphael Lewy, of the Industrial Commission of New York, and the evening program has been prepared by him. I think I will ask Dr. Lewy to act as chairman of this meeting.

Dr. LEWY. You gentlemen of the medical profession evidently realize what important factors you are in the administration of the compensation laws. You realize also to what extent, with your ability and your unapproachable honesty, your judgment is accepted by the commissions.

You should act as judges in the administration of the law from a medical point of view only. The qualifications which you have attained by your studies have not only given you the title of doctor of medicine but also have given you the additional title which distinguishes you from the other professions—the title of *amicus humani generis*—“a friend of the human race.”

You may be proud, gentlemen. There is no profession that gains so little remuneration for services rendered as the one in which you are engaged, the only profession which carries with it the unselfish performance of duty toward fellow man.

I recently saw at one of the medical societies in New York City, in the exhibition of German war pictures, the picture of a German hospital service wherein a French surgeon who had been taken captive was shown alongside the German surgeon giving medical aid. Imagine the magnanimity which must exist in a profession when a captive and his captor mutually render service to fellow men.

Gentlemen, I may take issue with some of you in our discussions while here. There is nothing so beautiful as to know, after reaching mature age and with mature experience, the limitations of our knowledge and that it is not expected to diagnose every case.

I have often used the expression, “a physician should not act as an insurance adjuster, but only state to his commission the findings from a medical point of view and let them decide whether the defect be partial or permanent.”

This concludes my preliminary remarks, and, as there are several papers to be read, I will call upon the first speaker of the evening. In the absence of Dr. Mowell, of Washington, who was to have read a paper at this time, Dr. Robert P. Bay, chief medical examiner of the Industrial Accident Commission of Maryland, comes next on the program and will read his paper on “The management of difficult fractures.”

THE MANAGEMENT OF DIFFICULT FRACTURES.

BY DR. ROBERT P. BAY, CHIEF MEDICAL EXAMINER, INDUSTRIAL ACCIDENT COMMISSION OF MARYLAND.

In presenting this paper it is my object briefly to call attention to fractures, which, owing to their difficulty, give rise to many vexing problems in industrial accidents coming under compensation acts.

No accidents are more common or more difficult to handle than fractures, especially when they are at or near joints and are complicated by many obstacles. The estimation of the length of disability is a problem you all have had to contend with, and I am sure are still figuring on some hard and fast rule whereby it can be determined. This is impossible, in my opinion, as the nature of every case seems to be a law unto itself.

There are certain factors, however, that tend to prolong disability and should always be considered, such as age, habits, disease, etc.

The most important factor in the management of fractures is a correct diagnosis, and it has been my experience that when a fracture has been treated badly, for example, as a sprain, we have no end of trouble in estimating the length of disability. An X-ray examination should be made of all suspected fractures, the initial cost will be saved in the end, and physicians should be instructed that when there is doubt as to the nature of an injury it should be treated as a fracture.

As I have mentioned before, it is not the simple fracture that gives us so much trouble but the complicated fracture, namely: (*a*) Delayed unions, (*b*) vicious unions, (*c*) infection, (*d*) injury to the blood and nerve supply, (*e*) muscle adhesions, (*f*) pathological fractures.

Delayed union is not common, but when it does occur is very difficult to explain. It is usually the result of an improper reduction, failure to fix the fragments, or some constitutional disease of the bones.

Vicious union, meaning bad union accompanied by deformity and a permanent disability, is difficult to correct, and it is likewise as difficult to estimate the amount of permanent disability, as we frequently see a firm union with marked deformity, with a practically perfect use of the member. It might be well here to mention that it is not necessary to have the bones in perfect apposition to have a strong and good union, as I will show by lantern slides.

Infection—this following as it does the worst form of fracture, namely, the compound variety—is the most dreaded of all compli-

cations, and owing to its seriousness the employee should be instructed in first aid wherever possible; in fact, every workman today should know the value of preventing an infection. I feel that every plant should have some responsible man or woman who is instructed in the administration of first aid. This will not only save lives endangered by fractures but thousands of dollars in the minor injuries which are so frequently followed by infection.

Injury to the blood supply is seldom a serious problem, as nature has provided against accidents and has placed the blood vessels in a protected position, so that it is seldom necessary to apply the tourniquet in case of a fracture, and, in fact, more legs and arms have been lost by the indiscriminate use of the tourniquet than by the fractures themselves.

Injury to the nerve supply follows as a rule late in the course of the fracture due to the nerve being caught in the callus.

Adhesions of the muscles with their atrophy are very troublesome and a difficult complication, as it is this condition which causes a certain amount of pain, but its estimation is very different and difficult in various individuals. Cases of this class go for months on crutches, and complain of pain with no visible signs. We will do them an injustice to say they are malingering, yet it seems difficult to say just how much is real and how much fictitious pain.

Pathological fractures, where bones break as the result of a pre-existing diseased condition such as tuberculosis, cancer, and syphilis, occur following a very slight injury such as a twist or turn, and can only be diagnosed positively by the X-ray. We have had several cases of this character.

To sum up the essentials in the management of fractures, it is always wise from an economical standpoint to have an experienced man handle all fractures, as the first principle, or proper reduction, is most essential, and, to repeat, have your X-ray to prove that the proper reduction has been accomplished.

This has a threefold advantage. First, it assures the man a good result; second, it is a saving to the insurance carrier; third, it protects the physician. It has been my painful duty to advise the commission in several cases that, in my opinion, the fracture had never been reduced, the man getting a permanent injury, the insurance carrier being liable for the same, and a suit threatened the attending surgeon. This should seldom if ever occur.

The fixation of fractures, of equal importance to reduction, is attended with some difficulty. A large majority of simple fractures can and should be treated by the simplest possible means, namely, splints or cast following the reduction, care being taken to immobilize the fragments completely. The more severe injuries, however,

will require the open method of treatment and fixation of the fragments themselves by plates, bone grafts, screws, etc.

Fractures of both bones of the arm or leg are best treated by the open method with fixation of the fragments. The surgeon treating fractures should always be prepared to meet complications such as nonunion, etc., by the open method where bone graft is especially indicated.

I am not an advocate, as my remarks might indicate, of compelling the employee to have a certain physician or surgeon designated by his employer, as this takes away a certain amount of personal privilege, and very frequently antagonizes the claimant and prolongs his disability. The mental attitude of the injured is of greater significance than you can imagine. The State Accident Commission of Maryland allows every man to have his own physician, and where it is necessary he is examined by the chief medical examiner. I believe, however that every fracture should be looked over by a representative of the insurance carrier in the presence of the attending physician. This will protect both patient and employer.

(At the conclusion of Dr. Bay's address lantern slides showing difficult fractures and method of treatment were shown.)

Dr. LEWY. Before discussing Dr. Bay's paper we will have Dr. White, of Ohio, present his paper on "Corrective operations." The two papers will then be open to discussion.

CORRECTIVE OPERATIONS.

BY DR. W. H. WHITE, CHIEF MEDICAL EXAMINER, INDUSTRIAL COMMISSION
OF OHIO.

In the presentation of this paper it is proposed to deal with conditions arising from or following accidental injuries, considering a limited number of such cases which have come under our observation during the past six months in connection with the work of the medical department of the Industrial Commission of Ohio. Our aim is to show what has been accomplished in the way of relief by operative procedure, what it means to the individual claimant or injured man and to the employer of labor.

There is perhaps no other special line of surgery more difficult or requiring greater experience and where so many complicating conditions arise as in the field of accident surgery, and likewise in cases where a delayed operation is had. Surgery of this character is becoming a real specialty. Manufacturers are beginning to realize that it is important for them to have physicians who are particularly skilled in this class of surgery to attend their accident cases if the best results are to be obtained. Careless, inefficient, and unskilled medical attention is costly and should be avoided wherever possible.

The last report from the department of investigation and statistics of the Industrial Commission of Ohio shows that infection in accident surgery arising from injuries is of great importance and is the cause of about 23 per cent of all our permanent partial injuries. This report dates from July 1, 1914, to July 1, 1915. Necessary corrective operative procedure would be greatly reduced and large amounts of money saved the employer, to say nothing of the maiming and crippling of many of our workmen, if the rate of infection could be reduced to a percentage rate equal to that of some of our leading hospitals and emergency hospitals in connection with some of the large manufacturing plants of our State. According to a recent report, this rate of infection is much less than 1 per cent in accident cases. In this connection I wish to say that, according to our records, the highest rate of infection in our State comes from the mining districts and in rural communities where inadequate or no hospital service is available and where it is not the rule to find competent medical attention. The best service, as I have referred to before, is in our best hospitals. The average rate of infection in Ohio at the present time in industrial cases is about 10 per cent, and

I dare say the rate of infection in certain mining localities in the southeastern part of our State is perhaps as high as 25 per cent. These facts indicate very conclusively that efficiency is an important factor in the care of accident cases.

The results obtained in this work depend largely upon the promptness with which medical treatment is secured, whether or not the patient can have good hospital service, the ability of the surgeon in charge, age of the patient, nature of the injury, and whether or not complications arise in the treatment; also whether or not there are pathological conditions present, such as tuberculosis, pneumonia, empyema, syphilis, alcoholism, diabetes, Bright's disease, valvular heart conditions, high blood pressure, arteriosclerosis, neurasthenia, neurosis, hysteria, malingering, exaggeration, mental worry or excitement, and other constitutional diseases.

When corrective operation is decided upon there are certain things to be accomplished if success is to be attained. The patient's condition must be improved. He must be made a better working unit. The decrease in his earning capacity due to his injury and the resulting permanent disability is to be lessened, or removed entirely when possible, by such operation. When this end has been accomplished his daily wage is increased, thus benefiting himself, those dependent upon him for support, his employer, by increasing his working efficiency and making him a more skilled workman, the community in which he lives, the State, and the Nation. The claimant is further benefited by increasing his bodily comfort—relieving pain and in quite a few cases adding to his physical appearance, which in a great many cases, especially in cases where women or young men are injured, should be considered. Another very important purpose in corrective operations in industrial accident cases is the reduction in the cost of the case to the commission and the indirect saving of money for the employer by lessening the degree of permanent injury in a given case.

During the past six months quite a number of such operations have been performed here and elsewhere in the larger cities of the State upon suggestion from the medical department. A few cases have been arranged for demonstration here this evening to show what has been accomplished along this line. The largest and most interesting of this work is perhaps the line of fractures and other bone cases. Quite a number of operations have been done on joints for ankylosed conditions. Other operations for repair of lacerated and incised tendons have been performed. In this work it has been our policy to select a surgeon especially qualified to operate each individual case, thus giving the claimant the best possible medical service and at the same time selecting the best possible hospital

service and care. It has been further ascertained that it is better to take the injured person a great many miles than to be limited in medical skill and hospital service.

Our experience in bone or orthopedic surgery has been good. Excellent results in almost every case have been obtained, improving the condition of the claimant and saving various amounts of money, some of which will be given at the close. In the operations on ankylosed joints resulting from infection, dislocation, fracture, sprain, and other injuries results have not been so satisfactory, perhaps 75 per cent having been successful. Such cases require careful handling, beginning the treatment, under a general anesthetic, by manipulation, perhaps repeating this treatment several times over a considerable period and intervening the same by massage, heat, exercise, etc. A great deal of patience and perseverance is needed in such work. However, it is worth while usually to make the attempt, as a great saving can be made in the way of compensation and great good can be done the claimant.

Another class of cases in which a number of operations have been made is in the repair of tendons. The severing and laceration of tendons is quite a common injury in accident surgery. Where severe laceration has been received and the case is of long standing, operative procedure is difficult, especially where injury has been had to the tendons of the phalanges. If operation can be done soon after an injury of this kind, good results can usually be secured, unless laceration of the tendon is extreme. Operations on the larger tendons of the forearms and limbs are more promising of good results.

In accident surgery where plastic operations are deemed advisable, it is sometimes necessary to delay operative procedure, especially in case of burns, for several months after the skin and muscles have healed, in order for the tissues to become in a more normal condition, and for good results to be secured. Operative procedure at too early a date is usually accompanied by sloughing. Such operations do not as a rule save such large amounts of money, as is found in corrective operations on other parts of the body, but are important in that they tend to make the patient more comfortable and in some cases relieve a considerable amount of disability.

A small percentage of permanently injured claimants has refused operation. Where life is not placed at too great a risk and when the claimant's condition can be materially improved and money saved, it has been our policy, which has been approved by the commission, to withhold compensation at least temporarily until the claimant has been given further opportunity to be examined by competent surgeons and the object of the operation further explained to him. In almost every case consent for the operation has been secured. It is not to

be wondered at that such objections are encountered in this line of work. Workingmen as a class, of course, are not familiar with medicine, surgery, hospitals, X-ray examination, Wasserman tests, special eye, Von Pirquet, and other examinations. It is thus necessary that frequent long and tiresome explanations be made with plenty of patience and forbearance.

M— B— (37560).

This is a case of a woman about 45 years of age, American nationality, good physical condition, and no constitutional disease. She was injured April 20, 1914, receiving a fracture of the left femur in the upper third. There was a nonunion of the bone with a large callus formation and considerable necrosis and absorption of the bones at the seat of fracture. This case was operated the 24th of March of this year, almost two years after the injury. Permanent partial before operation, 150 weeks, or \$1,000.50; after, 75 weeks, or \$500.25, due to shortening of $2\frac{1}{2}$ inches.

K— L— (109317).

Claimant in this case is a man about 25 years of age, American by birth. Injured July 31, 1915. His injury consisted of an oblique fracture of the radius of the right arm through the middle third. The bones at the seat of fracture in this case were never put in position, nonunion resulting. He was operated about the 10th of March, 1916, about nine months after the injury. A Lane plate was applied to the bones at the seat of fracture. Permanent partial before operation, 100 weeks, or \$900; after, nothing.

S— M— (81381).

Claimant in this case is a male, native of the United States. Injured March 4, 1915. Is a man about 35 years of age, in good health previous to operation. The injury consisted in a contusion of the back, probably fracturing one or more ribs. He was rendered unconscious at the time of the accident. According to the X-ray photographs in this case, there has been a destruction of the body of the tenth dorsal vertebra, due to necrosis, following the injury. This man was operated February 14, 1916, about a year after the injury. An Albee operation was performed and a plaster cast was applied, bone graft being taken from the tibia and placed in the spine. The permanent partial in this case before operation was practically a permanent total which at his age and expectancy would mean the expenditure of several thousands of dollars. The permanent partial

after operation will be nothing; however, a considerable length of temporary total compensation will be necessary.

J— C— (56543).

Male; American by birth; about 30 years of age; good physical condition previous to the accident. His accident occurred on September 15, 1914. According to his physician he received a Pott's fracture of the left leg, with a dislocation of the metatarsal bones, rupture of the lateral ligaments about the external malleolus. The symptoms in this case at the time of the operation were extreme inversion of the foot at the ankle joint so that the patient walked practically on the outer side of his foot. Permanent partial disability at the time of the operation was equal approximately to 75 per cent of the loss of the foot at the ankle joint, or 100 weeks, in his case amounting to \$800. The permanent partial disability after the operation is nothing. Temporary total will have to be paid in this case for perhaps three months, amounting to about \$100.

J— M— (150609).

This case is a male, Canadian by birth; age 27; good physical condition at the time of the injury. His accident occurred January 12, 1916, his injury according to his physician being a fracture and dislocation of the sixth and seventh cervical vertebræ, with anterior dislocation of the spine. This case is extremely interesting in a number of ways, the principal one being that he has exhibited at no time the slightest degree of paralysis. However, his ability to work was almost totally lost on account of the stiffness of the neck. After operation about ten weeks subsequent to the injury his condition has been improved so that at the present time there is only a very slight degree of permanent partial disability present. He will be kept on a temporary total for a short time, when it is expected there will be a complete recovery.

E— W— (104680).

Male; American by birth; about 50 years of age; good health and vitality at the time of the injury. His accident occurred July 16, 1915, when he received a fracture of the right ankle joint, fracture of the upper part of the tibia and also a fracture of the right humerus. He has obtained good results from his treatment, except in the case of the radius where there is a nonunion with considerable displacement of the bone. This case has not at this time consented to operation.

G— L— (94922).

Claimant in this case is a male; English by birth; 63 years of age; in excellent physical condition at the time of the accident. His injury was received on May 25, 1915, consisting of a fracture of the right radius and ulna in the middle third. The bones in this case up to the time of operation had not united, and there was considerable overlapping at the seat of fracture. An Albee inlay bone graft of each bone was made. Permanent partial disability in this case at the time of the operation amounted to at least 150 weeks, \$1,800; after the operation he has about 25 weeks' permanent partial disability, or \$300. Temporary total will have to be paid in this case in addition to this for approximately three months, making a total of \$600.

J— C— (708 P. E.)

Age 57; American; fair health; appearance good. Injured October 21, 1914, when he received a fracture of the right tibia near the knee. There was permanent partial disability in this case equal to the loss of the leg at the knee joint, due to an extreme outward bowing of the leg dependent upon the displacement of the bones at the seat of fracture. The permanent partial at the time of operation was equal to 175 weeks, or \$1,575. Since the operation there is practically no permanent partial disability in this case, the temporary total after operation being about four months, or 16 weeks, amounting to \$150.

J— L—

Claimant in this case is a male; Hollander by birth; about 45 years of age; rather a robust man. Injured October 31, 1914. Nature of his injury was a fracture of the right femur in the lower third and a fracture of the fibula and tibia near the ankle joint, according to his physician. The present condition of this claimant is an extreme inversion of the foot, due to the shortening and overlapping of the tibia, which presents a long, oblique fracture at the junction of the middle and lower thirds. Permanent partial in this case amounts at this time to about 100 weeks, which in his case amounts to \$1,200. The claimant has not agreed at this date to have an operation performed.

S— S— (108873).

Male; American by birth; 31 years of age. Injury consisted of a fracture of the right ulna near the wrist with displacement and nonunion of the bones at the seat of fracture. Permanent partial

disability in this case due to the injury at the time of the operation amounted to approximately 100 weeks, or \$950. At this time he has resumed work, with good results, except an impairment of function as to flexion of the fourth finger and also a slight impairment of flexion of the second and third fingers. This condition is improving rapidly and his ultimate recovery will be almost complete.

N— M—

Male; married; 22 years of age. Date of injury, April 7, 1915. Nature of injury was a fracture of the right arm at the junction of the middle and lower thirds, both bones. Claimant has not submitted to corrective operation at this time. He has resumed work, although the bones at the seat of fracture have not firmly united. There is an overlapping of the ulna which gives the arm its peculiar position. A recent examination in this case shows that there is some paralysis of the muscles of the hand and atrophy present. Permanent partial in this case is at present equal to at least 75 per cent total loss of the hand, which amounts to \$785.

F— S—

Male; English by birth; in good physical condition at the time of our last examination. Injured April 21, 1915, his injury being a fracture of the left forearm at the middle third. This presents much the same appearance as the former case. There is some union of the bones in this case, although there is a large amount of permanent disability present. This man has refused to be operated on. His permanent partial is equal to at least \$1,000.

C— F— (153883).

Claimant in this case is a young man, 17 years of age, who received an injury about the 1st of February, 1916, to the right wrist, which has developed into a tubercular condition of the wrist bones. A similar condition is found in the left hand at the second joint of the second finger and also at the first joint on the inner side of the first finger. This condition developed about November 1, 1915. The permanent partial disability in this case at the time of operation was equal to approximately a total loss of the right arm at the wrist, or 150 weeks, which in his case would amount to \$750. A complete resection of the bones at the wrist joint has been made and the claimant is recovering nicely from the operation. The amount of permanent partial saved in this case is difficult to estimate at this time. However, it perhaps should not be more than 50 per cent.

DISCUSSION.

Dr. LEWY (temporary chairman). This subject is a very important one and will call for a very minute discussion. I will call on Dr. F. H. Thompson if he wishes to say anything on the subject; Dr. J. W. Mowell was to take part in this discussion, but he is not here.

Dr. THOMPSON. I can not add anything to what has been said, but one or two things have been said upon which we can not put too much stress.

I think the statement of Dr. Bay, that in all cases of suspected fracture the first thing to be done is to have an X-ray picture made should be followed. In our experience in Oregon the fractures that have most often escaped attention have been those near the joints. The long-bone fractures, I believe, have generally been recognized, but in those near the joints there have been many cases diagnosed as strain or rupture of a ligament, and the conditions not recognized until some considerable time after, and the patient, not being reported as recovered, has been brought in for examination and an X-ray made and the fracture discovered united in a vicious position. Some of those cases have been permanent disabilities not amenable to treatment, and have been the source of great annoyance.

I believe Dr. Bay mentioned also in the treatment of unusual fractures the desirability of treating them as early as possible, or as soon as the time in which we would expect infection has elapsed. Our experience shows that convalescence would be considerably shortened if these cases were treated earlier.

There is a question arising in our community as to the advisability of using the plate. I have had some experience with it, and I talked to Dr. Lewy about it yesterday, I believe, and I think he does not approve altogether of using the Lane plate. Our experience has been very good; some had to be removed, but thus far no serious trouble has followed the use of the Lane plate. We have had some trouble from compound fractures or comminuted fractures having been treated by physicians who were probably not as capable of treating them as they should be. Dr. White covered that point in his excellent paper. I have had some cases of compound fractures treated immediately by the open method, and infection and trouble followed—osteomyelitis, etc.

Dr. WILLIAM BAY, Ohio. I have a few remarks I desire to make, and will give it as my personal impression that the whole subject of bone surgery was opened up, and there was no special subject considered from the standpoint of workmen's compensation. Personally I have not profited very much; it was a very good sort of clinical lecture. Considered from the standpoint of the compensation act, we have not forwarded the subject by such papers as these. What we

ought to do is to specialize and overcome some of the difficulties which seem insurmountable. It is pretty hard to discuss a subject so broad as this, which takes in the whole domain of bone surgery. That is a broad subject, and some doctors devote their whole time to bone surgery, notably Dr. Henderson, of Rochester, Minn. I have spent a good deal of time in observing Dr. Henderson's work, and have come to the conclusion that the Lane plate is not a cure-all. If I had a fracture, I would not have a plate put on mine. There is a tendency among doctors to increase the fee by putting on a Lane plate. I am sorry to say that, but I am of that opinion.

There is another thing that comes to my mind, viz: Is a medical examiner a public medical adviser? I think not, only where a man goes beyond what would be regarded as the average, normal limit. I see cases that I think are not treated quite properly, but still the treatment is orthodox. The attending physicians have reason for doing what they do and they can produce the best kind of authority that will support their view and treatment, and as an examiner, I can't say anything until I think they do something that may greatly harm the individual's chance of recovery. In such cases, I might perhaps attempt to make some crafty or innocent remark in a way that will not cause them to think that I am an intruder. Many times they will take the suggestion.

Now, when it comes to how long it will take for a fracture to unite, that is important from the standpoint of the medical examiner. I find that animal experiments show that it generally takes from 150 to 180 days. I never urge a person to go to work within the limit of 150 days. That is not very scientific, because a small bone will sometimes unite much sooner than a large one. It might not consume the 150 or 180 days, so we would do better to not go by a rule. There is no certain scientific or mathematical way to determine it. You may take an X-ray picture (an X-ray picture is not always an infallible guide) and clinically find you have a firm and complete union and still experience deformity or incomplete union. Perhaps a clinical examination will reveal some pain and some swelling but the man may desire to functionate that part, and although contrary to the general rule, under those circumstances, if a sufficient time has elapsed, I perhaps would sanction his going back to work.

The remark was made here that a medical examiner is not an insurance adjuster. I would like to know who would be the adjuster if not the medical examiner. Who knows the physical condition better than he? Who knows the functional value and physiology of repair, the social status and mental and moral developments better than he? I don't know who would make the adjustment if he did not. You might come back and make a report as to the pathology of the man and his general condition and ask somebody to put these together

for you; it seems to me that you had better go a little bit further and submit your own ideas.

One thought comes to my mind, and that is in regard to the X-ray. After going over the State of Ohio, I have come to the conclusion that I can not trust all X-ray men; for instance, I have an occasion in mind where I found a deformity of the knee following an injury and a very slight injury. By measurements it showed three inches increase over the circumference of the other knee. It was not due to infiltration of the peri-articular tissue and I had no doubt it was due to enlargement of the bone. I asked the local examiner if there was a good X-ray man there and he said "yes," and I referred him to this X-ray man, and I got a report from the Roentgenologist that there was no pathology in that knee. I didn't believe it, but I didn't tell him that. Now, I have to go back and perhaps send him (the claimant) to Cleveland or Columbus to get an expert opinion. X-ray men are like preachers—they differ. Some preachers tell you that you will go to hell if you play cards, while some tell you that you will go to heaven. That is the case of the X-ray men, some will say there is a luxation and others say there is not. Particularly do these things apply to injuries to the spine. I have come to the conclusion that you must get your laboratory data and then add the clinical examination which together will determine the condition—the status of the individual. A man will often come to you claiming that his back has been injured and tell you he can not stoop over. He won't work. You will have to go over that individual from top to bottom, and if the laboratory data and the clinical phase are negative you can make up your mind he has a hysteria.

This morning I listened to the various papers with a great deal of pleasure. Naturally some thoughts came to my mind, particularly in regard to matters of administration and the actuarial department. The thought came to my mind that when you found a house, found it on a rock. Get the best medical talent there is, and if you are making up your actuarial statistics, base them on a foundation of stone; otherwise, you will not have a satisfactory result.

I understand, of course, that this whole subject is not an exact science; it is not a case of mathematics, and it is too bad it is not. I do not believe it can ever be reduced to an exact science, but it does resolve itself into one thing—the use of common sense. I have made up my mind that the best thing to do is to make a thorough examination and put the report on paper; then if the man comes with a new idea that he has something else, or dies suddenly and the charge is made that the injury was the cause of his death, you have the record. Do your work thoroughly. Then, when the case comes up for adjustment you have the facts, and you can deal justly. It may not be exact justice, but it comes as near it as human capacity will go.

There is another subject that comes to my mind, and that is, the border-line cases. For instance, a man has a tubercular knee, and many times I think he has had a tubercular knee for some time and that he accidentally bumps it. I can't prove it many times and I have to accept his statement at par value. I think we should make a more careful study of these cases and formulate some rule which would be absolutely fair; for instance, we ought to have witnesses or some evidence—not only his statement that he bumped his knee. Another thing is diseased bone, osteomyelitis, etc. It is very easy for him to say, "I bumped my knee, and this is the result." Osteomyelitis is an infectious disease very much like typhoid fever; this infection comes from within the man somewhere or at some time. Many times the bump has no relation to the injury. These are difficult things to settle and they are expensive as long-continued disabilities. They are very easy to "put across," to use a slang expression. For instance, in a case of hemorrhage of the lungs—a claimant says, "I struck myself on my chest." How far does that injury have to do with the hemorrhage? I don't know; no one knows; God only knows; and that is also true with so-called traumatic appendicitis. Some one will say, "I contracted appendicitis as a result of traumatism." I don't believe that appendicitis results from one single traumatism. There are a lot of obscure things and they charge all of these things to injuries. A man has some trouble and the doctor doesn't know what it is but charges it to an injury, and the medical examiner comes along and has to make a diagnosis, in order to confute this allegation. It requires the best kind of talent on the medical staff. I see a great latitude for evolution toward perfection, and I believe it can be obtained if we work faithfully. If we have some purpose in view and work to the end of solving that problem before going to the next, we will accomplish something, but if we try to master everything, we will fail ultimately, as a matter of course.

Dr. Lewy. I will avail myself of the opportunity to take part in this discussion.

I suppose, after seeing the pictures, you may conclude that every fracture has to be wired, nailed, or plated. Well, console yourselves. We have had complete union with good mobility in the majority of cases without this.

I may refer you to our surgical authorities in this country, as Lewis Stimson, of New York, as well as foreign authorities who have treated fractures successfully without open operation.

Before discussing the subject per se, I want to call your attention to the fact that out of 8,000 examinations which were made in 1915 in our department in New York I have seen 2,373 fractures. I have not seen, if my memory serves me, one dozen open opera-

tions for either bone plating, nailing, or osteoplastic inlays for non-united fractures of the long shaft bones.

I have with me the statistics relating to the two most important fractures, from a vocational point of view, showing 209 Pott's fractures and 92 Colle's fractures.

If you refer to the old teachers of surgery, here as well as abroad, who have received excellent results in their fractures without surgical interference, you can readily see that the operative procedures are the exceptions.

A compound fracture is a very serious injury. We do not want to make artificial wounds leading down to the bone because it increases the danger of infection.

It has been the belief of the modern schools that the nonsurgical interference in nonunited fractures amongst the older teachers was due to the fear of postoperative sepsis. Sepsis may and does occur at this date in the most modern hospitals in some of the post-operative fractures.

Fractures which require surgical interference are of a special type and not very many are seen.

While observing the X-ray pictures and listening attentively to the second paper, which dealt with corrective operations, I must apologize to the reader of this paper, as I am not able to confirm his excellent reports of his postoperative results.

In studying the limited number of our postoperative cases the ultimate results as to good mobility of the fractured limb have not been good from a vocational point of view. I may refer you to some of my remarks that I made in Seattle a year ago. At that time I stated that the smaller the wound the more serious was the danger of infection, and the nearer a fracture of the shaft bone approaches a neighboring joint the more likely will there be an immobility of the limb in consequence of an ankylosis.

Ankylosis need not necessarily be bony. A fibrous ankylosis is sufficient to immobilize, and it occurs in consequence of hemorrhage which accompanies nearly every fracture, causing formation of fibrous tissue and adhesions in or around the joint.

The preceding speaker called my attention to the fact that this subject is too vast and would be of more benefit if we discuss it from a compensation point of view. I will therefore limit my remarks and consider injuries from the vocational point of view.

In defining a vocational disability I wish to call to your attention that same is in consequence of an injury which must be considered solely from the standpoint of the injured's individual vocation, as, for example, an ordinary injury to the soft tissues of the flexor surface of the thumb with consequent infection, resulting either in

an ankylosis or amputation of part of the thumb, would forever disable, in his individual vocation, a tailor who uses a needle or a mechanic who uses delicate tools, although he might be able to perform many other duties. This condition that I have described may not be very serious from a surgical point of view, but is most important from a vocational point of view.

Another example from a vocational point of view is the consequences of a Pott's fracture in the vocation of structural-iron workers.

I would like to see a Pott's fracture which heals with complete mobility of the ankle joint and does not interfere in the vocation of men who have to walk or climb on elevated structures.

In discussing and comparing the statistics with an eminent orthopedic surgeon on unilateral flatfoot, he agreed with me that this condition occurs most often after a Pott's fracture and causes a defect which is not easily amenable to treatment.

I may call the attention of the profession to the fact that certain defects and complications in consequence of injuries are very difficult to diagnose, as various pains and hemianæsthesias; therefore we should admit that all conditions can not be diagnosed and that we have no right in calling the individual a malingerer, because of our limited knowledge.

In listening to the excellent postoperative results, as cited by Dr. White, I must congratulate him, but must admit that the postoperative results in the cases that I have seen have not been good from a vocational point of view, as to the use of the involved limb; for example, the excision of nonunited intracapsular epiphyseal fractures, as the head of the humerus or the head of the femur, although giving the individual a postoperative mobility in consequence of the excision, does not enable the individual either to use his arm or his upper leg with sufficient power to follow his vocation, should he be a hard laborer; and such defect is permanent, and from a vocational point of view is equivalent to the loss of use of the arm or leg.

The doctor spoke about the repairing of tendons. In my paper at Seattle I went into minute discussion on tendo-plastics of the upper extremity in consequence of infections. Whoever has studied these cases and has seen the unfortunate deformities in consequence of tendon contractions, either of one or several fingers, or the contraction of the hand and wrist resembling a Dupuytren's deformity, will see how little can be expected from tendo-plastics in remedying such extensive deformities so as to enable the individual to use his hand or arm in his special vocation.

Of course, you will often hear some surgeon say, "He had a hand like this [demonstrating], but after the operation I gave him a hand in this condition" [demonstrating]. From a cosmetic point of view, the hand after operation may be of better appearance, but the perma-

ment tendon contractions or ankylosis have not been relieved, and therefore the hand is useless from a vocational point of view.

I may state here that it is a known fact that surgeons of mature age and large clinical experience become more conservative as to the frequency of operating these conditions.

Just a word about Colle's fractures. This fracture occurs very frequently among workmen and resembles somewhat in its pathology the Pott's fracture of the lower extremity, and although it reacts to treatment from a surgical point of view in from four to six weeks, the duration of disability from a vocational point of view is very much prolonged before the individual has good mobility of his forearm, wrist joint, and flexion of his fingers.

In studying fractures in general, more so those near and around joints, I would state that very many of the partial immobilities of the fractured limbs are in consequence of very prolonged immobilization, predisposing to fibrous adhesions in or around the joint; therefore I suggest early passive mobility, and where adhesions manifest themselves early baking and massage and the use of the Zander apparatus.

Dr. Bay, of Ohio, stated in his discussion that when he examines a spine and the radiograph does not show any pathological lesion, and if he is able to manipulate such spine but if the patient says he has pain, he calls this condition a hysteria.

I believe that the terms "hysteria" and "neurasthenia" have been very much misused by the medical profession, and have very often been used to diagnosticate a case which is reflective upon our limited knowledge.

A very careful analysis of the obscure symptoms and objective signs and the consideration of the early history of the individual will very often help us to make a differential diagnosis of hysteria. The hysterias so often diagnosed in consequence of obscure pain in the lower spinal or lumbar regions can be and ought to be differentiated from the distinct painful pathological myositis of certain muscles that are injured during muscular exertion, although there is no external evidence verifying such condition.

From all that I have heard and seen, I want to be placed on record as saying that among the vast class of workmen it is a very small minority who are malingerers; that most workmen are just, but it is unfortunate we are not able to diagnosticate every case in consequence of our limited knowledge, and therefore misuse the term "malingerer."

Before the compensation law came into effect, had you asked a competent surgeon "What constitutes the good result after a fracture?" he would have said, "Proper apposition of the fractured fragments, the formation of a painless and nonexcessive callus, and the mobility

of the involved limb," which means: The bones are united, the callus over the seat of fracture is not too large, and does not cause pain in consequence of pressure upon the overlying tissues, and the individual can use his limb.

This is a proper definition from a surgical point of view and the duration of disability to attain the described result may be complete in three to four months, after which time the patient is discharged and is told to use some liniment and use his limb.

Since this law has gone into effect and we have had occasion to study the condition of such individuals after having been discharged by their surgeon, we find that the disability in consequence of the injury from a vocational point of view is very much prolonged, and that in certain fractures, more so those of the lower extremity, we have a partial permanent disability in certain vocations.

Dr. BAY, Ohio. I had a patient in the hospital for neurasthenia; he was nervous, anyhow, but no matter what the cause was, he got well after a rest. I happen to know him pretty well personally. He was going down on the Hocking Valley Railroad one day, I believe in 1911, and he sustained an injury, and there ensued paralysis and he walked very lame. I did not examine him, because I was not his physician, but during my travels recently, I found a man in Athens who had examined him for a railroad company, and I asked him for a report. He gave it, and said he had paralysis. He showed a semianesthesia; sensation was less than normal both as to temperature and sense of feeling. He could not speak. He got a lawyer and began a lawsuit. He lived here in town and I saw him often. He recovered between five and six thousand dollars, bought a double house, and I see him now quite often. I shook hands with him day before yesterday. He is improved in health and is a better man morally, physically, and financially than he ever was before. What do you call that? I have seen it a number of times. If you do not call it hysteria, what do you call it?

Dr. LEWY. I will refer you to the definition of hysteria by Moebius in the works of Sir John Collie, who would classify the case which you have cited as a distinct hysterical semianæsthesia. These cases may get well with or without treatment, and are most often relieved after some pecuniary settlement for their injuries.

If you refer to the distinct nervousness of this individual, which you state in your etiology of the case, and you add to it an injury as you have described, you can safely say that his preceding nervous condition was aggravated by the injury, and he developed a hysteria, which must be differentiated from that of malingering, as the individual does not willfully, like the malingerer, contribute to his nervous condition.

Dr. BAY, Ohio. What do you think of the Christian Scientist who prays and gets well—what do you call him?

Dr. LEWY. Why do you refer to Christian Science? It is a known fact that Christian Science may act upon a nervous individual and relieve a condition as any other suggestion. You must differentiate the functional nerve condition from an organic pathological nerve lesion, and the very fact that it is impossible quite often to arrive at a positive diagnosis in functional nerve conditions does not stamp the individual as a malingerer.

Gentlemen, as I intend to read a paper on the defective mobilities and deformities of joints in consequence of injuries, I will conclude my discussion by saying with emphasis that we ought to admire the demonstration of the various X-ray pictures shown to us this evening, but that you will have to excuse me if, in consequence of my experience, I am of a different opinion as to the ultimate post-operative results.

Being personally acquainted with Dr. Albee, of New York City, and having a high esteem for his osteo-plastic work, I have had occasion to discuss the subject with him, and I am conservative enough to state that the open operative work for nonunited or defectively healed fractures are the exceptions, and although the results, from a surgical point of view, have been excellent, they have not been so good from a vocational point of view.

I would also say that in future the osteo-plastic work of the Albee method will replace the Lane plate and any other insertion of foreign material, such as nails, etc., for the treatment of nonunited fractures or defectively healed fractures.

THURSDAY, APRIL 27—MORNING SESSION.

(In the absence of the chairman, Mr. Yaple, Mr. Pillsbury was chosen as temporary chairman.)

EDUCATIONAL WORK IN ACCIDENT PREVENTION.

BY DUDLEY M. HOLMAN, MEMBER, INDUSTRIAL ACCIDENT BOARD OF MASSACHUSETTS.

From my actual experience and observation, and by comparing my findings with those of other men, most of whom are doing practical work in the field, I have reached the conclusions which I have the pleasure and privilege of discussing with you. My experience has of necessity been intensive; for that reason I have checked it up with that of others in similar fields of life and labor elsewhere. Their experience is so closely parallel to mine that I will summon them to the witness stand. This contributory evidence takes my findings out of the realm of frills and fads, because time and experience have established their permanent worth; not only do they establish a base line—a standard—but their application to business and industry is worth dollars to the industrialists.

From a study of nearly 350,000 accident reports during the past four years, I have reached the conclusion that only 15 to 25 per cent of accidents could be prevented by safeguarding machinery and other danger points, and that from 25 to 65 per cent could be prevented by education, which includes shop organizations for safety, bulletins, education of children in the public schools, stereopticon lectures, pay-envelope series, the personal instruction of employees, and other well-known and obvious methods of education of the worker, most of which I discussed in my paper last year, and I will not weary you with repetition. In order to ascertain whether my conclusions were borne out by the experience of men actually engaged in the safety field, I addressed identical letters to these men, stating my experience, and asking if it was borne out by their own results.

I propose to show that mechanical safeguarding, education, and personal fitness are the fundamentals for the safety of the individual, the working place, and the community. The measure of protection due to physical safeguarding of dangerous machines and

processes, I claim is not more than 15 to 25 per cent, according to the nature of the industry or occupation. The balance is divided between education and health. Given these conditions, the results can be definitely measured in decreased cost of production and increased output, as well as lowered rates of insurance, due to lessened payments for compensation and medical treatment.

Workmen's compensation has come to stay, and other forms of social insurance are about to follow. Occupational diseases are compensated for in Massachusetts, and in other States the words "personal injury" are used instead of "accident." Many of us have not realized until lately how broadly these words would be interpreted by the courts.

As good an illustration of a personal injury arising out of and in the course of the employment as can be cited is the case of Honora E. Madden, employee, M. J. Whittall Carpet Co., employer, and the American Mutual Liability Insurance Co., insurer, which was a case heard by a committee of arbitration of the Massachusetts Industrial Accident Board.

The record shows that the employee was engaged at her work in the carpet mills repairing bad spots in the weaving of rolls of carpet, when her weakened heart condition became accelerated and aggravated by the strain of pulling or dragging the carpet over the table, and she became incapacitated for work by reason of such personal injury. The carpet was brought to the employees in a roll and a bar was put through it. Two girls lifted it and placed it on the table. They undid the carpet, turned the back over, and pulled it along. Later they were required to turn the face or wearing surface over and take it to the shears. They were required to pull it along, and considerable exertion was needed. The employee was engaged in the performance of this work, and, as a result of the strain involved, a preexisting condition of heart disease, which had not previously given her trouble, was lighted up and aggravated to the point of incapacity for work. It was held that the acceleration of a previously diseased condition, by the pulling of the carpet, was a personal injury which arose out of the employment.

The supreme court, in upholding this decision in an opinion rendered by Chief Justice Rugg, said:

The direct connection between the personal injury as a result and the employment as its proximate cause must be proved by facts before the right to compensation springs into being. A high degree of discrimination must be exercised to determine whether the real cause of any injury is disease or the hazard of the employment.

This decision in Massachusetts illustrates the necessity for surrounding the worker not only with safe conditions, but healthful

conditions. It justifies, in fact it demands, of the employer a careful scrutiny concerning the conditions under which his employees are obliged to work. It brings up such a train of possibilities that it may well be given more than passing notice. If any lesson is to be learned, it is that employers or their agents should carefully examine not only the conditions under which their employees are called upon to labor, but also to inquire into the physical fitness of the employees. That physical fitness is something which is largely within the control of the employer. If men and women are put to work in poorly ventilated workrooms, with bad lighting conditions, and with no thought of the personal comfort or the personal well-being of the workers, compensation will have to be paid when a worker becomes stricken with a disease which is aggravated and accelerated by the conditions under which he is compelled to labor. Hence the necessity for educational work in instructing not only superintendents and foremen, but the workers themselves in the simple requirements that make for more healthful conditions.

Dr. W. H. Tolman, director of the American Museum of Safety, in a speech made at their annual dinner, said:

This is a day of intense competition. Organizations advance or hold their own only through the most rigid conservation of their energies and resources, and the wisest guidance of their executives. Waste in any form is a drag. It gnaws steadily into the credit side of the ledger. And loss of a life, injury, or even the sickness of an employee is waste—dollars lost not merely from the minor viewpoint of the pay roll, but from the much more important side of public opinion.

William C. Redfield, Secretary of Commerce, writes:

We waste life as no others do. The annual toll of those who are killed and wounded in our streets would dim the record of many a sanguinary battle field. Many a war has come, has run its bloody course, and has ended without as many victims in killed and wounded as our industries show each year.

Mr. James A. Emery, counsel to the National Association of Manufacturers, in an address before the Jewelers' Association in Rhode Island, said:

Industrial preparation for competitive success needs, in addition to natural riches, efficient labor and organized effort.

What will be our position in such a conflict if we are called upon to meet low-wage costs, long hours, and high efficiency with high-wage costs, short hours, and low efficiency. Is it not then our part to look, not with timidity and fear to the future, but with clearness and understanding? The world contest of peace succeeding that of war will be fought with trained men in shops and commerce, as the present war was fought by trained men, who, to win, must have behind them superior capacity in shop and office.

In an hour when trained skill, whether of labor or of capital, is the chief buttress of national defense, it is this preparedness that must lead in the great work of industrial preparation, the first need of the hour.

Now, in establishing my case that education of the worker is the greater part of accident prevention, I will call my witnesses, men whom you all know either personally or by reputation.

Marcus A. Dow, general safety agent of the New York Central Lines:

At the beginning of the special safety work of this department some years ago an analysis was made of all the accidents of injury to employees on the New York Central Lines, and it was found that only 9.65 per cent of such injury cases were due to defective equipment, conditions, tools, or appliances, the balance being of a character which can only be prevented by the exercise of greater care on the part of one or more human individuals.

Our experience with accidents since the safety work was inaugurated on this road has been the same as indicated by the first analysis, and I am firmly convinced that from 80 per cent to 90 per cent of all accidents to railroad and industrial employees are of a character which can only be prevented by the exercise of greater care on the part of the human beings involved in such accidents.

W. H. Cameron, the secretary and treasurer of the National Safety Council:

Evidence is reaching our headquarters daily that, beyond a shadow of a doubt, 75 per cent of the accident-prevention problem is the elimination of unsafe practices and thoughtless methods which cause the accidents.

Mr. C. L. Close, of the United States Steel Corporation, told me recently that if his company was starting its accident campaign over again it would not emphasize safeguards upon the minds of its safety committeemen, but would devote its attention almost entirely to the educational problem. Mr. G. M. Cooper, in charge of safety work for two of the constituent companies of the steel corporation, recently told me that in 42 of their plants not one accident happened last year attributable to the absence of a safeguard; and yet they know that many machines, equipment, and buildings are not yet adequately protected.

Undoubtedly, the first duty of the employer is to protect workmen from the dangers of machinery, equipment, and the hazards of the building; but if he fails simultaneously to arouse interest in the workmen and does not insist upon safe practices and "care and caution," the accident ratio and expenses will be continuous without any great diminution in casualties.

Mr. Magnus W. Alexander, executive secretary of the conference board on safety and sanitation:

The most complete safeguarding of all machinery and of all dangerous places in and around workrooms can prevent only a very small proportion of industrial injuries.

Accidental injuries caused by contact with machinery constituted only about one-fourth of the total accidents investigated during the past two years in several States; in one State the record was 22 per cent, in another 26 per cent. A similar condition generally prevailed in the average manufacturing establishment. The amount and character of machinery used and the extent to which this is safeguarded is, of course, an important factor in the results. Five large plants, employing in the aggregate over 30,000 persons, accomplished, through the wholesale guarding of machine tools at great expense, a reduction of machinery accidents to 12 per cent of the total, while the balance, or 88 per cent, of injuries to workmen were in no way connected with machinery.

We are at once forced to recognize that, even though every machine in operation were rendered absolutely safe, the total safeguarding of all machines would at the most prevent about 25 per cent of all accidents and would practically do much less.

Carelessness of many workmen is further illustrated by their neglect of slight wounds. Such neglect caused blood poisoning of over 3,000 persons in one year in the State of Massachusetts; many of these lost hands or arms or suffered similar permanent impairment and 23 lost their lives.

The necessity for continuous safety efforts on the part of the employer must therefore be recognized at the very start. The prevention of accidents to employees must in future be made as important a responsibility of foremen as the prevention of accidents to machines or materials, because the foreman's influence is of first importance and is the most logical factor in educating the workman in caution.

Charles D. Scott, general manager of the bureau of safety, Chicago, Ill.:

The bureau of safety, of which I am manager, has supervision and direction of the accident-prevention work of the Commonwealth Edison Co., Chicago, the Public Service Co. of Northern Illinois, operating in the territory near Chicago, the Middle West Utilities Co., operating in some 300 locations in 13 States, the West Penn Traction Co., operating in western Pennsylvania, and some smaller public service properties in Illinois. During the past three years a very careful study has been made of all accidents reported to this bureau from the companies served. I am also secretary of the accident-prevention committee of the National Electric Light Association, and for three years have been receiving reports of accidents from various member companies, and these reports have also been analyzed by this bureau. To be exact, the analysis of all of the combined reports referred to shows that 85.9 per cent of the accidents reported are caused by the failure of the human element and that only the remaining 14.1 per cent can be attributed to the mechanical or physical condition of the properties. The remedying of physical defects in the properties is not lost sight of, but, on the contrary, is given careful attention, not so much because of the hazard which it presents but particularly in order that the workman may know that the company is doing its part and that his cooperation is justified.

Riverside Portland Cement Co., Riverside, Cal.:

The board of underwriters of the insurance companies have estimated the hazard of cement manufacturers where quarrying is carried on by blasting at 6 per cent.

The manual rate adopted by the State compensation fund is 6.4 per cent.

Our estimated pay roll for 1914 was \$25,000 per month, hence our expected loss should have been in the neighborhood of \$18,000. Our total compensation loss was \$1,665.16.

Based on the pay roll of 1915, our estimated loss should have been in the neighborhood of \$12,000, whereas our compensable loss was \$714.77.

The method followed by the company in brief is as follows:

1. Installation of permanent safety appliances in every department of the plant.
2. The adoption of rules and regulations which are strictly enforced.
3. Organization of departmental heads. Education of employees.
4. Cooperation of employer and employees.

5. Selection of risks.

6. Tabulation and study of our experience.

Our total permanent disabilities for 1914 amounted to the loss of tips of two fingers and an injury which will result in interference of function of the foot of one employee.

In 1915 permanent disability amounted to loss of middle finger, minor hand, and partial injury to index finger, same hand.

The average loss of time of all employees injured was less than two days per employee injured.

	Per cent.
Percentage of reduction in accidents, year 1915 compared to 1914-----	32
•Reduction in compensable cases-----	56
Reduction in drug bills-----	47
Reduction in days lost per man employed-----	21

Above cases all refer to 1915 compared to 1914 and are based on the comparative number of men on the pay roll.

Dwight E. Woodbridge on "Mine accident prevention at Lake Superior Iron Mines":

Although it is quite probable that present standards would demand a larger number of safety devices than in the past, and would require the company to exercise more care than formerly, one must still conclude that the installation of these devices, while of undoubted importance, does not reduce the number of accidents to the extent commonly supposed. There are other elements that must be given the most careful consideration. Of these the chief is the education of the workmen to a sense of interdependence and individual responsibility.

Mr. Robert J. Young, chief of the safety department of the Illinois Steel Co.:

The question has been asked as to what efficiency in accident reduction can be acquired by guarding dangerous places. After going into the matter very carefully I am led to believe that not more than 33½ per cent of efficiency can be gained by guarding machines, and in connection with this you will have the incidental advertising of safety that comes with the installation of the guards. Usually this efficiency will fall below 25 per cent.

In talking with the United States Government expert in accident prevention I asked this question. He placed the guarding of machines—not taking into consideration the incidental advertising of safety thereby—at not greater than 10 per cent. You will see, therefore, that if you are going to make a material reduction in your accident rate it must largely be done through inspection and education.

It is impossible to arrive at accurate statistical results because of the lack of uniformity in the tabulation of statistics. If there was a uniform classification of causes of injuries and a uniform classification of industries by hazards, much more definite conclusions could be arrived at.

Again, in presenting these statistics it must be borne in mind that many of the companies whose statistics have been quoted have

for a number of years been engaged in safety work in so far as the guarding of the physical hazard is concerned.

And so, to arrive at a proper apportionment of accidents into the two classes of mechanical and manual accidents these facts must be taken into consideration.

A study of the reduction in percentage of mechanical accidents due to safeguarding points of danger on machinery in the shops of the Brown & Sharpe Manufacturing Co. illustrates fairly the situation:

In the years 1905 to 1910, inclusive, the proportion was: Mechanical accidents, 42.7 per cent; manual accidents, 57.3 per cent. This, we will say, is practically the condition in shops and factories where no safeguarding of points of danger on machinery has been undertaken.

In 1911, when many of the danger points had been eliminated through mechanical safeguards, the proportions changed as follows: Mechanical accidents, 31.5 per cent; manual accidents, 68.5 per cent.

In 1912 it was: Mechanical accidents, 23 per cent; manual accidents, 77 per cent.

In eight months in 1913 it was: Mechanical accidents, 19.2 per cent; manual accidents, 80.8 per cent.

Taking the last completed year, 1912, when mechanical accidents had been reduced, due to safeguarding points of danger on machinery, to 23 per cent, and comparing it with the average of the five years from 1905 to 1910, with practically no safeguarding, of 42.7 per cent, we ascertain that mechanical safeguarding has reduced the number of accidents from these sources 19.7 per cent.

Up to this point I have summoned witnesses who have testified in regard to the usual and the obvious. I have pointed out the possibilities of heavy costs under the "personal injury" cases not due to accidents but to conditions under which labor is performed and the lack of personal fitness for the work at which the employee is engaged.

Now, it seems fitting to discuss factors so directly related to compensation costs as practically to account for the greater part of such costs, and yet which we are very apt to ignore.

H. Weaver Mowery, in an address delivered at the Franklin Institute, Philadelphia, on March 20, 1916, discussed the slipping and tripping hazard as the most serious public and industrial hazard, and his figures are rather startling.

Taking the four States of Massachusetts, New York, Pennsylvania, and Ohio, he finds that these causes—accidents from ladders, planers and jointers, belts and pulleys, cranes, gears, and elevators—total 10,872 accidents, as against 11,099 slipping and tripping accidents.

Still another way to emphasize the seriousness of the slipping and tripping hazard is to note carefully the actual amount in dollars

and cents awarded as compensation, hospital expenses, etc., in Ohio and reported by the industrial commission of that State.

NUMBER OF CASUALTIES FROM EACH SPECIFIED CAUSE AND AMOUNT OF AWARDS REPORTED BY THE OHIO INDUSTRIAL COMMISSION, DURING YEAR ENDING JUNE 30, 1915.

Cause.	Number of casualties.	Amount of awards.
Slipping, stumbling, and falling on stairs, floors, etc.....	3,595	\$152,986.45
Cranes.....	917	88,329.00
Belts and pulleys.....	417	36,662.34
Planers and jointers.....	333	33,640.56
Saws.....	1,088	66,552.00

From these records it is apparent that slipping, tripping, and falling in Ohio have been much more expensive than any one of four other typical hazards.

One of the United States Steel Corporation's plants spent \$8,500 in artesian wells, bubble type of drinking fountains, and a system of refrigeration for delivering the water at spring temperature, 46° or 47° F. More than 7,000 men were affected. Results: No bowel or stomach complaints, and continuity of service, whereas the previous year work was much hampered because of the absence of needed workers through bowel trouble brought on by drinking ice water and impure water. The expense of installation was more than paid for in just one summer, and the men were happier and contented, and an increased output naturally followed. Can these results be ignored?

One of the most significant statements that has been made by any industrial organization which has not only safeguarded the danger points but which has adopted rules and regulations for the prevention of accidents, and which has organized departmental heads and educated its employees, is that made by the Riverside Portland Cement Co., of Riverside, Cal., to this effect:

Since selecting our risks, viz, employing only men who are physically sound, we have found not only a great reduction in the number of accidents but have found also a greatly increased efficiency in our working forces.

In other words, this company finds that by having men working under safe and healthful conditions, and men who are personally fit, they have secured a greatly increased efficiency in their working force.

If the industrialist can by the expenditure of a reasonable sum increase the efficiency of his workers, why does he hesitate to make that expenditure? Men and women who know that they are working under safe conditions and under healthful conditions can accomplish more and do accomplish more than those who are working in constant fear of injury, and whose vitality is sapped and exhausted

through improper ventilation, bad lighting conditions, and other unhealthful surroundings.

The chief executive of a record force of 1,000 clerks several times during the day had noticed they were dull and listless. Asking expert advice how these conditions might be overcome, it was suggested that a comparatively inexpensive but simple system of ventilation would give the workers pure air, thus contributing to their physical effectiveness for sustained operation. While the increased output was very difficult of determination, yet it was calculated at 25 per cent.

In another plant of over 1,500 employees the spoils and seconds caused the management much anxious thought. A careful analysis showed that the lighting equipment was at fault, causing eyestrain and fatigue. The system was changed so that the men had the needed light on the tools and work zone rather than in their eyes; the trouble was remedied, and the result was reflected in the lowered cost sheets and increased output.

THE PART ALCOHOLISM PLAYS.

What part does alcoholism play in accidents? If I were to speak from the study of statistics gathered from the accident reports sent to the Massachusetts Industrial Accident Board during the past four years, I should be forced to say that it was negligible, for seldom do we find in any report any intimation of alcohol. Occasionally we get a report which baldly states, "If man had not been drunk, would not have been hurt," but it is the very rare exception. Why, I do not know, but I feel that it is because employers do not wish to have compensation denied to the injured worker. And what is the experience in my own State I believe is equally the experience in other States.

But if our statistics are lacking, there are obtainable statistics which are of the highest value, because they are the result of the careful study of a trained and scientific observer. In the city of Boston there is one man who is particularly well qualified to furnish accurate and scientific knowledge, and to him I turned—Dr. W. J. Brickley. Upon personal conferences with him, my previous opinion was confirmed—that alcoholism plays a very important and costly part. The conclusion is established that the burden placed on compensation through alcohol is very heavy.

William J. Brickley, M. D., resident surgeon, Haymarket Square Relief Station, Boston, fellow in surgery, Harvard, makes his findings on "The relation of alcohol to accidents":¹

¹ Boston Medical and Surgical Journal, May 20, 1915, v. 172, No. 20.

There are about 40,000 patients treated each year at the Haymarket Relief Station.

It may be stated, based upon our experience, that:

- (a) Alcohol causes accidents.
- (b) Alcohol obscures the diagnosis.
- (c) Alcohol increases the danger of infection at the time of the accident.
- (d) Alcohol prevents adequate treatment.
- (e) Alcohol increases the danger of intercurrent complications.
- (f) Alcohol retards the process of repair.
- (g) Alcohol gives a poorer end result.
- (h) Alcohol increases the mortality of accidents.

A few illustrations will suffice.

When certain types of injury are suffered by a patient while under the influence of alcohol, it is impossible to make a full diagnosis until the effect of the alcohol has passed off. * * * Three different patients were brought to the hospital days after an injury received while intoxicated, suffering from ruptured bladder. Each was moribund at entrance. Autopsies showed that the condition might have been easily relieved surgically if seen earlier. The intoxication had obscured the condition. * * * No surgeon wishes to assume the legal risk of operating upon an unconscious or upon an irrational patient; therefore the case waits and receives palliative treatment only until the patient is sober or until consent for operation is obtained from the proper authority. This interval of delay is often enough to turn the scale against the patient. * * *

Delirium tremens is a frequent accompaniment of fractures in alcoholics. * * * In 53 cases of delirium tremens patients who developed pneumonia, 44 patients, or 83 per cent, died. This was over a four-year period at the Haymarket Relief Station. * * *

Any surgeon who has had experience in a large general hospital recognizes that accidental or operative wounds do not heal so quickly nor so well in the alcoholic as in the clean nonalcoholic adult. This retardation of repair is especially marked in injuries to the bones. It is fair to say that the hard drinker takes about 20 per cent longer time to make repair from fractures of the large bones than the nondrinker takes for a similar injury. * * *

Practically all the severe accidents seen here are fresh—minutes old, usually. So that if alcohol is present at entrance to the hospital it was present at the time of the injury. Great care is exercised to exclude doubtful alcoholic diagnoses and cases in which alcohol was given subsequent to the injury. No such cases appear in the above statistics. Nor is alcohol noted down in all the cases in which it is present. * * *

From the records we can say that 40.6 per cent of those adults who died here from accidents during the past four years were distinctly alcoholic at the time of the injury.

Dr. Brickley then takes up the relation of alcohol to disease and medical emergencies:

From observation of our clinic and from a study of our records we feel certain that alcoholism causes diseases directly; alcoholism causes diseases indirectly; alcoholism prevents proper treatment of the diseases; alcoholism prolongs the recovery; alcoholism increases the virulency of the disease; alcoholism increases the hazard as to life; alcoholism gives a poor end result in medical emergencies.

Society's failure to treat alcoholics properly is due to a failure to disregard their physical and mental condition. The alcoholic must be treated in the light of what he is and what he needs and not what he has done. In this way industry will be safeguarded and society protected from what is now a menace and a peril and a burdensome expense. The alcoholic must be built up physically and mentally; this means equipment and training for self-support. On this point no thought is given to a lessened cost on the departments of police, health, and charity, in which reduction every employer shares as a taxpayer.

Let us see how this statement is checked up by actual experience, as studied by V. V. Anderson, M. D., of Boston, in his observation of 100 average cases of 50 habitual and 50 periodic alcoholics who had been repeatedly arrested for drunkenness.¹

Of 50 steady drinkers, each individual was arrested on an average 21 times, and the total number of arrests for the group was 1,050, and in 50 periodic drinkers each was arrested 14.5 times, or a total of 725 for the group; of the 100 alcoholics, each was arrested 17.75 times, or a total of 1,775 times.

The frequency of arrests serves to call attention to the seriousness of the situation from the standpoint of the court. These 100 alcoholics totaled 1,775 arrests; eventually they became a burden to the court and needlessly clogged its machinery.

If we turn to another aspect of the problem, their ability to support themselves out in society, we find the following facts:

Only 10 per cent were steadily employed; practically one-half of these 100 cases were not self-supporting.

The nervous system of every one of these 100 cases showed some impairment. What is of the keenest importance and commercial value to the employer is the mentality of these cases as set forth in a table of the results of mental tests.

Seventy-seven per cent showed an inferior substantial mentality, while 56 per cent had a mental level below the limit of the mentality of a child of 12 years.

The periodic drinker: The business man is directly affected by the periodic drinker. "My superintendent is one of my most valuable men but——." "The man who occupies a most important position in my plant is invaluable, but——"; and then comes the handicap of the spree.

The value of all this to the employer lies in the fact that alcoholism can be studied in its causes and effects; the alcoholic has his determined value in his relation to the cost of production and output; he can be calculated in his dollar value in a plant; the industrialist knows what alcoholism means to the successful conduct of his business, but has felt helpless in combating it.

¹ Boston Medical and Surgical Journal, Aug. 27, 1914.

The cost of alcohol has reached Eiffel-tower proportions. I have just discussed the causes for this: I believe that 60 per cent is unnecessary. How can we cut the costs? I have only to direct your attention to the successful elimination of alcoholism by some of the great transportation lines like the Pennsylvania, and industrial establishments here and there throughout the country. This shows it can be done. Here I return to my original thesis, that education is the great corrective.

FATIGUE AS A POSSIBLE FACTOR IN CAUSING ACCIDENTS.

In all published accident experience which shows the time-of-day distribution of accident occurrence there are certain well-defined peaks of frequency. This distribution raises the question as to the possible influence of the element of fatigue as a causative factor.

The British Association has issued a report recently entitled "The question of fatigue from the economic standpoint."¹ The study proceeds by the scientific method of reasoning, and is very carefully worked out. Briefly stated, the effect of fatigue is measured in this study by applying two principal tests: (1) Output of work; (2) Time distribution of accidents. In applying these tests the fact is recognized in the study that there are other possible factors than fatigue which will cause variations in output of work and in time distribution of accidents.

In connection with the time distribution of accidents, the normal curve of distribution shows to a certain extent that fatigue plays a part in causing accidents. The causation of accidents by other factors as a rule is not related to the element of time, and being scattered throughout the day will not change the shape of the time distribution curve but will merely operate to depress the sharpness of the curve.

On the basis of statistics gathered and studied, the report shows certain fairly dependable results as tested by the factors mentioned above. The following tabulation shows the general average tendency developed by these methods:

Hour of spell.	Output.	Accident immunity.
First.....	Small.....	Very great.
Second.....	Very great.....	Great.
Third.....	Great.....	Fair.
Fourth.....	Fair.....	Small. ²
Fifth.....	Small ²	Fair.

¹ British Association for the Advancement of Science. Interim report of the committee, consisting of Prof. J. H. Muirhead [and others]. Report drawn up by Mr. Sargant Florence. Manchester, 1915. 67 pp.

² In cases with only four hours to the spell, instead of five, the fourth hour under "Output" is "fair," but under "Accident immunity" is changed from "small" to "fair."

By and large, output varies inversely with fatigue, and accident frequency varies concomitantly with fatigue; or, another way of phrasing the latter tendency, accident immunity varies inversely with fatigue.

The effect of fatigue will vary under different conditions of industrial environment, occupation, number of hours in the spell, etc. To procure results in practice, the factor of fatigue should be studied intensively in relation to the individual organization. This study has certain significant features, as follows:

First. For the efficient management of factory and office, account must be taken of the human element as well as of material and machine.

Second. The importance of the rest pause can not be overestimated. It prevents accidents beforehand and increases working efficiency afterwards. Regulation of the length of the spell is more important than having a long working-day.

Third. It is important to study the nature of the work in order to modify the onset of fatigue.

Fourth. In general, there is much to be learned by taking account of fatigue and studying the subject for the purpose of adapting the hours of labor or the length of the spell in each kind of work.

In conclusion, on the basis of this study, there seems to be a strong possibility of flattening out to some extent the peaks of accident frequency, at least down to the level of those accidents which occur without the interposition of the element of fatigue.

Through Dr. Tolman, director of the American Museum of Safety, I have been given access to the latest report just sent him by Dr. E. L. Collis, of the health of munitions workers committee.¹ The committee is composed of the leading experts of Great Britain. The compelling motive of the study was the necessity of a maximum output of munitions of all kinds at a critical period in Great Britain. They realized that there was a point beyond which the workers even with the utmost patriotism could not go.

Care of the workers was of prime importance if a maximum output was to be secured. In this crisis, therefore, conditions could be predetermined and insistence laid upon the rigid observance of rules which by critical test and scientific determination maintained the workers at concert pitch, not unduly but sufficiently so to get the desired output.

The report sets up a new standard which is proving practical, with two main results, namely, 90 per cent plus maintenance of the workers' capacity and 50 per cent to 75 per cent increased output.

¹ Great Britain Ministry of Munitions. Health of munition workers committee. Memorandum No. 7. Industrial fatigue and its causes. London, 1916.

It is needless to tell an American industrialist what this means, and there is absolutely no reason why our employers should not avail themselves of this English experience in maintaining their wage-earning efficiency and increasing their output, particularly in view of the fact that they will have to encounter the keenest international competition in getting even a share of world markets when the great peace comes at the close of the great war. I will quote from the committee's report:

"Fatigue is the sum of the results of activity which show themselves in a diminished capacity for doing work.

"In ordinary language fatigue is generally associated with familiar bodily sensations, and these sensations are often taken to be its measure. It is of vital importance for the proper study of industrial fatigue, however, to recognize not only that bodily sensations are a fallacious guide to the true state of fatigue which may be present, and a wholly inadequate measure of it, but also that fatigue in its true meaning advances progressively, and must be measurable at any stage by a diminished capacity for work, before its signs appear plainly or at all, in sensation."

"The problem of scientific industrial management, dealing as it must with the human machine, is fundamentally a problem in industrial fatigue. The rhythms of industrial conditions, given by the hours of labor, the pace of machinery, or that of fellow workers, or otherwise, are imposed upon the acting bodily mechanisms from outside. If these are faster than the natural rhythms, they must give accumulated fatigue, and cause an increasing debit, shown in a diminished capacity for work. It is therefore the problem of scientific management to discover in the interests of output and of the maintained health of the workers what are the 'maximal efficiency rhythms' for the various faculties of the human machine."

"For work in which severe muscular effort is required it seems probable that the maximum output over the day's work and the best conditions for the workers' comfort and maintained health will be secured by giving short spells of strenuous activity broken by longer spells of rest, the time ratio of rest to action being here, for maximal efficiency, greater than that for the employments in which nervous activity is more prominent or more complicated than in the processes involved during familiar muscular work.

"This point is one of incessant practical interest in many industries, and it may be noted that it has an immediate bearing upon the routine proper for rapid trench digging. Two officers at the front recently, for a friendly wager, competed in making equal lengths of a certain trench each with an equal squad of men. One let his men work as they pleased, but as hard as possible. The other divided his

men into three sets, to work in rotation, each set digging their hardest for five minutes and then resting for ten, till their spell of labor came again. The latter team won easily. The problem here gives another obvious opening for scientific organization based on the results of experiment."

"For practical purposes in industrial management two chief characters of nervous fatigue must be observed. First, during the continued performance of work the objective results of nervous fatigue precede in their onset the subjective symptoms of fatigue. Without obvious sign and without his knowing it himself a man's capacity for work may diminish owing to his unrecognized fatigue. His time beyond a certain point then begins to be uneconomically spent, and it is for scientific management to determine this point, and to determine further the arrangement of periods of rest in relation to spells of work that will give the best development over the day and the year of the worker's capacity. Second, the results of fatigue which advances beyond physiological limits ('overstrain') not only reduce capacity at the moment, but do damage of a more permanent kind which will affect capacity for periods far beyond the next normal period of rest. It will plainly be uneconomical to allow this damage to be done."

"The true sign of fatigue is diminished capacity, and it follows from what has been said that measurement of output of work will give the most direct test of fatigue."

"The accumulated results of fatigue are damaging to general health, and they will be reflected in the sickness returns and in the returns of lost time. Many problems arise here which can not be discussed in detail, and they are complicated by the influence of other factors which will be discussed in the following section. Without complete analysis of other variables, sickness returns will be only an indirect guide in the study of fatigue as such."

"The problem of industrial fatigue, already soluble in part by reference to an available body of knowledge well known and used in other countries, has become acute during the great recent development of the munitions industries of Great Britain. It is not too much, perhaps, to hope that the study of industrial fatigue and the science of management based upon it, which is now being forced into notice by immediate need, may leave lasting results to benefit the industries of the country during succeeding years of peace."

The concluding paragraph of the report, to which I draw your particular attention, summarizes the philosophy of the report.

"Our national experience in modern industry is longer than that of any other people. It has shown clearly enough that false ideas of economic gain, blind to physiological law, must lead, as they led

through the nineteenth century, to vast national loss and suffering. It is certain that unless our industrial life is to be guided in the future by the application of physiological science to the details of its management, it can not hope to maintain its position hereafter among some of its foreign rivals, who already in that respect have gained a present advantage.”

England, therefore, offers a laboratory for maintaining wage-earning efficiency along lines thus far discussed only by the academician, the theorist, the economic uplifter, and not wrought out in the furnace heat of a national struggle for economic existence, much less a desire to control world markets. This English experience for the first time in economic history is real scientific management, and will rescue scientific management from the odium which has attached to it.

The American industrialist has been willing on the drop of the hat to scrap his machines. Without impugning his motives, he has also been scrapping his workers. He is beginning to appreciate the false economic move and the waste of scrapping men.

This is my case. In closing I wish to say that the cure for this great and unnecessary waste lies in the hands of the industrialists themselves. States can establish safety standards, and by their authority compel their adoption. This means mechanical safeguarding. There the authority of the State ends; and it is a grave question just how far the State ought to go, and how far it can legally go even in this direction. Safeguarding can be carried to a point which will be so burdensome in its costliness that if rigidly enforced it will drive employers out of business.

With the establishment of safety standards, the authority of the State ends. If, therefore, only 15 to 25 per cent of accidents can be prevented by safeguarding the physical hazard, and the rest depends upon guarding the moral and physical hazard, after we have pointed out the way to the industrialist our authority has come to an end, and public opinion plus the appeal to the pocketbook nerve must do the rest.

He must appreciate that this spells more dollars for him through increased output and wage-earning capacity; a steady, continuous pull, not a spurt or a temporary speeding up, but a concert-pitch maintenance. These are facts based on actual workaday experience. It furthermore means education for the worker, in freeing him from the handicap of injury through accident, lessened capacity through lowered physical fitness. Not only do the industrialist and the workers gain, but the family and the community share in a higher economic and social standard of life and labor.

(After the reading of Mr. Holman's paper, Dr. Meeker made the motion that, in the absence of Mr. French, the paper prepared by him be inserted in the record and not read, and that the session pass to the next order of business, the discussion of the paper read by Mr. Holman, and then to the report of the committee on statistics and compensation insurance cost.)

(Mr. French's paper was ordered inserted in the record of the proceedings.)

COOPERATIVE METHODS TO PROMOTE INDUSTRIAL SAFETY.

BY WILL J. FRENCH, MEMBER, CALIFORNIA INDUSTRIAL ACCIDENT
COMMISSION.

The true science of workmen's compensation is accident prevention. A misnomer at best, compensation gives but little in return for a life, a limb, or an injury. The direction of attention during the last five years to all that is involved by industrial injuries gives impetus to the cause of safety. There is need to capitalize this impetus in terms of larger service, efficient cooperation, and a development of spirit among those intrusted with the administration of laws providing for compensation, insurance, and safety. The three main factors named are available for their purpose. Organization is necessary to secure the desired result.

While it is true that industrial accidents will always happen, it is also true that many of the accidents are avoidable. Each such accident is a reflection on the man or woman responsible and deserving of rebuke by the State.

Occasionally one hears or reads that carelessness or negligence needs to be abolished as the first step toward accident prevention. In this connection it must be remembered that the movements of the human body are not always under exact control, for the mind is apt to work too fast at times. The human factor is all-important in safety education, but the tendency is to forget the frailties of human nature and the absence of perfectly equipped cerebral machinery in about 12 out of each dozen heads. Hence the special need of "Cooperative methods."

There are three main avenues for the promotion of industrial safety—Government, States, and State.

GOVERNMENT COOPERATION.

By statute, example, and interest the Government of a country like ours can lead the safety procession. There ought not to be a piece of machinery owned by the people of the United States operated without the best protective devices obtainable. Dangerous customs and practices should be outlawed. Tens of thousands of workers are employed in shipyards, mints, post offices, printing offices, and in many other of the Federal activities. Here is virgin soil to permit of the growth of industrial safety. There should be legal requirements that would serve as models for State enactments.

The United States Bureau of Safety needs to become a vital force, not merely to prove of value to Government employees but also to

strengthen State efforts. There isn't a State really interested in all that pertains to workmen's compensation that wouldn't welcome the cooperation of Federal officials trained to this new calling.

Another opportunity for service of the best kind could be afforded by a safety museum or museums like those maintained by the German Government. Such a museum could serve as a clearing house for inventive genius. •

If the United States Government insisted that machinery for its use must be adequately protected, manufacturers would soon learn the important lesson that the safest is the best as well as the cheapest, and in the course of construction the guards could be placed where they belong. This would have the effect of introducing a general system of equipment.

One or two of the Canadian Provinces insist that agricultural machinery, often purchased in the United States, shall be safeguarded. The same machinery goes out on our own plains without any such insistence. The Government could legislate so that the devices would have to be installed before the machinery could be placed on Uncle Sam's land or used on his experimental stations. Think what this would mean to thousands of farm workers whose varied duties bring them more and more into contact with power machinery.

In California the United States Bureau of Mines has a working agreement with the industrial accident commission, duly signed and approved by the Secretary of the Interior, Franklin K. Lane. This cooperative method eliminates duplication of inspection, divides the expense, and entirely removes any possibility of politics governing appointments. Both operators and miners benefit. It is well known that in some States the position of chief mine inspector is a football for changing State administrations. There is no doubt which of the two systems named is preferable and, what is more to the point, that more industrial injuries can be prevented by the larger service.

Another evidence of United States activity is furnished by the efforts of the Bureau of Standards to provide an electrical code that can govern country-wide operations. A convention to this end was held in New York last October and November. One or two States were represented, and a large number of power companies and electrical associations had their men participate in the discussions. The code is now under consideration in various parts of the country.

One desirable result from the formation of adequate Government standards would be the likelihood of the States adopting the same requirements. This uniformity would enable manufacturing firms to govern themselves accordingly and avoid the variance that is now occasionally noticeable. Care should be taken in the preparation of standards that "cost" does not supersede "safety." The latter

should have the first consideration, and conferences or committees, to do successful work, must have participants representing both employers and employees.

Industrial injuries are gradually enlarging the scope of compensation laws. The importance of the Wisconsin decision whereby typhoid fever was deemed to be compensable can not be overestimated. Claims for sickness contracted in employment will be allowed more and more as time goes on.

The Federal Government has departments which can render invaluable aid in protecting workers from unsafe sanitary surroundings and thus conserve their health. The testing of air and water and the application of scientific methods to conditions of employment will mean the saving of lives and a reduction in the number of claims for compensation. The United States Bureau of Mines has its sanitary engineer engaged in combating the inroads of hookworm in the mines of California. There will come to mind other opportunities for effective service.

Preparedness for war is necessary. We may differ as to the extent of preparation, but we will probably agree that it is time the safety and health of the workers of the United States receive more attention than heretofore. States' rights will not prevent a sane and constructive plan of cooperation in which Government and State authorities may join hands.

STATES COOPERATION.

Several of the suggestions under the subhead of "Government Cooperation" are applicable to this section.

It should be the aim to encourage uniform legislation. Those States that have changed the specific laws governing safety so that orders, rules, or regulations may be issued are well satisfied with the newer system. The older way leaves much to be desired, for it is necessary to have legislatures amend laws to meet the new conditions that are continually presenting themselves in the business world. This process is slow and not always successful. Too frequently legislation is inadequate to provide for all the contingencies that arise.

If the States intrusted the preparation and enforcement of safety requirements to competent officials there could follow plans to have a universal method for each industry. Then the manufacturer selling his product in many States would have an idea of what was necessary in preparing for his markets. Even in those States having the more elastic plan of orders, rules, or regulations there are some degrees of variance that do not produce the best results. Intelligent cooperation could remedy this.

There should be a safety section connected with each meeting of industrial accident boards and commissions. Officials could discuss

their problems and learn of the experiences of their fellow delegates. Advocacy of superior forms of legislation or methods would follow their earnest presentation. The influence of the delegates to the meetings would surely be at the command of those whose aim is the first of conservations.

The National Safety Council deserves the hearty support of each State industrial accident commission. The avenues of cooperation are unlimited, and engineering problems can be best overcome by the assistance of the wider experience that comes from membership in the council. It is well to assist in the formation of local councils to be affiliated with the Chicago head office. Employers and employees, as well as others interested, could be advised to join the National Safety Council, and thus add to its potency in the cause of "safety first."

STATE COOPERATION.

Taking it for granted that the issuance of safety rules is preferable to the enactment of a safety law, provided full authority is given the industrial accident board or commission to make the rules mandatory, there is open a form of cooperation that insures the success of any safety movement. The form is simply the joining of employers and employees to serve on committees to prepare rules. If properly arranged, these committees will do the work efficiently, because practical men give their services and the hustle of legislative halls gives way to calm discussion around a table. Care should be taken to have both employers' and employees' organizations elect their own representatives. Any other course would be liable to lead to a suspicion that the more democratic way had not been followed. Another reason is that responsibility for selections would be placed squarely where it belonged.

Insurance companies with accident-prevention departments should have a delegate, or delegates, on the committees. The same suggestion applies to groups especially interested in safety rules, such groups as organized apartment-house owners or an office association, if elevator rules should be contemplated. The engineer, or engineers, of the safety department could serve as secretary of the committee, and thus take care of the detail work and guide the engineering problems into the right channel.

The possibilities of State cooperation as here outlined are unlimited. The method of selection would provide for nonpartisanship. The one aim would be effective safety. As soon as the rules were made permanent they would go into effect with the support and good will of all concerned. Employers and employees would recognize that the rules were the result of their deliberations. If found unreasonable or if exemptions were deemed advisable, in order that

peculiar conditions might be faced, the State industrial accident commission would have authority to exercise good judgment and decide accordingly. The citizens of Los Angeles would hardly believe at first that men representing the Merchants and Manufacturers' Association and the Central Labor Council were sitting around a table in the same room engaged in earnest and friendly discussion as to the best methods of preventing industrial injuries to the workers. Here is one theme that appeals to all. Perhaps this opening wedge in negotiations may lead to a realization that the day of "there's nothing to discuss" has long since passed, and thus other economic and social problems may be faced in man-to-man fashion.

The universities of our States can render yeoman service. They would undoubtedly be glad to leave the theoretical for the practical or to combine the two. Their laboratories are equipped to aid the contest against insanitary conditions and to leave an impress on economic problems that will give added years to workers and save lives.

Newspaper publicity is an important factor in promoting industrial safety. A clerk with the newspaper sense can admirably support an industrial accident commission by judiciously sending out "live stuff" that will be printed. There is an appeal to all in the story that tells how injuries can be prevented. Even from a financial point of view there comes the realization that the fewer the accidents the lower the insurance rates; but the strong note of preventing human loss and suffering must predominate over the cash box.

Publicity need not be confined to newspapers. Printed matter, issued in different languages if need be, can bespeak cooperation. Accounts of successes in other States and countries attract attention and help attain the purpose. Illustrated lectures and moving pictures with safety as the theme have a recognized value.

The heads of safety departments and their engineers need to be thoroughly competent. The commission that pays attention to alleged political claims proves false to the goal of safety. We know we are not living in an ideal world, but we are justified in refusing to be parties to "taking care of friends" at the expense of the lives and limbs of those who toil. A well-administered civil-service law is the best remedy for political influence, provided the examinations are thorough and ability is the sole test of appointment. There is a growing demand for safety engineers who know how. There should be no demand for those who do not know their business, even if they have powerful friends at court.

Safety exhibits can be sent to universities and public schools. In this way growing boys and girls are interested, and those who have completed their education have a knowledge of industry that exceeds the mere making of money.

First-aid teams can be organized in mines, shops, and factories, thus securing the cooperation of employees in a practical manner. Competition between teams for prizes keeps attention on the main object.

With occupational diseases and all injuries sustained as the result of employment coming within the purview of a few of our State laws, added to the tendency of other States to legislate in the more liberal manner, there comes a call to the men composing the industrial accident boards and commissions of the United States to study methods of effective cooperation. The prevention of injuries and occupational diseases has yet to be supported by the best scientific methods. We can well look upon ourselves as pioneers in this field and strive earnestly to direct the important task intrusted to us so that the citizenship of the United States will be enriched.

INDUSTRIAL DEATHS REDUCED.

The industrial accident commission has just issued figures giving the number of deaths in the industries of California during the year 1915, and draws attention to the list as compared with the statistics for 1914. In the latter year there were 691 workers killed and in 1915, 533 workers gave their lives to the industries of this State. The following table shows the reductions in the death list, by occupations (the word "service" includes employees of men in the professions as well as those engaged in hotel service, apartment houses, restaurants, domestic servants, and amusement or entertainment employees):

	1914.	1915.
Agriculture	62	55
Construction	115	78
Extraction (mining and quarrying)	86	71
Manufacturing	121	99
Service	24	25
Trades	24	20
Transportation and public utilities.....	239	172
Unknown	20	13
Total.....	691	533

The effective work in behalf of "safety first" has been accomplished as a result of cordial support from employers and employees, the public generally, and the press of California. It is a striking result to be able to show a reduction of 158 in the death roll of 1915 as compared to 1914. That this reduction comes as the result of careful planning is shown by the decrease in the main industries of the State, excepting "Service," where the record shows an increase of one death in 1915 over 1914.

It is the hope of the industrial accident commission that statistics will show a substantial reduction for each succeeding year. The aim

is that no preventable death shall take place. The 158 lives speak in terms of breadwinners saved to wives and little children and an enrichment to the State's citizenship.

DISCUSSION.

Mr. NOONAN, Ohio. In my opinion Mr. Holman is years ahead of his time in taking the stand he has taken on the vital importance of educational methods as a means of eliminating accidents.

All safety engineers, or those who have been trained in accident prevention, are absolutely agreed that mechanical safeguards will not solve the problem. Education is necessary for the prevention of at least 75 per cent of industrial accidents. By this I do not mean merely the education of the workmen, about which we hear so much, but I wish to emphasize here and now that it is just as necessary to educate the employer. And this principle applies to the employer whether he employs 50 men in a small plant or is president of a great corporation employing 15,000 men. It is fundamentally necessary that every employer be personally interested in accident prevention if anything is to be accomplished along this line.

During the past year the Industrial Commission of Ohio has conducted an educational campaign against accidents in the factories of the State. I have personally given 30-minute talks in more than 400 different plants. In the great majority of these plants I found that there was practically no organized effort being made to prevent accidents. In one city where I was conducting a campaign (and this illustrates conditions elsewhere), I found 14 factories in which there was bad ventilation, bad sanitary conditions, no wash basins, insufficient toilet facilities, mechanical safeguards lacking, no safety goggles, and no "first-aid" equipment. In one of these plants I asked the foreman if he had any safety goggles, and when I requested him to produce them he laid before me a pair of ordinary eye glasses. In another plant I asked the foreman if there was such a thing as a "first-aid" box in the plant in case a man was injured. He said there was not. It is plants like these that are responsible for workmen using tobacco juice, cobwebs, oily waste, and wax as crude and dangerous ways of treating cuts and other injuries. It is these lax and careless conditions on the part of the employer that are responsible also for workmen using dirty toothpicks, matches, handkerchiefs, and other articles to remove particles from the eyes of fellow workmen.

I addressed about 200 of the manufacturers in this particular city and told them about the conditions I had found in the plants. I reminded them that they took care of their personal property, and if they had an automobile they kept it well housed and protected;

in the same way the family dog was also well taken care of. They had likewise decent toilets in their own homes, and if a member of the family should be injured they would have a clean bandage to apply to the wound, and yet some of these employers who are so careful about their own homes and property are negligent in providing as good treatment for the employees in their workshops. Finally, I requested these employers to take care of all unhealthy and dangerous conditions in their plants, and also for each of them to invest a couple of dollars for a "first-aid" equipment. Some two weeks later the secretary of the chamber of commerce in that city wrote to me that the leading drug store there had sold out all of its "first-aid" equipment. This little incident, gentlemen, proved to me that these employers, when approached in the proper way and reminded of their obligations, were ready to do their duty.

Gentlemen, all the States must take up this educational accident-prevention work if anything is to be accomplished in saving the lives and limbs of the industrial workers of the country.

Mr. ARCHER. Mr. Noonan was not daunted to talk to these men in this instance. He went at the proceedings as briefly and as informally as possible. The button was pushed, results were brought about on the appeal to the humanitarian principle, and the head of the organization responded in connection with that appeal.

I also want you to bear in mind and heed with care Mr. Watson's statistics along the line of rating and experience and learn that side; consider it with humanitarian purposes. Will not the promises give you a cash reward by putting into effect the safety rules and regulations?

In other words, there should be considered two elements of hazard, one the inherent element but insurable, the other the element which may be given by the employer himself.

Mr. DUFFY, Ohio. I think this is a very important subject, one that this organization would do well to recommend for consideration to the various State commissions. I believe from what experience I have had that the safety expert requires training equal to that of any lawyer or any physician, if he is going to be competent to do the work that lies before him.

Unfortunately, we find that in some of our States, instead of employing men who know safety movements, men who know machinery, men who know how to advise and how to protect the life and limb of the workers, they take up a common laborer who is incompetent to pass judgment. Suppose that in the compensation department, instead of employing a competent physician, we take up some one who doesn't know anything about medicine and send him to determine as to whether there is a disability. This is just exactly what we have been doing in some of our States on the question of safety.

Perhaps 900 out of 999 workmen escape injury. We all know that the object of safety education is to protect the workman in times when indifference or carelessness or thoughtlessness will cause him to take unnecessary chances. It takes only one accident to put out an eye, amputate a limb, or crush out human life. This is the idea we want to impress on the workers.

I remember in Canada a young boy about 16 years of age, who worked in a bakeshop where they had an electric dough mixer. The operation was started by pushing a button. It happened the dough mixer became congested, and instead of stopping to push the button the boy endeavored to relieve the tension and put both hands down in the dough mixer. That boy is handless to-day. No doubt if that employer had been educated on safety regulations or the boy had had some education along those lines that accident might have been avoided.

The first thing is this: To recognize at once that it is going to be up to the educator to direct in safety movements. He must be an educator competent to send out to instruct both the employer and the employee.

Dr. MEEKER. I have some questions I would like Mr. Holman to answer, if he will be so good as to do so, in regard to fatigue.

I have a number of charts here to be distributed, with the understanding they will be returned to me. They have been arranged on the basis recommended by the committee on statistics of this association, that is, showing the accident rate per 1,000 full-time 300-day workers. I wish to call your attention particularly to one of these charts. It shows for the Bessemer steel works and rolling mills of a large steel plant the frequency of accidents per 1,000 300-day workers for each hour of the day, based on accident data for the nine years, 1905 to 1913. It shows also the average hourly tonnage produced, covering a period of eight months, September, 1912, to April, 1913, during which period the departments concerned were in continuous operation. According to this chart, the highest accident rate for the forenoon was between 9 and 10 o'clock, a decrease to almost zero occurring between 12 and 1 o'clock, the lunch-hour period, followed by a sharp increase to the afternoon maximum, between 1 and 2 o'clock, which is also the maximum for the day. Compare this curve with that showing output in the same steel plant. The output steadily increases from the first morning hour, 6 to 7, till between 5 and 6 in the afternoon, when the maximum for the day turn is reached. Between 6 and 7 p. m. a sharp fall occurs, followed by a steady increase till between 9 and 10 p. m., when, after a sharp decline in the following hour, an increase is again noted, till the highest point of the 24 hours is reached, between 5 and 6 in the morning, the last hour of the night term.

Mr. HOLMAN. In studying accident frequency for the period of the last three years I haven't arrived at the same hours of the day as you have. We find the hour of the greatest number of accident frequency is between 10 and 11 o'clock in the morning and 3 and 4 o'clock in the afternoon. If it is not due to fatigue how would you explain it? I might call your attention to the experiments as given by experts in trench digging already referred to in my address. One set of men labored continuously, working as hard as possible. They didn't accomplish as much as the other set, who were divided into shifts, each shift working their hardest for 5 minutes and resting for 10. If this is not fatigue, what is it?

We are taking up the question of fatigue with the manufacturers who have a certain definite output. We take certain departments, and at 10 in the forenoon give 10 minutes rest, perhaps have music, give nourishment, something that takes the mind off of work, thus giving them a rest period. We are watching the results.

Dr. MEEKER. In explanation of the chart of which I have already spoken, it is necessary to call attention to the fact that the industry covered is a part of the iron and steel industry, in which the processes are continuous. In such an industry the hours of maximum accident frequency would, of course, be different from those in the industries of Massachusetts. In the steel mills the day shift begins work at about 6 a. m. In the industries referred to by Mr. Holman the working day begins about 7 a. m. The morning peak of the accident curve in the steel industry is found in the fourth hour, conforming in this respect to the Massachusetts record referred to by Mr. Holman, in which the morning peak, although occurring between 10 and 11 o'clock, is likewise in the fourth working hour of the morning. In the steel industry the peak of the afternoon accident curve is in the second hour, again corresponding to the Massachusetts figures, which also show the peak in the second hour of the afternoon. What we can not explain in these accident and production rates of the iron and steel industry is the fact that, while the accident rate shows a sharp drop between 12 noon and 1 p. m., the productive curve is found to maintain its upward trend. If fatigue has any causal relation to the fluctuations of the accident curve in the iron and steel industry as shown in this chart, one would expect the fatigue to influence the curve of production in a similar way. But we know almost nothing about industrial fatigue at the present time. No satisfactory explanation of the causes which determine the hours of greatest accident frequency has ever been made.

Mr. HOLMAN. I presume that question is going to require a longer answer than the time allowed. I am taking a five-year period; before that we had inadequate mechanical safeguards. I am getting

the number of accidents we had at that time, and then taking the experience we had in the two following years and making the comparison.

Mr. NOONAN. I would like to ask Mr. Holman a question. You refer to alcohol as one of the causes of accidents. Does this apply to industrial accidents?

Mr. HOLMAN. Yes, sir.

Mr. NOONAN. I find in Ohio that alcohol as a cause of accidents is diminishing. It is really a very negligible quantity.

Mr. HOLMAN. How do you arrive at this? How do you get the statistics?

Mr. NOONAN. From personal investigations I made in 400 plants.

Mr. HOLMAN. Perhaps we use more alcohol in Massachusetts. So far as our record goes it is very seldom that alcohol is put in the accident report blanks as a cause of accident. I had a case recently of a man who never had been drunk in his life, but probably took one, two, or three drinks a day. He received a bad fracture of the right leg, was taken to the hospital, and very shortly afterward developed delirium tremens. We had to pay for the death. It was the drink that caused the death, not the accident.

Mr. COOK, Youngstown (Ohio) Carnegie Steel Co. I speak from personal experience in handling these cases and it is my observation that alcohol does enter into the causes of accidents. I do not think it is a minor factor, but a very great factor. I might say that the reason accident reports don't show alcohol as a cause of accident is the fact that the employer doesn't determine that. Several years ago I undertook to determine if possible how many accidents were caused by drink. In making an investigation several cases revealed the habit, but I could not tell whether or not the men had been on a debauch. The man to be most feared would be the man who had been drunk perhaps three or four days before the accident happened—the man recovering from a debauch, the man not back to normal for a whole week. The man to be feared takes a long time to recover. So with all those things to be considered it is for the employer to determine how many accidents are caused by alcohol. I would like very well to find somebody to determine that question. I am satisfied a large percentage of accidents can be directly caused by alcohol.

(The question was asked if statistics showed a large percentage of accidents occurring on Monday, to which Mr. Cook replied, "We went into that matter and found we didn't have as many accidents on Monday as other days of the week, but had more in the middle of the week. The pay days came on Saturday.")

Mr. ABRAMS. I think we all agree that drunkenness has something to do with accident. My advice out in Oregon and in other States is

to vote your States "dry." Remove the temptation. The most important question coming before this convention was the subject of Mr. Noonan's remarks "Safety prevention." I would like to hear him complete that talk.

Mr. NOONAN. Gentlemen, this is all very interesting to me. While a number of the States have taken up educational work, perhaps they have not taken it up exactly as we are doing. Our problems are different, our industries are different. I was speaking of the necessity of getting the cooperation of the employer. I am convinced that all accident prevention might be thrown to the winds unless you get the cooperation of the employer. I mention as an example the results obtained by the Columbus Railway, Power & Light Co. in their safety campaign, which has already been mentioned. Cleveland is conducting the same campaign.

We have another instance in our city, the ——— Steel Works. That plant used to be called the "butcher shop." Since last March that particular company has saved the eyes of more than 50 men. They have goggles to guard them against accident. This is a fine tribute to the educational work, which is shared alike by the management and the men. The same rule, that the men must wear goggles in the foundry, applies to the management of the plant. If I go through or the workmen go through or the manager of the plant, the same rules apply. To-day they employ 1,600 men, many foreigners. That particular company reduced the number of accidents more than half over last year. This is all due to educational work.

It is a good thing to pay compensation to the man who has lost a hand or an eye, but it is much better to preserve the hand or the eye, and the way to do this is by means of educational work. And I will say to you that the industrial commission gives to the men engaged in accident-prevention work whole-souled consideration and strength in their support. This is one of the things we are trying to do in Ohio. The State supervisors, composed of 19 members, have passed resolutions this week making an appeal to the emergency board of this State to supply sufficient men to carry on this work.

From the personal experiences I have had in the plants, I just want to say that I was impressed with the complaints made during the past year. I visited 400 plants, and I found from personal investigation that the foundries had the most complaints. They felt the requirements discouraging. Another employer said, "To-day we have 150 workmen who are building their own homes; men who are working, who are getting better wages, getting a living wage, supporting their families, and men in close touch with their employers; you give them right working conditions under which to work and

the problem is pretty well solved; they become more prosperous as they become more happy.”

Mr. YAPLE. I desire to announce the following committee on permanent organization: Mr. Hatch, New York; Mr. Kingston, Ontario; Mr. Hughes, Indiana; Mr. Vaughn, Illinois; Mr. Duffy, Ohio. The president will serve as chairman of the committee on permanent organization.

(The session adjourned to meet at 2 o'clock in the afternoon.)

THURSDAY, APRIL 27—AFTERNOON SESSION.

(Mr. W. C. Archer, of New York, was the first speaker at this session. He addressed the convention on "The theory and practice of compensation." In the course of his address Mr. Archer made the statement that, in regard to the manner of the law, he would always be a stout believer in the State-fund proposition. All experience had not changed him one whit in conviction. He said he would be unjust in saying that New York State has any trouble in the insurance law. Awards are paid; the question whether the States adopted the State-fund proposition was purely a business proposition. According to his views it was the best plan from a business standpoint, and would stand the test laid down by older heads in the business world. Continuing, he said that the compensation law was yet an experiment, but experiments were worth while, and he felt it the duty of all to see this experiment carried out for what it was worth; and, above all, he urged that there be courageous administration of the workmen's compensation law, for the sake of the fundamental purpose that disabled men may be relieved of distress and loss. No copy of this address was furnished for publication.)

Chairman YAPLE. I presume some discussion is desired to follow this excellent address of Mr. Archer; but I think it better to proceed with the paper of Mr. Kingston, then discuss such matters as are suggested by both addresses.

A COMPARISON OF THE TREATMENT OF PERMANENT PARTIAL DISABILITY CASES.

BY GEORGE A. KINGSTON, MEMBER ONTARIO WORKMEN'S COMPENSATION BOARD.

The subject of permanent partial disability cases is one that must engage a very considerable portion of the time and attention of all boards or commissions administering workmen's compensation laws; and when I acceded to Mr. Yapple's request some time ago to prepare a paper for this convention, it occurred to me that if I could picture the different systems of the different States and Provinces alongside each other, it might result in the adoption of a more uniform system of dealing with this type of case.

I accordingly set about to acquaint myself with the various State systems covering this feature of their work, and I desire in this connection to express my appreciation of the valuable assistance given me by members and officials of the various State boards with whom I was in communication.

I submitted a few typical cases taken from our own records and requested that these be put to the test in each State, so that we might compare as nearly as possible in terms of dollars and cents how A, B, C, D, and E would fare if we can imagine them coming in succession before the boards of the 34 States and Provinces where compensation laws are in force.

I find that many of the States have embodied in their compensation laws specific schedules of awards in terms of weeks or months for certain well-defined injuries, but there are almost as many varying conditions as there are jurisdictions affected.

For the purpose of this study I will continue to use the cases referred to, with possibly some additional examples.

I may explain first, however, that under the provisions of the Ontario law we have no schedule of values for specific injuries. Our act simply provides that "where permanent partial disability results from the injury the compensation shall be 55 per cent of the difference between the average weekly earnings of the workman before the accident and the average amount which he is earning, or is able to earn in some suitable employment or business after the accident."

We accordingly felt it necessary in Ontario at the outset to prepare a table, putting a value on the various permanent physical injuries to which workmen are subject, and we did this not in terms of days,

weeks, or months, but in terms of percentage of total disability. (See Appendix A.)

I anticipate a possible argument to this effect: "Why need such a table? The act says in plain language that you must pay 55 per cent of the difference between what the workman was earning before the accident and what he is earning or is able to earn after the accident." (It may be noted that in a large number of the State laws there is a similar provision under which those cases must be determined which do not come under the schedule of injuries.)

If this argument prevail, it follows, of course, that if a man comes back to work with his previous employer, or some other employer, at the same earnings as before, therefore he has suffered no material loss, though he may have actually lost a finger, a hand, or an eye.

It is, in my opinion, both unfair and impracticable to deal with these cases in this way.

In the labor market a man without a thumb, or a finger, an eye, an arm, or a leg, is only a certain percentage of a standard man, and though one injured workman may be fortunate enough to have an employer who will take him back at the same wages, yet once he loses his position (and every workman must face this possibility) he has to compete in the labor market against the man 100 per cent efficient, so far as physical fitness is concerned, and it is obvious that his loss at once becomes a very real one.

Furthermore, it seems to me impracticable to hold each case open for all time and base the award on the actual wage situation from time to time. Such a plan (and I may say this is substantially the Massachusetts plan) involves reconsideration of the award each time there is a change in a man's wages or each time he loses this or that particular job. The difficulty of proving that the change in earnings or the loss of position is due to the physical injury will of course be apparent.

The ideal method, in my opinion, is as nearly as possible to standardize each injury, having regard to age, wages, and occupation.

The system in Ontario up to the present provides only for the elements of age, wage, and physical or functional loss to enter into consideration of the award, but I can not help feeling that the element of occupation is almost, if not quite, as important as either wage or age. For example, the loss of the index finger to a railway passenger train conductor is but a trifle compared with the same loss to a bricklayer of the same age and earning the same wage. On the other hand, the loss of an eye in the case of the conductor will in most cases cause almost certain loss of future employment in this occupation with the resultant difficulty of rehabilitation, where it might not be considered a very serious detriment to the bricklayer.

The California board is the only one which has adopted a system of values for permanent partial disabilities taking into consideration occupation of the workman in addition to the other three elements named. The Massachusetts board has also in the administration of their law endeavored, with some success, to introduce the elements of occupation and environment in the consideration of their cases, but I shall refer to both of these State systems later.

Having made these general observations, I will now proceed to a comparison of the treatment of the cases referred to in the various jurisdictions. I will mention our own Province first, then deal with the various States in alphabetical order.

CASE A.

The workman in this case, a laborer in logging operations, 38 years of age, unmarried, had his right thumb cut off at the metacarpal phalangeal joint. His average monthly earnings for a year prior to the accident were \$71.50. He was totally disabled $12\frac{1}{2}$ weeks, during which time he was paid 55 per cent of his weekly wages. He returned to work at the same wages as before, and the claim comes before the board for compensation for the permanent loss of the thumb.

By reference to our permanent partial disability rating table (see Appendix A) we find that right thumb off at proximal joint is a 7 per cent loss for this workman. Seven per cent of \$71.50=\$5.01 and 55 per cent of \$5.01=\$2.75. The award, therefore, in this case in Ontario is \$2.75 a month for life, but as we are authorized to settle all our under-10-per-cent cases on a lump-sum basis we must convert this pension into its present worth equivalent.

For this purpose we have adopted a table setting forth the present value of \$1 per month during expectancy for all ages from 15 to 70, and by reference to this table (see Appendix B) we find that for the age in this case the figure is \$187.89. The present worth of \$2.75, therefore, is $\$187.89 \times \$2.75 = \$516.70$. This is in addition to the sum (55 per cent of \$16.50=\$9.08 per week) which has been paid to the workman during the actual healing or temporary total disability period, which in this case was $12\frac{1}{2}$ weeks.

To sum up the result, therefore, we have:

$12\frac{1}{2}$ weeks, at \$9.08.....	\$112.00
$\$2.75 \times \187.89	516.70
Total	628.70

It should be noted that while we have a waiting period of seven days in Ontario, it is only a conditional one, and where the injury is one causing disability for longer than seven days, compensation dates from time of accident.

It is of interest also in comparing the various systems to note that there is no provision in the Ontario act for the payment of the medical expenses of an injured workman.

ARIZONA.

There is no compensation board in this State. The civil courts determine all cases which can not be settled between the parties. The compensation rate is 50 per cent, and there is no schedule of weeks for specific injuries, the provision being that the workman is entitled to be paid 50 per cent of his wages during the healing period, and after he has recovered so as to be able to return to work 50 per cent of the difference between what he was earning before and what he subsequently earns or is able to earn. There is a conditional waiting period of two weeks, the provision being that if the injury incapacitates for longer than that time the compensation dates from the date of accident.

There is no provision under the Arizona act for payment of medical expenses.

CALIFORNIA.

The system in this State is unique, but there is not time nor space in this paper to discuss it at great length. As stated above, it is the only State in which an attempt is made to differentiate between various occupations in placing a value on permanent injuries. In the particular case under consideration right thumb off is considered a 10 per cent disability. The statutory provision is that for a permanent disability 65 per cent of average wages shall be paid for a period of four weeks for each 1 per cent of disability, or in this case 40 weeks. This includes the healing period. In addition to this full medical attention must be provided during a period of 90 days following the injury, but the commission has power to extend treatment beyond the 90 days in their discretion.

The result in this case would therefore be:

65 per cent of \$16.50 (\$10.73) for 40 weeks..... \$429. 20

The first two weeks is an absolute waiting period. Compensation begins at expiration of two weeks from date of injury and runs for the specific number of weeks.

COLORADO.

There is a very complete schedule of specific injuries embodied in the law of this State, the period for a thumb being 35 weeks, which includes the healing period.

The compensation rate is 50 per cent. The first three weeks is an absolute waiting period, the longest waiting period in any of the State laws.

Result:

35 weeks, at \$8.25 per week..... \$288. 75

The workman is also provided during the first 30 days with full medical and surgical attention—not to exceed in amount \$100.

CONNECTICUT.

The schedule under the act in this State provides for an allowance of 38 weeks for loss of thumb. This includes the healing period. The compensation rate is 50 per cent.

There is an absolute waiting period of 10 days, and in addition to the compensation the injured workman is entitled to reasonable medical and surgical treatment during the first 30 days after the accident.

Result:

\$8.25 per week for 38 weeks..... \$313. 50

ILLINOIS.

The statutory period for such a loss is 60 weeks, but this State pays 50 per cent of the wages during the healing period in addition to the statutory 60 weeks, except as to the first week, which is an absolute waiting period.

The total awards, therefore, in this case would be:

60 weeks at 50 per cent of wages (\$8.25).....	\$495. 00
11½ weeks, at \$8.25.....	93. 50
Total	<u>588. 50</u>

In addition to this, the injured workman would be entitled to the expense of his medical and surgical attention for a period not longer than 8 weeks, and not to exceed in all \$200.

INDIANA.

The statutory period for a thumb in Indiana is 60 weeks, which includes the period during which a workman is paid for total disability. The compensation rate is 55 per cent. Absolute waiting period, 2 weeks.

Result:

55 per cent of \$16.50 (\$9.08) for 60 weeks..... \$544. 80

Employer must also furnish full medical aid for the first 30 days.

IOWA.

In this State there is the statutory limit of 40 weeks for this type of injury, and 50 per cent of wages is paid during this period, plus medical expenses, limited to \$100. Two weeks absolute waiting period.

The 40 weeks includes the healing period, so that the full award in Iowa would be:

50 per cent of \$16.50 (\$8.25) for 40 weeks..... \$330

KANSAS.

There is no schedule of weeks for specific injuries under the law of this State, and there is no compensation board. Where the parties can not agree, their rights are determined by an arbitration committee. Where the disability is total, 50 per cent of wages is the compensation rate, but where it is only partial, the arbitrators determine the amount, 25 per cent of wages, or \$3 per week, being the minimum and 50 per cent, or \$12 per week, the maximum; limit of time, 8 years. Where, however, the workman is under 21 and is earning less than \$10 per week, then 75 per cent of wages is the irreducible minimum.

There is an absolute waiting period of two weeks and no provision for payment of medical expenses.

It would seem under this law that it might well be urged on behalf of the workman in the case we are considering that he would be entitled during the healing period, less waiting period, to \$8.25 per week, i. e. $10\frac{1}{3}$ weeks at \$8.25 per week=\$85.25, and thereafter a minimum of \$4.12 $\frac{1}{2}$ per week—i. e., 25 per cent of wages—for 8 years, or \$214.50 per year, or for 8 years a total of \$1,716. No doubt, however, the arbitration committee would have a discretion to limit the time during which compensation is payable.

LOUISIANA.

A large number of injuries in this State are covered by the schedule in the act. The time allowed for a thumb is 50 weeks, which includes the healing period.

Compensation rate, 50 per cent. Two weeks' absolute waiting period. During the two weeks' waiting period the employer must furnish workman with reasonable medical and surgical aid, limited in amount to \$100.

Result:

50 weeks, at \$8.25 per week..... \$412. 50

MAINE.

There is a specific schedule of injuries under this law, but there is a special provision which I have not noted elsewhere, viz, that while the disability shall be deemed to be total during the period named, if after the expiration of this period there be partial incapacity for work resulting from the injury the workman shall be compensated for such on the basis of 50 per cent of the difference

between his average earnings before the accident and the amount he is able to earn thereafter, limited to 300 weeks.

Specified time for thumb, 50 weeks. Compensation rate, 50 per cent. Absolute waiting period, 2 weeks.

Result:

50 weeks, at \$8.25 per week..... \$412. 50

Medical and surgical attention is also provided during the first two weeks, limited to \$30, except that when a major operation is necessary the amount may be increased.

MARYLAND.

A schedule is provided in the law of this State for specific injuries. The time allowed for thumb is 50 weeks, which includes the healing period. The compensation rate is 50 per cent. Absolute waiting period, 2 weeks.

Result:

50 weeks, at \$8.25 per week..... \$412. 50

In addition to this, full medical expenses must be provided, limited in amount to \$150.

MASSACHUSETTS.

The system in this State is a little different from that of any other State. While the incapacity is total—i. e., during the healing period—the workman is entitled to two-thirds of his average weekly wages. Afterwards the board determines the case in accordance with what the workman is actually able to earn, taking the following factors into consideration:

1. Nature of the injury and its result on the individual.
2. Age.
3. Occupation.
4. Power of accommodation as affected by the foregoing factors, and also the nativity, education, and general peculiar characteristics of the individual.
5. Wages (within certain limits).

The law provides a definite schedule for certain specified injuries, the compensation for which is in addition to compensation provided for during the healing period.

Absolute waiting period, 10 days. Compensation rate, 66⅔ per cent. Period for thumb, 12 weeks.

In this case the maximum limit of \$10 per week applies.

Result:

10½ weeks, at \$10.....	\$103. 33
12 weeks, at \$10.....	120. 00
Total.....	223. 33

Should there be a recurrence of the disability, either total or partial, at any time within 500 weeks, compensation would be resumed, according to the facts as developed, and in this connection the loss of his position or the disadvantage which he labors under in competing in the labor market are given due weight up to the end of the statutory period of 500 weeks.

It would apparently be quite in order for this workman, even after the lapse of a year or two, to come back to the board and say, "I have lost my job through no fault of mine (possibly the employer is closing down his business), and I have been a year now looking for another job and can not find one. They won't take me, because I have one bad hand." It would be in the discretion of the board, of course, to determine the case as they saw fit, but if they considered the claim bona fide it is conceivable that the workman might be allowed \$10 a week for a very long period.

The act provides for medical attention for the first two weeks, but in unusual cases the board may allow medical attention for a longer period. In practice the board considers practically every case unusual which requires treatment for a longer period.

MICHIGAN.

The law in this State names a schedule of weeks for certain injuries. For a thumb the period is 60 weeks, which includes the healing period. The compensation rate is 50 per cent.

There is a conditional waiting period of two weeks, the provision being that if disability continues for eight weeks or longer compensation is payable from date of injury.

Result:

60 weeks, at \$8.25 per week..... \$495

Medical expenses must also be provided for the first three weeks.

MINNESOTA.

In this State the case we are considering would be disposed of simply under the schedule of injuries, 60 weeks being the allowance for a thumb. The compensation rate is 50 per cent. The 60 weeks includes the healing period.

There is a waiting period of two weeks, but this does not apply to cases such as the one we are discussing, where the disability is permanent.

Result:

60 weeks, at \$8.25 per week..... \$495

In addition to this, medical attendance must be provided for the first 90 days, limited in amount to \$100, but in special cases this may be increased beyond the 90 days to an amount not exceeding \$200.

There is no compensation board in this State. In case of dispute between employer and employee the matter is referred to a judge of the district court, who deals with the case in summary manner, and his decisions on all questions of fact are conclusive.

MONTANA.

Statutory schedule—thumb, 30 weeks, which includes the healing period. Compensation rate, 50 per cent. Medical expenses during the waiting period—i. e., first two weeks only—limited in amount to \$50.

Result:

50 per cent of \$16.50 (\$8.25) for 30 weeks..... \$247. 50

NEBRASKA.

There is no compensation board in this State. All cases which can not be settled between the parties, either by agreement or arbitration, are determined by the district court, subject to the same right of appeal as in all civil cases. There is in the law a schedule of weeks for a certain few specific injuries, but the loss of a thumb is not included in the list. Fifty per cent is the compensation rate. In those cases named in the schedule the allotted time includes the healing period.

The case therefore would be governed by the provision that the compensation shall be 50 per cent of the difference between the wages at time of injury and the earning power of the workman thereafter.

There is a conditional waiting period of two weeks, the provision being, as in Michigan and Nevada, that where the disability lasts longer than eight weeks, then compensation starts with date of accident.

The workman is entitled to medical aid for the first 21 days in an amount not to exceed \$200.

NEVADA.

The statutory period designated in the law of this State for loss of a thumb is 15 months, in addition to the healing period. The compensation rate is 50 per cent with proviso for maximum compensation of \$50 per month.

The result, therefore, is:

Time loss for period of total disability or healing period, 50	
per cent of \$71.50=\$35.75 for 2½ months.....	\$101. 29
Compensation for loss of thumb, \$35.75 per month for 15	
months	536. 25
Total	637. 54

No medical attention is provided under the Nevada act for an injured workman. There is a conditional waiting period of two weeks. If the disability continues for eight weeks or longer, compensation dates from time of injury.

NEW HAMPSHIRE.

There is no compensation board in this State. Provision is made for compensation much the same as in many of the States, but in New Hampshire the workman has the right to elect whether to accept compensation under the act or to claim at common law. Under the act the employer is required to pay compensation whenever an accident happens, but if he neglects or refuses to do so the workman's recourse is to the courts. There is no schedule for specific injuries.

The compensation rate is 50 per cent of wages in total-disability cases, and in partial-disability cases 50 per cent of the difference between the average earnings before the accident and the amount the workman is able to earn after the accident. The payment continues for 300 weeks if total or partial disability continues that long.

The first two weeks is an absolute waiting period and there is no provision for medical attendance.

I am informed by the chief justice of the superior court of New Hampshire that in a case such as I instance, where a workman has suffered quite a severe functional loss, his earning power not being seriously affected, he would not be likely to elect to proceed under the compensation act, but would rather choose his remedy at common law.

NEW JERSEY.

This was one of the first States to adopt a compensation law, but no compensation board or commission was appointed to administer it. Where the parties do not agree the case is referred to a judge of the court of common pleas who hears the cases in a summary manner and his decisions on questions of facts are final.

The law provides a schedule for specific injuries. The period for a thumb is 60 weeks, exclusive of healing period. Compensation rate, 50 per cent. First 2 weeks absolute waiting period.

Result:

For healing period, 10½ weeks, at \$8.25.....	\$85. 25
Statutory period, 60 weeks, at \$8.25.....	495. 00
Total	580. 25

In addition to this, workman is entitled to medical attention for the first two weeks, limited in amount to \$50.

NEW YORK.

In this State they first find the daily wage which produces the stated average wage of \$71.50 per month. In this case it is \$2.75. Multiply this by 300, divide by 52, and then take their statutory 66 $\frac{2}{3}$ per cent of the resultant amount as their compensation wage rate— $\$2.75 \times 300 \div 52 = \$15.86 \times 0.66\frac{2}{3} = \10.57 . The time award for a thumb, according to the New York statutory schedule, is 60 weeks, which at \$10.57 per week equals \$634.20. This covers everything except medical attention; that is to say, the 60 weeks includes the healing period; and the medical attention is limited to the first 60 days after the accident. No compensation is paid for the first two weeks.

OHIO.

Statutory period for a thumb, 60 weeks, which is exclusive of the healing period; compensation rate, 66 $\frac{2}{3}$ per cent; absolute waiting period, one week.

Result:

66 $\frac{2}{3}$ per cent of \$16.50 (\$11) for 11 $\frac{1}{2}$ weeks.....	\$124.66
60 weeks, at \$11 per week.....	660.00
Total.....	784.66

In addition to this, the workman is allowed full medical expenses occasioned by his injury, not to exceed \$200.

It will be noted that for this particular injury and disability Ohio makes the most liberal provision of any jurisdiction administering a workmen's compensation law.

OKLAHOMA.

A comparatively liberal schedule is provided in this State for the usual injuries. The time for a thumb off at proximal joint is 60 weeks, which includes the healing period; absolute waiting period, two weeks; compensation rate, 50 per cent.

Full medical and surgical aid must be provided by the employer during the first 15 days, the charges for same to be limited to such as prevail in the same community for similar treatment of injured persons of like standard of living.

Result:

60 weeks, at \$8.25 per week.....	\$495
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OREGON.

This State, like its northern neighbor, Washington, has adopted an exclusive system of State insurance, though, unlike Washington, it is not a compulsory law, and the employer may elect not to accept

the provisions of the law. In such event his employees have only their common-law remedy, but the employer is denied the right of the usual old common-law defenses.

During the healing period Oregon pays for the first six months \$30 per month, increased by 50 per cent; but this 50 per cent increase is subject to the 60 per cent of wages limitation; that is to say, the \$30 per month is a minimum payment, no matter what the workman's wages may have been. Unlike Washington, Oregon has a schedule for specific injuries, and for the loss of a thumb 24 months is the allotted time.

Instead of allowing a certain percentage of wages, however, during that period, as is the rule in most of the States, a specific amount of \$25 per month is allowed, or, at the option of the workman, \$600 in a lump sum.

NOTE.—It rather seems as if there was an error here in drafting the statute. The \$600 is supposed to be a commutation of \$25 a month for 24 months, whereas the amounts are the same.

It is specifically provided that the months constituting the healing period are to be deducted from the 24 months allowed for permanent partial disability.

The result, therefore, in the case under consideration is as follows:

\$45 per month reduced by the 60 per cent limitation to	
\$42.90 per month for $2\frac{1}{3}$ months-----	\$122. 10
For permanent partial disability=24 months less $2\frac{1}{3}$	
months= $21\frac{2}{3}$ months at \$25-----	528. 85
Total -----	650. 90

PENNSYLVANIA.

This is, I think, the latest addition to the list of States adopting a workmen's compensation law. It came into force on January 1 of this year. The compensation rate is 50 per cent. A limited schedule of weeks is mentioned in the act, applicable to the more serious dismemberments, such as the loss of a hand, arm, foot, leg, or eye, but it is apparently left to the board in all other cases to determine the length of time during which compensation should be paid, though the section of the act controlling this provides that the workman shall be paid 50 per cent of the difference between his wages before the accident and his earning capacity thereafter.

At the time of my inquiry in February there had not been time from the commencement of the act for a case of the sort we are considering to pass the healing period so as to be ready for consideration by the board from the permanent disability point of view.

There is an absolute waiting period of 14 days under the act, during which period full medical attention is provided, not to exceed

\$25 unless a major surgical operation is required, in which event \$75 is the limit.

RHODE ISLAND.

There is no compensation board under the law of Rhode Island. All settlements under the compensation act must be approved by a judge of the superior court, and in case of dispute between the parties the case is referred to the superior court for adjudication.

There is a schedule in the act covering a large number of specific injuries, much the same as in Massachusetts, but no time is mentioned for the whole of a thumb. For one phalanx of a thumb, however, 12 weeks is the specified time, and the courts have construed this to mean one or more phalanges, so the same amount is given for a whole thumb as for one phalanx.

The statutory compensation rate is 50 per cent. There is an absolute waiting period of two weeks, but the 12 weeks allowed is in addition to the compensation for the healing period.

All cases not coming specifically within the schedule are governed by the usual provision for payment of 50 per cent of the difference between the average wage at time of accident and the average wage capacity after the accident.

Medical attention must be provided the workman during the waiting period of two weeks.

Result:

10½ weeks, at \$8.25 per week.....	\$85.25
12 weeks, at \$8.25 per week.....	99.00
Total.....	184.25

TEXAS.

There is a compensation board in this State, but if claimant is not satisfied with the board's decision on his case he may bring action in the courts. A schedule of weeks is provided for certain losses, which is in addition to the healing period. Twelve weeks is the specified time for one phalanx of one thumb, and 25 weeks for the loss of the whole of both thumbs, apparently adopted from the wording of the Massachusetts law.

Sixty per cent is the compensation rate.

In cases not covered by the schedule where the disability is partial the act provides for payment of 60 per cent of the difference between the average wages before the injury and the wages the workman is able to earn thereafter.

The first week is an absolute waiting period, during which the workman is entitled to such medical and surgical attention as his injuries may call for.

Result:

11½ weeks, at \$9.90-----	\$112. 20
12 weeks, at \$9.90-----	118. 80
Total-----	<u>231. 00</u>

VERMONT.

There is a specific schedule in this State law, the period for a thumb being 40 weeks, which includes the healing period. The compensation rate is 50 per cent—absolute waiting period, two weeks.

Result:

40 weeks, at \$8.25-----	\$330
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In addition to this, the workman is entitled to full medical and surgical aid during the waiting period of 14 days, limited in amount to \$75.

WASHINGTON.

The law in this State is similar to that in Ontario in that it is exclusively a State insurance system, though the method of dealing with such cases as we have been discussing is quite different from any other State, except possibly its neighbor States, Oregon and Wyoming, and also Alaska. The difference is in the fact that the conjugal status of the injured workman is an element affecting the result.

For example, an unmarried workman is compensated during the healing period at the rate of \$20 per month of 26 working-days. If he is married, \$5 is added to this sum, and \$5 additional is added for each child under 16, not exceeding in the whole \$35 per month, provided, however, that during the first six months these amounts are increased 50 per cent, subject to a maximum limitation of 60 per cent of the wages.

In the case we have been considering, assuming the workman were unmarried, the result would be 12½ weeks=74 working days=2½ months.

Compensation for the healing period, \$30 per month for 2½ months-----	\$85. 38
Scale for loss of thumb-----	<u>300. 00</u>
Total-----	385. 38

If the man were married, the result would be:

\$37.50 per month for 2½ months-----	\$106. 73
Scale for loss of thumb (same as for unmarried man)-----	<u>300. 00</u>
Total-----	406. 73

If he had a wife and one child the monthly award would be \$45, but here the 60 per cent limitation comes in, and instead of getting

\$45 per month he gets 60 per cent of the monthly wages (\$71.50) = \$42.90.

His time loss award on this basis would be for 2 $\frac{1}{4}$ months,	
at \$42.90 per month.....	\$122.10
Scale award for loss of thumb as above.....	300.00
	<hr/>
Total	422.10

There is no waiting period under the Washington act except that there must be at least 5 per cent disability before any compensation is allowed, and the board has decided that this means 5 per cent of one month or practically 1 $\frac{1}{2}$ days. There is no provision for medical expenses.

There is practically only one provision in the act placing a specific value on any one injury; i. e., \$1,500 is the maximum award allowed for any permanent partial disability, and the loss of a major arm at or above the elbow, or the loss of a leg at or above the knee, are specifically stated in the act as injuries illustrating maximum permanent partial disability.

The Washington board has established a scale of awards for various injuries causing permanent partial disability, which scale I am informed has been upheld by the supreme court of the State. By this scale loss of a thumb has been considered as equal to one-fifth the value of the right arm off at the elbow.

In looking at this schedule thumb is stated to be a 20 per cent loss, but it must always be remembered that this percentage relates itself to the \$1,500 maximum figure.

WEST VIRGINIA.

In the treatment of permanent partial disability cases in this State a schedule of weeks is provided, but instead of its being so many weeks for a specific injury, it is stated on a basis of percentages.

For example, a 10 per cent disability, no matter what it is, calls for 30 weeks' compensation; a 20 per cent disability, 60 weeks; a 30 per cent disability, 90 weeks; and so on up to 70 per cent—30 weeks being allowed for each additional 10 per cent—intermediate percentages being in the same proportion. This feature of the law would seem to bear some relation to the California system, without however, taking occupation into consideration.

The loss of an arm at the elbow is established as a sort of standard maximum permanent partial case, as in the Washington State system. This is fixed as a 50 per cent to 65 per cent disability, and every other injury is rated by the commission to this standard. If the disability is over 70 per cent the injured workman is entitled to a pension for life.

A thumb off, as in the case before us, is rated a 20 per cent disability. The time includes the healing period. The statutory compensation rate is 50 per cent; waiting period, one week.

The result, therefore is:

20 per cent disability=60 weeks.	
60 weeks, at \$8.25 per week.....	\$495

In addition to this the workman is entitled to free medical attention, limited in amount to a sum not exceeding \$150. There is a provision in this respect which I have not noted in any other State law, viz, that if the workman is entitled as a matter of contract to free medical attention, as, for example, by reason of his being a member of a certain lodge or by reason of his membership in a medical-aid association in connection with his employment, the accident fund is relieved of this burden.

WISCONSIN.

In this State the compensation would be pared down by a statutory maximum wage limit for this type of workman to \$14.42 per week.

The statute allows 40 weeks' compensation for amputation of thumb. If the amputation is made at the time of accident and the workman sustains no other injury, 40 weeks is all the compensation he can get. If, however, he sustains other injuries than merely the amputation of the thumb, then he is allowed compensation at the rate of 65 per cent of his wages while disabled—that is, during the healing period—and the 40 weeks' compensation for loss of thumb besides.

This principle applies to all cases where the schedule of fixed benefits under the statute is in effect.

Assuming, therefore, that in the case we are considering the injury is simply amputation of thumb, the compensation would be:

40 weeks, at \$9.37 per week.....	\$374. 80
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In addition to this the workman is given medical attention for a period of 90 days.

If the man were over 55 the compensation for permanent partial disability would be 5 per cent less; if over 60, 10 per cent less; and if over 65, 15 per cent less.

If the workman were in a railway train operating service the maximum wage limit would be \$24.04.

There is a conditional waiting period in this State of one week. If disability continues for more than four weeks, compensation is payable from date of injury.

WYOMING.

The law in this State is modeled somewhat after the Washington State law. It is an exclusively State-administered system.

A schedule of specific injuries is embodied in the law, but, unlike most of the States, the values are stated in specific sums, not in terms of weeks.

The conjugal status of the workman is an element taken into consideration during the period of total disability. Neither age, wage, nor occupation of the workman are of any moment. The compensation is \$15 a month to an unmarried workman, \$20 per month if he is married, and \$5 extra per month for each child under 16—limited, in all, to \$35 per month. The first 10 days is an absolute waiting period.

There is no provision for payment for medical attention under the act.

Result, assuming the man were unmarried:

12½ weeks, i. e., 86 days, less 10 days=76 days=2½ months.	
\$15 per month for 2½ months.....	\$37. 50
Specific lump sum for thumb.....	150. 00
	<hr/>
Total	187. 50

CONCLUSION.

It will be noted that in all the jurisdictions named it is assumed that the wages earned by the injured workman at the time he was hurt or his average earnings for the previous year, as the case may be, would have remained constant for the remainder of the workman's life; that is to say, the amount of the award is based almost entirely upon present earnings, without regard to the possibility of increase or decrease in earning capacity. There are, of course, some exceptions to this in some States in the cases of workmen under 21.

It is well known that in all occupations the earning power of a normal man increases during the younger ages, then remains fairly stable for some years, and finally begins to decrease with the higher ages.

It is manifestly unfair to take a boy at 16, earning \$8 a week, who becomes permanently disabled, and base his compensation for life on any such theory that the \$8 wage rate would remain constant, because in a few years he would almost certainly be earning from two to three times that amount.

On the other hand, if the injured man has reached the age, say, of 65, to grant him compensation for life on the basis of present earnings may result in giving him a pension greater in amount than he could hope to earn in wages in his later years.

It may be open to some question whether or not this burden should be borne directly by industry. It is well known that industrial life is not coterminous with natural life. The old man must, of course, be taken care of, but should it not be by way of old-age pension rather than as industrial compensation?

It is scarcely fair to argue that if industry injures an old man, industry should compensate him; in principle that is sound. But look at the situation from a sociological point of view. A young or middle-aged man gets hurt; his recuperative powers are good, and he is restored to usefulness reasonably quickly. In the case of an old man, however, he is easily put down and out, or his recovery is very slow.

Not many employers will discharge an old employee because he is old; but I apprehend it will be increasingly difficult for old men to secure new employment, because, amongst other reasons, of the difficulty of which I speak. However, this is more a question for legislatures than for administering boards, but in my judgment the correct theory of compensation, particularly for cases of permanent injury, should take as a basis an estimate of what the injured man would probably have earned had he not been injured rather than the actual earnings prior to his injury. This might possibly be accomplished in a general way by standardizing wages for certain occupations in certain localities. As noted above, Wisconsin provides a gradually increasing differential under which in the cases of old men the ordinary compensation is reduced if the man is over age 55.

It should be noted also in the above comparison that in every case except Ontario the amounts would be substantially reduced if we put the figures at present worth. The Ontario figures are all on a present-worth basis, because the value of our awards are figured purely on expectancy. On the other hand, those awards would be substantially increased in most jurisdictions by the medical expenses if this item of accident cost were added to the awards.

Tabulating the results above outlined in the order of jurisdictions which from the point of view of cash seem to give the best return to the workman, we have for Case A, described on page 161, the following:

Ohio	\$784.66	Maryland.....	\$412.50
Oregon	650.95	Maine	412.50
Nevada.....	637.54	Washington.....	385.38
New York	634.20	Wisconsin.....	374.80
Ontario.....	628.70	Iowa	330.00
Illinois.....	588.50	Vermont.....	330.00
New Jersey.....	580.25	Connecticut.....	313.50
Indiana.....	544.80	Colorado.....	288.75
Michigan.....	495.00	Montana.....	247.50
Minnesota.....	495.00	Texas.....	231.00
Oklahoma.....	495.00	Massachusetts (subject to	
West Virginia.....	495.00	further consideration).....	223.33
California.....	429.20	Wyoming.....	187.50
Louisiana.....	412.50	Rhode Island.....	184.25

CASE B.

Essential particulars as follows: Workman, age 30, laborer in a smelting plant, married, with one child, average monthly earnings \$69.30, or \$16 per week, total loss of sight right eye, eye removed. Length of healing period 8 weeks.

I will not go further into details, but merely tabulate the result in the order of the jurisdictions which make the higher awards:

Wisconsin	\$1, 499. 20	Connecticut	\$832. 00
Ontario	1, 456. 05	Maine	800. 00
New York	1, 312. 00	Michigan	800. 00
Pennsylvania	1, 248. 00	Minnesota	800. 00
California	1, 175. 00	Oklahoma	800. 00
Ohio	1, 141. 69	Maryland	800. 00
Washington	1, 076. 76	Vermont	800. 00
Colorado	1, 032. 00	Iowa	800. 00
Oregon	1, 030. 60	Louisiana	800. 00
Nebraska	1, 000. 00	West Virginia	792. 00
Montana	960. 00	Wyoming	732. 00
Nevada	930. 25	Massachusetts	560. 00
Indiana	880. 00	Texas	480. 00
Illinois	856. 00	Rhode Island	448. 00
New Jersey	848. 00		

CASE C.

Workman, aged 24; married; two children, ages 2 and 4; occupation, trainman, earning \$15 per week, i. e., \$65 per month; both eyes destroyed, permanent total disability.

Arizona: 50 per cent of wages, i. e., \$7.50 per week, until the maximum of \$4,000 shall have been exhausted.

California: 65 per cent of wages, i. e., \$9.75 a week, for 240 weeks; then \$6 a week for life.

Colorado: 50 per cent of wages, i. e., \$7.50 per week, for life.

Connecticut: 50 per cent of wages, i. e., \$7.50 a week, for 520 weeks.

Illinois: 50 per cent of wages, i. e., \$7.50 a week, till four times the annual earnings, i. e., \$3,120, are exhausted, and thereafter a pension of 8 per cent of \$3,120, i. e., \$249.60 per annum, for life, payable monthly.

Indiana: 55 per cent of wages, i. e., \$8.25 a week, for 500 weeks.

Iowa: 50 per cent of wages, i. e., \$7.50 a week, for 400 weeks.

Kansas: 50 per cent of wages, i. e., \$7.50 a week, for 400 weeks.

Louisiana: 50 per cent of wages, i. e., \$7.50 a week, for 400 weeks.

Maine: 50 per cent of wages, i. e., \$7.50 per week, for 500 weeks, but limited to a maximum of \$3,000.

Maryland: 50 per cent of wages, i. e., \$7.50 a week, until the maximum limit of \$5,000 is exhausted.

Massachusetts: 66 $\frac{2}{3}$ per cent of wages, minimum \$10 a week for 100 weeks; also same amount until the maximum sum of \$4,000 shall have been exhausted. The \$4,000 does not apply to the extension of the provision for the specific allowance for 100 weeks.

Michigan: 50 per cent of wages, i. e., \$7.50 a week, for 500 weeks.

Minnesota: 50 per cent of wages, i. e., \$7.50 a week, for 400 weeks; then \$6.50 a week for 150 weeks.

Montana: 50 per cent of wages, i. e., \$7.50 a week, for 400 weeks; then \$5 a week for life.

Nebraska: 50 per cent of wages, i. e., \$7.50 per week, for 300 weeks; then 40 per cent, i. e., \$6 per week, for life.

Nevada: 50 per cent of wages, i. e., \$32.50 a month, for 100 months.

New Hampshire: 50 per cent of wages, i. e., \$7.50 a week, for 300 weeks.

New Jersey: 50 per cent of wages, i. e., \$7.50 a week, for 400 weeks.

New York: \$9.61 a week for life.

Ohio: 66 $\frac{2}{3}$ per cent of wages, \$10 a week, for life.

Oklahoma: 50 per cent of wages, i. e., \$7.50 a week, for 500 weeks.

Ontario: 55 per cent of wages, i. e., \$35.75 a month, for life.

Oregon: \$47 a month for life of workman while children are under 16, \$41 after oldest child attains 16 or dies, and \$35 for remainder of his life after younger has attained 16.

Pennsylvania: 50 per cent of wages, i. e., \$7.50 per week, for 500 weeks; maximum limit, \$4,000.

Rhode Island: 50 per cent of wages, i. e., \$7.50 per week, for 500 weeks.

Texas: 60 per cent of wages, i. e., \$9 per week, for 400 weeks.

Vermont: 50 per cent of wages, i. e., \$7.50 per week, for 260 weeks.

Washington: \$35 a month till eldest child attains 16; then \$30 a month till next attains 16; then \$25 a month till the maximum limit of \$4,000 is exhausted.

West Virginia: 50 per cent of wages, i. e., \$7.50 a week, for life.

Wisconsin: 65 per cent of wages, i. e., \$9.75 a week, until six times his annual wages, i. e., $6 \times 12 \times \$65 = \$4,680$, is exhausted.

Wyoming: A lump sum (in this case, \$2,760); the amount would vary according to conjugal status.

CASE D.

Workman; age, 46; stationary engineer; monthly wages, \$78, or \$18 a week; married; no children under 16; loses right arm at elbow; healing period, 14 weeks.

Tabulating the awards which would be given in such a case as in other instances referred to, we have:

New York	3,597.86	Indiana	1,800.00
Ontario	3,116.80	Iowa	1,800.00
California (plus annual pension of \$98.28 after 240 weeks)	2,808.00	Louisiana	1,800.00
Ohio	2,556.00	Michigan	1,800.00
Oregon	2,556.00	Minnesota	1,800.00
Oklahoma	2,250.00	Maryland	1,800.00
Nevada	2,080.00	Washington	1,621.00
Pennsylvania	1,935.00	West Virginia	1,621.00
Nebraska	1,935.00	Montana	1,620.00
Illinois	1,917.00	Vermont	1,530.00
New Jersey	1,908.00	Maine	1,350.00
Wisconsin	1,874.00	Wyoming	960.00
Colorado	1,872.00	Massachusetts (subject to further consideration)	603.33
Connecticut	1,872.00	Rhode Island	558.00
		Texas	540.00

CASE E.

Workman in a woolen mill; age, 38; wages, \$39 per month, or \$9 per week; leg amputated slightly above midpoint between knee and ankle; married, with two children under 16; healing period, six months. Tabulated as in the other cases in order of size the awards would be as follows:

Oregon	\$1,740.40	New Jersey	\$745.00
Ontario	1,276.71	Iowa	700.00
New York	1,182.85	Maine	675.00
Washington	1,140.40	Maryland	675.00
Wyoming	1,098.33	Connecticut	650.00
Wisconsin	1,014.40	Massachusetts (subject to further consideration) ...	644.00
Illinois	900.00	Colorado	625.50
Ohio	900.00	Indiana	618.75
Oklahoma	900.00	Louisiana	562.50
Montana	840.00	Michigan	562.50
Nevada	820.00	Vermont	540.00
California	795.00	West Virginia	540.00
Nebraska	750.00	Texas	405.00
Pennsylvania	750.00	Rhode Island	333.00
Minnesota	750.00		

INDEX FINGER CASE.

A paper on the subject of permanent partial disability cases would not be complete did it not deal with another injury—one which we all have, probably in larger percentage than any other, viz, that of the amputation of the index finger. I am accordingly showing in the following tabulation the relative values allowed for such an injury as in three cases: First, as off at distal joint; second, as off at second joint; and, third, as off at proximal joint, using for my illustration the case of a workman in a planing mill, 25 years old, with a wife and three children, wages \$12 a week, or \$52 a month. He is totally disabled eight weeks.

The comparison includes all the jurisdictions naming a specific schedule for a finger and stated in order of aggregate of awards for finger at the three points mentioned.

State.	Distal.	Second.	Proxi- mal.	Aggre- gate.
New York.....	\$176.87	\$353.74	\$353.74	\$884.35
Oregon.....	169.46	227.80	402.80	800.06
Nevada.....	165.00	282.00	282.00	729.00
Ohio.....	149.33	242.67	336.00	728.00
Ontario.....	140.34	217.78	295.05	653.17
Illinois.....	147.00	252.00	252.00	651.00
New Jersey.....	141.00	246.00	246.00	633.00
California.....	163.80	163.80	218.40	546.00
Michigan.....	105.00	210.00	210.00	525.00
Minnesota.....	105.00	210.00	210.00	525.00
Oklahoma.....	105.00	210.00	210.00	525.00
West Virginia.....	108.00	162.00	215.00	485.00
Connecticut.....	76.00	152.00	228.00	456.00
Iowa.....	90.00	180.00	180.00	450.00
Maine.....	90.00	180.00	180.00	450.00
Wyoming.....	135.83	135.83	177.50	449.16
Indiana.....	99.00	99.00	198.00	396.00
Vermont.....	75.00	150.00	150.00	375.00
Louisiana.....	90.00	90.00	180.00	360.00
Maryland.....	60.00	120.00	180.00	360.00
Wisconsin.....	78.00	117.00	156.00	351.00
Montana.....	60.00	90.00	120.00	270.00
Colorado.....	54.00	78.00	108.00	240.00
Massachusetts.....	144.00			
Texas.....	136.80			
Rhode Island.....	108.00			

Maximum and minimum weekly awards in the various jurisdictions for total disability are as follows:

State.	Mini- mum.	Maxi- mum.	State.	Mini- mum.	Maxi- mum.
Arizona.....			New Hampshire.....		
California.....	\$4.10	\$20.83	New Jersey.....	\$5.00	\$10.00
Colorado.....	5.00	8.00	New York.....	5.00	15.00
Connecticut.....	5.00	10.00	Ohio.....	5.00	12.00
Illinois.....	6.00	12.00	Oklahoma.....	6.00	10.00
Indiana.....	5.50	13.20	Ontario.....	(²)	21.15
Iowa.....	5.00	10.00	Oregon.....	(²)	150.00
Kansas.....	6.00	15.00	Pennsylvania.....	5.00	10.00
Louisiana.....	3.00	10.00	Rhode Island.....	4.00	10.00
Maine.....	4.00	10.00	Texas.....	5.00	15.00
Maryland.....	5.00	12.00	Vermont.....	3.00	12.50
Massachusetts.....	4.00	10.00	Washington.....	(²)	135.00
Michigan.....	4.00	10.00	West Virginia.....	5.00	10.00
Minnesota.....	6.50	11.00	Wisconsin.....	{ 4.69	9.37
Montana.....	6.00	10.00		{ 4.6.25	45.63
Nebraska.....	5.00	10.00	Wyoming.....		
Nevada.....	120.00	160.00			

¹ Per month.² No minimum.³ Generally.⁴ For railway men.

MEDICAL EXPENSES UNDER WORKMEN'S COMPENSATION LAWS.

Arizona.....	None.	Nevada.....	4 months.
California.....	.90 days.	New Hampshire.....	None.
Colorado (limit \$100).....	.30 days.	New Jersey (limit \$50).....	.2 weeks.
Connecticut (unlimited).....	.30 days.	New York.....	.60 days.
Illinois (limit \$200).....	.8 weeks.	Ohio (limit \$200).....	
Indiana.....	.30 days.	Oklahoma.....	.15 days.
Iowa (limit \$100).....	.2 weeks.	Ontario.....	None.
Kansas.....	None.	Oregon (limit \$250).....	
Louisiana (limit \$150).....	.2 weeks.	Pennsylvania (limit \$75).....	.14 days.
Maine (limit \$30).....	.2 weeks.	Rhode Island.....	.2 weeks.
Maryland (limit \$150).....		Texas.....	.1 week.
Massachusetts (practically no limit).....		Vermont (limit \$75).....	.14 days.
Michigan.....	.3 weeks.	Washington.....	None.
Minnesota (limit \$200).....	.90 days.	West Virginia (limit \$150).....	
Montana (limit \$50).....	.2 weeks.	Wisconsin.....	.90 days.
Nebraska (limit \$200).....	.21 days.	Wyoming.....	None.

COMPENSATION RATES UNDER WORKMEN'S COMPENSATION LAWS.

	Per cent.		Per cent.
Massachusetts.....	66 $\frac{2}{3}$	Minnesota.....	50
New York.....	66 $\frac{2}{3}$	Montana.....	50
Ohio.....	66 $\frac{2}{3}$	Nebraska.....	50
California.....	65	Nevada.....	50
Wisconsin.....	65	New Hampshire.....	50
Kentucky.....	65	New Jersey.....	50
Texas.....	60	Oklahoma.....	50
Indiana.....	55	Pennsylvania.....	50
Ontario.....	55	Rhode Island.....	50
Arizona.....	50	Vermont.....	50
Colorado.....	50	West Virginia.....	50
Connecticut.....	50	Oregon (\$30 to \$50 per month)	
Illinois.....	50	maximum.....	60
Iowa.....	50	Washington (\$15 to \$35 per month)	
Louisiana.....	50	maximum.....	60
Maine.....	50	Wyoming, \$15 to \$35 per month.	
Maryland.....	50	Kansas.....	25 to 50
Michigan.....	50		

WAITING PERIODS UNDER WORKMEN'S COMPENSATION LAWS.

Arizona ¹	2 weeks.	Nevada.....	2 weeks.
California.....	2 weeks.	New Hampshire.....	2 weeks.
Colorado.....	3 weeks.	New Jersey.....	2 weeks.
Connecticut.....	10 days.	New York.....	2 weeks.
Illinois.....	1 week.	Ohio.....	1 week.
Indiana.....	2 weeks.	Oklahoma.....	2 weeks.
Iowa.....	2 weeks.	Ontario ¹	1 week.
Kansas.....	2 weeks.	Oregon.....	None.
Louisiana.....	1 week.	Pennsylvania.....	2 weeks.
Maine.....	2 weeks.	Rhode Island.....	2 weeks.
Maryland.....	2 weeks.	Texas.....	1 week.
Massachusetts.....	10 days.	Vermont.....	2 weeks.
Michigan ¹	2 weeks.	Washington.....	None.
Minnesota ¹	1 week.	West Virginia.....	1 week.
Montana.....	2 weeks.	Wisconsin ¹	1 week.
Nebraska ¹	2 weeks.	Wyoming.....	10 days.

Now, gentlemen, I have just this further word to say in regard to all these comparisons which I have shown in this paper. There seems to be no inherent reason, so far as labor conditions are concerned, why there should be this wide divergence between the various jurisdictions in the matter of compensation awards. One would expect a greater uniformity in amount from 32 juries, picked almost at random in these various jurisdictions, if they were asked to value these various functional losses.

If a thumb is worth \$780 in Ohio, can anyone argue that it is worth only \$340 in Iowa? If an eye out means a loss of \$1,499 to a workman in Wisconsin, does it mean a loss of only \$792 to a workman in West Virginia? Is the right arm of a workman in New York, Ontario, or California worth twice as much as it is to a work-

¹ Conditional.

man in the same grade in Maine or Washington? Or is a leg in Oregon worth three times as much as a leg in Michigan or Colorado?

I venture to say none of us is ready to admit that there is any substantial difference in the standard of living of the average workman as between these various jurisdictions. It may be all right to ask for uniformity in statistics, but if there is one thing, it seems to me, in which we need to seek for some degree of uniformity it is in this all-important question of values which are to be placed on these functional losses which we are all considering more or less every day, and if I have said a word which will bring home to this convention and through its constituent members to their home legislatures the great need for such uniformity, I shall feel well repaid for any trouble this study has cost me.

APPENDIX A.

PERMANENT PARTIAL DISABILITY RATING SCHEDULE—WORKMEN'S COMPENSATION BOARD OF ONTARIO.

Nature of injury.	Weekly earnings \$7 to \$10.		Weekly earnings \$11 to \$14.		Weekly earnings \$15 to \$18.		Weekly earnings \$19 to \$28.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
Loss of—								
Arm at shoulder.....	80	72	72	65	65	59	59	53
Arm at elbow.....	66.6	60	60	54	54	49	49	44
Forearm, upper half.....	50	45	45	41	41	36	36	33
Forearm, lower half.....	45	41	41	36	36	33	33	29
Hand at wrist.....	40	36	36	33	33	29	29	26
Thumb.....	9	8.1	8.1	7.3	7.3	6.6	6.6	5.9
Thumb, one phalanx.....		5.4		4.9		4.4		4
Thumb, with metacarpal.....	14	12.6	12.6	11.3	11.3	10.2	10.2	9.2
Fingers, four.....	22	19.8	19.8	17.8	17.8	16	16	14.4
Fingers, index, middle, and ring.....	15	13.5	13.5	12.2	12.2	10.8	10.8	9.8
Fingers, index and middle.....	10.8	9.7	9.7	8.7	8.7	7.8	7.8	7.1
Fingers, middle and ring.....	7.5	6.8	6.8	6.1	6.1	5.5	5.5	5
Fingers, middle, ring, and little.....	10.6	9.6	9.6	8.6	8.6	7.7	7.7	6.9
Fingers, ring and little.....	5.5	5	5	4.5	4.5	4.1	4.1	3.7
Fingers, add for metacarpals 1, 2, or 3 each.....	5	4.5	4.5	4.1	4.1	3.7	3.7	3.3
Fingers, add for metacarpals fourth and fifth.....	3	2.7	2.7	2.4	2.4	2.2	2.2	2
Finger, index.....	5	4.5	4.5	4.1	4.1	3.7	3.7	3.3
Finger, index, two phalanges.....	3.6	3.2	3.2	2.9	2.9	2.6	2.6	2.4
Finger, index, one phalanx.....	1.8	1.6	1.6	1.4	1.4	1.3	1.3	1.2
Finger, middle.....	3.6	3.2	3.2	2.9	2.9	2.6	2.6	2.4
Finger, middle, two phalanges.....	2	1.8	1.8	1.6	1.6	1.4	1.4	1.3
Finger, middle, one phalanx.....	1	.9	.9	.8	.8	.7	.7	.6
Finger, ring.....	2.7	2.4	2.4	2.2	2.2	2	2	1.8
Finger, ring, two phalanges.....	1.6	1.4	1.4	1.3	1.3	1.2	1.2	1.1
Finger, ring, one phalange.....	.8	.7	.7	.6	.6	.5	.5	.5
Finger, little.....	2	1.8	1.8	1.6	1.6	1.4	1.4	1.3
Finger, little, two phalanges.....	1	.9	.9	.8	.8	.7	.7	.6
Finger, little, one phalanx.....	.5	.4	.4	.4	.4	.3	.3	.3
Leg, disarticulation of thigh.....	90		85.5		81		77	
Leg, above knee.....	60		57		54.2		51.5	
Leg, at knee.....	40		36		32.4		29	
Leg, below knee.....	30		27		24.3		21.9	
Foot, at ankle.....	30		27		24.3		21.9	
Foot, fore part only.....	25		22.5		20.3		18.2	
Toes, all toes, including great toe.....	6		5.4		4.9		4.4	
Toes, all toes except great.....	4.8		4.3		3.9		3.5	
Toe, metatarsal with other than great.....	1.5		1.4		1.2		1.1	
Toe, great.....	3		2.7		2.4		2.2	
Toe, great, with metatarsal.....	6		5.4		4.9		4.4	
Toe, great, one phalanx.....	1.2		1.1		1		.9	
Toe, second.....	1		.9		.8		.7	
Toe, third.....	.8		.7		.6		.5	
Toe, fourth or fifth.....	.4		.4		.4		.3	
Eye, one, out.....	18		18		18		18	
Eye, one, blind, not out.....	16		16		16		16	

APPENDIX B.

AMOUNT REQUIRED TO BE RESERVED TO MAINTAIN PENSION OF \$1 PER MONTH DURING EXPECTANCY AT AGES FROM 15 TO 70 YEARS, FUNDS AND INTEREST EARNINGS TO BE INVESTED AT 5 PER CENT—WORKMEN'S COMPENSATION BOARD OF ONTARIO.

Age.	Expectancy (years).	Reserve required to pay \$1 per month to end of expectancy.	Age.	Expectancy (years).	Reserve required to pay \$1 per month to end of expectancy.
15 years	45.50	\$219.14	43 years	26.00	\$176.71
16 years	44.85	218.29	44 years	25.27	174.19
17 years	44.19	217.39	45 years	24.54	171.58
18 years	43.53	216.45	46 years	23.81	168.90
19 years	42.86	215.49	47 years	23.08	166.12
20 years	42.20	214.48	48 years	22.36	163.25
21 years	41.53	213.44	49 years	21.63	160.26
22 years	40.83	212.35	50 years	20.91	157.21
23 years	40.17	211.22	51 years	20.20	154.08
24 years	39.49	210.04	52 years	19.49	150.83
25 years	38.81	208.84	53 years	18.79	147.54
26 years	38.12	207.57	54 years	18.09	144.19
27 years	37.43	206.26	55 years	17.40	138.79
28 years	36.73	204.88	56 years	16.72	138.79
29 years	36.03	203.47	57 years	16.05	136.43
30 years	35.33	201.99	58 years	15.39	135.25
31 years	34.63	200.46	59 years	14.74	133.28
32 years	33.92	198.87	60 years	14.10	131.48
33 years	33.21	197.21	61 years	13.47	129.69
34 years	32.50	195.48	62 years	12.86	128.10
35 years	31.78	193.69	63 years	12.26	126.47
36 years	31.07	191.86	64 years	11.67	124.83
37 years	30.35	189.97	65 years	11.10	123.34
38 years	29.62	187.89	66 years	10.54	121.92
39 years	28.90	185.83	67 years	10.00	120.66
40 years	28.18	183.68	68 years	9.47	119.26
41 years	27.45	181.41	69 years	8.97	118.14
42 years	26.72	179.08	70 years	8.48	117.03

(At the conclusion of Mr. Kingston's address he showed some slides comparing the rates of compensation for permanent disability and partial disability in the different States.)

DISCUSSION OF COMMITTEE REPORTS.

The CHAIRMAN. Of course, you want to discuss the address of Mr. Archer as well as that of Mr. Kingston, but we have another subject made a special order for 4 o'clock this afternoon, the report of the committee on statistics and compensation insurance cost. I haven't read the report myself, but I have such confidence in the committee that prepared it that I think it would be safe to adopt the report of the committee without discussion. It may be that the provisions of the laws of some of the States are such as to prevent the recommendations contained in this report being carried out to the fullest extent, but you can make inquiry of some of the delegates. I find it can be done by Massachusetts, Pennsylvania, Michigan, Ohio, and Wisconsin, and perhaps in some of the other States. These have been working toward accomplishing what is contained in this report, if I understand what it contains. Are there any remarks on the question of the adoption of the report?

Dr. LESCOHIER. I move the adoption of the committee's report, and the continuation of the committee to work further along this line.

(Motion seconded, with the suggestion that the vacancies on the committee be filled.)

Mr. VAUGHN. I don't believe anybody wants to talk, therefore I move the previous question on this motion.

(Motion carried.)

The CHAIRMAN. Mr. Hughes in seconding this motion called attention to the fact that there were some vacancies on this committee that should be filled. I want to suggest that it would possibly be a good idea for the chief statisticians of the States from which the original committee was made up to constitute the committee and to add to their number the name of Dr. Meeker, of the Federal Labor Bureau, if that is agreeable.

Dr. MEEKER. I think the present chairman of the committee on statistics and compensation insurance cost should be continued as chairman of that committee. An abler man can not be found than Mr. Downey. Although Mr. Downey's connections have been somewhat changed, yet I think it would be a mistake to deprive the committee of his services. I wish I could ask that Mr. Magoun be continued on the committee, but I think the fact that Mr. Magoun separated himself from the official public service has thereby rendered him ineligible on this committee.

Mr. HATCH, New York. I would suggest that the name of Mr. Broderick, of Massachusetts, be substituted for Mr. Magoun; also the name of Dr. Lescohier, of Minnesota, for Mr. Orr, as I understand he, too, is no longer eligible on this committee.

The CHAIRMAN. Another thing I thought of, Ohio doesn't want any more than her share. You all know that Ohio is practically an exclusive State-insurance State. Work on this committee has to do with that subject. I think Mr. Watson may be continued on that committee as well as Mr. Croxton. I suggest that the committee be composed of Mr. E. H. Downey, of Pennsylvania; Dr. Royal Meeker of Washington, D. C.; Mr. P. A. Broderick, of Massachusetts; Mr. L. W. Hatch, of New York; Mr. F. C. Croxton and Mr. E. E. Watson, of Ohio; Dr. D. D. Lescohier, of Minnesota; and Mr. T. N. Dean, of Ontario.

Mr. WILCOX. I would like to add the name of Mr. Burhop. I am sure this committee should be continued, with all statisticians as members. Of course not all can attend the meetings, but we will be able to get a better representation at the meetings.

The CHAIRMAN. My experience has been that the smaller you get your committee the more work you will be able to accomplish. In

order to dispose of this matter, somebody put the thing in concrete shape and make a motion.

Mr. KINGSTON. I move that the committee as suggested by you be continued, including the name of Mr. Burhop, of Wisconsin.

(Motion seconded and carried.)

Mr. KINGSTON. We passed over on the program last night a paper by Mr. Hatch which would come up for presentation at the time we are discussing this report.

Mr. HATCH. I am glad to leave my paper out as long as the essential thing has been done—the adoption of this report.

Dr. MEEKER. I rise to ask a question. It seems to me a great many things of importance have not been given very careful consideration, or haven't come before this conference at all. The program provides for the committees' reports to-morrow afternoon. From conversation with the different members, our attendance to-morrow afternoon will not be large.

The CHAIRMAN. It is an open session; any of the committees can make a report if ready.

Mr. PILLSBURY. Mr. Chairman, the finance committee is ready to report.

REPORT OF FINANCE COMMITTEE.

Gentlemen of the International Association of Industrial Accident Boards and Commissions:

Your committee on finance beg leave to submit the following report:

We have examined the statement of the secretary of the association and find it correct in so far as it embodies the transactions of the association.

In addition to the provision of the by-laws that expenses not covered by the initiation fee shall be covered by assessment upon the member States of the association, we recommend that each State board or commission holding membership pay an annual fee of \$25 for the support of the association.

With reference to the publication of the proceedings of the association meetings, your committee recommends that the offer of the Hon. Royal Meeker, Commissioner, United States Bureau of Labor Statistics, to publish such proceedings as a public document be accepted, for the reason that it will relieve the association of a serious expense and yet furnish a much wider publicity than can be obtained through publishing such proceedings as heretofore by subscription for copies thereof.

As a condition precedent to the making of this offer, it will be necessary for this association to appoint a committee to edit the proceedings for submission to the Commissioner of the United States Bureau of Labor Statistics and to confer with him with reference to the manner and matter to be accepted for such publication, and we recommend the appointment of such editorial committee.

Respectfully submitted.

A. J. PILLSBURY,
W. L. BLESSING,
CARLE ABRAMS.

Mr. ABRAMS. Inasmuch as this report deals with the financial condition of the association, would it not be well to hear the report of the secretary in this connection?

The CHAIRMAN. Is that agreeable, Mr. Pillsbury?

Mr. PILLSBURY. Yes, sir.

The CHAIRMAN. Very well, we will hear the report of the secretary and treasurer.

REPORT OF SECRETARY AND TREASURER.

AMOUNT COLLECTED BY MR. L. A. TARRELL.

Industrial Accident Commission of California.....	\$50. 00
Iowa Industrial Commission, Des Moines, Iowa.....	5. 00
Employers' Association of Detroit, Mich.....	50. 00
Nevada Industrial Commission, Carson City, Nev.....	12. 50
State Industrial Commission, New York City.....	125. 00
Insurance Department, New York City.....	1. 50
Industrial Commission of Ohio, Columbus, Ohio.....	50. 00
Brier Hill Steel Co., Youngstown, Ohio.....	10. 00
American Rolling Mill Co., Middleton, Ohio.....	2. 50
Youngstown Sheet & Tube Co., Youngstown, Ohio.....	25. 00
Firestone Rubber Co., Akron, Ohio.....	37. 50
American Steel & Wire Co., Cleveland, Ohio.....	25. 00
National Tube Co., Pittsburgh, Pa.....	25. 00
Ralston Steel Car Co., Columbus, Ohio.....	2. 50
Willys-Overland Co., Toledo, Ohio.....	25. 00
Industrial Accident Commission, Salem, Oreg.....	5. 00
West Virginia Commissioner, Charleston, W. Va.....	6. 25
Industrial Commission of Wisconsin, Madison.....	10. 00
Workmen's Compensation Board, Ontario, Canada.....	25. 00
Employers' Association of Washington, Seattle, Wash.....	10. 00
Industrial Commission of Wisconsin (association dues).....	25. 00
Industrial Commission of Minnesota (association dues).....	25. 00
Industrial Commission of Montana (association dues).....	25. 00
Balance received from Mr. Kinnane.....	3. 52
Miscellaneous orders (small amounts).....	12. 25
A. V. Pineo, Victoria, B. C.....	2. 00
Total amount collected as per statement to Mar. 30, 1916.....	\$595. 52

AMOUNT REMITTED BY MR. TARRELL TO MR. F. L. DAGGETT.

January 18, 1916, check.....	\$250. 00
January 24, 1916, check.....	100. 00
April 3, 1916, check.....	200. 00
	<hr/>
	550. 00
	<hr/>
	45. 52
Amount expended by Mr. Tarrell.....	9. 21
Amount held by Mr. Tarrell.....	36. 31
	<hr/>
	45. 52
	<hr/> <hr/>

AMOUNT COLLECTED BY MR. F. L. DAGGETT.

Industrial Board, Chicago, Ill.....	\$125.00
Department of Labor and Industry, Topeka, Kans.....	1.00
Industrial Accident Board, Boston, Mass.....	125.00
Employers' Indemnity Co., Kansas City, Mo.....	2.00
W. F. Houck, Labor Commissioner, St. Paul, Minn.....	3.75
Industrial Accident Board, Helena, Mont.....	12.50
New Hampshire Labor Commissioner, Concord.....	.25
Casualty Actuarial & Statistical Society of America, New York City.....	.25
M. L. Shipman, Department of Labor and Printing, Raleigh, N. C.....	1.00
La Belle Iron Works, Ohio.....	12.50
University of Pennsylvania, Philadelphia.....	.50
State of Wyoming, State Treasurer.....	12.50
Royal Indemnity Co., Portland, Oreg.....	1.00
Industrial Insurance Commission, Olympia, Wash.....	166.25
Travelers Insurance Co., Detroit, Mich.....	6.25
Aetna Life Insurance Co., Detroit, Mich.....	15.00
Reynolds, J. C. H., Spokane, Wash.....	5.00
Pittsburg Limestone Co., New Castle, Pa.....	5.00
Stamps received.....	.25
Industrial Board of Illinois (association dues).....	25.00
Total amount collected by Mr. Daggett.....	\$520.00
Amount remitted by Mr. Tarrell as per above.....	550.00

 1,070.00

AMOUNT PAID OUT BY CHECKS.

Peter A. Kimple, court reporter.....	\$134.90
Stenographic services.....	35.00
Lumbermen's Printing Co., by checks.....	891.50
Balance on hand Apr. 17, 1916.....	6.60
E. G. Trimble, Kansas City, Mo. (check sent in error, re- turned).....	2.00
	<hr/>
	1,070.00

Amount of printing bill due the Lumbermen's Printing Co., Seattle..	959.00
Jan. 20, 1916, check.....	\$260.00
Jan. 31, 1916, check.....	118.00
Feb. 23, 1916, check.....	162.50
Feb. 23, 1916, check.....	132.00
Apr. 3, 1916, check.....	219.00
	<hr/>
	891.50

Amount due Lumbermen's Printing Co. Apr. 17, 1916.....	67.50
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AMOUNT STILL OUTSTANDING, ACCOUNT REPORTS ORDERED.

Workmen's Compensation Commission, New Haven, Conn.....	1.25
John E. Kinnane, chairman, Industrial Accident Board, Lansing Mich.....	75.00
Industrial Accident Board, Texas.....	1.50
Employers' Mutual Liability Insurance Co., Wausau, Wis.....	.75
Michigan Employers' Compensation Conference, Detroit, Mich.....	25.00
	<hr/>
Total amount due Apr. 17, 1916.....	103.50

I hereby certify that the above statement is true and correct according to my records.

FLOYD L. DAGGETT,
*President International Association of Industrial Accident
Boards and Commissions.*

OLYMPIA, WASH., April 17, 1916.

RECEIPTS.

Nov.	5. Kinnane, balance in treasury-----	\$3. 52
Nov.	5. The Firestone Co-----	37. 50
Nov.	18. Willys-Overland Co-----	25. 00
Nov.	25. Ohio Commission-----	50. 00
Nov.	25. Youngstown Sheet & Steel Co-----	25. 00
Nov.	29. National Tube Co-----	25. 00
Dec.	18. Nevada Industrial Commission-----	12. 50
Dec.	18. American Rolling Mill Co-----	2. 50
Dec.	18. Brier Hill Steel Co-----	10. 00
Dec.	22. Employers' Association, Detroit-----	50. 00
Dec.	31. Industrial Commission of Wisconsin, dues-----	25. 00
Dec.	31. Industrial Commission of Wisconsin, reports-----	10. 00
Jan.	10. Employers' Association, Washington-----	10. 00
Jan.	12. Ralston Steel Co-----	2. 50
Jan.	14. Insurance Department, New York-----	1. 50
Jan.	17. Iowa Industrial Commission-----	5. 00
Jan.	24. California-----	50. 00
Feb.	18. American Steel & Wire Co-----	25. 00
Feb.	18. State of West Virginia-----	6. 25
Feb.	18. Zurich General Accident Co-----	2. 00
Feb.	18. Globe Indemnity Co-----	1. 00
Feb.	18. E. D. Alexander-----	. 50
Feb.	18. Ford Motor Co-----	1. 00
Feb.	18. Chalmers Motor Co-----	1. 25
Feb.	18. New England Equitable-----	1. 00
Feb.	19. Michigan W. C. Mutual Insurance Co-----	2. 50
Feb.	21. F. A. Brown-----	. 75
Feb.	21. W. V. Butler-----	1. 00
Feb.	21. Standard Accident-----	. 50
Feb.	21. State of Oregon-----	5. 00
Mar.	13. Michigan Central Railway-----	. 75
Mar.	15. Minnesota, membership fee-----	25. 00
Mar.	27. Montana, membership fee-----	25. 00
Mar.	29. State of New York-----	125. 00
Apr.	8. Michigan Employers' Compensation-----	25. 00
		618. 52

DISBURSEMENTS.

Oct.	11. Express-----	\$2. 21
Dec.	28. Printing letterheads-----	7. 00
Jan.	15. Daggett-----	250. 00
Jan.	24. Daggett-----	100. 00

Mar. 30. Daggett.....	\$200. 00
Apr. 20. Stenographer.....	10. 00
	\$569. 21
Balance on hand.....	49. 31

L. A. TARRELL,
Secretary and Treasurer.

(On motion the report of the secretary-treasurer was adopted.)

The CHAIRMAN. I will state I have incurred some little expense in preparing for this meeting. This expense is as low as possible; most of it is for printing. I presume these bills will be handed to you, Mr. Secretary.

Mr. WILCOX. Does it require a motion to have this expense audited?

Mr. PILLSBURY. That is left to the executive committee.

Mr. HATCH. The by-laws provide an executive committee, consisting of the president, vice president, and secretary.

Mr. WILCOX. I move the executive committee be authorized to see that the accounts are audited.

(Motion seconded and carried.)

Following this action the committee on resolutions reported as follows:

REPORT OF COMMITTEE ON RESOLUTIONS.

Your committee on resolutions reports as follows:

1. *Resolved*, That the courtesy and consideration of our hosts, the members and employees of the State Industrial Commission of Ohio, merit an expression of appreciation.

2. *Resolved*, That the amendment proposed by Mr. Oliver to House Resolution 10484, which reads as follows: "All periodical publications issued from a known place of publication at stated intervals as frequently as four times a year by State departments of agriculture and of labor and industry shall be admitted to the mails as second-class mail matter: *Provided*, That such matter shall be published only for the purpose of furthering the objects of such departments: *Provided further*, That such publications shall not contain any advertising matter of any kind," be indorsed by this association and that each member thereof be instructed to urge his Senators to vote for its adoption, and that this section of the resolution herein be certified to the Committee on Post Offices and Post Roads of the Congress.

3. *Resolved*, That hereafter members who have places on the program be required to synopsise their papers in advance for general distribution in order to give better opportunity for discussion of the same.

4. *Resolved*, That Mr. John Mitchell, chairman of the Industrial Commission of New York, be requested to prepare a paper under the title assigned to him in the program of this meeting, to be published with the proceedings of the convention.

5. *Resolved*, That the single term for the presidency of this association be recommended.

6. *Resolved*, That a special conference on social insurance under the auspices of the industrial accident boards and commissions be called to meet at Washington, D. C., in September or October of this year to hear the proponents and opponents of various plans of social insurance, and this in order that the association constantly may be apprised of the relation of such proposed legislation to workmen's compensation; that invitations be issued freely to all interested parties to participate, and that the program for such meeting be arranged by a committee to be appointed by the chairman to be elected for the ensuing year.

7. *Resolved*, That the medical delegates be authorized to organize a separate section, which section shall remain an integral part of the organization, and this in order that such delegates may at conventions devote their entire time to medical questions of common interest; such section to be presided over by a committee of this organization to be appointed by the chairman and, for that purpose, that such a standing committee be, and hereby is, created.

8. *Resolved*, That a section of safety and health promotion be similarly organized and that recognition in the first instance be given to the interstate safety committee comprising delegates from eight States as organized in this city April 26, 1916, and that the chairman of such organization be the committee chairman of this section.

9. *Resolved*, That the Federal Bureau of Labor Statistics be requested to publish from this time the proceedings of the conventions and conferences of this association.

Your committee also presents for discussion a resolution submitted by Mr. Pillsbury, of California, in the matter of conflicts between Federal and State jurisdiction in commerce cases, which is as follows:

10. Whereas approximately 2,000,000 persons in the United States are employed in the several branches of transportation by railroad, and the occupations of a major portion of such employees are hazardous and subject them to risks of injury by accident; and

Whereas a conflict or division of jurisdiction over injuries sustained in such employment exists between the Federal Government and the governments of the several States of the Union, with reference to whether or not, at the time of the injury, an employee is engaged in interstate or intrastate commerce; and

Whereas courts of competent jurisdiction have been unable to formulate any rule of decision whereby, in advance of trial or formal hearing, it may be determined whether any given injury falls under Federal or State jurisdiction for the determination of any controversy arising out of any such accident or injury; and

Whereas such conflict of jurisdiction entails great hardship upon persons engaged in such employments, and in a great proportion of instances deprives them of protection freely enjoyed by workmen engaged in other employments; and

Whereas the system of compensation for industrial injuries without regard to negligence is sound in principle and fortunate in practice and has been almost universally adopted throughout the civilized world, in preference to the outworn theory of recompense for industrial injuries through damage suits based upon want of reasonable care; and

Whereas under the decision of the Supreme Court of the United States in the cases of *Brooks v. Southern Pacific Co.* (207 U. S., 461) and *Mondou v. New York, New Haven & Hartford Railroad Co.* (Negligence and Compensation

Cases, vol. 1, p. 881), it is evident that the Federal Government can not constitutionally assume jurisdiction over all cases of injury sustained in the course of intrastate as well as interstate commerce by railroads, and such division of jurisdiction works great hardships upon many hundreds of thousands of worthy citizens of the States of the Union; and

Whereas the enactment by Congress and the repeated judicial sanction of the Webb-Kenyon liquor law has established as a principle that certain articles or acts may by act of Congress be divested of their interstate commerce character in certain cases and States without being so divested in all cases and all States: Now, therefore, it is hereby

Resolved by the International Association of Industrial Accident Boards and Commissions, in its third annual meeting, held at Columbus, Ohio, April 25-28, 1916, That Congress be, and it is hereby, memorialized to so amend the Employers' Liability Act of 1908-1910, and any Federal compensation law that may be enacted, as to exempt from the operation of such law or act all States and Territories of the United States having in operation compulsory compensation laws competent to afford adequate protection to employees engaged in transportation by railroad, whether in interstate or intrastate commerce, and to permit railroads and their employees to elect to operate under compensation laws in States in which such laws are elective, thereby divesting injuries sustained in transportation by railroad of their interstate character in all such States, while retaining under Federal jurisdiction all States and Territories which do not enact and enforce laws providing for compensation to injured workmen without regard to negligence.

WM. C. ARCHER, *New York.*

J. B. VAUGHN, *Illinois.*

(Upon the reading of the report of the resolution committee Mr. Archer moved its adoption, and the motion was duly seconded.)

Dr. MEEKER. I move we take the resolutions up one by one, if that motion may be made as an amendment to the motion before the house.

(Motion seconded and carried.)

RESOLUTION NO. 1.

(Read and approved.)

RESOLUTION NO. 2.

The CHAIRMAN. Just one thing occurred to me with reference to that resolution. The title of that amendment pending in Congress might not cover all States. Strict construction given to that might not include industrial commissions.

Mr. ARCHER. Would you suggest an amendment? It has gotten past one house; that is the reason we copied the resolution exactly.

(The resolution was approved.)

RESOLUTION NO. 3.

Dr. MEEKER. This is one resolution I wish to speak of. I have a resolution partially drafted, referring to that resolution, that all papers prepared for presentation shall be submitted in full or synopsis to the secretary of the association at least four months in advance of said meeting in order that the paper or the synopsis may be printed to distribute throughout the whole membership of the association; and that in the future the paper to be read be printed, the presenter to be given 10 minutes or whatever time thought necessary to lay emphasis and to explain his point of view, then the paper to be thrown open for discussion.

Mr. ARCHER. Why four months?

Dr. MEEKER. I think it would take four months to print the paper or the synopsis, to distribute it, and have it given careful consideration. I simply hit on four months as giving abundant time allowance. I haven't any predilection for four months, but I think it is a necessary thing to have a definite time limit set. I know that from experience.

The CHAIRMAN. I think the suggestion a very good one, if it may be carried out. I don't see why it is not possible. This association is composed of busy men, and the disposition is to put these things off. We are all guilty, and sometimes it is put off until the night before. If the members think it possible to enforce a provision of this kind, it would certainly be a very good one.

The CHAIRMAN. If I have the correct impression in my mind, your offer is to make your office sort of a clearing house for this association.

Mr. PILLSBURY. I think we had better pass this until Mr. Meeker can put it in right.

Mr. KINGSTON. If we hold a meeting in the latter part of April, four months would bring us just before Christmas. I think if we make it a two months' rule it would serve the purpose. The principle as suggested by Mr. Meeker is well stated and one the association should adopt.

Dr. MEEKER. I am willing to accept two months if the conference is ready to adopt that time limit.

(Motion was made by Mr. Archer that the suggestion as made by Dr. Meeker be adopted, substituting the two months' time allowance instead of four. The motion was duly seconded and carried.)

RESOLUTION NO. 4.

(Chairman Yaple suggested that Dr. McCurdy be accorded the same privilege as Mr. Mitchell, as spoken of in the resolution, say-

ing, "Dr. McCurdy was here prepared to discuss Mr. Mitchell's paper. What he would have had to say would have been of great interest."¹)

(The resolution with suggestion offered was approved as read.)

RESOLUTION NO. 5.

(Approved as read without discussion.)

RESOLUTION NO. 6.

(Approved as read without discussion.)

RESOLUTION NO. 7.

Dr. LEWY. Gentlemen, it is my opinion from the experience of former meetings and that of last night that discussions such as we gave are not of great benefit to you gentlemen. We desire to organize under your jurisdiction, abide by your laws, the organization to consist of the chief medical advisers of the various industrial departments, and invitations to be extended to the medical profession in the city in which such conventions will be held. You gentlemen can be present at these meetings; these questions can be taken up and discussed; each case presents a different aspect to the different physicians. The human being must be studied not as a machine, not to be compared as a machine, but we look upon every case individually. You gentlemen will derive more benefit from meetings such as these.

Dr. DONOGHUE, Massachusetts. I differ from my friend from New York in some particulars. First, the medical administration is functional. The medical adviser is not to substitute his opinion and that of the medical profession nor to substitute such medical opinion as information against experiences found useful in the law as determining the rights of the people. You need advice and instruction from the medical profession as you go along, as to how they could help you. I think it extremely profitless to enter into a long discussion; it is constructive work you need.

Perhaps an organization, under different auspices, which permits all the medical examiners to get in touch with what compensation means and what administration means, so they can prepare medical papers not from a standpoint of dogmatism, but from a standpoint of what this organization needs, especially industrial medical legislation, will be of benefit or use.

(Resolution adopted.)

¹ Papers not furnished for publication.

RESOLUTION NO. 8.

(Read and, after a brief discussion, adopted.)

RESOLUTION NO. 9.

The CHAIRMAN. Is the department to be thanked or to be requested?

Mr. ARCHER. My understanding is that the department is to be requested.

(Resolution adopted.)

RESOLUTION NO. 10.

(Mr. Pillsbury moved the adoption of the next resolution, it being one in which he was especially interested. Motion seconded.)

Mr. WILCOX. I recognize the difficulty the States are in in regard to railway employees and the trouble it gives the commissions to determine what is interstate commerce and intrastate commerce. A large number of employees injured in railway work go without compensation of any sort. It would surprise you if you haven't made a study just how far courts have gone in the matter of determining things to be acts of interstate commerce. A particular case is the so-called Pedersen case. In the Pedersen case the Supreme Court of the United States held that a railway employee who was carrying bolts with which a bridge was to be repaired, was engaged in interstate commerce. A certain span of the bridge was to be removed during the nighttime, the employee getting the material over on the ground in the daytime. This certain employee while carrying these bolts was struck and killed by an intrastate passenger train. They held he was engaged in interstate commerce at the time.

(Mr. Wilcox here referred to other cases bearing on this question, but complete stenographic notes of this part of his remarks were not obtained.)

I welcome any kind of Federal legislation that is going to remedy this situation; but I wonder whether or not we want to say to Congress what it shall write into the Federal liability act. We know Congress has jurisdiction in these matters, but I wonder if we want to say, you write into the law that railway employees injured in Wisconsin shall be compensated under the act. There is reason for a uniform law. We all have certain things, certain ideas that appeal to us, and we want to see them through. My thought regarding the Federal act is for a uniform act, applying to all local boards. There should be a Federal compensation act covering interstate employees, the law to be administered by the boards in the State where the accident happens.

I don't want in my remarks to say anything to break down any kind of advance we can make along these lines. If we can best put through this advance by some legislation of the character that Mr. Pillsbury suggests, then that ought to be done.

Dr. LESCOHIER. This proposition brought up by Mr. Pillsbury presents a situation that I wouldn't want to vote for or against. I wouldn't want to commit myself either way. I would like to take the resolution home and let the question rest, thus giving us an opportunity to think about it.

Mr. PILLSBURY. There are three choices which you may take. One is to leave it as it is, another to pass a Federal workmen's compensation law, which will be open to the same objection of conflict of jurisdiction, the third, the method I have suggested. I don't believe this thing can go two-thirds under one jurisdiction and one-third under another; in order to handle it successfully the whole subject has to be under one jurisdiction. It all could be under the jurisdiction of the Federal Government, which could take cognizance of all service whether interstate commerce or intrastate commerce.

I want to call your attention to one thing in my resolution that has a great deal of weight. Where adequate protection is given, the injuries sustained should be divested of their interstate character in those States that have adequate State compensation laws.

Perhaps I feel strongly in regard to this resolution, probably from the fact of a case which attracted my attention. One of the workmen engaged in railway work suffered from typhoid fever; his wife urged him not to go to work. He was missed from his train and upon going back the poor fellow was found dead on the railroad track. Upon inquiry, some men in the section house thought they had heard a dog howling, which proved to be the death cry of this man in his agony. We were powerless to do anything to aid the widow and child, because the train from which he fell and which ran over him contained cars carrying interstate commerce. His wife was left, not a charge on the National Government, but a charge on the community.

If I can get this resolution passed I propose to take it up directly with the labor organizations. I propose to go to Washington and see if I can interest some of them there. If I can't start it here I may as well go home. I ask you, gentlemen, to vote for this resolution in the name of the brave men entitled to this protection.

(The motion was carried.)

Mr. BLESSING, Oklahoma. I would like to have my vote recorded "No." I don't desire to go back home recorded as voting for this resolution.

(Session adjourned.)

THURSDAY, APRIL 27—EVENING SESSION (MEDICAL SECTION).

The **CHAIRMAN**. The first thing in order is the report of the committee on nominations and place of holding the next annual meeting. Is the committee ready to report?

Mr. **KINGSTON**. Your committee begs leave to submit the following report, and is unanimous in the suggestion that this report be considered clause by clause :

**REPORT OF THE COMMITTEE ON NEXT PLACE OF MEETING AND THE
NOMINATION OF OFFICERS.**

Your committee begs to report that the place of meeting of the next annual convention be at Boston, Mass.

That Hon. Wallace D. Yaple be president for the ensuing year.

That Mr. Dudley M. Holman be vice president.

That Hon. Royal Meeker, Commissioner of the United States Bureau of Labor Statistics, be secretary-treasurer.

That it be a recommendation to the incoming executive to carefully consider a revision of the constitution during recess and bring in the report on such revision.

The **CHAIRMAN**. You have heard the report, gentlemen. The first clause is the clause recommending Boston as the place for the next annual meeting.

Mr. **WILCOX**. Mr. Chairman, I was very anxious that the next meeting place of the compensation board should be Madison. We are justly proud of the work we are doing there, but Mr. Holman seems anxious that the next convention be held at Boston, and it seems the greater number of the members here feel the same way. My good friends have promised that the next meeting place shall be Madison.

(On motion, the first clause of the report was adopted.)

Mr. **KINGSTON**. The next matter to be considered is the time of meeting. It has been suggested that April would not be a good time to go to Boston. I think we should swing back to the latter part of the summer—August, 1917.

(No further objection being made to change in date, a motion to adopt this suggestion was carried.)

Mr. KINGSTON. The next item refers to the selection of Mr. Yaple as president for the ensuing year.

Mr. VAUGHN. I move that the rules be suspended and the chairman of this committee cast the ballot for Hon. Wallace D. Yaple as president of this convention for the ensuing year.

(Motion taken by a rising vote. Carried.)

Mr. YAPLE. Gentlemen, I appreciate the honor you have conferred upon me. While our time is limited, and I think now we have already exhausted it, yet I am going to say something which I feel will meet with the approval of all of you.

At the time this organization was effected at Lansing we established a rule electing as president of the organization the man from the city in which the annual meeting was held. That elected Mr. Kinnane. We followed that rule electing Mr. Daggett. That established another rule electing the vice president from the city where the next annual meeting is to be held. I think that rule is wrong for the meetings that are to be held hereafter. I think it is proper that the president be elected from the city where the next meeting is to be held—in the present instance, Mr. Holman or some other member from Massachusetts. I say I fully appreciate the honor by electing me; but as Mr. Daggett has not been able to attend this meeting, his power and his duties have devolved upon me, and I have presided as your president—have had that opportunity.

I want to thank you for electing me as president of this organization and at the same time tender my resignation to take effect at the end of the session here and suggest that Mr. Holman, of Massachusetts, be selected as president for the ensuing year. I make that a motion, and will ask Mr. Kingston to put it before the meeting.

Mr. KINGSTON. That involves the consideration of the man who shall be vice president when Mr. Holman becomes president. There is an appropriateness in the suggestion our president has made. We all know it becomes impossible for the president residing in Ohio to take very much part in the preparations or arrangements for a convention to be held in Boston. We know it is quite true that the responsibility of this meeting has rested upon Mr. Yaple to a large extent. The power and the pleasure, and all that goes with the position of president, have been, as he said, honors thrown upon him, but it is for the convention to say as to whether Mr. Yaple's suggestion be adopted.

Dr. LESCOHIER. We agreed to set a special order for this evening to take care of this matter of business, not to exceed 10 minutes. I move we put the consideration of the remainder of business over until 9.30.

Mr. VAUGHN. I can't see for myself why we should have a written law in this regard—why the president of this organization should be selected from the State or city where the next convention of this organization is to be held. Personally, I can't see why this is absolutely necessary. I believe it would be better to select such men as we think should be selected, selecting them on merit, regardless of locality, or irrespective of where the next convention shall be held. I believe it is establishing a precedent that will hamper the work of this organization, and I believe Mr. Yapple can accept the presidency of this organization without detracting from the success of the meeting next year.

Mr. KINGSTON. I think we should amend our report to this extent. Accept the resignation of Mr. Yapple, taking effect at the end of this session, and elect Mr. Holman as our president for the ensuing year. (Motion seconded and carried.)

Dr. DONOGHUE. Speaking for Massachusetts, I want to thank Mr. Yapple for the courtesy he has shown and the honor he has paid Massachusetts in selecting a Massachusetts man as the president of this organization. I am sorry the by-laws don't permit that honor to rest with Mr. Yapple. I wish to move the secretary cast the ballot for Mr. Holman.

(Motion seconded and carried.)

Mr. HOLMAN. I wouldn't want it to be thought this is establishing a precedent, because I think at our original meeting at Lansing we voted quite the same way. A vote was taken at that meeting that the president should be selected from the city where the next convention was to be held. If my recollection serves me right that was carried. I was elected at that time as Mr. Yapple was elected here; I retired as Mr. Yapple did. I felt it should be given to the man whose city was selected as the convention city. Mr. Kinnane was elected and he followed out the same wishes and retired when the convention went to Seattle. So with Mr. Daggett. I don't want to take away any honor from Ohio, much as I appreciate it for Massachusetts, and much as I appreciate the kindness of our president in doing what he has done. I would rather it didn't come to me if it is going to leave the impression we are establishing an unwise procedure or we are doing something that ought not to be done. I appreciate very much the honor, but I would rather retire now than have any such feeling exist in a single member.

Mr. KINGSTON. That having been settled, I offer the name of Mr. Wilcox, Madison, Wis., as our vice president for the ensuing year. I move our chairman cast the ballot.

(Motion seconded by Dr. Donoghue. Carried.)

Mr. KINGSTON. The next item is the selection of secretary. The committee recommends the United States Commissioner of Labor Statistics as secretary-treasurer. We understand Dr. Meeker's department is going to take care of the secretarial work of this organization.

(Motion made, seconded, and carried that the United States Commissioner of Labor Statistics be elected as secretary-treasurer.)

Mr. ARCHER. Supplementing the motion to elect the United States Commissioner of Labor Statistics as the secretary of this organization, I would move that he be given the authority to edit the minutes of this session.

(Motion seconded and carried.)

Mr. KINGSTON. I move the retiring president be a member of the executive committee.

(Motion seconded and carried.)

The CHAIRMAN. We will now take up the order on the program. I will call Dr. Lewy to the chair.

Dr. LEWY. I have been asked by Dr. Lescohier to extend him five or ten minutes to read a short paper, so there will be no interference with the medical session.

Dr. LESCOHIER. I am not going to read a paper, but have just one thing to say, limiting myself to five minutes to say it. I believe this organization ought to go on record, before we adjourn this session, in favor of unlimited medical care. That is to say, the provision of the medical law requires the employer to provide people with medical care, to relieve and protect from injury. The first lien on the industry should be the lien for complete medical care. I believe it would facilitate the work of getting this work into a system. The risk of unlimited medical care is just as definite as any other risk of insurance under compensation acts. I want to bring this up to-morrow morning in the form of a motion or a resolution.

Dr. LEWY. I shall now call on Dr. Thompson to read a paper on neurasthenia.

NEURASTHENIA, A PROBLEM OF COMPENSATION.

BY DR. FREDERICK H. THOMPSON, CHIEF MEDICAL ADVISER, STATE INDUSTRIAL ACCIDENT COMMISSION OF OREGON.

In selecting neurasthenia as a topic for consideration, I wish to say that I have nothing new to offer, but have brought this subject to your attention for the express purpose of creating a discussion and thereby eliciting the various viewpoints of the medical examiners present. In this way I hope to secure aid in handling one of the big problems that is constantly coming before the Oregon compensation board.

Neurasthenia is apt to occur in families of a nervous temperament. There is no doubt that there is a hereditary tendency. That is, the unstable nervous condition is probably congenital, although conditions of life and lack of education predispose. It is closely related to hysteria and insanity, the difference being quantitative. There is no essential difference between traumatic neurasthenia and neurasthenia arising from continued indoor work or other cause. The foreign element, more especially those from the southern part of Europe and Scandinavians, are more likely to suffer this disorder following any accident. The condition is essentially chronic and is capable of manifesting a wide and varied number of symptoms, the degree and character of the complaint depending somewhat upon the traits of the individual. There is generally a great lack of endurance, accompanied by fear and distress, referred to different localities, and a fixed belief that a long time will be required to regain health. The idea is usually put forth that there will be a permanent disability. The patient is, at least mentally, sick. If this be coupled with senility or other debility, there is, indeed, a serious problem to solve.

To create a neurasthenic status it is not necessary that the accident be severe. The greater the fright, the more apt is this morbid nervous condition to appear. It is especially prone to appear following accidents accompanied by a fall, or an injury to head or back, and more so if a scar is left. The excess of callous formation at fracture sites will play havoc with the patient's imagination, although there may be no interference whatever with function. If the workman be reaching the verge of senility, a mere overlift, or so-called strain of the back, is sufficient to bring on neurasthenia, with all of its symptoms complex.

A diagnosis is usually not difficult. Backache, headache, irritableness, gastrointestinal atony, insomnia, combined with mental and physical weakness and a fixed idea of permanent injury, render the verdict—provided the examiner will be cautious and not take his diagnosis for granted until, out of fairness to all concerned, he has eliminated to his full satisfaction hysteria or any organic lesion.

Having made a diagnosis, the real question arises as to the proper procedure from the viewpoint of the industrial board. I am not now taking into consideration the opinions that may have been handed out by any court, but wish to consider that which is best for the injured person and the accident fund. These individuals always take a morbid introspective view of their condition, and if left alone will drift along, becoming more imbued each day with the hopelessness of their state. They are obviously unfit for manual duty. It is just as obviously wrong to the fund to carry them indefinitely when they are really physically fit or can be made so. To turn down the claim abruptly in a well-established case would not hasten recovery, nor would it popularize the plan of compensation. Neither will it do to carry a neurasthenic indefinitely, on account of the impressions that other workmen familiar with the case might receive. Here is something that calls for diplomacy, looking forward to an early settlement and the return of the man to work.

Rest and change of environment is the keynote of treatment. This need not necessarily be complete, but may be partial, depending to a considerable extent upon the severity of the case and the characteristics of the individual. If the neurasthenia is not well established a return of the patient to a new and lighter occupation or a return to light work of lesser hours until confidence can be obtained, that is, cultivated, may secure the desired result. This, of course, calls for cooperation on the part of the employer.

As an example of the chronicity of these morbid impressions when left to wend their own course, I may cite a Russian coming under the Oregon act, who received a trivial injury and drifted away and was not heard from for a considerable time, who later appeared a confirmed neurasthenic, and who could not under any circumstances be induced to return to work. He became a nervous wreck and believed himself to be permanently crippled. I might mention that this morbid idea had been fostered by an ambulance chaser and an unethical physician, the latter even giving the injured party a written statement that he had received and was suffering from an internal injury as a direct result of the accident, and that he would continue so to suffer until surgically relieved. But he was careful not to state the specific injury that the Russian was supposed to have. As far as I know, this workman, a beautiful specimen of physical

manhood, never did recover from his neurasthenia, and for months and months was a source of trouble to the commission.

It is unfortunately true that these men see in their imagined injuries permanent disability, and the poorest of lawyers help them to see "damages" in each instance.

Last year an Oregon workman received a bump on his head and was off one week. He was an uneducated person and a little talk from wife and friends rendered him unfit for work. After several months he filed claim for compensation accompanied by a doctor's certificate that he was suffering still from a basilar meningitis as a result of the injury. Examination revealed all the reflexes normal, except the knee jerk slightly increased. Yet the man still claimed he could not work. X-ray negative. Examination by alienist with diagnosis of traumatic neurasthenia. By paying this man to date of examination he was induced to return to work, the company employing him assuring him light work for a time. It was interesting to know that the companions of this man and even his physician had been assuring him that his disability would probably continue indefinitely. It is well to remember that the disturbances of function in neurasthenia are not actual loss but are those of irritable weakness.

A number of cases of head trauma have claimed, among other disabilities, loss of memory and eyesight. A careful examination by a competent oculist has disproved the latter condition. One can not argue these ills away, and open antagonism does harm rather than good. Rest and a change of environment will do more good than anything else. To be sure, attention to bowels and other functions is requisite. Change of environment is not always possible, so I have suggested to our commission that where neurasthenia is established and no other disability exists, the best plan is to talk over the situation with the claimant, giving him all the assurance possible that he will surely be restored to health, and offer a settlement that will allow a few months (the number depending upon the character of the patient and the degree of neurasthenia), having the man give a full release. He then realizes that he has a definite time in which to regain earning capacity, and that after that time he must work in order to live. I find that this usually works well, and the earlier the settlement can be made the better for the man and for the commission. One may question the advisability of allowing a few months in these well-established cases, and may suggest electricity, etc. I will say that our experience is that a time settlement is not only more economical and as rapid, but, better still, the patient gets away from his idea of permanent disability, a condition that to the distorted mental view will call for a lifetime of treatment. The greatest service that can be rendered these unfortunates is to restore their self-confidence.

Gentlemen, this subject is anything but spectacular, and it is easy to say that we will not pay for a disordered nervous condition, where physical fitness is present, or is only kept from being present by a morbid view. But to reestablish the man to normal tone and therefore restore his earning capacity; to transfer him from the expense to the earning column; to transform a morbid, melancholic, discouraged being into a wholesome, courageous workman, at the same time administering justice to the workman and showing fairness to the fund, is another problem.

I would like to know the methods employed by the other boards. In Oregon the plan I have mentioned is being used for want of a better one. Neurasthenia is truly a big problem of compensation.

DISCUSSION.

Dr. SMITH. I have in mind at this time a Turk who sustained a slight injury in the back. The spine didn't show any fracture. There was no evidence of traumatic ecchymosis, swelling, etc. He persisted in claiming he could not work, was not able to work, although I persuaded him at one time to go back to work, which he did. Three weeks later he laid off the second time, and with all the encouragement I could give him in assurance that there was nothing physically wrong with him, and that he would be able to work in a short time, he still persisted in that melancholy condition. I sent him two specialists. That didn't suffice. At last he fell into the hands of the ambulance chaser quack, who encouraged him in instituting suit against the company. This was taken up by the commission. They had the district physician examine him, and they reported nothing wrong. Regardless of all that was told him, his melancholy condition persisted. He came to my office and pleaded that I might do something to alleviate his suffering; he would never be able to work again. The company finally made him a bonus settlement. So far as I know he is still living.

Those are time cases and should be treated as such, offering a settlement for a few months, taking a release, and very often at the end of the waiting period many are relieved.

Dr. WHITE, Columbus. I think we are all very grateful to Dr. Thompson for his most excellent paper on neurasthenia. But I am a little at a loss myself to understand the paper—he seems to have confused hysteria and neurasthenia. In other words, he talks about those two subjects. Neurasthenia is a disease which comes on slowly, gradually, and, in my opinion, is present a great many times before the injury is received. Hysteria may come on in perfectly healthy persons previous to time of injury. I think it is our policy here to handle these cases in this way. If a man has developed neurasthenia

after the injury, we generally limit the period of compensation and cut him off as soon as possible. I don't agree. I am not prepared to discuss hysteria or neurasthenia at length. It is a subject of considerable magnitude. Personally, I agree with Dr. Lewy in his remarks made last night. A great many cases of hysteria are not really hysteria. There is a pathological condition present, if we can only find it. It is overlooked. We have seen neurasthenia come on in people who before the accident were not nervous at all. Neurasthenia is not dependent upon injury. I think I will leave the discussion of this subject to others who are more familiar with it.

Dr. DONOGHUE, Massachusetts. Mr. Chairman, I am sorry I didn't know this was coming up on the program. I would have liked to have brought before you some concrete cases. Most cases of neurasthenia have causes—physical causes. Our experience in Massachusetts with such cases includes fractures, fractured skull, 15 broken backs, and a group of low back injuries which may be called postural. These are injuries which occur in the back in which the normal curves have lost their ability to carry the weight of the body. This we see in the teamster's back. Teamsters have lumbago; sometimes have sciatica. It is that type of back in which the relation of the lumbar spine and the sacrum is so altered that a comparative trivial happening like overlifting is sufficient to throw that back off its working basis.

By what, to a normal back, would be a trivial happening you have added to these changes the period of rest, in which the muscles become further weakened and less able to pick up work again. Say a man comes around with a pain in the back; this is not neurasthenia; it is a postural back. It is a back thrown off its working ability, and the muscles are going to continue relaxing, because they relax more and more as age comes on.

To that type of back in which the postural change has taken place and which comes to men with flat chests and round shoulders there may also come the change in the low back joint—osteoarthritis—that comes with age, that comes from personal habit, and then you have the osteoarthritis back. It is this type which accompanies occupational neurosis.

In neurasthenia there are certain types of nervous exhaustion, so confused with other types, the definite postural change and all cases which are trivial injuries, that cause us serious difficulty, as shown by the 15 backs in our experience. When making the diagnosis, perhaps 90 per cent can't make out the real trouble.

Dr. BAY. Neurasthenia is generally regarded as weak nervous conditions—nervous exhaustion. Now, whether we agree with the Darwinian theory, or that the sympathetic nervous system is the oldest and consequently the best developed, or the cerebrospinal system is

the oldest and best developed, and thereby transmits to the cerebrum the defect, have it as you please.

I believe the Mayos say we inherit the influences that tend to progeny and longevity; also a weak nervous system. I am loath to disguise my belief in this fact in speaking of old age. I think statistics of civilized countries say that but a few years ago 7,000 individuals attained the age of 100 years. Five thousand of these resided in Serbia. You wonder why they inherited longevity. We would explain the fact by saying these people live a rural life in a mountainous country; their diet is composed mostly of milk, their hours of labor are not excessive; they get plenty of rest. Their descendants inherited this condition. It is preserved in their progeny.

There are some neurasthenics who have had neurasthenia transmitted to them from their ancestors, and they transmit to their descendants.

The difficulty is, How are you going to know neurasthenia? What is the pathology? There is no pathology. What is the secret? That is the part that baffles us all. No one knows; I never found anybody who did know.

We make a diagnosis only to be exclusive; practically that is all right; we don't make many mistakes in that respect. What diseases are liable to this phase? I know incipient tuberculosis neurasthenia begins with the neurocyte. In the old days before medicine became a science, we had what is called Graves' disease, that caused the bulging eyeballs and the very rapid heart; sometimes we call it goiter. In the beginning, before age comes on, you judge it neurasthenia; the same thing causes the hypertrophy of the lower auricle—the smoker's heart. These are induced by poor hygienic surroundings.

When you come to make a medical examination—really, I wish that could be described, what I believe to be an examination—you are compelled to make a cursory examination such as the employer expects you to make. With such an examination many will slip through because your examination is only cursory and can't be expected to be otherwise. You are unable to give a scientific examination such as the Mayos give in their institution, their private institution, where the private patients are received and doctored. They make a complete history of every patient. A patient entering the Mayo institution is first examined by one person who in turn turns him over to another examiner another day, and so on, until at the end of the week they have a full history of the case. Their examination is not alone the sputum in a case of tuberculosis, nor the examination by radiograph. Their examination is an accumulation of evidence; that is a scientific examination; they know all about you; nobody knows any more. You might die after

they pronounce you a well man, but this is as far as human ingenuity can follow.

I can't do work like they do in making a medical examination; yet when I compare my work with that of other fellows, it looks better, and I feel pretty good. These hereditary cases that often claim injury, when in reality they receive no injury, in my opinion should not be compensated.

Dr. LEWY. Dr. Bay said that out of 7,000 centenarians, 5,000 resided in Serbia. They did not get medical examinations. If you want to find out what is not the matter with you go to ten doctors; but if you want to find out what is the matter with you go to one able physician. Times are changing and we change with them. Hysteria has not been changed. I take exception to some of the remarks on hysteria.

Osteoarthritis is a distinct pathological disease; without the pathology it is called a functional disturbance. If you take out the brain of the neurasthenic, you find no lesion. Mayo's most careful scientists make a diagnosis of hysteria as only a predisposing factor of disease manifesting itself in a functional disturbance.

A man afflicted with hysteria says, "I don't feel entirely right inside my body." You touch him, he cringes with pain he does not feel; he himself will never do harm to his body. He says, "I can't see." You examine him with the ophthalmoscope; even that is no assurance to him; he has no conception; his mind is perverted. He comes to you, saying, "Doctor, I have a pain here"; in the morning he has it somewhere else.

The hope was expressed to-night by a gentleman who spoke of hysteria and neurasthenia that we should learn more—that the proper line between the two was very difficult. I will tell you the condition exists either from mental defect, because the mind is inactive, or it is a condition that results from serious injury.

I wish to say to the medical profession I hope we will live to see the day when many subjects will be considered by scientific men, who will study the ductless gland, that genteel organ of family misery; we will then discover the real defect.

If you will notice you will find this in the disease, maniac-depressive insanity, dementia præcox. This disease has not been found in the blond person. Sajou has written of those who are seen among Italians. We do not have an opportunity to analyze minutely as the Mayos do.

Neurodynia is a disease, we would say strictly a pathological disease, but the patient is not a malingerer. How can you tell the difference? There are differences. I can only tell you, gentlemen, you will study and learn by mistakes what to do and what not to do.

I will show you by the motion of the human body how to locate a hinge joint, distinguish it from a mobile joint, and the hip joint.

What is the definition of a joint? Anatomists have taught us wherever bone surfaces or two bones come in contact this is a joint. We have those that keep the parts of the body immovable and those that give perfect mobility. Look at the skull; all the bones are united, knit together. Look at the shoulder; you have perfect movement. The joints of the skull are immovable. Between these bones you have a thin cartilaginous structure. The joints of the spinal column are more complex; if the surface of the bones had nothing between, it would cause friction and pain. Nature provides you with a cartilage to protect from contusion. You have come to know, from a long line of information, that this bone is one that causes the human being much pain and presents a difficult problem in diagnosis. In order to make a satisfactory diagnosis you must first know the physiological construction of the thing before you can say more.

We have the movable joints of the face, the ball-and-socket joints, the hinge and like joints, the elbow, and joints that work like this [giving illustration], as the two vertebra up here, and a movement of this kind between the two upper radio-ulnars. I am speaking only physiologically, giving elementary outlines. When two bones come together they must be held in place. Wherever there is a ball-and-socket joint there is a ligament that goes up there, a capsular ligament. In the hinge joints there are lateral ligaments. These ligaments are for a purpose. To keep the bones in place you have a cartilaginous membrane, synovial fluid between the membranes surrounding bones that form the intra-articular joints—the joint itself. All these many parts must be considered in making a differential diagnosis.

I am going to start in now and give you some very superficial opinions of the neck joints—the forward, backward, and sideways. Whenever there is a disease in the spinal column, the intra-articular surfaces of the vertebra become affected, and we have intra-articular spondylitis, or you may call it arthritis—only one step further.

Then, you must be able to differentiate all the diseases of the muscles, consequently all the diseases of the nerves that supply the muscles. The muscles that are affected in consequence by the nerves atrophy, causing disease of the muscles, like myositis. To make a thorough diagnosis, you must consider the bone and all the tissues that make up or cause the condition. I think no paper can adequately treat the injuries of the spinal column. Diseases of this nature usually occur in people who work in a stooping position.

Now, take up the important joint motions, forward, backward, adduction, and elevation. Every motion is made by the muscles; it is difficult to make a differential diagnosis. Most of the intra-articular

diseases of the joints are not caused by injuries unless the joint is discolored. The discoloration, which is called thrombus, is caused by fracture or systemic infection. That is the history you get of the patient. Most of these cases I have seen are people around 50 years of age. A patient is sometimes punished by some doctors in massage treatments; but I say, gentlemen, you may do everything on God's earth, but the only thing is to amputate the arm. You take the arm and manipulate the joint; you do that very fine. You immediately say, this man's joint is clear; lift up the arm, and then you take hold of it and watch him when exposed; the shoulder blade will not move; as soon as you put the arm above, it goes forward. The arm is lifted by the deltoid muscle, this being the muscle above the shoulder. This condition has caused many heated discussions among experts. The man has external articular adhesions.

We must now pass to the muscles and the ligaments, the ligaments that make up the joints and the vascular supply which nature has provided. Wherever we have bone prominences, nature has put membranes protecting these joints filled with synovial fluid. That fluid becomes involved with every movement of the joint. Very often you hear definitions created concerning this condition, but you can't make a distinct differential diagnosis in disease, however good it is to the patient's satisfaction and to yourself. You know what he has got. If you tell the man to lift up his arm, and he can't do it because of suffering, the supraclavicular muscle is involved, and the prognosis in these cases is not good; to men in old age the prognosis is very bad. These are cases that require a long period of disability, and should be settled as soon as possible.

With arthritis, whether present with rheumatism, gonorrhoea, or syphilis, if the workman up to the time of the injury has been a useful man in his vocation, and has not shown any indication of the diseases I have spoken of, but, in addition to his injury, he develops these conditions, it is not amenable to treatment; a careful diagnosis must be made and the case disposed of absolutely. I will not say such conditions result in death, but as a secondary cause death results from infection, and the case is compensable.

I dislike all the serious external injuries to the shoulder joint. I must admit we don't always get good results.

Gentlemen, you must make a distinction between ankylosis and nonbone union. There may be a fibrous ankylosis between the head of the humerus and the cavity of the shoulder blade. The bones can't be united to the body tight by fibrous tissues. You start to work and you get the sensation of mobility. Fractures between the head of the humerus or between the condyle of the end of the humerus and the center shaft are serious as to the future mobility of the member.

In the back of the humerus is a groove that has a very important nerve called musculospiral nerve. When this becomes calloused and the callus is in excess it causes severe pain or mischief, and it has often been necessary to dissect down and dissect away the callus.

With that we come to the elbow joint. Contusion of the elbow joint without fracture, gentlemen, is an unusual thing. From that we have dislocations. If you feel the elbow joint you feel a distinct olecranon process. If the joint gets out of the socket we have dislocation. The fracture of this joint is equivalent to a fracture of the patella.

Out of 8,000 cases I have seen 1,230 contusions. And out of the 1,230 contusions I have seen only 97 elbow contusions, while I have seen 190 shoulder contusions of the muscles. You there get dislocations, or you may get inflammatory conditions, or you may get a fracture in the elbow joint. By this I mean you get an oblique fracture of the humerus which leads into the elbow joint.

Now, when you consider the bones of the wrist, the cuneiform, semilunar, and trapezium, you can see we are considering a very complicated piece of anatomy, and when inflammation starts in there those are very serious conditions.

We also have the epiphyseal fracture and the so-called Colle's fracture. Most of the men who have these fractures are laboring men who manipulate heavy tools. So, with tendon synovitis, these people are either telegraph operators, typewriters, etc., or those who handle heavy weights. You all know of the conditions of the fingers, the deformities of the fingers; the infection of the tendons gives fingers like that, infections in the joints with complete ankylosis. All need not be fractures of the phalanx to cause diseased joints or a fractured metacarpus.

Fractures near the epiphysis of the bone or the end of the bone are serious fractures. I have seen 2,373 fractures in 1915 marked "Colle's." This occurred most often in telephone and subway workers. Patients are taken to the hospital and there receive proper treatment and yet go out of the hospital doors marked "Colle's." These are cases in which I advise settlement as soon as possible.

Fracture of the patella or the kneecap is an important fracture. I wish just for a moment to consider fractures of the patella. If the doctor gives the proper surgical treatment they will get well. The disability may be long; in consequence the mobility would cost, but he will get full flexion in time.

In joint diseases of the ankle, I believe, gentlemen, we overlook the value of the X-ray picture. I consider it to be very important. In the fracture of the astragalus we have another difficult problem. Even after the bones unite the patients have severe pain when they

step down. I have asked orthopedic surgeons, "What can we do?" With the best shoe I have had made for them they can not go back to work; especially if they are men who have to get on ladders or structural-iron work.

A contusion of the ankle joint with hemorrhage in the joint causes much swelling of the fibrous tissues and is a serious condition; although you are positive the individual has no fracture, he is disabled, and his disability is for a long time.

Next we have the Pott's fracture, the fracture that occurs at the lower end of the fibula, a fracture of the inner malleolus. Of these fractures, gentlemen, we will learn something in about five years from now—that is, what the other surgeons don't know. If asked what I do with a Pott's surface, I would say I replace the broken fragments to the best of my ability, but the ultimate cure is unsatisfactory. A man goes into the hospital suffering from a Pott's fracture. They keep him there five or six weeks; the man goes out on crutches. Mr. "Man" goes home like this [limps], receives home treatment, massaging, etc.—no benefit. You ask me what are your statistics regarding a cure? I say four out of five get well in six weeks. But you should ask the man receiving the injury. After long treatment the man goes to the supreme court; recovers damages. Gentlemen, I have had experience in these cases; it is a serious fracture.

Mr. KINGSTON. In connection with Dr. Lewy's excellent address, I notice all jurisdictions make certain provisions for the arm off at or above the elbow and for the whole arm off. With us we give so much for an arm off at the wrist, so much more for half of the arm, and so much, say, between the elbow and shoulder. Likewise we grade the situation in the leg.

Dr. LEWY. Gentlemen, what good is the arm without the hand? You might put on an artificial hand that one might be able to push with, or you might put on a hook with which one could lift, but of what real good is the arm? Why there should be such a distinction made I can not grasp. With the hand are five fingers, which are given the human being for the purpose of flexion; without that function, it is no hand. There is loss of efficiency.

Mr. KINGSTON. I am not seeking to justify our position. This schedule of values was recommended to our board for want of a better one.

Dr. LEWY. I would change it, Mr. Commissioner; change it.

Mr. PILLSBURY. Have you a system for keeping track of these injuries?

Dr. LEWY. Yes, sir; we have. We keep the name of the employer, the date of the accident, the diagnosis of the attending physician,

the hospital certificate, and the result of our examination. This information is often very valuable, for in litigation the individual is often very ably misrepresented by some physicians. I am always glad to follow up such cases.

Mr. KINGSTON. When there is an injury to the lower longitudinal arch, etc., we allow a man for a foot off at the ankle, 25 per cent.

Dr. LEWY. With reference to the foot injury, I understand flat foot is the result of fracture of the foot. Unilateral flat foot can only be in consequence of a fracture. Injury to the astragalus accompanied by mobility of the ankle joint, if the ankle joint doesn't work well, that defect is worth 25 per cent.

Dr. DONOGHUE. Most neurasthenics have been cured. There are three things to be considered: Is the man disabled? Does his disability correspond with his working hours? What can you do to make him well? Ofttimes this condition does not arise out of his employment. As to hysteria, these conditions are amenable to treatment. Hysterical fingers can be cured. The operation is simple. The patient is put under anesthesia, the fingers are straightened and held so under proper dressing; under treatment they soon loosen up. Compensation doesn't mean to pay a man money alone. Compensation is for the purpose of restoration. Restore the functions to a normal condition and get the man back to work.

RESTORING THE INJURED EMPLOYEE TO WORK.

BY DR. FRANCIS D. DONOGHUE, MEDICAL ADVISER, INDUSTRIAL ACCIDENT BOARD OF MASSACHUSETTS.

The goal of the long march of civilization is industrial peace, that social condition where, as far as human provision can do it, the specter of old age with its industrial idleness, its economic dependence, and its quasi-charitable treatment is eliminated, and since the peace of one nation is based on the same elements as that of another, universal peace can come only with universal content, which is dependent on the industrial peace and content of a world of workers.

Industrial peace means hope, happiness, health, and homes, confidence in the age of efficiency, contentment in the years of waning powers, and the community presenting such conditions is the abode of opportunity and optimism—the ideal community.

According to the latest compilations showing the operations of workmen's compensation laws in the United States, there are 35 divisions of State and Territory subject to the control of the United States in which there are compensation laws in force. These include Hawaii, the Canal Zone, and the Federal Government. When we stop to consider that this enormous movement in one branch of social legislation has been the growth of only five years in this country, the fact is apparent that there is some powerful, impelling force behind such broadcast legislative enactment. If we eliminate for the time being the more practical and tangible causes of such legislation, which vary in different localities and under different conditions, the whole situation probably may best be summarized by stating that this movement is undoubtedly due to a growing consciousness and realization in this country that the value of the human being engaged in productive labor or in other forms of necessary work or service is one of the country's strongest assets. In other words, such legislation represents in part the practical application of the principles underlying the conservation-of-human-energy idea.

Employers of labor have been insured under one form or another for a long while, and by reason of this insurance which insures the employer against trouble a certain system of handling accident cases has grown up based upon the desire to shunt off a claimant as easily and as cheaply as possible.

It comprehended nothing of the rights of the employee in regard to restoring his working capacity or mitigating his disability. The new compensation laws are the opposite of this, because they have as an essential the insurance of the wage-earning capacity of the employee, and anything that reduces temporarily or permanently the wage-earning capacity of the employee is a proper charge against the compensation insurance.

If we accept this interpretation of the real meaning of the movement, the suggestion is then in order that in the work of administering these laws daily sight should not be lost of the real end in view. Obviously the philosophical genesis of the idea may be only in part written into the actual statute. For this reason there is a sacred obligation imposed on those administering such laws not only to enforce the provisions of the act as written but to enforce them in such manner as to make effective the causative forces behind the written provisions. This principle entails one other duty, namely, constructive administration to procure improved law or methods by which the basic principles of the law may be carried out with the highest efficiency.

Following this introductory statement the question naturally arises, What are the basic principles of a compensation law? The idea may be variously phrased, but the following is presented as one way of expressing the objects to be accomplished:

First. Rehabilitation of injured persons and the economic readaptation of dependents in fatal cases.

Second. Financial relief during the period of readjustment.

Third. Accident prevention.

In connection with the consideration of the problem of rehabilitation, the following are essential in laying a foundation for the proper care of every case and the earliest possible restoration of the injured employee to industrial efficiency:

- (a) Prompt and efficient first aid is most important.
- (b) Time is an essential requisite.
- (c) Efficient hospital service.

Illustrating the importance of prompt and efficient first aid, the records at the plant of the Norton Grinding Co., at Worcester, where first-aid work has been in charge of Dr. W. Irving Clark, show that there has not been a single case of infection following injury during the last five years. Every type of injury was encountered, including the most dirty, and it is perfectly evident that only prompt and skillful treatment can account for these surprising and gratifying results.

Time is a more important element than the busy physician is willing to admit. This is well shown in fractures, which, if treated at once, can be more easily set and with better after results than if they

are allowed to wait, and care is given after delay accompanied by swelling and disturbances of circulation, conditions adding to the immediate difficulties and laying the foundation for future trouble.

After first aid, rendered promptly and efficiently, comes the consideration of adequate hospital care.

Hospital care should mean efficient hospital service. We have all kinds of treatment in Massachusetts under the act: Treatment furnished by the insurance company, either by men with whom they make direct arrangements or by the utilization of private or public hospitals. Free choice of physician is allowed the men in a large percentage of the cases. Theoretically, the first kind of treatment is the best kind of treatment because it is presumably carried out by those more expert in the surgical care of the patient than the ordinary practitioner. A large proportion of the cases are necessarily hospital bed cases. Under the old law, which was in effect up to October, 1914, at the end of the fourteenth day the responsibility of the insured ceased and the responsibility of the man himself came in. The legislature of 1914 permitted the board, in unusual cases, to order the insurer to give treatment beyond the fourteen-day period. Now, by the payment of a little additional money, the injured man is given continued treatment after the fourteenth day, and he is restored to industry more quickly and in better condition than if thrown upon his own resources at the end of the two weeks' period.

Giving a man hospital care for the first 14 days and then discharging him to the resources of a home from which the pay envelope has been absent for 2 weeks and when compensation payment is not due for 7 days more can hardly be called ideal.

From our standpoint, the efficiency of hospital management is not represented by the purchasing price of provisions, the purchasing price, perhaps, of milk, or the utilization of medical and surgical supplies to the best advantage and at the lowest cost. Hospital efficiency, from our standpoint, should be represented first by the time it takes to restore a man to work, and secondly, by the end product that the hospital furnishes in the line of a good workable result.

Dr. E. A. Codman, a distinguished Boston surgeon, has pointed out in a study of efficiency which he has made—

that no good factory neglects careful supervision of its end products, and it is perfectly evident that the State or city, and the citizens who by private gifts, or by way of the tax office make possible and support these huge plants, have a right to know what they are producing and what the actual end result in actual benefit is.

Every compensation board should strive for a measuring of end products, represented by the time taken to complete a cure and the amount of disability represented by the difference in wage-earning capacity of the employee when he is back on his job.

It may be possible that hospitals may be grouped according to their end products and weekly payments allowed on the basis of hospital efficiency.

Is it not our duty to the workman whose future depends upon the treatment given, and to the community which depends upon the worker, to strive for better results?

Many authorities have claimed that compensation and other forms of social insurance have led to a destruction of the ethical standards. It has been claimed that as a result "malingering has increased, traumatic neurosis, so-called, has been fostered," and that "the number of claims for illness has increased out of proportion to the number of insured." If that has been true of England and Germany, it has not been the experience in Massachusetts under the workmen's compensation act.

In 300 consecutive examinations of disputed cases under our act I did not find a single deliberate faker.

These cases were, however, mostly adult workers with wage-earning capabilities far beyond the compensation.

There is a tendency, however, in three well-marked groups not to minimize the results of accident or injury. They are, however, a small per cent of our totals.

The first group is composed of the men in what may be called the twilight zone of life, the ages above 60. Here the man is arriving at the end of his strenuous working days. His vital forces are running down, changes are occurring in his circulatory system and the organs and tissues depending upon it for their upkeep.

He professes to be as good a man as he ever was, but he is not keeping the stride with the younger workers. Perhaps he has been obliged to take a lighter or a different job than he formerly was able to hold.

This man when knocked out of his working stride by injury is hard to patch up.

The second group is made up of the regular drinkers. Dr. William J. Brickley, of the Boston City Hospital Relief Station, has made an interesting contribution to the literature of the subject. This represents a study of about 40,000 cases a year over the second year. It may be stated, based upon his experience, which Mr. Holman has given you in some detail and which I wish to emphasize, that—

- (a) Alcohol causes accidents.
- (b) Alcohol obscures the diagnosis.
- (c) Alcohol increases the danger of infection at the time of the accident.
- (d) Alcohol prevents adequate treatment.
- (e) Alcohol increases the danger of intercurrent complications.
- (f) Alcohol retards the process of repair.

(g) Alcohol gives a poorer end result.

(h) Alcohol increases the mortality in accidents.

It is enough to refer only to the figures in accident cases which resulted fatally. During the years 1911 to 1914, inclusive, there were 658 fatal cases at the hospital, and of the adults who died because of accident, 40.6 per cent were under the influence of alcohol when they were received for treatment. The condition of alcoholism contributed materially to the fatal termination of these cases.

The presence of saloons in the manufacturing districts is a well-known and apparent danger. The 11 o'clock or later closing hour in the home district of the worker is even a greater danger.

It would seem that saloons, if permitted in residential districts, might have a closing hour not later than 9 o'clock and the opening not earlier than 8 in the morning.

Labor exchanges are necessary adjuncts to compensation rehabilitation. In properly organized exchanges, intelligent labor union cooperation will be found most desirable.

In Massachusetts the labor leaders, including the much-abused "walking delegate," have not only rendered the greatest possible assistance in the problems of reemployment, but in many instances have been of the utmost importance in aiding in the determination of the rights of injured employees or their dependents.

Do not underestimate the value of the aid that unions can give. They have members who were trained in fraternal societies, as well as in the union's administration of sickness and accident benefits for years before either was considered necessary by the community at large.

There would be increasing aid from union sources if their members were fully informed that in protecting and helping others their own rights would be safeguarded.

The idea that cases have a "lump-sum value" is a distinctly bad one. It is open to the objection that an employee does not make his best effort at work resumption or readjustment, either through his own volition or because encouraged by legal advice, for which without a lump sum a lawyer would collect but little. It may be open to abuse, on the other hand, if compensation payments are delayed or the injured unduly "ragged" or treated as an object of charity or as a faker.

Nevertheless settlements by lump sum have a place of importance, but should be carefully considered and safeguarded.

Unless the methods of the insurance company representing the employer are such that the kind of medical service rendered to the injured is entirely adequate, the methods used by insurance company employees in dealing with the injured workman and his claim for compensation are openly encouraging, and the employers cooperate

by providing jobs for the man during the process of rehabilitation, the real end of compensation will not be attained.

On hospital records, in some degree, depend the rights of the injured or of his dependents. Are adequate hospital records available outside of the larger institutions? Do surgeons operating in private hospitals keep proper narratives from which cause and effect might be deduced? What of the surgeon who is permitted to take a case into a large hospital and treat it as a private case and be free from obligations as to technique and records incumbent upon one with official position? And what of the record kept by the ordinary man as he goes along? Let me ask, Is it possible for this body which has in some measure the control of "medical purse strings" to act in conjunction with the committee of the American Medical Association and with the State societies in furthering this important movement for efficiency?

Social service in conjunction with a compensation board would bring greater returns for the expenditure than any other form of medical conservation—as an adjunct to a hospital service which should investigate the home or lodging to which a man returns after being discharged; to learn why he does not return for treatment; and to aid in bringing treatment to him if he can not come after it himself. Thousands of dollars are lost to the insuring companies representing the employers, and more thousands are lost to the injured men, by depending upon the impersonal and hurried treatment of the crowded hospital out-patient department. Poorly kept records, no follow-up treatment, and no end results mean slow return of wage-earning capacity, if full recovery ever comes.

The methods employed by the warring nations of Europe in restoring the crippled products of war, either for military or civil purposes, contain a great lesson which we may take and apply to the injured workmen in the battles of peace.

The modern institution for crippled workmen should be quite a different institution from an institution for the care of the ordinary sick or for those suffering from ordinary medical illness or surgical disease.

We need a combination of the methods found useful in the restoration of children with the surgery found useful in the restoration of adults. Medical specialists, orthopedic mechanics, and various classes of artisans and professional people who should be called upon as teachers, and all of whom should be near at hand and readily available, are essentials. Such institutions should be erected in all large industrial centers.

An uncongested locality with plenty of air and sunshine, which has been considered of importance in the treatment of bone tuber-

culosis and the diseases of malnutrition of children, is not a necessity for adults suffering from industrial maiming. Adequate food, adequate bed facilities, and adequate medical mechanics are more important than sunshine and country.

Orthopedic surgery as a specialty is of fairly recent growth. Up to a comparatively recent time it was a department of general surgery, and the general surgeon was the man who did the work. With the broadening of the field of the general surgeon, surgery naturally underwent a subdivision, as it was not possible for one man to adequately cover the entire field. Restoration of function in many cases is purely a question of medical mechanics. Is it being properly solved by the surgeon?

The next step in the coordination of educational forces will be to secure the cooperation of all those hospitals and training schools which have been so useful in the care of crippled and deformed children, so that their experiences and plants may be devoted to the reeducation of the injured workmen.

Permanently disabled employees present a distinct and separate problem which has not yet been met successfully in any State of the Union. In Massachusetts between 400 and 500 cases annually are reported in which the injured employees are incapacitated for work for a period of upward of one year. During the third year of the act 421 such cases were reported, and one finds at least that many cases of permanent partial disability upon the lists of insurers, with many cases running into the second and third years, and some passing through the entire period of 500 weeks during which compensation is payable, if the employee is in fact unable to earn wages by reason of incapacity due to the injury.

It is not a high estimate to place the figures for such incapacity at 421 cases a year and the rate of compensation at \$8. During the first year of the act the cost of such cases may be assumed as \$175,136. During the second year the cost must be increased by 50 per cent to allow for cases which have been carried from the first year. This figure is \$262,704. During the third we shall assume that the second year's figures have not been increased and add \$262,704 to the cost of compensation, making a grand total of about \$700,000 for the first three years of the act. This cost undoubtedly is low and has been purposely kept low for the reason that we do not wish to base our claims upon a false premise.

At least 50 per cent of this compensation cost can be saved by the intelligent supervision of the work of rehabilitating injured employees. The cost for such supervision and the working out of the plan would be low, after the first outlay had been made. Probably it would be self-supporting; and certainly the results would prove alluring to insurers. One-handed and one-armed men, and even the

blind can work, if such work as they can do is furnished them. A thorough canvass of the industrial establishments of the Commonwealth and the listing of all work that one-armed men can do will help to reduce the number of such men from the compensation lists of insurers. Work that one-legged men can safely perform also can be listed and these men can be taken off the compensation rolls and put on the pay rolls of the employers of the State. The same process can be followed with one-eyed men until every possible job suitable for crippled workmen is secured and placed at their disposal. The small balance can be taken in hand and trained in the performance of certain special work, furnished with the very best artificial appliances and made ready for their place in industry.

In countries at war plans are being worked out for the reeducation of crippled men which can be adapted to our needs here, by the use of the resources which are at hand and the addition to such resources by the erection and maintenance of plants which shall be used for that purpose.

His excellency, Gov. McCall, of Massachusetts, has set the seal of his official approval upon the movement to reduce occupational diseases and accidents to a minimum, and in an especially able message to the legislature has recommended that all the powers under the existing laws be reposed in the industrial accident board for the accomplishment of this object. If the governor's recommendations are adopted the power to direct and enforce safety rules and regulations and the rate-making power in so far as compensation insurance is concerned will be under the sole jurisdiction of the board. His excellency shows that he has an intimate knowledge of the problems of accident and disease prevention and that he believes the cost of insurance can be kept down to a reasonable figure by the intelligent control and supervision of this work by a responsible State commission.

When we put the workmen's compensation act into effect we learned the lesson from the Old World. The principle and administration of it represented at once justice, industrial peace, and applied Christianity. It set up a flag of truce between capital and labor and had the employer and employee join hands in a common cause of good. It incorporated into law the Christian principle that man is more than material, is one of God's creatures made in His image and with a soul and must be treated in accordance with the dignity of his place in the economy of the universe and not be bought and sold and put aside when used up. In carrying out the law let us rise to the opportunity offered to do good, and care properly for the crippled by-products of industry, just as pathetic and infinitely closer to us than the poor victims of the war across the sea.

Let us see to it that these men working with us for a common country and a common humanity are given such care that their broken hands and maimed limbs shall no longer lead to despondency or despair, and by our efforts aid in making their hardships and handicaps aids to happiness, and their lives more useful and contented by being able to work.

Massachusetts, through its progressive industrial accident board, has accomplished much. If we can keep true to our ideals we will delight more and more in the satisfaction of knowing that we have saved our unfortunates from the misery of idleness, the stigma of pauperism, and the humiliation of dependence. *

(Dr. Donoghue's remarks were illustrated by 50 lantern slides, showing the reeducation schools and the reeducation methods being used for the European soldiers.)

(A paper on "Medical problems under workmen's compensation acts," prepared by Dr. D. D. Lescohier, of Minnesota, was on the program for this session. This paper was not read before the convention, but is here printed.)

MEDICAL PROBLEMS UNDER WORKMEN'S COMPENSATION ACTS.

BY DR. D. D. LESCOHIER, CHIEF STATISTICIAN, DEPARTMENT OF LABOR OF MINNESOTA.

The medical provisions of the different compensation acts, like the other features of the acts, are hardly identical in any two States. But it is probable that the problems which develop in the administration of these varied medical sections are not as unlike as the benefits provided in the sections.

The medical features of the various laws may be classified from at least two different points of view—from the point of view of the adequacy of the care provided and from that of the extent to which the employer is held liable. From the first point of view the laws naturally divide into two groups, one of which consists of those laws that provide fairly adequate medical care, and the other of those laws which provide distinctly inadequate medical care. Acts which require the employer to furnish complete medical care for 60 days or more, or costing in excess of \$100, may be considered as of the first group, while those which provide medical care for but two or three weeks and with a money limit of \$100 or less must be placed in the second group.

The other method of classification finds four types of laws—those which place no limit on the employer's liability, those with a time limit only, those with a money limit only, and those with both a money and a time limit.

So far as I know, Connecticut is the only State where no limitation is placed by the law upon the employer's medical responsibilities. In Connecticut the employer is required to promptly provide or pay for a doctor and "such medical and surgical aid or hospital service as such physician or surgeon shall deem reasonable or necessary," and the employer's only protection is a proviso that the charges for this service "shall be limited to such charges as prevail in the same community for similar treatment of injured persons of a like standard of living when such treatment is paid for by the injured persons."

We have repeatedly advocated such a provision in Minnesota, because it seems to the department of labor that the very first charge which should be made against the industry in an accident case should be the charge for the complete repair, as far as possible, of

the physical body damaged by the industry. It seems to us that the workman's first lien on the industry should be for medical care sufficient to make him as good a man as he was before the accident, or as nearly that as may be. Such a provision is not only just but expedient, for the cost of medical care will often more than eat up the compensation, if the workman is left to bear his own medical costs.

But whenever these considerations have been urged, certain objections have invariably been raised by the employers and insurers. The employers contend that the doctors will bleed them by exorbitant charges, and the insurers contend that they can not organize insurance properly if they have to incur indefinite, uncertain, unlimited medical costs. The fact that the employers of between 15 and 20 per cent of the workmen in Minnesota are providing complete medical care, regardless of the fact that the law imposes on them only a limited liability, throws considerable question on the employer's contention, and the difficulty is clearly one that can be avoided by State regulation of medical fees. The fact that the average medical cost per accident in those States which impose but a limited liability is far below the legal limit likewise invalidates the insurer's contention. We hope that this association will pass a resolution urging that all of the States amend their laws to conform to the principle laid down by the Connecticut law—complete medical care, with possibly some proviso to stop medical treatment at some point in cases of permanent total disability.

The second type of law, from the medical point of view, is that which requires the employer to furnish complete medical care for a given period of time, but without any money limit. Nevada's law, which places the period at four months, is the most liberal of this type, but Wisconsin and California have 90-day periods, New York 60 days, and six of the States short periods, ranging from 7 days to 30 days.¹

The same objections are urged in Minnesota against this type of law as are urged against the Connecticut law. The employers fear that the doctors will rob them and the insurers want their liability made more definite. The fallacies in these arguments have already been pointed out, but I believe that we would all derive much benefit from the experience of the States referred to if they could tell us (1) whether any considerable number of medical bills exceed \$200 and what per cent exceed \$400; (2) whether the insurance companies have had any particular trouble in computing the amount of insurance premium that should be charged against the medical section; and (3) what objections, if any, they have to this type of

¹ Indiana, 30 days; Massachusetts, 14; Michigan, 21; Oklahoma, 15; Rhode Island, 14; Texas, 7.

medical provision. It would also be interesting to know whether this provision throws many of their workmen on their own resources to obtain medical care before their recovery is complete.

The third type of law, exemplified by West Virginia, Ohio, Oregon, and Maryland, has a money limit but no time limit for medical care. In Ohio, for instance, the board is required to pay from the State insurance fund "such amounts for medical, nurse, and hospital services and medicine as it may deem proper, not, however, in any instance, to exceed the sum of \$200." Such a provision, unless medical care can be obtained very cheaply, is, of course, far less liberal than that of Wisconsin or California, which provide care for 90 days; for \$200 will not buy medical and hospital service for a very long period of time, and it will be interesting to know from these States, (1) what per cent of the cases receive complete medical care under their provisions, and (2) what the average period is for which this amount will buy medical care in a serious injury that requires hospital treatment, such as a broken leg or a serious amputation.

The fourth type of law, and by far the most common type, is that which has both a time limit and a money limit. Of these, Minnesota, with its 90-day \$200 limit, and Illinois with its 56-day \$200 limit, are the most liberal; and the other nine are very conservative.¹

Termination of disability.—Disputes over the termination of disability and over the degree of permanent partial disability are probably the most common types of disputes under compensation acts. When the employer's doctor is caring for the injured man, it is naturally the employer's doctor whose certificate declares a man able to return to work. When a given doctor is handling these cases regularly for a certain employer or insurer, they are very apt to get the employer's point of view and to certify men as well at the earliest possible date. Indeed, any physician is apt to certify a man as well when he is medically well, i. e., when he requires no further medical treatment; but is not economically well, i. e., is not able to return to his employment. We have had a good deal of difficulty with the "shaving" of compensation in this manner, i. e., the cutting off of compensation before an adequate convalescence had been completed. We would be interested to know what authority you give to the attending physician's certificate that the man is able to go to work, and how you check the tendency to "shave" the compensation period when the insurance is carried by a private company.

¹ Nebraska, 21-day \$200; Colorado, 30-day \$100; Louisiana and Iowa, 2-weeks \$100; West Virginia, 2-weeks \$75; Pennsylvania, 2-weeks \$25-\$75; New Jersey and Montana, 2-weeks \$50; Maine, 2-weeks \$30.

Important questions also arise in connection with the selection of the physician. It is probably the consensus of opinion throughout the country that the employer must have the right to choose the physician. But should he have an absolute right? Should the injured not have the right to object to a particular physician and to require the employer to furnish a different one if he has good reasons for his objections?

I will raise but one more question. Our law, like that of Connecticut and some other States, requires that the physician's fees "shall be limited to such charges as prevail in the same community for similar treatment of injured persons of a like standard of living when such treatment is paid for by the injured persons." But the insurers, many of them, strenuously object to paying that much and are trying to get the medical care for half, or less than half, the price that ordinary citizens of the State pay. The doctors contend that the insurance companies are slow payers and that the costs of collection are fully as great for their business as for ordinary private business, and that no first-class physician can afford to do as good work in compensation cases for the prices they want to pay as he does in his private practice. Should the State promulgate a schedule of fees? How have such schedules worked where they have been tried? Is the care being furnished in compensation cases in your State satisfactory? Is the medical care furnished on a fee basis as good as that furnished when the employer has a contract with doctors and hospitals to furnish complete medical care, regardless of the law's limitations? Are many disputes over fees developing in your State?

FRIDAY, APRIL 28—MORNING SESSION.

Chairman YAPLE. Gentlemen, I think we had better proceed to the first order of business.

(A motion made by Mr. Kingston that the published minutes of the Seattle convention be adopted by this convention was carried.)

Dr. MEEKER. I would like to ask a question. Are there a sufficient number of copies of the Seattle proceedings to fill the demand for them? Is there anything there that needs preservation? I ask for this reason: I tried to make use of them, and found that extremely difficult. It has no table of contents and no index. I am willing to consider the advisability of editing the contents of the volume and to bring it out if so desired.

Secretary TARRELL. Mr. Daggett never advised me as to the number of copies or how many were distributed. Requests for copies have always been sent to him. We have a few left in our department, probably two or three. You can have them.

Mr. DURAND, Michigan. I think probably 750 copies were printed. I believe the intention was to send out to parties on the outside. I understand they have been pretty well sent out to manufacturers and others. If I can be of service I will be glad to help you.

(Dr. Meeker stated he was not asking for himself. He simply made the request in order to ascertain if there was any demand. Secretary Tarrell gave the information that requests came two or three times a week for copies, these requests coming mostly from libraries.)

Mr. KINGSTON. Since we are to have the value of the services of Dr. Meeker as secretary, I suggest we let the matter of permanent organization rest as it is this year and by next year Dr. Meeker will have thoroughly formulated ideas as to the plan of the permanent organization. This can be done much better than the committee can do now.

Dr. MEEKER. I was unfortunately detained by public business, and unable to attend the meeting last night. This is the first time I have gotten an inkling that I was chosen secretary. The plan that I had in mind with regard to headquarters for this association it might be well to let rest, as suggested by Mr. Kingston, until next year. It

may be you will find the method of working through the Federal Bureau of Labor Statistics unworkable. It may be next year that you will desire to create permanent headquarters in another place.

The CHAIRMAN. Following the wishes of the committee, we will pass the matter by. The first address on the program this morning is by Mr. Duffy, of the Industrial Commission of Ohio.

Mr. Duffy was a member of the State liability board of awards, and so administered the awards under the first workmen's compensation law enacted in Ohio. That board was appointed July, 1911; the law was an elective one, you no doubt remember. The old board went out of existence on September 1, 1913. Mr. Duffy then became a member of the Industrial Commission of Ohio. Perhaps the experience that Ohio has had with State insurance is more extensive than that of any other State. It is true that the State of Washington has been a more exclusive State, but the volume of business done in Ohio is so much greater that I think the experience we have had is probably better than that of Washington.

OHIO'S EXPERIENCE WITH STATE INSURANCE.

BY T. J. DUFFY, MEMBER INDUSTRIAL COMMISSION OF OHIO.

In dealing with this subject I shall try to confine myself to a statement of the results achieved in Ohio and the manner in which they were obtained, but I shall not attempt to touch upon the technical phase of the subject, as that was probably covered by our actuary, Mr. E. E. Watson, in his address on the subject, "Merit rating in workmen's compensation insurance," delivered to you on April 26.

Ohio's first workmen's compensation law was passed by the legislature on May 31, 1911, and was to become effective on January 1, 1912. The law provided for a State insurance fund to be created by premiums paid into the fund by such employers as chose to come under the workmen's compensation law. Payment of premium into the State insurance fund was the only manner in which an employer could elect to come under the workmen's compensation law. The law, however, was not compulsory; if the employer did not desire to come under the workmen's compensation law he could continue to take chances under the employers' liability law, minus the old common-law defenses. The employer who paid into the State insurance fund was exempt from damages for the injury or death of his employees, except in cases where the injury or death was caused by a willful act or a violation of law on the part of the employer.

Upon the members of the board of awards, which body had charge of the administration of the State insurance fund, was imposed the task of asking the employers of the State to pay money into an institution which had no capital or financial backing of any kind, as the legislature had provided no subsidy or financial help to serve as a foundation upon which to build a State insurance fund.

The appropriation allowed to cover the cost of the administration of the workmen's compensation law was very inadequate, and this meager amount was tied up by a lawsuit in which the constitutionality of the law was tested. In a decision made in January, 1912, the supreme court of the State held the law to be constitutional. After getting from the State emergency board sufficient money to employ

the necessary help we announced that the law would be put into effect on March 4, 1912. It must be admitted, however, that owing to lack of time we were not as well prepared as we would like to have been for the great task before us.

Owing to lack of reliable accident data there could be no certainty as to the accuracy of our first premium rates from an actuarial standpoint. However, instead of making low premium rates, in order to make the State insurance fund attractive to employers, we started out with high premium rates, feeling that solvency should be the first aim in the establishment of a State insurance fund. Subsequent experience demonstrated that our first premium rates were entirely too high.

The employers of Ohio had not yet understood the difference between workmen's compensation insurance and employers' liability insurance. Our premium rates, of course, were much higher than the premium rates for employers' liability insurance. The insurance men took advantage of this situation and led the employers to believe that our rates were exorbitant. The members of the board of awards traveled over the State addressing manufacturers' associations and chambers of commerce, explaining the workmen's compensation law. Hundreds of such meetings were held, and in almost all of them lively discussions took place between the members of the board and the insurance men. While this was very embarrassing at the time, yet I feel that the insurance men unconsciously contributed much to our success. By quizzing us at these meetings and calling attention to the defects in our rules and methods they pointed out the things that it was necessary for us to learn and the defects it was advisable for us to remedy. In other words, their opposition educated us and equipped us for our work more rapidly and more thoroughly than any other method could have done.

At the end of the first year but 1,023 employers had elected to come under the workmen's compensation law. But the year had been one of educational activity. The campaign of education carried on by the board of awards and the campaign of opposition carried on by the insurance companies had aroused the interest of the employers and had enlightened them to a great extent upon the issues involved.

When the question of passing a compulsory workmen's compensation law was under consideration at the session of the legislature of 1913 very bitter and determined opposition was manifested by the insurance companies against the passage of any law which provided for no other form of insurance than the State fund. Many employers, misled by the misrepresentations of the insurance men, lined up with the insurance companies; but the governor, the laboring people, and quite a few employers, advocated the passage of the

present law, which was adopted by the unanimous vote of both branches of the legislature, and was to be effective January 1, 1914.

The law, however, did provide that the board of awards may grant authority to carry their own risks to employers who apply for such authority and furnish bond or security to insure payment of compensation in all cases of injury or death of their employees.

While it was not the intention of the legislature to permit such a thing, yet it is true that the insurance companies have insured some of the employers who have been granted authority to carry their own risks. Some insurance companies have had their agents working constantly to prevail upon employers to get authority to carry their own risks, with the object of insuring with the insurance company. During the past year the insurance companies were given much encouragement through an opinion given by State Insurance Commissioner Taggart, in which he held that the insurance companies not only had the right to write workmen's compensation insurance in Ohio, but also had the right to indemnify employers for the cost of injuries or deaths resulting from willful acts or violations of law on the part of the employer, something which is specifically forbidden by the workmen's compensation law itself. A suit is now pending in the supreme court of the State as to the right of the insurance companies to write workmen's compensation insurance under the Ohio law.

On January 1, 1914, 3,938 employers were paying premiums into the State insurance fund; on January 1, 1915, 15,445 had subscribed to the State insurance fund and 837 employers had been granted authority to carry their own risks; on January 1, 1916, 18,124 employers were paying premiums into the State insurance fund and 1,351 employers had been granted authority to carry their own risks; on April 1, 1916, 18,806 employers had been subscribers to the State fund and 1,519 employers had been granted authority to carry their own risks.

It is estimated that the employers who pay premiums into the State fund employ about 900,000 employees; the employers carrying their own risks employ about 225,000 employees. Of the employers carrying their own risks, about 800 have insured with insurance companies. The employers who have insured with insurance companies employ not more than 50,000 employees.

These figures tell, more forcibly than any words of mine could do, what the employers of Ohio think of the State insurance fund after having seen it tested for four years.

The reliable tests known to actuarial science place the solvency of our fund beyond all question of doubt. Each premium period in our experience shows an increased loss ratio of earned premium; but this is accounted for by the fact that at the end of each preceding

premium period rates were reduced. These rate reductions, being retroactive, caused many thousands of dollars to be paid back to employers in the form of rebates or credits. Our last financial statement, dated November 15, 1915, shows a loss ratio of 93.7 per cent of the earned premium. This loss ratio is arrived at after making a maximum allowance for the cost of all pending or unadjusted claims for injuries or deaths occurring prior to that date.

The amount of earned premium up to November 15, 1915, was \$5,943,993.01. The total losses, including the cost of all injuries and deaths occurring on or before November 15, 1915, was \$5,571,296.18, leaving a surplus of \$372,696.83. Amount set aside for the catastrophe reserve fund, \$346,003.48, leaving a net surplus of \$26,693.35. This net surplus is the fund from which we would pay dividends or profits if we were conducting a private insurance company.

We have received interest on premium deposits to the amount of \$182,408.26. The 5 per cent premium required of all self-insurers amounts to \$142,174.27. Our catastrophe reserve amounts to \$346,003.48. Taking into consideration the earned premium alone, and counting the cost of all injuries and deaths occurring on or before November 15, 1915, we find that after fully discharging all of our obligations we have to our credit \$697,279.36. In other words, if we had quit business on November 15, 1915, we could have discharged all of our obligations and returned to our subscribers \$697,279.36. The actual cash balance in the fund on November 15, 1915, counting all premium collected, was \$2,870,178.24. The total cash balance in the fund on April 1, 1916, was \$3,628,045.73.

These figures should be sufficient to convince the most skeptical that our State fund is absolutely solvent.

The cost of administering the Ohio workmen's compensation law, including all the functions incident to the making of rates, the collection of premiums, the adjustment and payment of claims, investigations and medical examinations, and all the other expenses, is equivalent to 10 per cent of the earned premiums collected. This includes the cost of administering the law as to self-insurance risks as well as State-fund risks. This entire expense is paid from the general tax fund of the State and not from the State insurance fund.

A table of comparative rates, compiled by our actuarial department within the past month, covering representative industries, shows the Ohio State insurance rates and the liability insurance rates to be in the following ratio:

Ohio State insurance rate.....	\$1.00
Ohio liability insurance company compensation rate.....	2.55
Wisconsin liability insurance company compensation rate....	2.32
Colorado liability insurance company compensation rate....	1.48

The Ohio State insurance rates used in this table are not our preferred rates, but represent the average rate as shown by our past experience. The liability insurance companies' rates used in this table were taken from the current manual of rates issued by the insurance companies.

You will observe from what I have said thus far that we have clearly established, as far as our experience up to this date can be accepted as a criterion, three very desirable and important things in connection with any workmen's compensation law, namely, (1) the absolute solvency of the State insurance fund, (2) economy in the cost of administration, (3) reasonable yet adequate premium rates.

Taking into consideration the difference in the rates of compensation, the average amount of the awards under the Ohio law is about equal to that of the awards made in other compensation States, thus showing that there is nothing to the contention of those who claim that a State insurance fund begets extravagance, because those administering the fund are spending other people's money and not their own. On the other hand, the laboring people have expressed general satisfaction as to the promptness and fairness of the awards made.

I agree with the opinion of President Daggett, expressed in his opening address to this convention, wherein he said that if we are to achieve the best possible results in this great humanitarian work the boards and commissions in charge of this work must be kept out of politics. One of the most difficult tasks which we experienced in our efforts to establish a State insurance fund was to eliminate from the minds of employers the fear that a State insurance fund could not be administered without being constantly subjected to such political influences as would destroy efficiency and jeopardize the solvency of the fund. We had succeeded very well in convincing employers that political influences did not interfere with our work until last year, when the governor, for political reasons, requested the members of the industrial commission to resign, and later in the year removed, for political reasons, many of the employees of the industrial commission. This greatly shook the confidence of the employers, and while it made our task more difficult, yet we were able to avoid any serious injury to the State insurance fund.

I am willing to concede that such political influences as we experienced last year hamper an administrative body in its efforts to get the best possible results in the administration of a State insurance fund. I am willing to concede also that it is very difficult to prevent political influences from interfering in the work of any State department. But if the employers of labor will exert their influence at the proper time and in the proper place I submit that they will find that it is much easier to eliminate political influences from the adminis-

tration of a State insurance fund than it is to get insurance companies to do business without taking 40 or 50 per cent of the premium to pay agents' commissions, officers' salaries, dividends, etc.

One of the principal objects in changing from the employers' liability system to the workmen's compensation system is to cut out the "waste"—the unnecessary cost of litigation and the useless cost of insurance that did not protect or compensate the victims of industrial accidents. If in the elimination of this "waste" there is good reason why we should stop at the point where it interferes with the insurance companies' premiums, there is equally as good reason why we should stop at the point where it interferes with the lawyers' fees. The service of the one is no more necessary than the service of the other. The best solution of the problem is to eliminate both.

I believe that a compulsory State insurance plan permits a better solution of many of the perplexing problems that are arising under the administration of the various workmen's compensation laws. As an illustration of this let us take the case of a workman who has lost a member of the body, say, for instance, an eye. In many employments a one-eyed workman could continue in his occupation without any perceptible impairment of his efficiency. An employer who is carrying his own risk, or has insured with an insurance company, is unwilling to employ or continue in his employment a one-eyed workman, because he fears that he may lose the other eye and thus be a burden upon the employer for life.

To be fair about it we can hardly blame an employer for taking all reasonable precautions to protect himself against the cost of a permanent total disability. But that is no consolation to the workman whose unfortunate condition hinders him from getting employment and subsequently inflicts suffering upon himself and family.

If Ohio's experience can be accepted as a criterion, among the workmen who have become partially disabled through loss of a member of the body there is not one in a thousand who meets with a subsequent injury that deprives him of the second member and thereby causes a permanent total disability. Injuries of this character do not average one in fifty thousand of the total number of injuries occurring in the industries of the State. But where it does occur it is quite a heavy burden upon the individual employer who happens to be carrying his own risk. Hence the reluctance to employ such partially disabled workmen.

The employers who have paid premiums into the State fund are not worrying about this problem, because when the cost of such cases of permanent total disability is distributed over the industries of the State it makes little or no perceptible difference in premium rates. Thus, the compulsory State insurance fund protects the employer

against the embarrassment of having to meet the cost in such cases, and at the same time removes the condition that prompts employers to refuse to employ such partially disabled workmen. This certainly gives us a more desirable social condition, no matter whether we view it from the standpoint of the employer or the employee.

I do not contend that we have solved all the problems incident to the successful administration of a State insurance fund. Probably our future experience will show that many refinements will have to be made in our premium rates; and, no doubt, many other important problems will confront us; but, considering that when we started to establish this State insurance fund we were men without any insurance experience whatever, and with but little or no accident data at our disposal; that we had not one dollar of capital as a foundation upon which to build a State insurance fund; that all during our past experience we have had to cope with the bitter and resourceful opposition of the insurance companies of the United States; that through our experience thus far we have converted into friends 99 per cent of the employers who first opposed the State fund, because they had been deceived as to its merits; that we have already withstood an attack of political influences—when all these things are considered in the face of the present condition of our fund, I leave it to your common sense to judge whether or not there is any reason to worry about the future success of Ohio's State insurance fund. Under present conditions I feel that we are justified in saying to those critics who are ever predicting our failure, "Isch ka bibble."

DISCUSSION.

Mr. KINGSTON. What type of employers are allowed to carry their own risks?

Mr. DUFFY. Our rules require the employer to furnish a financial statement of business, to give surety bond. Out of 1,500 granted authority to carry their own risks about 800 have insured with the insurance companies. We have field men who call upon the employers and notify them of the provisions of the law. An injured employee can make application for compensation. The employer is given 10 days to pay the award; if he refuses it is certified to the State. The rates quoted by the insurance companies are taken from their own manual.

Compared with the New York law, you might say our average rate will be double that quoted under the New York law. I want to say by way of emphasis that I most heartily agree with the opinion of Mr. Daggett expressed in his opening address at this convention, wherein he said in order to get the best results from this humani-

tarian work, the boards and the commissions in charge of such work must be kept out of politics. This was one of the most difficult tasks we had.

The **CHAIRMAN**. Mr. Duffy has succeeded in presenting his subject in a very admirable manner. He may not have covered the whole ground, because that would require a great deal more time; yet from what he said anyone ought to be able to get a correct idea of the manner in which State insurance is conducted in Ohio.

There is just one thing perhaps not covered quite as fully as it might be. That is the provision of the law with reference to self-insurance. The law establishes a general rule that all employers employing five or more workmen shall subscribe to the State insurance fund; then creates an exception where employers by reason of financial strength and ability to render certain the payments of compensation under the act, may be permitted with the consent of the Industrial Commission of Ohio to pay such compensation direct. They must abide by the laws, rules, and regulations governing all self-insurers. It is provided in the rules and regulations that a self-insurer must make application to carry his own risk and pay insurance direct. His occupation is classified, and he is required to pay into the fund 5 per cent of the premium he would have paid in the State insurance fund. The rules and regulations provide the method of settling claims. Every injury that occurs must be reported even if the injured person is entitled to no compensation under the law. In cases where the injured one is entitled to compensation, a contract agreement is made between the injured employee and employer and is filed with the commission, and must be approved by it before it is binding on either party.

The commission has continued jurisdiction in these claims. If the parties fail to agree, a means is provided for the commission to determine the rights of the parties. Neither party has a right to appeal from the decision of the commission; if the employer refuses to pay compensation awarded by the commission, a finding is made and certified to the attorney general, whose duty it is to bring suit for the liquidated amount of damages against the employer. The commission can deprive the employer of the right to pay direct and require him to contribute to the State insurance fund.

Mr. **KINGSTON**. There is very much that might be said. I do not want to prolong the discussion at this hour. In Ontario we have a compulsory State insurance system.

Mr. **PILLSBURY**. There are two features in the California law in which we take particular pride. One is the system of rating permanent disability, the other is the insurance system. The people in California do not submit to compulsion. They readily submit to

persuasion if shown the right way. We got our idea from New Zealand; it is not our own. We make the person who is benefited the principal; we make him the surety, not the contractor; he is the unpaid police, which makes our law fairly compulsory in effect. He is made responsible until he ceases to do with the contractor. He is insured with some insurance company; he is permitted to carry insurance in such. That works extremely well. Our system is new; the work of education is not finished.

The CHAIRMAN. We think there is this difference between the plan in effect in the State of Ohio and this of Mr. Pillsbury. Ohio State regards furnishing insurance as a governmental function; if a governmental function, the Government should have a monopoly, just as it has a monopoly of supporting public schools, maintaining police departments, etc. If you are going to recognize the furnishing of this class of insurance as a legitimate business, I don't believe the State can justify itself in entering the field; where it does it can not help but have a great opinion of the rates charged by commercial companies. I imagine in California, where the competitive plan exists, insurance companies write insurance at a much lower rate than where they have a free field. One great objection that is heard to State insurance is the inability on account of political service rendered to carry on a department of this kind successfully. I admit there is much force to that objection. As a matter of fact, nearly every member of every commission in every State in the Union holds his position because he cut some figure in politics prior to his appointment; had he not been a figure in politics in the State he would probably not have been elected as a member of the State board or commission; that is not only personally true of all members, but at least some of the boards are selected for that reason. That doesn't mean these men are necessarily incompetent; we all have politics of some kind. Certain kinds of politics can disrupt and destroy efficiency. It is too much to expect any system of government to eliminate entirely the question of politics; however, I think the Ohio commission has had trouble from the beginning in preventing too much politics getting into the work. It has had to build up this great organization, most of it being done before we ever had civil-service law. I think we succeeded very well. I think as to the conditions of funds, the record has been one of which we may well feel proud.

The time has not yet been reached when the system in this State can be condemned on that account. I am not claiming the law is perfect or that the method can not be improved upon; I think it can and ought to be improved, and no doubt we will succeed in doing so at the next session of the legislature, by securing amendments that will be very helpful.

The next paper, by Dr. Meeker, will deal with that question. The enactment of workmen's compensation laws has brought about new conditions, new problems. One is the physical examination of employees. These are great problems and ones we will have to meet in time in this country; in my judgment we are going to have to prepare to meet them very soon. The Ohio commission may have nothing to do in the administration of laws. At this time it is very proper we should begin to inform ourselves, so I know you will listen to Dr. Meeker with great interest.

(Dr. Meeker in his introductory remarks paid a tribute to Mr. Duffy, whose address just preceded, saying he thought high praise was due Mr. Duffy for the courage he had shown in saying the things he did about political influence.)

THE RELATION OF WORKMEN'S COMPENSATION TO OLD AGE, HEALTH, AND UNEMPLOYMENT INSURANCE.

BY ROYAL MEEKER, UNITED STATES COMMISSIONER OF LABOR STATISTICS.

THE FIVE HAZARDS OF LIFE.

Workers live in constant fear of the five great hazards of life, namely, the hazards of accident, of illness, of unemployment, of invalidity and old age, and of death. I make no specific mention of the hazard of maternity, as that is a special kind of illness. All of these five hazards lurk in all industries, though unemployment is the only one of them that is purely an industrial hazard. The other four menace the well-being and happiness of all mankind. If one is fortunate enough to escape untimely death through accident or illness, he becomes old. One or more of the goblins is bound to get you no matter how vigilantly you watch out. The workman runs all these four risks and the additional industrial risk of losing his job. Moreover, his risk of injury from accident, illness, and premature disability is greater than that of other men, and he is less able to protect himself against these misfortunes and to provide for his dependents in case of mischance.

Until quite recently we have dealt with industrial hazards by ignoring them. By diligently disregarding them the terrors of industry were for us nonexistent. We did not invent the philosophy of eradicating evil through ignorance. The ostrich was there before us. When enemies threaten his destruction the ostrich eliminates them, we are told, from the whole scheme of things—makes them as if they are not and never had been—by burying his head in the sand. He is a firm believer in the blissfulness of ignorance and the folly of wisdom. We have much in common with the ostrich. Our favorite method of annihilating evils is to shut our eyes tightly and to bury our communal head in the sand. But though the ostrich invented this method, we have improved upon it and developed it far beyond the capacity of a mere ostrich. For years we held that there were no industrial hazards, and, anyhow, industry could not afford to pay for the men and women it killed, maimed, and disabled. Now that our communal head has been partially unearthed and our reluctant eyelids have been pried apart, we are terrified by the enormous cost of providing a measure of protection to those who suffer from

the ills, the mischances, and the wear and tear of industry. To our intelligence these unescapable, ever-present evils, the existence of which we are beginning reluctantly and qualifiedly to acknowledge, do not constitute a burden unless we provide some sane and economical method of carrying or mitigating them. As long as the burden crushes the workers, those who can neither avoid, shift, nor bear it, we are happy in the belief that there is no burden. As a cheerful, antipreparedness optimist the ostrich has nothing on us.

CAN PRIVATE INSURANCE TAKE CARE OF THESE HAZARDS?

Let us consider briefly just how far we have gone toward recognizing the hazards of life and preparing and providing ourselves against them. First in size and importance among the agencies to be considered are the private insurance companies. I need not dwell upon their indispensable productive services to humanity. They need no free advertising from me. They have paid officials and agents whose sole business it is to expound the nature and advantages of insurance of the various kinds—life and death, industrial and commercial, casualty and accident, sickness and health—and to explain the superiority of each particular policy over all others.

Our insurance companies have done good productive work in distributing life-hazard burdens which fall upon individuals over large sections of the population, thus mitigating the hardships that are inevitable when the breadwinner of a family dies or is disabled. The life and casualty insurance companies are the shock absorbers on the axletree of society. The insurance companies not only made a great contribution by distributing losses over a wider population area, they have also done much toward cutting down death, accident, and illness rates. Far be it from me to belittle the splendid achievements of our life and casualty companies along these important lines. What irritates me is that the companies advertise all their activities directed toward reducing mortality, morbidity, and accidents as welfare work, and expect because of these activities to be praised (and taxed) as philanthropic and eleemosynary institutions.

I can claim no inside knowledge of the motive actuating the responsible officials who direct the policies of insurance companies, but this is patent—life-insurance companies are in business for life, not for health; for profit, not for almsgiving. All of you know the insurance companies and insurance men—many of them. You can't avoid it. In fact, knowing insurance men and avoiding them takes up a large part of one's time these days. They are very much like other men, only more so. They have yearnings toward the good, the true, and the beautiful, even as you and I. Insurance officials long ago comprehended the profound philosophy contained in the

words of the "Preacher": "Cast thy bread upon the waters: for thou shalt find it after many days." No industry in the world lends itself better to the bread-casting policy than life, health, and accident insurance. It beats the agricultural game of sowing seed and reaping an hundredfold return. Every dollar thus far spent by insurance companies to reduce mortality, morbidity, and accident rates among their policyholders has brought in rich returns, for reductions in premium rates lag far, far behind the reductions in amounts paid to policyholders on their policies. Let us give all due credit to the insurance companies for the good they have accomplished, but let us not count to them as righteousness that which is merely cold, calculating, competitive business policy.

What has the competitive method of providing insurance against the certain ills of life done for the workers? The answer is: Almost nothing. This is no indictment of the honesty in the administration of insurance companies. The cost of so-called industrial insurance and casualty and health insurance provided for working people by some companies puts them among the most expensive luxuries of our modern life. Out of every dollar paid to the companies in premiums for industrial insurance about 35 cents is absorbed in expenses of producing this commodity. While some expenses are needlessly high, and others perhaps ought not to be charged to the industrial department at all, very few economies are possible under the system of private competitive insurance. The cost of industrial insurance is estimated to be four times that of ordinary insurance, and the premiums on ordinary life are acknowledged to be too high. Sickness and accident insurance costs even more, taking up from 55 to 65 cents of every dollar paid in, leaving only 35 to 45 cents for distribution among policyholders. I speak only of the companies that are conducted according to the accepted competitive business standards of morals, the companies that would have the motto "Honesty is the best policy" engraved on their escutcheons, if insurance companies ever had escutcheons. I am endeavoring to get at the true inwardness of the thing called insurance; I am not dealing with what the law books call robbery in any of its many seductive forms. I submit that insurance which costs 55 to 65 cents on the dollar can never become very popular, and it ought to be abolished as soon as a more economical substitute is found. Any adequate insurance at such a cost is out of the question. What are the utilities bought by working people at such exorbitant prices? A funeral with a hearse; a grave in expensive holy ground; excessively limited, much qualified, and grossly inadequate provisions against a few strange, terrifying, and unusual accidents and illnesses. These are the compensations offered by our private competitive insurance companies to the dependents of our deceased, sick, and broken working-

men in return for what they have paid. I lay this contribution of the insurance companies toward the solution of the problem of providing adequate protection to the workers of society before you in all its naked pitifulness and pettiness. If the choice for the worker lay between no benefits at all in case of misfortune and these costly pittances purchased so dearly with marginal dimes and nickels saved by going without needed recreation, medicine, and even food, the case for insurance against the certain hazards of life would indeed be hopeless. But this is not the only alternative. Other countries have shown a "more excellent way."

SOCIAL INSURANCE AND WORKMEN'S COMPENSATION IN EUROPE.

The inability of private insurance companies to provide protection economically for the working classes drove European countries to State action. To-day the successful systems of State-directed or State-operated insurance in Europe indicate how adequate provision against all these hazards may be made economically for all workers and moderate-salaried persons, though no country has as yet provided sufficient benefits for all who need them and for all hazards. Germany, for example, provides compensation for all workers whose wage is less than 5,000 marks (\$1,190) per annum for disability from accidents, sickness, old age and invalidity, and death, although the benefits paid are very small indeed. She has no national system of insurance against unemployment, but some cities of Germany have local unemployment insurance. Great Britain, on the other hand, provides a national system of unemployment insurance besides workmen's compensation, health insurance, noncontributory old-age pensions, and death benefits. Again the benefits, though more liberal than those of Germany, are very small—too small to be sufficient. In all cases only those earning less than specified amounts are included, while unemployment insurance, workmen's compensation, and death benefits are confined to certain enumerated trades.

The experience of Europe shows that what competitive business could not do cooperative business has done; where private insurance failed social insurance succeeded; where the efficiency of big business was insufficient the efficiency of bigger business plus the compulsion of State authority sufficed. Under private insurance those who most need provision against accident, disease, unemployment, old age, and death do not get it at all; under social insurance all may be brought under the protecting wing of the State. Social insurance eliminates at once from the premiums paid by the participants practically all items of cost due to dishonesty, profits (which are sometimes indistinguishable from thefts), and the enormous expense of canvassing for new business and collecting pre-

miums. State action can put preparedness against the five great hazards of life within reach of all.

WORKMEN'S COMPENSATION IN THE UNITED STATES.

With the experience of European countries to guide us by example and warning, what have our elder and younger statesmen done to take care of the victims of accidents, disease, industrial crisis, and the ravages of time?

Some thirty-odd commissions have been created at different times to investigate the field of workmen's compensation and have reported back unanimously in favor of compensation legislation to displace the old liability laws. But little attention was given by those commissions to industrial hazards other than accidents, and no consideration whatever was given to the industrial hazard of unemployment and to nonindustrial hazards.

The first social insurance law which provided benefits in case of sickness was enacted by Germany in 1883. Twenty-five years thereafter, in 1908, the first workmen's compensation law in the United States was enacted by Congress, which law still stands on the United States statute book as a monument to the indifference of Congress to the rights of all Federal employees to equal treatment and adequate compensation for injuries. To-day, after long delays, repeated investigations and prolonged debates, as the result of much legislative toil and judicial turmoil, we have for the United States, the Canal Zone, the Philippine Islands, 31 States (excluding Kentucky), and 2 Territories of the Union, 36 distinctly different workmen's compensation laws, limited in nearly all cases strictly to industrial accidents and excluding from any protection, in most States, either explicitly or implicitly, farm laborers, domestic servants, casual laborers, and persons working in employments not for profit. Still other employments are excluded in several States. The scope of these limited laws is still further limited in most States by court decisions. Analysis and comparison of these 36 different laws bring out the most astonishing likenesses and unlikenesses. The confusion of tongues at Babel seems like the swelling harmony of a great oratorio compared to the confusion of these laws, enacted presumably for the sole object of giving workmen injured by accident some measure of compensation sufficient to keep them and their families from becoming objects of charity. Yet it is apparent on the face of them that these laws could not have been framed without knowledge of or reference to the legislation of the other States of the Union and of Great Britain. Their dissimilarities as well as their similarities prove their common origins. Great unanimity is shown in the inadequacy

of the medical service and the illiberality of the compensation, allowed only for accidental injuries which occur in prescribed ways to workers in a limited list of "hazardous" employments. Furthermore, in nearly all the States the carrying of the accident risks is not provided for by the most economical means.

In California, Connecticut, Iowa, Massachusetts, Michigan, New Hampshire, Ohio, Texas, West Virginia, and Wyoming the laws are so worded as to admit of a construction permitting the payment of compensation for other than accidental injuries. Only Massachusetts and California, however, have allowed compensation in cases of illness contracted as a consequence of employment. Twenty-nine States and Territories, following the British example in legal phraseology, give no compensation unless the accident arises "out of and in the course of employment." Farm labor is specifically excluded from benefit in California, Colorado, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, Nevada, New York, Oklahoma, Pennsylvania, Rhode Island, Texas, West Virginia, and Wisconsin, 21 States in all. Benefits are limited to specified hazardous and extrahazardous employments (whatever those may be) in 13 States and Territories, namely, Alaska (mining), Arizona and Kansas (especially dangerous), Montana (inherently hazardous), New Hampshire (dangerous), Louisiana, New York, Oklahoma, and Oregon (hazardous), and Illinois, Maryland, Washington, and Wyoming (extrahazardous). In none of these States has agricultural employment been included in the list of hazardous employment covered,¹ although the experience of Germany and Austria proves the cost of agricultural accidents to be the most burdensome of all. In Germany in 1908 the total number of persons insured in agriculture was more than double the number insured in all other industries combined, 17,425,796 as against 8,540,601. The total number of persons drawing disability pensions for "old and new" accidents in 1908 was 431,085 in agriculture and 566,214 in all other industries. The number of new accidents compensated for the first time in 1908 in agriculture almost equaled the totals for all other industries, 62,377 as against 79,399. The total expenditures in 1908 for compensation of accidents to agricultural laborers amounted to \$7,719,720 as against \$26,681,475 for all other industries combined. It will be observed that only 6 of the States named in the two lists given are common to both, so that to the 21 States specifically excluding agriculture, the most important of all industries and the one in which compensation costs are heavier than in any other, must be added 6 other States² excluding agriculture on the ground that this, the industry which contributes nearly as many

¹ Oregon, however, permits farmers to come under the law by making application.

² Not including Oregon.

accidents as all other industries combined, is nonhazardous. In addition, three other States exclude agricultural labor through numerical exemption provisions. This makes a total of 30 States¹ which provide no compensation to farm laborers. The list includes every important agricultural State having a workmen's compensation law. Domestic service is also excluded from compensation in 32 States.

STATE COMPENSATION INSURANCE.

In 19 of the States having compensation laws no provision is made for State insurance, and in these States practically all of the compensation hazards are carried by private casualty companies, only an insignificant amount being carried by individual employers and employers' mutuals. Washington, Ohio, and Wyoming are the only States that have legislated private casualty or compensation insurance out of existence and have set up State insurance instead. The Ohio law, however, does permit employers to carry their own risks either singly or in mutual association subject to the approval of the commission. Nevada, Oregon, Texas, and West Virginia, however, provide elective State insurance systems, the acts permitting employers to operate under the old liability laws, but requiring them to insure in the State funds if they elect to come under the compensation laws. Of the States having compulsory compensation laws, California, Maryland, and New York have established State funds, as a means of regulating and controlling the charges of the private casualty companies. The compensation laws of 20 of the States are doubly elective in the sense that employers may elect to come under the law or not, and if they choose to come under the law, they may again choose between two or more ways of carrying their accident risks. Of these States, Colorado, Michigan, Montana, and Pennsylvania have established State insurance funds in which employers may insure if they wish. In New York, California, and perhaps other States the State funds are competing sharply with the casualty companies for business, and considerable feeling is being shown by the attackers and defenders of State insurance. How are the private companies able to stay in business in competition with State insurance? The companies say because of their superior management which enables them to carry insurance more cheaply than the State. The administrators of State funds tell a different story. It seems inevitable that as soon as State social insurance is firmly established and employers become accustomed to it, the casualty and industrial companies will be driven out of the field of workmen's compensation insurance—a field in which from the beginning no insurance for private gain, whether conducted by stock or so-called mutual insurance companies, should ever have been allowed to enter. A hopeful

¹ Not including Oregon.

thing is the fact that insurance by private companies under the compensation laws is put under State supervision and control in some 20 or more States. While it is much simpler, easier, and more economical for the State to conduct an out and out insurance business than to control competing private insurance companies, still, controlled insurance is far better than uncontrolled insurance, and we may hope that the day is not far distant when the public service will attract men of such high caliber that even the task of controlling private, profit-seeking workmen's compensation insurance will not prove beyond their powers.

We have thus far given but a tardy, reluctant, half-hearted recognition of the principle of compensation to workmen for injuries. We have confined the application of the principle almost exclusively to accidental injuries, and we have, with the few exceptions noted, stiff-neckedly refused to employ the easier, more thoroughgoing, and more economical means of social insurance to carry the burden. Vested interests ranging all the way from employers down through the penultimate retailer to the ultimate consumer have opposed the extension of compensation legislation. They all cried aloud with one voice, "We are ruined!" when it was proposed to shift a tiny portion of the burden that had been crushing the health, strength, and life out of the workers, upon their shoulders. The employers and merchants feared for their profits, and the consumers feared for their cost of living. For a long time all were willing to make and to save at the expense of the laborer's health, welfare, and life. Even the workers themselves were at first opposed to compensation even in the homeopathic doses ladled out to them by our legislators. Now that industry has become adjusted to the new distribution of the burden of industrial accidents, all perceive the advantage of this arrangement. When, however, it is proposed to extend the admitted advantages of cooperative burden bearing we find the same opposition manifested by the same classes. One would think that the workers, at least, after so clear a demonstration of the advantages of public action would insist upon the immediate extension of the principle of compensation to all workers and all industrial hazards.

AMENDMENTS AND NEW LEGISLATION NEEDED.

In spite of all opposition workmen's compensation legislation must and will be extended and strengthened. The States should strive to get a much greater degree of harmony and uniformity in their several laws. It ought not to be impossible to frame laws that will provide substantially the same compensations for the same risks throughout the United States. What fundamental, ineradicable differences of

race, religion, institutions, and traditions exist between the people of Connecticut, New York, Massachusetts, and New Jersey, or between the people of Ohio, Pennsylvania, and Indiana, that it should be necessary to enact laws that differ so widely and erratically? In the good old days of State banking the traveler had to lug about with him a huge tome in which was recorded the discounts to which the manifold currencies of the various States were subjected. The tome had to be supplemented by newspaper items and the gossip of the taverns, and the utmost diligence could never make it quite up to date and dependable, so the traveler, while he could always be sure of losing, never knew just how much he had lost until he arrived safely home from his travels. The workman is in the same position, except that he has no book of discounts to tell him what he is entitled to in the way of compensation. It would require the services of a corps of actuaries, statisticians, and lawyers to determine just what, if any, compensation a workman is entitled to in the several States of the Union.

EXTENSION AND INCREASE OF COMPENSATION.

Compensation legislation should be enacted in all the States of the Union. During the legislative sessions of 1915-16 another State, Kentucky, has been added to the list of those having compensation laws, although the Kentucky law has not yet become operative. This leaves 16 States without compensation legislation. It is greatly to be hoped that the 16 backward States will soon fall into line. All the States should provide adequate compensation to all workers receiving less than a stated yearly wage in all industries. Farm and domestic labor should be provided for because of their great importance and the numbers employed in these occupations. The hazardous or nonhazardous nature of these industries has nothing to do with the question of including them under compensation. The cost of accidents has to be borne anyhow. The only sensible thing to do is to provide for carrying it most economically and thoroughly. The limitation of compensation to hazardous and extrahazardous employments is indefensible. Suppose a clerk in a dry-goods store is injured by a falling case. Is it reasonable to exclude him from compensation because dry-goods clerks are rarely injured? Does it help him to pay the doctor, the butcher, the baker, the grocer, and the landlord to be told that it is very unusual for one in his line of employment to be injured? In fact, according to legal theory, there is more reason to insure the nonhazardous trades than the hazardous ones, for according to the theory of the common law the workman in a dangerous occupation is paid for the risk he runs. Granting the theory to be true (which it is not), a worker in a risky trade is, because he is better paid, better able to protect himself against the evil

of disablement than a worker of equal skill employed in nonhazardous work.

The inclusion of nonhazardous employments under compensation laws would add but little to the total expenditure, because of the rarity of accidents in these occupations. It must ever be borne in mind that extending workmen's compensation does not create a new burden. It merely provides a more equal and equitable distribution of a burden which has existed from the beginning of industry. It transfers the load from particular unfortunate individuals to society. Legislation can affect the total cost of accidents only by increasing or decreasing the number of accidents occurring. The effect of putting a portion of the accident cost upon employers and the general public is to awaken them to the fact that accidents cost money; that some one inevitably must pay the bill; and to interest them in diminishing the number of accidents. Diminishing hazards should be the prime object of all compensation legislation, whether for accidents, illness, invalidity and old age, or unemployment.

The allowance of 50 per cent of wages for total disability which obtains in most States is not sufficient. From what we know of the earnings of laborers, 65 or 66½ per cent of wages is little enough to grant. The maximum and minimum weekly payments are also too low in most States.

INVALIDITY AND OLD-AGE INSURANCE.

A serious defect in the compensation acts in the United States is the inadequate provision for serious and total permanent disabilities, invalidity, and old age. What logic is there in limiting payments to a permanently disabled workman to a maximum amount or to a weekly allowance for 300 or 500 weeks and then cutting him off without a shilling, if he is unfortunate enough to live to expend the total amount allowed or to live beyond the allotted time for which he may claim compensation? He can not cease living when compensation ceases. Food, clothing, fuel, and shelter must be provided. When they can no longer be provided from compensation payments they must be provided by the family, by friends, or by the public. In large numbers of cases to-day the public takes care of the totally disabled as paupers in almshouses and other institutions. It is little more expensive to take care of them as self-respecting men and women, receiving as a matter of right just compensation for injuries received in the performance of duty. All cases of total disability, whether due to accident, illness, invalidity, or old age, should be provided for by means of an invalidity and old-age pension or insurance system. This is a necessary coordinate part of a proper and thoroughgoing social insurance system. The only argument needed

to convince any fair-minded person of the necessity of extending social insurance in this country by adopting an invalidity and old-age pension scheme is the presentation of the figures showing what happens to totally disabled, old, and infirm laborers.

Some tribes of Eskimos take care of their aged and infirm by mercifully knocking them on the head. This method of dealing with old age and disability by elimination relieves instantly the sufferers from their suffering and the community from the cost of providing for its used-up members. Our moral code will not sanction any such drastic treatment. We can not bear to see anyone summarily killed in this thoroughgoing manner. We have become so remorselessly humane that we demand that our old and invalided shall be killed very gradually—the more gradually the better. We provide for elimination by means of slow starvation, lingering, unattended illnesses, long-drawn-out deprivations, and the like. We provide “homes” at public and private expense to care for the aged and infirm. Very few of our citizens ever go near these “homes” to see how well or ill they are doing the work of caring for these helpless victims of time and the wear and tear of existence. The theory is that the typical American family provides with joyous, dutiful affection for the helpless old grandfather and grandmother. If for any reason the family is unable to support its used-up members, there stands the community “home” with wide-open portal to welcome to its cheery fireside all those who are weary and heavy laden with years. The ideal reminds one of the reality only because it is so different.

OCCUPATIONAL ILLNESS AND HEALTH INSURANCE.

The workmen's compensation acts must be enlarged to take in industrial poisoning and illnesses. I do not think we should wait for this legislation, however, before beginning an active campaign for health insurance—universal, compulsory, State health insurance—true social insurance. Germany's first experiment with social insurance legislation was her sickness-insurance law enacted a third of a century ago. The benefits growing out of this law have been incalculable. Great Britain, the home of laissez faire and free competition, was driven to enact a much more drastic and far-reaching law, which became operative in 1912. The intervening time has been too short and too abnormal to permit of any accurate conclusions as to the cost of British health insurance, but it is certain that the poor people of Great Britain are receiving better medical and hospital treatment than they ever dreamed of before, and the effects are bound to be most far-reaching and beneficial to the health, efficiency, and well-being of the nation.

I have worked on the farms of Pennsylvania and Iowa, in the lumber woods of Pennsylvania, in the foundries, machine shops, and factories, and at casual employments in several States, and I am prepared to say that of all the fears that gnaw at the heart of the working man and woman the fear of sickness is the most constant and the most powerful. Men are not afraid of death, they are not much concerned about accidents, but they dread the thought of illness. They attempt to provide against it in the only way known to them—by insurance with “health-insurance” companies. The cost is enormous for a negligible benefit. The only way this matter can be handled properly, so that the most necessitous will be provided for, is through universal compulsory State health insurance.

Some of the leaders of trade-unionism are opposed to social health insurance, because, as they think, it will injure the mutual benefit funds of the unions. This objection could perhaps be overcome by laws providing for State cooperation with the union benefit funds, the State contributing a certain share and controlling the expenditure of the funds. This would be a legitimate activity of the State, for the mutual funds are really social funds contributed by particular trades and administered with no object of making a profit. In opposing State or social insurance the trade-unionists are taking their stand side by side and shoulder to shoulder with the insurance companies in their fight for exorbitantly high health-insurance rates. They are opposing a more economical means of carrying risks on the ground that their particular vested interest will be injured. It is exactly the same attitude taken by the toll-road companies when the steam railroad was introduced. The toll roads enjoined the steam roads in the courts of Pennsylvania on the ground that the monopoly charters of the toll roads were violated and the cheaper steam transportation injured their business. The courts decided against the toll roads, as they must inevitably decide against any obsolete and expensive method of conducting business in favor of a more economical and satisfactory method.

Some trade-unionists fear that social insurance will tend to destroy the unions by substituting compulsory State insurance for the benefits to be gained by voluntary association in unions. They hold to this view doggedly and dogmatically in the face of all the evidence. The effect of social insurance in Great Britain in revivifying and strengthening the trade-unions was enormous. In the same way social legislation, including social insurance, has built up the unions in Australasia. In Germany the trade-unions were weak and ineffectual until they were raised to power and compelled to take on functions of responsibility in helping to carry out the provisions of the social-insurance legislation of that country. The trade-unionists are quite right in insisting that they be given a hand in the framing of

any social-insurance legislation that it is proposed to put on the statute books. They act against the interests of labor when they come out in opposition to any social-insurance legislation whatsoever. If organized workingmen support those of their leaders who are striving to defeat all social-insurance legislation it is because they have not yet perceived their own best interests. I have been a manual laborer for almost half of my working life, and I resent the insinuation that none may venture an opinion upon labor matters except a small body of union officials acting as a board of guardians and trustees for all laborers, union and nonunion. I regard the assumption of authority by these few officials as too sweeping. I claim the right to voice the sentiments of a large body of laboring men and women, both organized and unorganized.

UNEMPLOYMENT INSURANCE.

I believe we are not yet ready to discuss unemployment insurance. Employment fluctuates greatly from season to season, from year to year, and from industry to industry in this country, and we have done little thus far to acquaint ourselves with the facts. We have done less than the other industrial nations to bring workers to work and work to workers, and we have done next to nothing in the way of providing work on public construction during dull times. Until we have organized State systems or a national system of public employment offices, ramifying to all parts of the country, we shall not be able to handle a system of unemployment insurance, like the British system, either as a State undertaking or as a national enterprise.

PUBLIC BUSINESS VERSUS PRIVATE BUSINESS.

For the opinions I have uttered I know I shall be called a dangerous socialist. I have two answers to that charge. First, I am not a socialist; and, second, What has that to do with the merits of the question? A man is no longer frightened when other men point to him and say with bated breath, "He is a socialist." I trust the day is past when an argument or a presentation of facts can be overthrown by damning it as socialism. Of course, social insurance is socialistic; so are most things and institutions that have to do with the masses of the people. Those businesses that are essentially public in nature, which have not been socialized, ought to be as quickly as possible—the quicker the better. The public-school system, the post office, the police, the public highways, the street-cleaning departments, water supply, sewage and garbage disposal systems, the penal system, the public hospitals, the public-health departments, and many other things are socialized undertakings carried on for the good of the entire community, free of charge or at cost.

The establishment or taking over by the public of every one of the institutions mentioned was strenuously opposed as socialism by the advocates of individualism. To-day anyone whose opinion is worthy of consideration would laugh at a proposal to abolish the public schools, police, water supply, health departments, or any other of the public activities mentioned. Some newspapers still croak condemningly at the Post Office Department, damning it as a piece of reckless socialism which is ruining the honest, horny-handed express companies, besides being extravagantly run and full of corrupting sores. In view of the purity, economy, and efficiency of the records made by our express companies, it takes some nerve to condemn the Post Office Department on these grounds. No doubt the public service is sometimes less efficient than could be desired and it can be improved. Have private corporations attained 100 per cent efficiency? Are the services rendered by the New York, New Haven & Hartford Railroad Co. incapable of being improved upon? Perhaps so, but in the interests of private ownership and operation it certainly is up to the New Haven to show the public that improvement is both possible and inevitable. Suppose a publicly owned and operated public utility had equaled the record for efficiency in slaughtering its passengers made by the New Haven road. What would the Wall Street papers say about the evils of socialism? I am not attempting to befog the issue, as is the wont of the advocates of individualism, by trying to prove that one thing is good because something entirely different is bad. The accusation is made that publicly conducted business is extravagant and bad, and the asseveration is put forth that privately conducted business is very much better—the best possible. I merely wish to emphasize the fact that all depends upon the nature of the business. A public or quasi-public business—that is, a business that serves a large public and that has a large element of monopoly inherent in it—should always be either operated outright as a public monopoly or at least controlled by the public. Unregulated private ownership and control are unthinkable. Private business for profit has always made a mess of such enterprises. When the public interest becomes large enough, the business should be taken over by the public.

As an example, I suggest the participation of municipal authorities in the city-planning movement. What horrific marvels of ugliness, inconvenience, extravagance, destruction, and devastation have been wrought in the sacred name of progress by those sterling exponents of private enterprise, the real estate development companies. Our cities have become such hideous, intolerable monstrosities under private landlordism, driving after the ultimate penny of profit, that the people have been driven to rebel against this exploitation. I am willing to call for a comparison of private

with public enterprise. I make bold to assert that every case of extravagance, inefficiency, and mismanagement in the public service can be matched by a like case in private enterprises. The truth is that some enterprises can be better carried on under private management, others under public management. Insurance of the working people of the country is essentially a public function and should be operated as a social enterprise.

**CONCLUSION ON THE EFFECTS OF SOCIAL INSURANCE UPON THE
WORKING PEOPLE.**

Many earnest people are afraid that social insurance will take away from the workingman his independence, initiative, and self-reliance which are so celebrated in song and story and transform him into a mere spoon-fed mollicoddle. This would be a cruel calamity. But if the worst comes to the worst, I, for my part, would rather see a race of sturdy, contented, healthful mollicoddles, carefully fed, medically examined, physically fit, nursed in illness, and cared for in old age and at death as a matter of course in recognition of services rendered or for injuries suffered in performance of labor, than to see the most ferociously independent and self-reliant superrace of tubercular, rheumatic, and malarial cripples tottering unsocialistically along the socialized highways, reclining self-reliantly upon the communal benches of the public parks, and staring belligerently at the communal trees, flowers, and shrubbery, enjoying defiantly the social light of the great unsocialized sun, drinking individualistically the socialized water bubbling from the public fountain, in adversity, even eating privately the communistic bread provided in the community almshouses, and at last going expensively to rest, independently and self-reliantly, in a socialized or mutualized graveyard full of little individualistic slabs erected to the memory of the independent and self-reliant dead.

DISCUSSION.

Mr. WILCOX. If I can have a few minutes I would like to have an opportunity to discuss this insurance question a little more.

The Wisconsin act provides that a company shall be required to file classifications of industry and manual of rates, and shall not discriminate between employers in like hazard. We know there is a conflict between stock companies and the mutual; we know as a matter of fact in Massachusetts they actually lose money for the purpose of driving them out. As to the reciprocal companies, I do not think they should be permitted to carry compensation insurance. They are dealing with the third party who has some rights that ought to have protection. They are malingerers in handling business.

Dr. LESCOHIER. In connection with what Mr. Wilcox has said, it is certainly a problem that has been entirely passed over in this conference. It would seem a good thing for the States having stock companies and mutual insurance companies to get together this summer and go before the legislatures this winter in an effort to get action along these lines.

Mr. KINGSTON. I want to suggest that in the presentation of papers at our next convention the man presenting the paper be limited to 10 or 15 minutes to lead the discussion; that will give an opportunity to all members in attendance to discuss the papers. We can read the papers but we want to know what you and you have to say.

(Chairman Yapple suggested any matters of this kind could be arranged by the secretary, Dr. Meeker.)

(A motion to adjourn was duly seconded and carried.)

(Thereupon the Third Annual Meeting of the International Association of Industrial Accident Boards and Commissions came to a close.)

APPENDIX—LIST OF DELEGATES.

Following is a list of the delegates in attendance at the conference:

Carle Abrams, member, Industrial Accident Commission of Oregon, Salem.

Arnold S. Althoff, deputy, Industrial Commission of Ohio, Dayton.

William C. Archer, deputy commissioner, State Industrial Commission of New York, New York City.

Dr. Robert P. Bay, chief medical examiner, Industrial Accident Commission of Maryland, Baltimore.

W. L. Blessing, member, Industrial Commission of Oklahoma, Oklahoma City.

Fred C. Croxton, chief statistician, Industrial Commission of Ohio, Columbus.

T. N. Dean, statistician, Workmen's Compensation Board of Ontario, Toronto.

Dr. Francis Donoghue, chief medical examiner, Industrial Accident Board of Massachusetts, Boston.

E. H. Downey, special deputy, State Insurance Department of Pennsylvania, Harrisburg.

Thomas J. Duffy, member, Industrial Commission of Ohio, Columbus.

C. A. Durand, manager, State Accident Fund of Michigan, Lansing.

A. B. Funk, industrial commissioner of Iowa, Des Moines.

Herman B. Gates, State treasurer of Wyoming, Cheyenne.

George P. Hambrecht, member, Industrial Commission of Wisconsin, Madison.

H. H. Hamm, director of claims, Industrial Commission of Ohio, Columbus.

L. W. Hatch, statistician, State Industrial Commission of New York, Albany.

Dudley M. Holman, member, Industrial Accident Board of Massachusetts, Boston.

Charles R. Hughes, member, Industrial Board of Indiana, Indianapolis.

George A. Kingston, member, Workmen's Compensation Board of Ontario, Toronto.

Dr. Don D. Lescohier, statistician, Department of Labor and Industries of Minnesota, St. Paul.

Dr. Raphael Lewy, chief medical examiner, State Industrial Commission of New York, New York City.

Royal Meeker, United States Commissioner of Labor Statistics, Washington, D. C.

E. S. Montell, manager, Industrial Accident Commission of Maryland, Baltimore.

Victor T. Noonan, safety director, Industrial Commission of Ohio, Columbus.

Lee Ott, workmen's compensation commissioner of West Virginia, Charleston.

Edgar A. Perkins, chairman, Industrial Board of Indiana, Indianapolis.

A. J. Pillsbury, chairman, Industrial Accident Commission of California, San Francisco.

H. W. Putnam, chief auditor, Industrial Commission of Ohio, Columbus.
John Roach, acting chief, Bureau of Hygiene and Safety of New Jersey,
Trenton.

F. M. Secrest, deputy, Industrial Commission of Ohio, Cleveland.

Harold D. Sites, assistant secretary, Industrial Commission of Ohio, Co-
lumbus.

S. S. Stewart, deputy, Industrial Commission of Ohio, Cincinnati.

George L. Stoughton, secretary, Industrial Commission of Ohio, Columbus.

W. J. Swindlehurst, commissioner of labor of Montana, Helena.

L. A. Tarrell, chief examiner, Industrial Commission of Wisconsin, Madison.

Lloyd D. Teeters, assistant secretary, Industrial Commission of Ohio, Co-
lumbus.

Dr. F. H. Thompson, chief medical examiner, Industrial Accident Commis-
sion of Oregon, Salem.

Dr. William H. Tolman, director, American Museum of Safety, New York City.

J. B. Vaughn, chairman, Industrial Board of Illinois, Chicago.

C. H. Verrill, United States Bureau of Labor Statistics, Washington, D. C.

Emile E. Watson, actuary, Industrial Commission of Ohio, Columbus.

Dr. W. H. White, chief medical examiner, Industrial Commission of Ohio,
Columbus.

Fred M. Wilcox, member, Industrial Commission of Wisconsin, Madison.

Wayne C. Williams, member, Industrial Commission of Colorado, Denver.

Wallace D. Yaple, chairman, Industrial Commission of Ohio, Columbus.

