

U. S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

ROYAL MEEKER, Commissioner

BULLETIN OF THE UNITED STATES } . . . { WHOLE
BUREAU OF LABOR STATISTICS } . . . { NUMBER 227

EMPLOYMENT AND UNEMPLOYMENT SERIES: No. 7

PROCEEDINGS OF THE EMPLOYMENT
MANAGERS' CONFERENCE, PHILADEL-
PHIA, PA., APRIL 2 AND 3, 1917



OCTOBER, 1917

WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

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INTRODUCTION.

This bulletin contains the Proceedings of the Conference of Employment Managers which met in Philadelphia April 2 and 3, 1917. This Philadelphia conference is the third of the kind held in this country. The first Conference of Employment Managers was held in Minneapolis January 19 and 20, 1916. The second meeting of this kind was held at Boston May 10, 1916. The proceedings of the first and second conferences are given in Bulletins 196 and 202 issued by this bureau.

Employers in growing numbers are obliged to recognize that a changed policy must be adopted toward their employees. The worker has acquired a scarcity value as a consequence of the war, which makes it all the more imperative that the old wasteful methods of handling the labor force shall be discarded. By far the greatest waste in all industry is the waste of labor due to bad systems or no systems of handling employees. The results are irregular work, too little work, too much work, no work, unsuitable work, no training for work, training for no work, and bad conditions of work.

Even before the supply of immigrant labor was cut off by the outbreak of the European war the more enlightened employers had found out that the training and fitting new men into an establishment even for the simplest jobs cost something in time and output. Of course the jobs requiring most skill are most expensive to fill. The employment manager was created for the purpose of cutting down the cost to the employer of rapidly shifting labor forces. This new species of expert has come to stay. His importance increases as the labor demand increases relative to the labor supply.

The labor force of the country is employed at much less than the maximum of its potential efficiency. By that I mean that the output of labor per man could be greatly increased—perhaps as much as 60 per cent—by a rational system of management, which would give due regard to the worker's health and safety. Such a system of management must necessarily depend upon the cooperation of the employees with the employers.

Leaving out of account all considerations other than the maximum output of product, a proper system of labor management would provide for workers ample time and facilities for rest and healthful recreation. Wages must be sufficient to provide the workers with needed food, clothing, shelter, and fuel to maintain health and strength at the maximum. Economy of consumption, that is, the art of spending the dollar wisely, is even more important than economy of production, or the art of earning the dollar. Employers, working as citizens, can do much to develop and improve in their workers the art of getting 100 cents' worth of utility for every dollar paid in wages.

All this has nothing whatever to do with speeding up machinery, cutting down piece rates, working longer hours, and the like stock methods of trying to increase output per man per day and per dollar of wages. It has rather to do with shortening the working-day, providing rest periods at convenient intervals, advancing piece and time rates, cutting out all overtime, re-creating in the employee an interest in the job he is doing, and helping him to get the most out of his earnings and his leisure.

The addresses and discussions contained in this report show that the employers and employment managers in attendance at this meeting realize the importance of the employment problem and manifest real industrial statesmanship in attacking it. The evils of the modern industrial system in its effects upon the workers have been comprehended by but few employers and by them only recently. The first associa-

tion of these new industrial statesmen, the employment managers, was formed only about five years ago. To-day there are associations in 10 cities, Boston, Chicago, Cleveland, Detroit, Newark, New York, Philadelphia, Pittsburgh, Rochester, and San Francisco. Membership is by no means confined to firms in the cities named. The Boston association, for example, comprehends the most important industrial centers in New England. About 1,000 industrial companies are enrolled as members in the 10 associations named. At the Philadelphia meeting about 500 representatives of the 10 associations and others interested in employment problems were present. This indicates a most encouraging degree of interest. At this meeting a National Employment Managers' Committee was appointed, consisting of the following delegates: Chairman, Joseph H. Willits, secretary Philadelphia Association for the Discussion of Employment Problems; vice chairman, John C. Bower, secretary Pittsburgh Employment Managers' Association; secretary-treasurer, Ralph G. Wells, secretary Employment Managers' Association of Boston; Mark M. Jones, president of the Newark Society; C. L. Miller, secretary Employment Managers' Group, Detroit Executives' Club; W. H. Winan, Employment Managers' Group, Manufacturers and Wholesale Merchants' Board, Cleveland; Dr. E. B. Gowin, New York Society; C. B. Beard, Chicago Employment Advisers' Club; Lewis B. Ermeling, Rochester Employment Managers' Group; F. Dohrmann, president of the San Francisco Society.

This committee met on the 17th day of May, 1917, at Rochester, and decided that its purpose should be to bring about a closer cooperation between organizations devoted to the study of employment problems, to arrange for national conferences, and to assist in the interchange of reports of meetings, investigations, and information of interest to local associations. It was decided not to form a national association as yet, although if the movement continues to grow such a step will probably be taken shortly.

That these local organizations will prove permanent can hardly be questioned in view of the interest which is continually increasing among responsible employing concerns in problems of personnel. What the effect of these associations will be on labor is difficult to predict. By enlightening selfishness they will undoubtedly serve to improve the physical and mental conditions of employment. At present, unions are not discussed in the meetings. There is no pooling of interests in case of strikes, however, as in some other employers' associations. Whether these new associations formed with a new purpose and made up of men with a new point of view will be the means of bringing together organized labor and organized employers remains to be seen. The accomplishment of this result calls for the highest type of industrial statesmanship.

ROYAL MEEKER,
Commissioner of Labor Statistics.

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WASHINGTON.

OCTOBER, 1917.

PROCEEDINGS OF THE EMPLOYMENT MANAGERS' CONFERENCE, PHILADELPHIA, APRIL 2 AND 3, 1917.

MONDAY, APRIL 2—MORNING SESSION.

CHAIRMAN: JOHN M. WILLIAMS, SECRETARY, FAYETTE R. PLUMB (INC.); PRESIDENT,
PHILADELPHIA ASSOCIATION FOR THE DISCUSSION OF EMPLOYMENT PROBLEMS.

THE LABOR TURNOVER IN INDUSTRY.

[The session was called to order at 9.30 o'clock a. m. in Houston Hall, University of Pennsylvania, by the chairman.]

The CHAIRMAN. It is my honor and privilege to greet you to-day on behalf of the organizations which have united to hold this national conference in Philadelphia.

While we appreciate the honor you have conferred upon us, we likewise realize the responsibility placed upon our shoulders. Employment management is in its infancy, and yet is such a lusty infant that no previous record of growth would be of any value. This is due largely to the pioneers in the study of employment problems. I have never met in any other business gathering such public-spirited men. They are not only glad but anxious to pass along to others the results they have achieved. That is what has been responsible for the growth of employment management. I am very glad indeed to pay my tribute publicly to those disinterested men.

I do not propose to take up your time with platitudes, because I feel that this is, first and last, a business conference, and to accomplish in two days the work we have laid out means concentration and "getting down to brass tacks."

The solution of employment problems is of the greatest importance to the individual, but in times of stress such as those through which we are now passing it is of even greater importance to the Nation.

I bid you welcome, with the earnest hope that you will find the meetings full of interest and that you will all take home with you more than you bring.

Philadelphia has many institutions of which it is justly proud, but one stands out from the rest like a beacon in the night—the University of Pennsylvania. She is Philadelphia's pride and open boast,

standing behind every movement either civic or national for the benefit of humanity.

We are honored to-day by being her guests, and I take great pleasure in introducing to you Dr. Edgar F. Smith, provost of the University of Pennsylvania, who will bid you welcome.

WELCOME TO THE UNIVERSITY.

BY DR. EDGAR F. SMITH, PROVOST, UNIVERSITY OF PENNSYLVANIA.

I am indeed very happy to have this opportunity to say a few words to you. You of course know—that goes without discussion—that you are welcome here in this university, because this ancient foundation was here before we had a State, before we had the United States; and the purpose of its founding was that it might be of service to those who lived here in this colony and in adjacent colonies, and, as your president has just remarked, the university through all these years, from its beginning down to the present, has been quite ready to serve in any way possible. Your secretary, Dr. Willits, explained to me some weeks ago what you were as an organization; he pointed out your connection with our work, and indeed the longer I live the more firmly am I convinced that there is nothing that is done in a university like this that is not of consequence in the great affairs of life. I remarked to your president a few moments ago that every member of the graduating class this year connected with one of the technical courses has already been looked upon by a manager or by managers. They come here from the Westinghouse, the General Electric Co., from all sorts of plants over the country, to see what these boys are like, to inquire as to what they have been doing here, and then to determine for themselves whether there is a place in their establishment in which they will fit. All are engaged. That, to my mind, is evidence that we are doing something here which you men who are out in the busy world can utilize, and the university is therefore quite ready to be of service to you.

My own position is, briefly, this: Whatever may be of good to this community, to the State, or to the Nation, our university wants to assist in. And, as I learned from your secretary, and again this morning from your president, you, in a certain sense, have come together to make it easier for these lads whom we are preparing to enter into their life work, because hundreds and thousands of them will go into business of one kind or another; and, of course, if that is your purpose we are in hearty accord with you. In any way you can use us, we stand ready. When the call comes, we will endeavor to answer.

It is interesting for me to come here on this platform from time to time and say a word of welcome to the various organizations that

come out to us. It has really been an eye opener to me. It has shown me in how many thousands of different ways we are of consequence. We are teaching old things, but we are teaching new things, and the new are just as interesting to us as the old. The new are with us; we are a part of them. We can look upon the old only as giving us that experience which we need to have in every business or calling in life.

But I, like your president, do not want to delay the real business of this important meeting, and so with these few words, and the assurance that the University of Pennsylvania as a whole welcomes you most heartily, I shall bid you good morning.

The CHAIRMAN. During the early stages of employment management very little was known in a general way as to what certain men were trying to do and what they had found. As a matter of fact, employers were generally quite skeptical. They looked upon it as more or less of a fad. However, the pioneers of the movement knew that they had placed their hands on an economic problem that affected every one, whether worker or employer. The trouble was, however, how to get the message across. One man realized that there had to be some concerted effort and figured that the best way of spreading the truth was by the formation of local associations. I can remember when we were first called together to discuss the advisability of forming an employment managers' conference in Philadelphia. It is safe to say that 75 per cent of the men in the early meetings were skeptical. This man came, outlined what had been done, what could be done, and what was our duty to the community, to our employees, as well as to our stockholders. It is a pleasure to introduce to you Mr. Meyer Bloomfield.

THE PROGRESS OF EMPLOYMENT MANAGERS' ASSOCIATIONS.

BY MEYER BLOOMFIELD, DIRECTOR, VOCATION BUREAU, BOSTON, MASS.

The Employment Managers' Association movement—and it is a very real, a very live and important movement—the existence of the employment managers' movement is due to the fact that long before some of us, at least, thought of what that problem and its answer meant, there were successful examples of good employment management. We were so fortunate in Boston as to find at the very outset heads of large industrial establishments instantly responding to an invitation to send their employment executives to a preliminary meeting for the formation of such an association. Some of them, I am happy to say, we shall hear from in the course of this conference.

Employers in Boston and in the vicinity of Boston responded sympathetically, although at that time they had to take some of us on faith. They were willing to have the experiment tried. What was the experiment? In a word, it was simply this—and I believe it is the underlying thought in any employers' association, whether it be called an employment managers' association or a society for the study or discussion of employment problems, or an executives' club, or an employment advisers' club (I am rather glad to see a large variety of names given to the same type of association; that in itself represents progress)—the underlying thought is that the handling of human beings in the economic relation of employer and employee is a professional job, it is a job worthy to be given to one of the best paid, one of the best trained, one of the most responsible, one of the most respected executives in an organization. In other words, one of the main thoughts, if not the main thought, underlying the employment management associations is the fact that it takes brains and soul to deal with help, with colleagues, with coworkers.

Now, if that be granted as a premise, you will see how many important implications flow from that thought. First of all, it lifts the process of selecting and hiring help from that of a subordinate, incidental, relatively nonproducing aspect of organization to one which might be described as that of pumping lifeblood into an establishment. There is very interesting testimony in the records of the Philadelphia association, the Boston, the Newark, the Detroit, the Chicago, the New York, the San Francisco, and other groups. I, myself, when listening at meetings in these places, have heard statements made and conclusions pronounced to the effect that the very output of an organization has been affected by the quality of the employment service. There is an unbroken chain in the whole scheme of management, there is cause and effect, a string of sequences which that discovery or that pronouncement confirmed.

Another implication is that the quality of the men, their thoughts, their aims, their ideals, their ambitions, their outlook, their attitude, their loyalty, their good will, all are tied up with this question of employment management. The moment you apply the lens to any of these factors in industrial relationship you see the connection and the order of these qualities and how logically they come under a conception, a well-thought-out policy, as regards the hiring, the assignment, the supervising, the training, the transfer, the promotion, or the letting go of help.

Now, each of these items could be so analyzed as to present a program of duties and work under subdivided headings, and because of that there needs to be a charting, a blueprinting, and a crystallizing of these functions somewhere so that some well-trained, broad-*visioned*, responsible executive may interpret and execute and demonstrate the details of the work that can not any longer safely be distributed among a variety of executives.

Now, the most dramatic illustration of this point I have encountered since the movement began was a recent meeting of a large corporation, which for the first time in its history brought together foremen (600 of them) as well as managers from all their plants throughout the country. A dinner was arranged, paper and pencils given out, and one whole long session was devoted to questions, answers, and discussions, all for the purpose of enlisting the 600 foremen and 40 managers under one personnel policy. The thought was to enlist the smallest executives as well as the largest, to have real coordination among all the executives.

That was the personnel scheme carried out on a generous, big-*visioned*, and, I am happy to say, a most successful scale.

What started merely as a tentative experiment, looked upon by some with misgivings, has quickly won over every important executive, from the president down, to the idea that personnel management means, first, clean functionalizing in one place where all this stream of influence may be understood and charted and interpreted, and then bringing into that scheme anyone who has anything to say over anyone else in an organization.

That is another record of progress in the employment managers' movement.

And now, from that experience, and from other significant happenings, as described by members of this active association in Philadelphia, and by active workers and thinkers in the field elsewhere, there is going to be a series of specialized organizations in connection with the employment managers' movement, so that the appropriate training, the appropriate programme, the appropriate relationships, all down the line of management may take place to the point where every employee is respected and built up sufficiently to be regarded

as a voice, as an individual, as a personality, as a factor in good management.

That is the problem before the personnel manager—how to make every individual within the establishment count, contribute, and incorporate himself and his thought in the policies and in the ideals of the organization.

Now, that is a social task as well as good business, I am happy to say, and it means that industry, the captains, the leaders, the controllers of economic tools, are planting a larger partnership, are planting for cooperation, are learning that only as you enlist the will as well as the body of everyone on the pay rolls, do you begin to have real organization.

This is happening. There are plenty of good illustrations, and but for embarrassing some of our friends here this morning I should single them out and point to them as our teachers of what is what in good personnel administration.

At this moment of crisis those who direct and have something to do with the channels of help are occupying not only a strategic position, but one calling for the utmost insight, imagination, and constructive vision. Years before we had thought that such an emergency might arise as may be announced at any moment to-day, you gentlemen in the employment association were mobilizing in a social way, seeking ways of stabilizing and upbuilding and welding the units which make an organization. I think a certain amount of war preparedness is represented by the employment management associations of the country, and it is our hope that those who have given thought and time, as you gentlemen have given, may be among the foremost with constructive suggestions, on how best to unite a country in the protection of its ideals, and the fulfillment of its destiny.

The CHAIRMAN. In the early stages of employment management one of the handicaps seemed to me to be the idealistic presentation of the subject. That was a good thing from the community standpoint, that was a good thing from the humanitarian end, and while undoubtedly that makes a very strong appeal, I believe with the man, however, who said that if you could reach a man's heart through his stomach you could likewise reach it through his pocketbook, and it is a pretty short cut. One man saw that men wanted to know why they should do this, why there should be employment departments. The answer was that that is the right way to do it, it is the economical way; doing it any other way would cost you money. Following along that line he made a study covering practically the entire country, and he produced facts as to the actual cost of hiring and firing that were startling to the average man. This man is with us to-day, and I take pleasure in introducing Mr. Magnus Alexander, member of the executive staff of the General Electric Co., which employs 70,000 employees.

THE COST OF LABOR TURNOVER.

BY MAGNUS W. ALEXANDER, OF THE GENERAL ELECTRIC CO., WEST LYNN, MASS.

"Mr. Employer," I said some four years ago to a man who told me that he was then giving employment to approximately 6,700 people, or to about 800 more than he had employed at the same time in the previous year, "I would like to know how many people you had to engage to bring about the increase in your force." He looked somewhat blankly at me, admitted that he did not know, but thought that he had surely engaged many more persons than actually was necessary. Upon being pressed for at least an approximate guess, he ventured to say that he might have engaged fully 2,000 persons in order to increase his working force by about 800. He was nonplused when later on he ascertained the actual figures.

"Mr. Employer," I asked another man who was at the head of one of the most efficiently managed factories in the United States, who had for years maintained an almost steady force of between 900 and 1,000 employees and who, as a matter of fact, employed at the time of my inquiry some 50 persons less than a year before, "How many persons did you engage to practically maintain your working force?" "Oh, I don't know," he said, "but it seems a darn shame that, whereas I reduced rather than increased my force, I had to keep an employment man and an assistant busy interviewing, hiring, and firing people." When he looked into the actual status of affairs he also was mortified to learn the real conditions.

"Mr. Employer," I asked several managers of other factories, "how many did you pass in and out of your employment during the last year in which you effected a substantial increase in your working force?" Each of them knew that he had engaged large numbers, too large each one thought, but when I asked for approximately correct figures, and particularly when I asked them to express in dollars and cents the economic waste involved in the transactions, each could only vaguely state that there must have been a very large sum of money thrown away.

And so I went to many other employers in various sections of the country, making the same inquiry, but getting the same indefinite answer. These industrial managers had not focused their minds on the problem. They instinctively felt that there had been an unnecessary economic waste but evidently did not realize its real extent and nature.

This experience led me in 1913 to begin a study of the problem of "hiring and firing." My inquiry sought to find and analyze the

factors that enter into the problem in order that I might offer practical suggestions for remedial action. To this end I secured pertinent data from managers of large, medium-sized, and small establishments. I confined myself to inquiries in the metal industry, with which I was more familiar, and because I had personal acquaintance with managers in this branch of industry from whom I could secure confidential data on a comparable basis. I requested employment statistics for the year 1912 because it was the last industrially normal year; during 1913 a business depression set in which became accentuated during the early part of 1914 but later gave way to a period of great prosperity, from which we have been suffering, industrially speaking, for over two years and from which there may be a rude awakening when this war shall have reached its end. While it may seem like going back a long distance to speak at this time of the conditions in the year 1912, I am sure that the story of 1922 will duplicate the story of 1912 unless we read the lesson of the latter aright.

During a study trip to Europe in the summer of 1913, an opportunity offered itself to secure first-hand information on the same subject in English, French, German, and Austrian factories. One would certainly expect to find in these older countries of more or less settled industrial conditions greater stability of employment than in the newer United States of America, where industrial conditions are constantly in a flux of legislative, social, and economic readjustment. Contrary to expectation, however, I found in prominent European factories a condition indicating as great an economic waste in hiring and firing employees as seemed to prevail in American industrial establishments of comparable size and character.

In presenting to you some pertinent aspects of the problem I will not trouble you with all the details of the investigation, except to indicate with sufficient clearness the method employed in the study of the problem, as a guide to those who may want to make similar investigations in their own plants, and as a basis for checking the accuracy of my conclusions. I shall not disclose the sources of the information herewith presented, because all information was given in confidence to be reported only in the aggregate. I also wish to say at the outset that I have introduced mathematical short cuts into the calculations on the ground that, after all, we are concerned with the tendencies and general character of the employment situation, and not with exact numerical values in any particular situation at a particular time. The exact situation would not be duplicated in any other set of factories and would not even occur in the same factories at any other period. This obviates the necessity of tracing the daily change in the labor force and simplifies the mathematics of the investigation.

From the factories under investigation I have selected for presentation a group of 12 which seemed to me to be representative by reason of their size and character. These factories were located in six different States in the eastern and middle western sections of the country; some employed only men, others employed men as well as women. Some were engaged in manufacture of heavy apparatus, such as big steam engines and electrical apparatus; some produced medium-sized apparatus, such as machine tools and automobiles; while the chief products of others were small, such as measuring instruments and incandescent lamps. The largest of these factories had more than 10,000 employees on its pay roll, while the smallest employed regularly less than 300 persons. The composite picture represented by these 12 factories reflects, therefore, average industrial conditions. Moreover, there was nothing unusual in respect to efficiency of management, availability of labor, rate of wages, or controlling legislative considerations.

It would have been an easy task to select only factories in which employment conditions were essentially bad and, by grouping these, to present a very somber picture. In following this policy, however, I would no doubt have failed of my purpose in interesting employers in the economic side of the employment problem, for they would have been diverted from, rather than attracted to, a study of the situation that by the very nature of its extremeness depicted an unusual condition. It is by such presentation of true but unusual conditions, and by generalization based thereon, that well-intentioned academicians in the field of industrial economics, social workers, as well as professional muckrakers, usually fail to accomplish sought-for improvements. They arouse temporary attention by their sensational statements, but do not clinch the interest of responsible persons.

The information gathered in the 12 factories and herein given in the aggregate shows the number of employees on the pay roll at the beginning and at the end of the year 1912, the number engaged and discharged during the year, week by week, and the number of reengaged persons who had worked in the same factory on one or several occasions. The latter item was secured on the assumption that it would usually be less expensive to hire a previous employee than to bring in and train an entirely new one. This segregation showed that 72.8 per cent of all people engaged during the year 1912 were entirely new to the factories for which they were hired, and that 27.2 per cent had worked in these places once or several times before. In a general way this ratio of four new employees to one rehired will be found to hold good, at least in metal-working industries.

In the group of 12 factories under investigation there were 37,274 persons employed at the beginning, 43,971 at the end of 1912, or 40,622 on the average. The net increase was 6,697 persons, since

during the year 42,571 persons had been hired, and 35,874 had dropped out of the employment.

In other words, about six and one-third times as many people had to be engaged during the year as constituted the permanent increase of the force at the end of that period.

Several reasons might be given in explanation of this condition. Peculiar local labor conditions, the completion of a temporary piece of work such as the building of a structure, or unusual conditions of employment on account of a high fluctuating production, might have influenced the labor situation.

The important fact, however, stands out that 42,571 people had to be engaged during the year in order to increase the working force by only 6,697.

Theoretically only as many people ought to have been hired as were needed permanently to increase the force. Practically, certain allowances must be made in order to view the problem in its correct light. These allowances must cover: (a) The replacement of employees who die; (b) the replacement of employees on prolonged sick leave for whom others must be substituted temporarily or permanently; (c) the replacement of employees who, although selected with good judgment, are found to be unsuited to the work, or who leave of their own accord for one of many reasons; (d) the engagement of extra employees required for short periods, on account of temporary work or high peaks of a fluctuating production; and (e) the fact that no employment department can be run on a 100 per cent efficiency basis.

It may be assumed that annually, among all employees, 1 per cent die; 4 per cent are sick for sufficiently long periods to necessitate their replacement temporarily or permanently; 8 per cent withdraw from service for unforeseen or unavoidable reasons, or are discharged for justifiable causes; 8 per cent are temporarily needed on account of normal fluctuation of production; and 80 per cent constitute a readily attainable efficiency of an employment department.

These figures can be supported by the following considerations:

The average age of employees in the factories under consideration was found to be 31½ years for male and 23 years for female employees. For these ages mortality tables place the death rate of male employees at 8.5 and of female employees 7.95 in each thousand. On the other hand, the experience of several mutual-benefit associations in factories, some extending over a period of ten years, revealed that about 7 in every thousand members had died annually. These statistics, therefore, justify the assumption that death removes annually not more than 1 per cent of factory employees.

Ascertainment of the annual rate of absent persons who are incapacitated for work for definite periods by sickness is not so easy a task. Reliable, comprehensive data are not readily available in

this country, and the extensive experience of Germany must be taken with due allowance when applied to American conditions. Recognizing, however, the prevailing custom in many factories not to replace, even temporarily, employees whose incapacity does not extend beyond two weeks, provided the fact of their sickness is known to the management, and relying in part on available statistics and in part on the judgment of industrial managers, an assumption that four in every hundred workpeople are incapacitated for more than two consecutive weeks in a year, and must be temporarily or permanently replaced, would liberally reflect actual conditions.

As to the number of people who are annually separated from the service for reasons other than that of death or prolonged sickness, no reliable figures seem to be available. According to the United States Civil Service Commission, however, 8 per cent of all Government employees are separated from the service annually for various reasons, including death and sickness. With due allowance for the difference in employment conditions in Government and in private service, the former being more favorable to stability in service than the latter, it may be fairly assumed that 8 per cent of private employees are separated annually from the service by voluntary or involuntary resignation, except on account of death or sickness, or as much as in the Government service for all causes.

Another difficulty arises when estimating the effect which a normally fluctuating production should have on the required number of employees. Opinions in this respect differ widely, and there is a very marked difference between the fluctuations of employment from this source in various industries and even in various establishments in the same industry. The conviction is making itself felt among employers that in most businesses the prevalent erratic curve of production can be turned into a more even wave line. Interesting evidences are at hand to show the wholesome effect of well-directed effort in this field. It must not be overlooked in this connection that fluctuations in productive requirements will have different effect on the various classes of employees. Highly skilled mechanics and clerks will usually feel the effect last, and then to a smaller degree than the great body of operatives who have no special skill or knowledge. The opinion of many men who were consulted seems to center around the assumption that an annual temporary engagement of about 8 per cent of the total working force will be necessary to allow for normal fluctuations of production.

Finally, in regard to the efficiency of an employment department, it should not be difficult to attain an efficiency of at least 80 per cent in this highly specialized branch of service, with but a very limited staff.

Applying these factors to the problem in hand, it follows that while theoretically only 6,697 persons should have been employed during the year to allow for the increase of the working force by that number in the factories under consideration, the additional engagement of 13,843 persons, or a total engagement of 20,540 persons, could be justified.

Yet the statistics show that 42,571 persons were engaged during the year, whereas the engagement of only 20,540 could be defended on even liberal grounds. Therefore 22,031 persons were hired above the apparently necessary requirements.

It is obvious that a considerable sum of money must have been wasted in the 12 factories by unnecessarily hiring so large a force of men and women as has been shown. In order to make this picture more lucid, let us give monetary values to the figures here presented.

What does it cost to "hire and fire" an employee?

No reliable investigation of this cost item seems to have been made, and the opinions of industrial managers differ widely. One of many managers consulted placed the figure at \$30, all others suggested from \$50 to \$200 as the cost per employee. The great difference in the estimates is explainable on the ground that these managers represented a great variety of industries; the fact that they had not heretofore given this matter careful thought accounts also for the variety of their opinions.

One machine-tool builder estimated a cost of \$150 per employee; the president of a large automobile manufacturing concern placed the figure at \$100, while another manufacturer who employs much female labor maintained that the cost of hiring and firing an employee would run as high as \$200 in some departments.

Unquestionably, the skill, experience, and intelligence of a new employee have much bearing upon the amount of money necessary for his training. Another important consideration is whether the new employee is working on expensive or low-priced machinery or with high or low-priced tools, or on expensive or cheap materials; and to a certain extent whether or not he has heretofore been employed in the same shop and particularly on the same class of work.

With this thought in mind I subdivided the employees under investigation into five groups and studied the requirements of each group as to the quantity and quality of required instruction for new employees and the effect of the work of new employees upon the economical conduct of the business. The division was:

Group A.—Highly skilled mechanics who must have practiced their trade for a number of years in order to attain the required degree of all-round experience and proficiency.

Group B.—Mechanics of lesser skill and experience who could have acquired an average degree of proficiency within a year or two.

Group C.—The large number of operatives usually known as pieceworkers who, without any previous skill or experience in the particular work, can attain fair efficiency within a few months, somewhat depending on the character of the work.

Group D.—Unskilled productive and expense laborers who can readily be replaced in the course of a few days.

Group E.—The clerical force in the shops and offices.

The distribution of the employees in these five groups was found to be as follows, assuming that 73 per cent in each group were newly hired and 27 per cent were rehired employees:

INITIAL NUMBER OF EMPLOYEES, INCREASE IN FORCE, AND NUMBER OF NEW AND REHIRED EMPLOYEES, IN 12 FACTORIES, IN 1912, BY CLASSES OF SKILL.

Group.	Number of employees.		Number of engagements.		
	Initial.	Increase.	New employees.	Rehired employees.	Total.
A.....	3,355	626	3,393	1,268	4,661
B.....	4,473	814	4,583	1,713	6,296
C.....	12,673	2,327	10,512	3,928	14,440
D.....	13,046	2,369	10,426	3,895	14,321
E.....	3,727	561	2,077	776	2,853
Total.....	37,274	6,697	30,991	11,580	42,571

As to the number in each group of apparently unnecessarily hired employees, allowances would have to be made for the fact that while the same mortality and sickness rate and the same employment efficiency could be considered to hold in all groups, the rates of withdrawal by resignation and discharge and the effect of a normally fluctuating production would vary for each group. On the one hand, skilled employees are usually more steady and will give less cause for discharge than ordinary pieceworkers or expense laborers; on the other hand, all-round mechanics will be retained under normally fluctuating production, while pieceworkers and expense laborers will more or less immediately feel the effect of such fluctuations.

Using short-cut methods, it was found that the apparently unnecessarily engaged 22,031 persons could be divided as follows:

UNNECESSARY ENGAGEMENTS IN 12 FACTORIES IN 1912.

Group.	Number of engagements.		
	New employees.	Rehired employees.	Total.
A.....	2,031	750	2,781
B.....	2,787	1,031	3,818
C.....	5,393	1,995	7,388
D.....	5,183	1,917	7,100
E.....	689	255	944
Total.....	16,083	5,948	22,031

The next task was to find for each group the principal items of cost of employment and they were considered to be:

- (a) Clerical work in connection with the hiring process.
- (b) Instruction of new employees by foremen and assistants.
- (c) Increased wear and tear of machinery and tools by new employees.
- (d) Reduced rate of production during early period of employment.
- (e) Increased amount of spoiled work by new employees.
- (f) Greater accident ratio among new employees.

This does not consider reduced profits due to a reduced production, nor investment cost of increased equipment on account of the decreased productivity of machines on which new employees are being broken in.

The hiring expense applies to all groups of labor to about the same extent. It consists of interviewing applicants, taking their records, making out their engagement cards and other necessary papers, and placing their names on the pay-roll books; sometimes also advertising and traveling expenses will have to be incurred. Reduced to the cost per individual, an expense of 50 cents for each employee should be a fair estimate.

The instruction expense, on the other hand, will vary largely according to the experience and skill of the new employee and the nature of his work. It will be lowest for Group D and highest for Group C employees, for the latter must be instructed most and watched longest. The expense for Group B employees will be nearly as large as that for Group C employees, not because they need as prolonged supervision, but because higher-priced foremen will have to give the instruction. Considering the quantity and quality of required instruction, this expense may be assumed to be for each new employee: In Group A, \$7.50; in Group B, \$15; in Group C, \$20; in Group D, \$2; and in Group E, \$7.50.

The value of increased wear and tear of machinery and tools by new employees is difficult to estimate. It will be little, if anything, for Groups D and E employees, for whom it may be presumed to be \$1 per employee, while it may reach thousands of dollars for damage to expensive machinery used by Groups A, B, and C employees. Any estimate must necessarily be a guess; averaging it for employees working with and without machinery, it may be assumed as \$20 for each employee in Groups A, B, and C.

The loss due to reduced production is entirely dependent upon the value of the article produced and the experience and skill of the employee required for its production. It will be lowest for Group D employees. It can be estimated with approximate correctness for other employees by considering their average wages and the average

loss of productivity during their initial period of employment. It is herein assumed that Group A employees would receive an average wage of \$25 per week and would lose in productivity 25 per cent during the first, 15 per cent during the second, and 5 per cent during the third week of employment. Similarly, Group B employees with average wages of \$19 per week would lose, respectively, 35 per cent, 25 per cent, and 10 per cent per week; Group C employees with \$14 average weekly wages would lose, respectively, 60 per cent, 35 per cent, 20 per cent, 10 per cent, and 5 per cent per week; Group D employees with \$10 average weekly wages would lose 25 per cent and 10 per cent per week, and Group E employees with \$14 average weekly wages would lose, respectively, 50 per cent, 30 per cent, 20 per cent, and 10 per cent per week.

Figuring overhead charges as 75 per cent of wages for Groups A, B, and C men and 40 per cent for Groups D and E men, the loss may amount to \$21.50 for each Group A, \$23.30 for each Group B, \$31.80 for each Group C, \$5 for each Group D, and \$21.50 for each Group E employee.

The expense due to spoiled work will similarly vary with the value of the raw material worked upon and the labor expended in such work. Spoiled cast-iron parts may mean little waste; spoiled gold leaf may cause a considerable money loss. Averaging the situation, practically nothing may be lost by Groups D and E employees, while the loss may be assumed to be \$10 for each Group A, \$15 for each Group B, and \$10 for each Group C employee.

Finally, it is well known that new employees are more liable to injury by accident than persons familiar with the work and methods of a factory. This extra expense for medical service and compensation payment may be estimated as averaging \$3 per employee.

These cost items must be reduced materially when they are applied to rehired employees. The cost of training old employees will, of course, be smallest when these employees are put back on the same, or on similar work to that on which they were engaged before they left employment in the same factory. Many rehired employees, however, are put on entirely new work, and their training will therefore involve an expenditure which will more or less approximate that needed for the training of entirely new employees. On a conservative assumption, the cost of hiring and training rehired employees may be placed at \$10 for each Group A, \$20 for each Group B, \$35 for each Group C, \$5 for each Group D, and \$10 for each Group E employee. The respective totals of the various cost items above outlined are shown in the following tabulation.

ITEMS OF COST FOR NEW AND REHIRED EMPLOYEES.

Group.	New employees.							Rehired employ-ees.
	Hiring.	Instruc-tion.	Wear and tear.	Reduced produc-tion.	Spoiled work.	Acci-dents.	Total.	
A.....	\$0.50	\$7.50	\$20.00	\$21.50	\$10.00	\$3.00	\$62.50	\$10.00
B.....	.50	15.00	20.00	23.30	15.00	3.00	76.80	20.00
C.....	.50	20.00	20.00	31.80	10.00	3.00	85.30	35.00
D.....	.50	2.00	1.00	5.00	3.00	11.50	5.00
E.....	.50	7.50	1.00	21.50	3.00	33.50	10.00

It will be seen that the average cost of hiring and firing has been assumed to be only \$53.92 for each new employee and \$16 for each rehired employee, or only \$44.44 for each hired employee on the basis of three new employees to each rehired person.

When these values for each group are multiplied by the number of supposedly unnecessarily engaged new and rehired employees in each group, the result shows that the apparently unnecessary engagement of 22,031 employees within one year in the 12 factories under investigation, employing an average of 40,622 men and women, involved an economic waste of \$993,767.50. This sum will amount to considerably more than a million dollars if the decrease of profits due to a reduced production and the increase of expense on account of an enlarged equipment investment are taken into consideration.

It may be well to reflect that the total annual pay roll of the 12 factories was nearly \$29,000,000 and that the economic waste of approximately \$1,000,000 on account of faulty hiring and firing represented nearly 3½ per cent of the pay roll.

If the experience of the 12 factories were assumed to be typical of all manufacturing industries of the country, the national economic loss from hiring and firing employees would amount to approximately \$172,000,000 annually, based on number of employees; \$187,000,000, based on capitalization; and \$248,000,000, based on total sales.

The important question immediately arises, How can this economic waste be avoided in future?

There are many ways of improving the situation, but there is one fundamentally necessary way without which no lasting improvement can be obtained. First of all, high-grade men must be placed in charge of employment departments as employment executives, and they must be given adequate authority within their own sphere and in conjunction with the other executives of the establishment. Special capacity is needed for the task of selecting and placing men and women. It requires persons of impressive personality and high moral character, of intimate knowledge of industrial requirements, and preferably with practical industrial experience, firm in action yet suave in manner, but above all else with a thorough knowledge

of human nature. The remuneration for such service must of course be adequate to attract high-grade persons. The employment executive should be considered second in importance to no other assistant of the works manager and at least equal in importance to the superintendent in charge of production. His character and capacity should eminently qualify him for the important managerial task of bringing into the factory the right kind of human raw material, and of seeing to it that the recruits are rightly used and properly stimulated to become effective and efficient parts of the human machinery, whether they perform skilled or semiskilled work or tasks of ordinary character. Moreover, it should be one of the functions of the employment executive, in conjunction with the superintendent and his foremen, to make the new employees reasonably contented while in the service and to assure them that they will not be discharged except for good and sufficient reasons.

With a competent man as employment executive, a rule could and should be enforced under which no foreman or superintendent would have authority to discharge an employee from the service of the corporation, although he would have the right to suspend any employee from work in his particular department, pending further investigation. Inasmuch as the employment executive would hire all employees, he should also be the only man who could fire employees. He would of course be an unwise man if he should take any step in the exercise of this authority that would undermine a foreman's or superintendent's disciplinary influence or would otherwise prove detrimental to efficient service. On the contrary, because of his sole authority to fire employees, he should exert a strong influence over the various executives in the organization so that they would always treat their employees with patience and justice, and particularly so when considering termination of their employment. On the other hand, employees recommended for discharge should have an opportunity to state their cases to the employment executive as an impartial judge, either to receive justice at his hands if injustice had been done them by their immediate superiors, or to be clearly shown by him wherein they were themselves responsible for termination of their employment. And it stands to reason that employees discharged under such circumstances would leave the service with less ill feeling toward the employer than would otherwise exist because of their unchecked belief that they had been unjustly treated.

There is an additional important advantage in centering authority for discharging employees in the hands of the employment executive, for he is in a position to make impartial investigations of the reasons leading to discharges which may reveal that the fault was as much with the management as with the employee. The latter may have the required knowledge and disposition for the work and yet the condi-

tions in his department may be operating against him; he should be saved to the organization by being put into another department, when this is practicable, where he could and likely would develop into an efficient and faithful employee. Or a man of usefulness in certain directions may prove of comparatively little use because he is placed by the management in the wrong position; he is a round peg and the management has tried to fit him into a square hole. Of course he does not fit. But that does not mean that it is best to dispense with his services altogether, for there may be round holes in other parts of the factory into any of which he would fit nicely and which are now either disadvantageously filled with square pegs or left altogether unfilled, while round pegs for them are being sought. Without centralized authority in respect to hiring and firing, the foreman of one department may not, in the nature of things, know of the men who could or would be made available by the foreman of another department, and who could fill his requirements and should be utilized for that purpose. If all engagements and discharges were directed through the employment executive, the latter would be in a position to make such transfers, as above referred to, when advisable. Transfer of an unsatisfactory employee from one department to another of the same establishment should of course be made only when it does not tend to undermine the disciplinary authority of the foreman or superintendent of the first department. By such justified transfers, however, a great deal of the otherwise occurring economic waste of hiring and firing would be avoided and a great amount of good will on the part of employees and the community at large would be gained.

Finally, the important fact must not be overlooked that a foreman who knows that his right to discharge an employee in his department is limited to temporary suspension of such employee and that his action in the matter will be subject to the scrutiny of the employment executive, will use all due care before exercising his right of suspension. Personal feelings with unjustified bases and racial or other prejudices which now influence some foremen in dispensing with the services of employees will then disappear as factors in determining the value of employees. A better cooperation between foremen and employees under them will result, in which partnership between a worker of higher disciplinary rank and a worker of lower rank will take the place of the master and man relationship.

Yet the employment executive's task should not be considered complete when he has brought good men and women into the employment. Important as it is to select the right persons for the right places, so that a square peg is placed in a square hole and a round peg in a round hole, it is even more important to take proper care of these men and women as soon as they enter upon their work. The

best and most competent person can be so discouraged by wrong initial treatment that his usefulness will be impaired, and either he will leave his employment or his discharge from it will become advisable, while even an ordinary person can often be made a very contented and useful economic unit by right guidance and instruction. This at once suggests that a satisfactory employment situation requires that adequate methods be devised and practiced under which new employees will be properly taken care of, both as men and women and as workmen and workwomen.

To accomplish good results in the one direction may sometimes mean the establishment of so-called welfare schemes, ought always to mean the maintenance of safe, sanitary, and wholesome work conditions, but above all else must mean an active personal interest of the "boss" in the men and women under his charge.

Years ago, before the development of the modern extensive factory system, the master worked personally and directly with his few employees, and could secure quick and willing responsiveness from them. "John, we've got to finish this work by to-morrow and you and I must work like hell to accomplish it," the master would then say to his mechanic, emphasizing by a slap on the mechanic's back that he meant what he said. John would work like hell and finish his job within the allotted time. Now it is often a telephone message from the superintendent, and another from him to his foreman, and so down the line until some minor assistant to the foreman transmits it to the worker. Can we under such circumstances expect the hundreds and thousands of modern Johns in our factories to show the same responsiveness? And yet we must find effective substitutes for the old-time touch and inspiration so that even in our mammoth establishments an unseen manager can slap a hundred or a thousand Johns on the back and stir them to work like hell.

To secure satisfaction in the other direction necessitates that new employees be properly instructed in their new tasks. Every factory has its own methods of doing work, and unless foremen and their assistants or specially delegated instructors initiate the new men into these methods, valuable time will be lost to employer and employee and the first opening wedge of discontent will be driven into the newly formed relationship of the two, which may soon lead to the employee's lack of interest in his work and his employer, and in time to his resignation or discharge.

The stimulating influence of the employment executive is needed in both directions and he will exert it to the degree to which he proves himself to be the big-sized man required for the job.

Another important step in the direction of reducing the labor turnover in a factory is the establishment of a system of educational opportunities for employees and for their sons and daughters, as well as for boys and girls in general.

It is becoming recognized again, as it was decades ago, that the employer has a peculiar duty to perform toward his employees and himself as well as toward the industry, by offering to train and by properly training the youth of the land who wish, or by circumstances may be obliged, to choose a vocational career for a livelihood. To a certain extent most employers take an interest in the problem of training young people for efficient industrial service, either through apprenticeship systems or in connection with public or private trade schools. Most of these employers, however, have yet to learn that it is essentially worth their while to set aside a part of their own busy time and thought and to devote appropriate effort and financial support for this important work.

Large factories can of course institute comprehensive self-contained training systems. Where the factory is not large enough, or the character of the work does not offer sufficient opportunity for the establishment of such training systems, employers in the same industry and the same locality can advantageously merge their efforts into a common training system; or they can closely cooperate with private or public school authorities toward the same end. It stands to reason that young people trained by industry in industry will, if they are properly trained, develop a spirit of loyalty toward their employer and toward industrial employers in general, which will lengthen their own period of employment and will exert a steady influence upon other employees.

Aside from well-organized apprenticeship courses for young people, or cooperative training courses with public or private schools, there is great need also for the establishment of short-time specialist courses through which adult men and women without any particular education or skill may be trained to perform efficiently one or more industrial operations. While to a certain extent every foreman in the course of his daily work endeavors to train new employees, I believe there should be special instructors attached to various departments who would systematically endeavor to develop unskilled men and women into semiskilled and, as far as practicable, develop semiskilled persons into employees skilled in at least one major operation of industrial work. By so lifting employees to a higher plane of industrial usefulness, employers would not only advance their own interests and reduce the labor turnover in their factories, but they would also materially advance the interests of their employees, while at the same time they would exert some of the best efforts for the social advancement of their communities.

Finally, the labor turnover in a factory and the expense connected with it can be reduced to the extent to which the zigzag curve of productive requirements can be smoothed into a more even wave line. The task is fraught with many difficulties that arise from the fact

that after all the buying public is the real master of the situation. The employer can, however, influence the buying public, by educational propaganda or by the offer of advantageous trade prices, to help him in his endeavor to standardize his production so as to maintain a fairly equal factory output throughout the year, which in turn would allow him to give steady employment to his people. Several significant examples of successful effort in this direction may well serve as encouragement for further endeavor.

Along the lines of remedy herein suggested may be found the solution of a problem which is beginning to loom large before our eyes and will grow in importance as international competition grows more keen after the close of the war now raging. Early steps should therefore be taken to check the enormous economic waste incidental to the present haphazard methods of hiring and firing, in order that American industries may be prepared to cope with the impending international trade situation.

It is also important to reflect, in view of certain legislative and administrative tendencies now affecting American industries, that constant fluctuation in the working force of an establishment must materially increase the difficulty of maintaining among the employees a spirit of general contentment and of loyalty to the management.

As quicksand can not be kneaded in the hands into a solid lump, so also will it be found difficult to take hold of an ever-changing mass of employees and transform it into a homogeneous, intelligent, and contented body. Moreover, this condition will tend to nullify, to a large degree, the beneficial tendencies of many well-intentioned efforts of employers, such as sickness and accident insurance and old-age pension systems, and other phases of industrial betterment work.

And last, but not least, the problem herewith presented offers an opportunity for constructive work in which employers and employees can readily be brought together for mutual benefit, for no right-thinking man, whatever his position or affiliation, can justly object to any well-directed plan which seeks to give employees continuous work throughout the year and to enable employers to maintain steady production.

Close analysis of the men and women whom we take into our employ, effective systems under which we train them in our work, fair treatment while they are in our service, and adequate methods to insure their dismissal only for justified cause or their voluntary withdrawal with no ill feeling toward their employer—these are essential factors in a proper solution of the problem of "hiring and firing." They must be our earnest concern lest we waste money in our businesses and sacrifice friendly relationship with our employees, without gaining advantage either to them or to ourselves.

The CHAIRMAN. In our association, at our regular meetings in Philadelphia, we have had the benefit of the experience of some of the best men in the country. This has resulted, to some extent, in giving us a feeling of incompetence to speak on these questions. One member of our executive board said one day it was appalling to sit and listen to what the other fellow had done when we had made no start, and it seemed hard indeed to get a concrete expression of how you would start. It is the detail that is necessary to be explained in order to help men get a start. Our next speaker has put out to my mind what is the best textbook on the employment department I have ever seen. It will not be capable of universal application just as it is written, but there is no doubt that you can take this pamphlet and from it build up, whether or not you already have such a department, a department on exactly the right lines, starting in its elementary stages, and adding to it as you find it desirable. I take pleasure in introducing Mr. Boyd Fisher, vice president of the Executives' Club of Detroit, Mich.

HOW TO REDUCE LABOR TURNOVER.

BY BOYD FISHER, VICE PRESIDENT, DETROIT EXECUTIVES' CLUB.

No one knows how much it costs to break in new men. The most conservative estimate of any authority is \$40 per man, but this, as well as every other estimate, is, after all, only an estimate. No one has yet used an exact cost system for recording the waste of unnecessary hiring and firing. I have myself prepared such a system and I submitted it to the employment managers' division of the Executives' Club last September. As yet no one has put it into effect, although several plants have promised to do so as soon as conditions warrant.

Aside from the rather careful estimates made by W. A. Grieves and Magnus Alexander, we have only occasional flashes of evidence as to the great cost of labor turnover.

One of the most startling evidences which has come to my attention may be gleaned from the report of a meeting of the production-methods group of the Executives' Club on September 20, 1916.

Mr. J. T. B. Rheinfeldt, head of the manufacturing standards department of the Packard Motor Car Co., had explained the methods by which his department had rated the expected capacity of every machine and production center in that great plant. He gave out the information that the ideal capacity is 25 per cent higher than the expected capacity—that is, his company has 25 per cent more equipment than would be necessary to turn out the work, if it were not necessary to allow for delays, breakdowns, and low-speed production.

I now quote from the minutes:

Mr. Beatty asked if the standard time allowed to the men were included in the 25 per cent allowance or not.

Mr. Rheinfeldt said that whenever a method was changed, a new time study was made. The allowance of 25 per cent was a blanket to cover shortages, absence, keeping the machine going, repair, etc.

Mr. Fisher asked how much of the 25 per cent was due to the turnover of labor—that is, if there were no absence to be contended with, how much this 25 per cent could be reduced.

Mr. Rheinfeldt said that if the labor turnover were zero, the factor could be eliminated entirely, as the allowance on the time study would care for the repairs, breakage of tools and machines, etc.

Think of this for a moment. The physical equipment of the Packard Motor Car Co. is worth, in round figures, \$9,000,000. If the turnover of labor were reduced to zero, this huge investment could, in Mr. Rheinfeldt's opinion, be reduced by \$1,800,000. The interest at 6 per cent on this amount of money is \$108,000 per annum.

Nor is this all. Is it not fair to assume that labor cost would also be reduced 25 per cent if there were no turnover? If so, out of 12,000 employees, the wages of 2,400 men and supervisors, anything from a million and a half to two and a half million dollars a year, could be wiped out.

Now a word about the reliability of the above figures. They are not worth very much. In the first place, Mr. Rheinfeldt may have been in error in estimating his ideal capacity. He may have overstated the case, too, when he gave it as his opinion that a complete elimination of turnover would eliminate the 25 per cent extra capacity added to the standard time allowance. Furthermore, I have purposely avoided giving exact figures on equipment investment and on the wages of one-fifth of 12,000 employees. I don't want the figures on cost of turnover in the Packard plant to seem to be exact.

But I do want to enforce this point. The Packard employment department is one of the oldest and best conducted in Detroit. It has already effected vast savings in cost of turnover and yet the head of the standards department, the man who with his assistants sets all standard working times in the plant, estimates that new and inexperienced workmen reduce the speed of production so much that a 25 per cent allowance of equipment, buildings, direct labor and supervision must be made.

Try that tune on your piano. Figure what it would mean to your company annually to add 25 per cent to your cost to break in new men.

Do you know that it doesn't? We have no true figures for cost of turnover as yet. Until we get them we must rest our case upon such indirect evidences as Mr. Rheinfeldt's startling estimate.

We can also gather other evidences of the cost of breaking in new men by a study of plants which have kept a steady force, and by comparing production records per man at the beginning and at the end of the periods during which the reduction of labor turnover took place. This, however, is not a very reliable guide, because a good part of the increased production might have come from the introduction of more scientific methods. It is significant, however, that every plant in Detroit that has reduced its turnover of labor in the last year has increased its output per man. In some cases it has doubled it.

It is not necessary, in fact, to prove that losing men costs money. There is a very general agreement upon that point, and there is also a pretty general agreement upon the possibility of ascribing to success in creating a stable force some of the increase in production which appears concurrently. Employment managers, I take it, desire not so much to be persuaded that it is worth while to discover methods of reducing the needless exchange of employees as to have

proof that they can keep men on the job by definite methods which have succeeded in other plants.

I have some very interesting figures on the reduction of turnover in Detroit plants during the last year or thereabouts. Labor conditions during this time have been very disheartening, and, in all firms where employment departments have been established for a long time, the exchange of employees, in spite of intelligent work, has increased during the last year. This is a very interesting fact when taken in conjunction with another distinct and contrasting fact, namely, that in all plants that have installed employment departments within the last year or more the turnover of labor has generally declined during this bad year.

Take the Saxon Motor Car Co. for instance. Its employment department has been in full running order only a little over a year, and in the first year of its operation it has hired 140 fewer men for each hundred on the pay roll. This figure is obtained by subtracting the turnover figures at the end of the year from the turnover figures at the beginning.

Take, again, the Hayes Manufacturing Co., where the employment department was established in April, 1915. In the first year of operation turnover was cut practically in two. And then in the next four months from April to August the turnover was more than cut in two again and has been declining slightly ever since. This reduction was accompanied by a 30 per cent increase in output per man. Then there is the Timken-Detroit Axle Co., where the labor department has been in operation for 16 months and where foremen are given a bonus for what is known as "force maintenance efficiency." During these 16 months this efficiency has increased 20 per cent. I refrain from giving the figures upon which this percentage is based because the Timken does not desire to reveal the exact turnover data.

One of the most remarkable records I know of, with regard to reduction of turnover as the result of the installation of a complete labor department, is that of the Solvay Co., of Detroit. The record is so good that I am going to take the risk of quoting the exact turnover figures. The Semet-Solvay (Coke) Co. and the Solvay Process Co. occupy adjoining factories on the same plot of land, but maintain entirely separate management. Up to the 1st of June, 1916, the Semet-Solvay Co. had an employment department and the Solvay Process Co., on the other hand, permitted each foreman to hire his own men.

When it came to the attention of the management of the Solvay Process Co. that they were having labor difficulties which did not appear in the Semet-Solvay, the employment manager in the Semet-Solvay was given entire charge of hiring and firing in both plants.

The average turnover for the two plants during the month of May was 10 per cent. In the month of June, after the employment department had taken over the work of the Solvay Co. also, the turnover of the two plants dropped to 8.3 per cent. In July, it was 8 per cent; in August, 4.1 per cent; in September, 3.3 per cent; in October, 3 per cent; in November, 2.6 per cent; in December, 2.4 per cent. This is the most remarkable record of employment department efficiency that I know of anywhere, and when you take into consideration the fact that the average turnover of labor in Detroit was jumping up by leaps and bounds at the same time that the Solvay companies were greatly reducing their turnover, it appears even more surprising.

I have just analyzed the turnover figures for the last year in 57 Detroit plants, and find that they average a little over 252 per cent per plant. This is, of course, very high because labor conditions have been unprecedentedly bad. The figures, however, are not as high as they would be if they did not include the comparatively low averages of plants having employment departments, as well as of plants which allow foremen to do their own hiring and firing. An analysis of plants having labor departments against those having no labor department shows that, roughly averaged, the plants having no employment department hired 3 men to every 2 hired by those which did have employment departments.

I do not attempt to give more exact figures because I am somewhat skeptical of the correctness of many of the reports which came to me, particularly from plants that have no regular employment department. I suspect that if we had entirely reliable figures from all plants, the record of those having no employment departments would show up even worse in comparison than they do.

It would be enlightening, if you have time, to take each individual case of labor turnover reduction and trace out the methods by which this was accomplished. In a fairly short presentation, however, it is preferable to outline a complete scheme for labor turnover reduction based upon the combined experiences of a number of plants having employment departments. I desire, therefore, to offer what appears to be a combination of all the approved remedies for what is sometimes known as the "mobility of labor." Obviously not all parts of the complete scheme can be applied to every plant. And good authorities may feel that some of the methods outlined have no business to be in the scheme at all for any plant.

Permit me at the start a doubtful generalization. A certain manager of a Detroit plant which had a complete installation of scientific management and which was used as a model for study by all other Detroit plants, left to take over the management of an automobile company in another city. He found the new plant

devoid of any semblance of scientific management and yet for a whole year he did nothing to change the internal methods of this plant. He found upon analysis that 80 per cent of the cost of his product came in the purchase of products made in other plants. Therefore, in order to reduce the cost of his product he found that he would have to spend most of his efforts in reducing the cost of the products made outside. So it is, I think, with labor turnover. I believe that we may safely say that 80 per cent of the cost of turnover of labor is due to causes that lie outside of direct plant activities; that is, when the workman is off duty.

Now the remarkable thing that is developing in employment work in Detroit is a disposition to tackle the whole job of reformation. Like the automobile manufacturers just referred to, our employers are striving to reduce the 80 per cent item of cost of inefficient labor where the expense is incurred; that is, outside of their own plants. They recognize that turnover of labor is a special phase of the problem of inefficient labor, and that the reduction of turnover is only the first step in a process of education and of economic pressure to elevate the standards of workmen. They aim not only to keep workmen, but to develop them. And they are prepared to go as far as the workmen's own home life, even, to solve their problem.

Much of the impetus to this thorough-going effort comes from Henry Ford. Employers sometimes feel that they have much to forgive in Henry Ford, but most of his fault lies in doing so many things first. One of these is the extension of factory influence into the whole life of the workmen. All Detroit plants are beginning to follow him in this, and I honestly believe that they are profiting by his experience, and are taking the best and leaving the worst of his plan. Denied the credit of initiating the plan and free from the fear of precipitating any such startled inquiries as have beset Mr. Ford, they are able to proceed slowly, quietly, and cautiously. The results so far have been good.

Miss Ida M. Tarbell came to Detroit prepared to revolt at un-American interference with the private concerns of workers as evidenced by the Ford procedure, and went away convinced in its favor. She said of the Ford scheme to the Executives' Club, "I don't care what you call it—philanthropy, paternalism, autocracy—the results which are being obtained are worth all you can set against them, and the errors in the plan will provoke their own remedies."

So you will find in my scheme of labor turnover reduction a concrete statement—a bill of particulars, so to speak—of the philosophy of the more progressive Detroit employers. Turnover breeds inefficiency. Inefficiency breeds turnover and the only way to break the

vicious circle is to attack them, both at one time, and, for the most part, outside of direct factory activities.

The employment department in this view becomes the vestibule not alone to the factory, but to a better life. The employment supervisor becomes a copartner with the teacher, the minister, the social worker, in the business of reforming men. It wasn't Billy Sunday, it was the employers of Michigan that put the State in the prohibition column. They wanted to remove the saloon on the route between the home and the factory. For the sake of securing more efficient workmen, our employers and their personal representatives—the employment managers—are fighting for the elimination of vice and gambling through Mr. James Couzens, formerly vice president of the Ford Co. and now police commissioner. They are fighting for better schools through Mr. Mumford, of the Edison and now president of the school board, and for better city government, more adequate housing, and better street car facilities, through the disinterested public services of many busy manufacturers.

Nor do our social reforming employment managers confine themselves to dragnet measures of improvement. The scheme I have assembled is a routine of particular measures from each manufacturer, according to his ability, unto each workman, according to his need. Nearly every measure outlined is actually in effect in some Detroit plant, and all of them, based upon experience somewhere, are at least in project.

Let us take up remedies for labor turnover and inefficiency under four main headings—preliminary, fundamental, supplemental, and provocative remedies—and speak first of the provocative remedies. (See outline of these remedies, pages 45 to 47.)

I believe in firing men as a final means of keeping men. We are in danger of becoming too sentimental about turnover. We are too likely to regard every man lost as an unwholesome sign: There is a legitimate place yet for the "tin can," and when it is tied to man or beast it ought to have something in it to make it rattle. But the condemnation that reverberates most noisily is the deliberate unfavorable judgment of one's peers. I believe that every discharge should be certified to by a committee on which workmen are represented. This is my notion as yet, but Dodge Bros. go as far as providing a blue envelope committee and no arbitrary individual judgment can effect a discharge. Slowness and cautious fairness in getting into action, however, only advertises the final result. When a man goes out of that plant, he isn't summarily kicked out, it is true, but it looks much more impressive to be shoved out slowly by a consensus.

Let us by all means have the trump card of discharge in our hand and then strive to win by playing off suit. If it is clearly understood by workmen that the patience of the management is the forbearance

of strength and self-control, all our other methods of reducing turnover will gain in effectiveness.

Now, strictly speaking, what I have classed as preliminary measures, namely, a cost system and a record system for turnover, do nothing in themselves to retain a permanent working force. But without them the effective measures are not likely to be applied.

A true cost system is an urgent necessity. If it is true, as Mr. Magnus Alexander estimates, that it costs \$73.50 to break in a new semiskilled operative and only \$8.50 to take on a new laborer, mere percentage figures for turnover mean very little. I will not go into details at this time, but I submit that we should know how much each type of new worker costs in terms of diminished production resulting and of the excess equipment investment needed, increased scrap incurred and increased supervision and education required. Managers may affect to believe that it costs \$400,000 a year to hire 10,000 men, but they won't spend even \$50,000 to save that sum until you prove incontrovertibly the actual expense of new men. The thorough-going remedies for turnover are so expensive that until even the most skeptical managers are convinced we shall not get far with our corrective measures.

As for a complete record system, little preachment is necessary. The aim should be twofold. The records should reveal graphically not only the extent but the causes of turnover, and they should reveal the parallelism between high turnover and low efficiency. The basis, of course, is an individual register for each man, so complete that all other reports can be drawn directly from this. Aside from the usual historical facts, showing dates of employing or transferring, the starting rates and changes of rates and date of leaving employ, together with original application and examination forms, this individual record should be a chronicle of the workman's progress, on such items as earnings and bonuses, defective work, absences and tardiness, his complaints and those charged against him, a periodic certification by foremen, and, when he leaves, his apparent or declared reasons for going.

The turnover should be analyzed at least monthly, and the record should show: (a) By weeks, months, and years how long quitters have been in the employ, in order to reveal the critical periods when men are most lightly attached to their jobs; (b) by departments, to show what foremen or class of work are most at fault; and (c) by reasons assigned, to show what conditions call for improvement. It should show, also, (d) what operations furnish the greatest mobility, so that, if a cost of new employees has been established for each operation, the monthly losses from turnover can be exactly computed.

Fundamental remedies for turnover differ from what I call supplemental only in relative importance. If you hire men wisely, provide

them with steady work at an adequate wage, and refrain from hasty discharges, your turnover will be comparatively low.

The supplemental remedies are refinements designed rather to promote efficiency in the men you keep, than to furnish additional means of keeping them, and are likely, thus, to exercise an indirect influence in reducing turnover.

It is almost begging the question to say, hire the right men for the jobs, because, obviously, the right man is the man whom you will like and who will like you. But there is room for so much development here that I know of almost no other remedy that will reach so far. When foremen hire, they grab the first man who shows up, and fire him when he doesn't make good. And a good many employment managers do almost the same thing. In part this is due to the fact that they haven't the resources to write up exact specifications for all the jobs for which they employ; still more because none of us has thoroughly satisfactory tests of ability and character. But still more it is due to enforced haste in filling requisitions. Foremen, planning department men, and managers do not give the employment department enough notice of men needed. A list of men required for the year's predicted production should be just as much a part of the engineering department's specifications as the blue prints and routing. It is certainly as easy to predict men required as to predict cost, for without the labor, how can the cost be estimated? And, yet, how many employment departments know two days ahead, even, the men they will be called upon to hire? I say inform your employment manager as far ahead to supply new men as you inform your purchasing agent to supply material.

With advance information he can build up the right kind of application list. If your files list only men that have applied voluntarily, it will be as unsatisfactory as a list of sales prospects that you might secure without solicitors or advertising.

The best application file is really a prospect file, built up as the result of a census of the workers suited to your plant, in your whole city and particularly your vicinity. The Cole Motor Co. of Indianapolis has just completed an inclusive industrial census. The Saxon Motor Co. of Detroit tells me that the simple measure that did most to produce its remarkable turnover reductions was the practice of preferring men who live within walking distance of the plant.

With a knowledge of men to be hired, the employment manager can prepare specifications and forms of examination which will do much to eliminate men who would not make good if hired.

Physical examinations are, of course, a necessity in a good system, and they should be tied up with the measures for improving men once on the pay roll, by having the examiner indicate deficiencies to be corrected. But even examinations and such other precautions as

visits to the homes of desired applicants, and a checking up of previous records of employment can be resorted to only if ample time for inquiry is secured.

There is not space in this paper to deal with the question of industrial education, but it should not be overlooked that one does not always need to go outside of his own plant to put on a new man. It is always cheaper to transfer from a less important position an employee who has been in training for a promotion. A work force can be more certainly toned up by educating apprentices and giving a continuing and broadening education to operatives than by hiring brand new men by any system of careful selection whatever. The growing demands of industry far outrun the supply of skilled workers, and not only to contribute its share of trained people but even to obtain its share, a plant must cooperate in the general educational program.

Now one of the most basic remedies for turnover is the payment of an adequate wage, and this can be urged only upon plants that have taken pains before hiring to ascertain whether the applicant's home life and standards of living, as well as his mental and physical fitness promise his being able to earn an adequate wage.

By an adequate, I don't mean merely a minimum wage. I mean a good fat wage—one that will clothe, nourish, and educate his children as well as feed him up properly. The Visiting Housekeepers' Association of Detroit estimates that the lowest possible minimum income for a family of five is \$89, and no family in Detroit is wise enough to know how to spend that sum well. Eleven plants in the Executives' Club have undertaken deliberately to see that every workman, taking each case individually, by investigation, is sufficiently supported. Some of them discover that for special reasons some families can't live on \$100 per month. Any number of plants, such as the Packard, Cadillac, Solvay, and Hudson, make not only general studies of cost of living but particular inquiries, and where necessary, pay off at good discounts the debts of overburdened workers, allowing them to return payment periodically.

In my outline I have indicated a number of ways in which the modern factory management follows up the pay envelope by helping the worker to escape the shark, to purchase wisely, and to stretch the purchasing power of every dollar he earns. Many mutual aid associations and several legal aid bureaus have already been established, and many plants encourage thrift and assist in home building. We not only have seven or eight cooperative stores in process of establishment, but six of them are considering plans to purchase jointly through the Executives' Club. A report on 83 successful mutual aid societies has been compiled by Helen Bacon of the Executives' Club staff. It may be obtained for one dollar.

As for the remedy of steady work, you should note that it is just as important to keep pieceworkers continuously supplied with work, so that they can earn their expected income, as it is to regularize work from season to season so as to keep a level force. In fact, it is sometimes kinder to men to lay them off outright than to try to keep them while they are earning partial wages. Employment managers can not do much to regularize production from season to season and from day to day, because these things are largely matters of administrative policy and of factory system, but if they recognize and advertise the importance of these things, they will focus the attention of their superiors upon the necessary remedies.

When I say, finally, under the head of fundamental remedies, don't fire hastily, I not only mean to urge that you curb ill-tempered foremen and curb your own impatience, but I mean, especially, to give yourself time to influence men through the more slowly acting measures headed up in this outline under "Supplemental remedies." It would be of very little avail, either as a means of reselecting or of disciplining men who had failed in one job, to transfer them from department to department, as the Ford Motor Co., for instance, does with so much patience, unless every day counted to give a man not only new hope but new instruction.

So, I say, start your new men right, promote physical efficiency, foster good habits, make your work an unfolding career, and a sufficient future, and all the time encourage self-expression, not only of complaints but of suggestions and of cooperative interest and activity.

To start new men right means not alone to give them a pleasant and encouraging impression of their new work but also to complete the job of hiring them. A man isn't really engaged for a job until he is engaged in it, and too often plants throw needless difficulties into a man's path between the time they agree to hire him and the time when he settles down to work. An agreement to employ, in the first place, isn't completed until the new man is given a definite guaranty of his starting rate of pay. You can not be sure of a man doing anything but spoiling work for a day and wasting your time if you take him on first and then let the foreman settle his rate of pay afterward.

Give your man a definite starting wage, and, so far as possible, a reasonable assurance of the rates to which he will be advanced at stated times if he makes certain standards of efficiency. Then if he accepts your job, you can be more sure of him.

But it is just as important to help a man get over his stage fright in tackling a new job. Most men suffer acutely in contact with strange surroundings. Even experienced workers discover unexpected obstacles in new machines, and most new men will be found somewhat to

have exaggerated their qualifications in order to be taken on. You, of course, have discounted their statements, but they go to work uneasy in the thought that they have "put something over" on you and are afraid of being found out. Add to this their awkwardness with fellow workmen and bosses, both strange to them, and their lack of acquaintance with the plant and you get a frame of mind which makes their work of little value to you, and the job seem undesirable to them.

One of the things which stood out in my mind after reviewing the many excellent methods of the German American Button Co. of Rochester was the considerate way this company has of introducing new employees. New people are asked to come at an appointed time later than the hour when work starts, and are introduced by a representative of the employment department to their fellow workers and made acquainted with the rules, the conveniences and the special attractions of the plant. A fellow worker is commissioned to take them to luncheon the first day, and special queries are answered. It is important to follow this method of introduction up and to have instructors keep an eye on the new workers till they bring their efficiency up to normal.

It may be, and usually is, necessary to help a worker out with money or meal tickets, or to guarantee his board till the first full pay day. All the workmen I have known individually have gone to new jobs "dead broke." Often they quit on some pretext, after working a few days, in order to draw pay to keep from going hungry. The Studebaker Corporation in Detroit is especially liberal with respect to meal tickets or pay advances to tide the new workman over. Much injustice is done new workers in keeping them on day rates after they have become proficient enough to be put on piecework. While I have not analyzed from this point of view the high turnover of labor which, I know, comes chiefly in the first few weeks of employment, I suggest that a comparison would show that turnover is highest at just the time when new workers should be put on piecework and are not. I have followed the cases of workers for whom I secured jobs, and know that many cite this as a reason for quitting. Two plants I know of make special rates to beginners higher than the piece rates of experienced employees so that they can measure their progress from day to day and more speedily get on a profitable wage. This is a kind of minimum-wage guaranty with the added value of an efficiency scale.

Assuming our workmen well hired and well started, the promotion of physical efficiency is a direct means of increasing production and of helping men to earn pay which will keep them on the job. There are so many things entering into this that it is a good thing, when the resources of the company warrant, to have a physical department as

a branch of the employment division, with a high-grade physician and several nurses in charge. There is not space in this paper to mention any of the many plants which do this. The last convention of the American Medical Association devoted a section to physicians in industrial practice, and there is now a national conference board on the subject. The physical department will generally conduct examinations of desired applicants for employment, but I prefer the more economical method of the Flint (Mich.) Manufacturers' Association, of a central physical examination bureau for applicants. The general adoption of this plan would free the time of plant physicians—who would still be needed to conduct periodic examinations of all workers, as a basis for advice on better health. Such periodic examinations may be voluntary at the start, and perhaps 70 per cent of the employees will come forward. Later, say after the second or third time, it can be made compulsory. It will reveal surprisingly the causes of low production in many cases, and help to eradicate them. The physical department should supervise plant conditions from the point of view of health, and should have authority on the improvement of ventilation, heating and lighting, and the reduction of noise, dirt, and noxious and unpleasant odors, as well as the sanitation of oils and waste, the purification of drinking water and the cleanliness of all public rooms.

The Joseph & Feiss Co. in Cleveland and the German American Button Co. in Rochester are among the plants which find it profitable to add a dentist and an oculist on part time to care for the teeth and eyes of employees. Most workmen have bad teeth, with resulting indigestion and other degenerative diseases, and defective eyesight can injure workmen and slow up work before they lead to the danger of accidents.

The physical department, of course, has charge of the emergency hospital, and in this connection it is worth while to say that first aid should be prompt, adequate and accessible, as it too frequently is not.

But much work should be done away from the plant. Physician and nurses should visit workmen kept home by sickness, their families' as well as their own, so that they will not be allowed to neglect illness. Home visits help reduce absenteeism, but they are justified on their own account in promoting physical efficiency. Plant doctors making home visits will know how to avoid conflict with other physicians with whose work they may seem to interfere. There are other measures which do not come within the field of a physical department, which are advisable, nevertheless, on the score of increasing a workman's efficiency. Such expedients are plant restaurants, shorter work hours, plant athletics, rest periods during the day, and yearly vacations with pay.

If possible, a factory should arrange to maintain its own restaurant, which if properly managed can be self-supporting. It diminishes a workman's energy to eat, possibly at his machine, a cold lunch carried in a paper parcel from home.

Shorter work hours, while diminishing output for the day, increase it for the period. On principle I favor the eight-hour day, or, at most, the 50-hour week, and in some arduous or intensely monotonous tasks I favor an even shorter day.

An investigation which I made a year ago among plants having the short workday convinced me that where a worker is not limited in output by the nature of the process, he will do as much in 48 hours as in 60. Of course, to secure this result the plant must be organized to keep him continuously busy for eight hours, and an incentive wage payment system must induce full effort.

My prejudice in favor of the eight-hour day springs wholly from my belief that it is an economy for the well-organized factory and a gain for the community. Where issues with unions arise over the matter or where consideration for the interests of other manufacturers enters the question it may be advisable for a limited time to maintain longer hours on principle. There is always something to be said for the status quo, and where hours are to be shortened, the employer has a right to demand time for adjustment so as either to secure some increase in effort from the workmen or to pass on to the consumer the added expense assumed for community good.

Furthermore, I believe that for securing increase in physical efficiency it is preferable to distribute a part of the added leisure time through the workday in the form of rest periods. The Aluminum Castings Co. of Detroit gives a five-minute rest period each half day. A company in Rochester allows one rest period of 3 to 12 minutes in every hour, according to the nature of the work. To secure conformity it shuts down the power and has recreation organized to utilize the time. There is as yet no dependable information on fatigue, in spite of certain German researches and the more recent studies of the British association and the munitions ministry, but the experience of the Army with regard to forced marches and the experiments made by Frederick W. Taylor long ago demonstrated measurable benefits from rest periods. Any manager may make a first test by observing the effect of rest periods in his stenographic department. A working principle is that the more repetitive the operation is, the shorter the cycle of time, the more frequent but briefer the rest required is. And, too, I should consider it advisable to make rest periods either longer or more frequent toward the close of the day.

A vacation is one kind of rest period in the above sense. Shop men need it perhaps more than office workers, and should secure it

on the same terms. It is advisable to tie the vacation plan up with the measures to reduce absenteeism by making the length of the vacation with pay vary with the number of weeks of satisfactory attendance. Strike fever is often vacation fever. Shrewd managers, if they had no more altruistic aim, might well plan vacations to promote industrial equanimity.

It is needless to elaborate on the benefits of athletics in relation to health. They are, if anything, more important as self-expression, which I shall mention later.

A separate supplemental remedy for turnover is the development of good work habits. This relates particularly to punctuality and regularity. The man who is on time every day is least likely to quit work. His mental attitude becomes fixed in a feeling of responsibility toward his work. But the worker who becomes casual with regard to attendance has taken the first step toward total delinquency. You have only to picture the subconscious mental processes of a man who remains away from work one day needlessly to appreciate the subtle change of attitude he bears toward his job. To foster good habits, we enumerate such measures as prompt investigation of causes of unexcused absence, strict penalties for tardiness, bonus for regular attendance (one Detroit company, for instance, paying 25 cents a day extra for a month's perfect record) and the establishment of a pay system such as piecework, premium or bonus, which encourages and rewards accuracy, high output, and punctuality.

All other remedies for turnover are likely to be chiefly negative or counteractive unless the management encourages self-expression. First, hear complaints. No matter how unwisely or unfairly objections are presented, give men every chance to "knock." Let them come individually by preference. But even if you deprecate grievance committees, never refuse to hear a committee once appointed. Some men satisfy complaints by being allowed to air them, just as some old people desire not so much to be cured of ailments as to have ailments to describe.

It is better, however, to pick up complaints before they become grievances—while they may be still an expression of some form of idealism—and to deal with disquieting aspirations before they become programs. For this purpose shop meetings called by managers, and scheduled to discuss pleasant and hopeful enterprises as well as difficulties, preserve good feeling. Like wise parliamentary leaders who head off taking a vote until the majority will fall their way, or who sense out a needed compromise or recession before it is exacted, a good manager can employ a shop meeting either to approve his suggestions or to applaud his discernment.

But self-expression goes beyond this. It may be interest in work evoked by a suggestion system. If you make it an invariable prac-

tice to acknowledge in writing every proposal in writing, you have a suggestion system. Boxes to receive letters, and prizes, commendation and promotions to reward them, are mere refinements. Then there is the still more exuberant and satisfying form of self-expression which appears in social, athletic, and cooperative organization. We are all nearly as ambitious for communal as for financial rewards. You can not bring 500 people together in a factory or anywhere else habitually without providing a field for social striving. They crave organization, fun, activity, and influence upon one another. You, as managers, can capitalize this tendency to the advantage of your enterprise. You can make your organization a real family, your plant a communal home.

Self-expression is self-rewarding. No life is complete without it, and the factory which does not promote it is repressing a vital part of the complete life.

Now, when we reduce turnover of labor we assume certain responsibilities. Building up a permanent working force means securing permanent employees, men and women who stay with us till they grow old, and retire or die. We must, therefore, make their work more completely satisfying. We must make their work a sufficient career. Self-expression is one part of it, and there are other elements in it.

I know of few plants where routine factory work is a sufficient career, but I see no reason why it should not be. Doctors look forward cheerfully to going on being doctors. Lawyers have no difficulty in finding their life work in the law. Other professions are satisfying to those who follow them, and yet such is the nature of factory work at present that it savors a bit of the desire to perpetuate class distinctions to suggest that factory workers content themselves with the prospects of continuing as factory workers. Some wicked agitator has suggested that employers appropriate the motto of a big New York dairyman, "Milk from contented cows," as suitable to the aim of managers to keep workers permanently on the job. The way to make that aim worthy is to arrange conditions so that factory work is in itself an agreeable career.

For one thing there must be definite standards of promotion and pay increases. A Detroit factory discovered a workman in its employ who had gone five years on one rate of pay. A Pittsburgh plant till recently was paying three different rates of pay for the same operation under three different names in different departments.

There should be variety of interest, too. The modern subdivision of labor makes a given task a drudgery, monotonous and intellectually stagnant, but it brings with it the possibility of frequent transfers so that, with proper instruction, a man can follow all the steps of a process without great cost to the plant. The Ford Motor Co. asks

each employee to fill out a card stating the jobs to which he would like to be transferred when it is possible. A company in Rochester encourages employees to fit themselves for more responsible positions and higher earning power by reimbursing for their outlay those who complete courses of study. The subject of industrial education again hinges upon our discussion at this point, but it is too big to deal with here.

No work is a career, of course, unless it is possible through it to provide for old age. Those plants which succeed in establishing permanent working forces have the inescapable responsibility of providing for the future of all workmen. Group insurance and other forms of life insurance are good, but not sufficient. They do nothing for the workman between his retirement and his death, and serve but poorly even to compose his fears for his family after his death, because nearly every penny of industrial insurance now goes merely to pay funeral expenses.

A pension system helps to bridge the gap between superannuation and death. Any kind of old-age pension is good, but we should lean, surely, toward the kind that appears least to be a charity on the part of the company. The income from an investment to which the workman has contributed and which the company has helped him to accumulate is not charity, and has the further merit of leaving an inheritance to the family. Any profit-sharing scheme like the Procter & Gamble plan, which gives the employee a form of stock ownership, has this merit. The most carefully thought out scheme is that of the Baker Manufacturing Co., of Evansville, Wis., which provides for a 15-year pension after retirement on a partial resale to the company of the stock secured out of profits shared.

These are ambitious plans. The program outlined above is a particular scheme comprising nearly all of the proposals successfully introduced for the attempted solution of the labor problem. Altogether they may not solve it, but incomplete as they may be, they are sufficiently aspiring and they are all that managers can undertake on their own responsibility.

Even if all of these proposals are applicable to most plants, no factory that has so far failed to inaugurate most of these things can hope immediately to get them all going. It will have to go slowly for two reasons, especially. In the first place, it is impossible to apply any new scheme to all employees at once. This is particularly true if, for the expedient to be successful, it must be understood and believed in by the employees. In such a case it must begin with only those who are ready for it. When the Jeffrey Manufacturing Co., of Columbus, Ohio, began its building and loan association seven years ago, only 18 workers out of 500 who at first expressed interest were sufficiently impressed to make an actual beginning. Now, over a

thousand belong to the association and they have over a half million dollars invested. Most good enterprises with workmen have begun in this small way, and no employer should be discouraged by a meager start if the principle at stake is important.

But it is even harder to make an industrial program succeed promptly, owing to the difficulty that a plant has in establishing its character with its workmen. It is so even with individuals. We don't easily believe in the permanence of good intentions. We intensely desire to find friends in whom we can trust and who will be as helpful and patient with us 10 years from now as to-day, but experience makes us cautious. Once we are convinced of the unalterable integrity of a friend, there is no gift of adoration too extravagant to lay at his feet.

Workmen have been disappointed too often to be anything but skeptical. They have tested too many mere paper plans for their welfare to place any easy reliance upon new ones. But when a management, by undeviating honesty, determination, and good spirit, carries through during a term of years a program of employees' betterment, it can not fail to win their confidence and friendship.

HOW TO REDUCE LABOR TURNOVER.¹

1. Preliminary measures:

- (a) Attempt to learn true cost of turnover in your plant in order to know how much you can afford to spend to eliminate it.
- (b) Keep adequate records as means of analysis of sources and causes of turnover—
 - (1) Historical and statistical record separate for each employee, including date of employing or transferring, rates, earnings, bonuses, defective work, complaints by or against man, absence, tardiness, periodic certification of foremen, date of quitting and reasons.
 - (2) Turnover by departments, by causes, by weeks and months and years, and by classes of skill.
 - (3) High and low earnings by departments.
 - (4) Defective work by departments.
 - (5) Absenteeism and tardiness by departments.

2. Fundamental remedies:

- (a) Hire the right men for the jobs—
 - (1) Work up good application list which is a "prospect file" by vigilant search of sources of supply, by industrial census of your vicinity, by courteous and hospitable treatment of applicants at all times, and by getting a good name for your factory even from men who have quit you.
 - (2) Using your present work force as a "prospect file," cooperate with agencies for industrial education, supplementing them with apprenticeship training, to build up a system of promotion and transfer.
 - (3) Secure time to examine new applicants thoroughly by receiving advance notice of need and by using adequate assistance in employment department.
 - (4) Hire in accordance with written specifications for each job, prepared at leisure, and after due consultation and criticism.

¹ This scheme is intended to be complete and is therefore impossible of universal application in toto.

2. Fundamental remedies—Concluded.

- (a) Hire the right men for the jobs—Concluded.
 - (5) Prepare a definite scheme of direct examination for each type of work, using as much of the character-reading methods as your experience approves.
 - (6) Examine physically with view to general fitness, to suitability for specified job, and to need of later upbuilding.
 - (7) Visit homes of desired applicants.
 - (8) Check up records of previous employments.
 - (9) Hire only those who can earn an adequate wage.
 - (b) Pay an adequate wage—
 - (1) Study cost of and facilities for decent living for each workman and use results in setting base rates.
 - (2) Give special study to cases of inefficient workmen, to see if money troubles are affecting them.
 - (3) Centralize and pay off at discount, debts of overburdened workmen.
 - (4) Promote mutual aid association.
 - (5) Establish legal aid bureau.
 - (6) Pay weekly.
 - (7) Discourage alcoholism.
 - (8) Instruct in proper use of income.
 - (9) Encourage thrift and home building.
 - (10) Where special causes for increased living cost obtain, attack them, as by cooperative stores, housing measures, etc.
 - (c) Provide steady work—
 - (1) Give pieceworkers steady flow of material during the day, by proper scheduling system.
 - (2) Regularize production throughout the year to minimize lay-offs and shut-downs.
 - (3) Abolish the annual physical inventory, in favor of perpetual inventory with continuous checks.
 - (4) Make repairs promptly and provide a sufficient reserve supply of tools.
 - (d) Don't fire hastily—
 - (1) Check up foremen whose departments show high turnover records through men's quitting.
 - (2) Don't let foremen discharge at all.
 - (3) Give unsatisfactory men at least one chance through transfer.
 - (4) Establish employment committee to review cases of discharge where men appeal.
 - (5) Establish foremen's club to study ways of getting along with men.
 - (6) Interview, before paying off, men who quit voluntarily.
3. Supplementary remedies:
- (a) Start new men right—
 - (1) Make clearly understood agreement as to starting pay and schedule of advances.
 - (2) Introduce new men to bosses, to fellow workers, and to physical surroundings, and acquaint with rules and facilities of plant.
 - (3) Instruct men thoroughly in new task.
 - (4) Advance money or meal tickets to beginners short of funds.
 - (5) Help beginners speedily to get on piece or bonus rates.
 - (b) Promote physical efficiency—
 - (1) Establish physical department.
 - (2) Examine all workmen periodically and provide machinery for following up those found to be defective.

3. Supplementary remedies—Concluded.

- (b) Promote physical efficiency—Concluded.
 - (3) Provide adequate light, heat, and ventilation.
 - (4) Reduce noise, dirt, and noxious odors and fumes.
 - (5) Purify oils, waste, and other supplies.
 - (6) Purify drinking water.
 - (7) Provide sanitary lockers, wash rooms, and toilets.
 - (8) Insist upon good teeth and good eyes by using, at least on part time, the services of a dentist and an oculist.
 - (9) Have nurses or doctors visit those kept home by illness.
 - (10) Provide mid-workday meals at plant.
 - (11) Provide good tools and fatigue minimizing equipment.
 - (12) Shorten work hours while securing fair output.
 - (13) Provide at least three rest periods during the day.
 - (14) Arrange for yearly vacations with pay for all employees. This can be on the basis of an efficiency record or punctuality record.
 - (15) Promote athletics.
- (c) Foster good habits—
 - (1) Investigate causes of unexcused absence.
 - (2) Fix strict penalties for tardiness and unexcused absence.
 - (3) Bonus regular attendance.
 - (4) Establish pay system that encourages and rewards accuracy, high output, and punctuality.
- (d) Give all employees a hearing—
 - (1) Hear complaints at all times, no matter how put forward.
 - (2) Hold regular shop meetings by departments and by divisions to hear men's ideas.
 - (3) Establish system for considering written suggestions from men; rewarding with commendation, prizes, or promotion, all thought worthy, and acknowledging all such suggestions without exception.
 - (4) Encourage all forms of self-directed organization, whether of athletic, social, or cooperative enterprises—provided such organization is not subject to orders from persons outside of your plant and contrary to its interests.
- (e) Make work in your plant a sufficient career—
 - (1) Establish system for granting unasked-for pay increases as deserved.
 - (2) Discover ambitions of men for future transfers and promotions.
 - (3) Help train men to new tasks.
 - (4) Transfer with some liberality.
 - (5) Encourage men to improve general education by reimbursing for outlay on courses of study as completed.
- (f) Provide for future of all workmen—
 - (1) Purchase group insurance for all workmen.
 - (2) Pension disabled or superannuated employees.
 - (3) Share profits on some form of stock-sharing basis, possibly in lieu of pension scheme.

4. Provocative remedies:

- (a) Fire when other methods clearly fail—
 - (1) Those with chronic social diseases.
 - (2) Those whose morals menace the high standards of fellow employees.
 - (3) Those who persist in agitation.
 - (4) Those who will not quit drinking.
- (b) Submit all such discharges to appeal committee on which employees are represented.

MONDAY, APRIL 2—AFTERNOON SESSION.

CHAIRMAN: EARNEST T. TRIGG, PRESIDENT, PHILADELPHIA CHAMBER OF COMMERCE.

THE FIGURING AND ANALYZING OF LABOR TURNOVER.

The CHAIRMAN. It gives me, as the president of the Philadelphia Chamber of Commerce, great pleasure to welcome you to this city and to our quarters.

We feel that you have done Philadelphia and the Philadelphia Chamber of Commerce a great honor by coming here in so large a number, from all over the United States, to hold this very important series of sessions in this city. Our reception committee is ready, and will be very glad to be of all assistance possible to any persons attending this conference from out of town. Permit me to tell you who are serving on this reception committee, so that you will know them, and I will ask each member of the committee to stand as his name is called.

Robert C. Wright, of the Pennsylvania Railroad Co.

Charles S. Krug, of John Wanamaker's.

John E. Park, Philadelphia & Reading Railway Co.

Milton D. Gehris, of the John B. Stetson Co.

William Disston, of Henry Disston & Sons (Inc.).

Edward E. Pennewill, of Wm. Cramp & Sons Ship & Engine Building Co.

F. C. Brodhead, of the Curtis Publishing Co.

John Jackson, Strawbridge & Clothier.

Having been formally and properly introduced to your reception committee will you not please make use of it in every way possible?

The subject of your conference, the problems and the questions of employment, is close to the heart of every business and every business man of a country that seems to have solved all the other important sides of business questions. Our mechanical experts have reduced the question of possibilities in machinery and mechanical apparatus to practically nothing. On the question of raw materials and products of all kinds, a scientific effort and development have perfected our operation to a point where question no longer exists. In advertising lines, through the effective work of the National Association of Advertising Men, we are able to-day to put our fingers upon the tangible ways to do the necessary things. When it comes to agriculture, science has already shown us the way; we know the peculiarities, the eccentricities and the frailties of practically everything in the vegetable and in the animal line. But we do not yet know the human problem as it is connected with business operation.

And so the chamber of commerce, consisting of over 5,500 members, the principal leading business men of the city of Philadelphia, has a double reason for welcoming you here for your conference. We are glad to have you with us, we are proud of your association with us in this way, and we are going to welcome the results of your deliberations along those lines which will help all of us to know more about this one side of our business, which so far has not been developed in keeping with the other angles of it.

The first number on your program this afternoon is the subject of "Tabulating labor turnover," by Mr. E. H. Fish, employment manager of the Norton Co., of Worcester, Mass., and chairman of the Boston Employment Managers' committee on tabulating labor turnover.

108021°—17—Bull. 227—4

THE TABULATING OF LABOR TURNOVER.

BY E. H. FISH, EMPLOYMENT MANAGER, NORTON CO., WORCESTER, MASS.; CHAIRMAN, COMMITTEE ON LABOR TURNOVER OF THE EMPLOYMENT MANAGERS' ASSOCIATION OF BOSTON.

The efforts of this committee to find a reasonable basis for comparison between shops, based on the length of time which men stay on their jobs, developed at the very first a feeling that it was impossible to reduce it to any single figure or percentage.

We felt that the percentage of labor turnover as usually computed and published was being used to some extent as an index of the value of an employment department. If this is so, it puts a premium on a department able to persuade foremen to retain inefficient workers who his better judgment told him should be laid off or dismissed. In view of these thoughts, we decided at the start that it would be desirable to analyze the causes of leaving as well as the different kinds or conditions of people whom we employed. With this in mind, we evolved sheets [see Forms 1 and 2] in which those who were hired, or those entering the employ of the company, were divided broadly, at first, into the new, the reemployed, and those transferred from other departments. One sheet [Form 2] is prepared for recording the turnover for the entire plant by departments during a chosen period of time, and the other [Form 1], the turnover in a given department for a given month. On each sheet the new and the reemployed are each divided into three classes, those who are experienced, those who are learners, and those who are laborers. The division was adopted after considerable discussion in which skilled, unskilled and semiskilled occupations were discussed, but it was decided that for the purpose of keeping the cost of labor turnover low, it was an advantage to every concern to hire experienced people, regardless of whether their experience was that of skilled, semiskilled, or unskilled person, because the previous experience with the company, or with similar companies, counts for almost as much in one case as another.

PROBLEMS OF CLASSIFICATION.

The classification of learners was adopted because of our feeling that we should face the facts fairly and squarely as to whether we were hiring men whom we expected to train for our own purposes, whether they were men who we suspected had had previous experience, or whether we should make a distinction between them and laborers

whom we expected to be about equally efficient at the beginning and at the end of their employment. This, too, gives us an opportunity to present to the managements of our several companies the number, usually large, of employees for whom some kind of training is needed before they become efficient, because by thus showing this considerable number, it probably will be possible to induce them to set aside certain portions of the shop for the specific training of new employees. As such men are scattered among the general help, the large number usually passes unnoticed. Under the head of those transferred to a given department, the division is made between those transferred for physical reasons (which includes, of course, those transferred because they have been injured in accidents) and those whose physical condition has changed through sickness, or those whose physical condition remains the same, but where the job in the department has changed its nature in such a way that we do not feel the man can safely continue to do the work for which he was originally employed.

Those promoted require no discussion. Those who are transferred from another department because they have failed in the first, should be kept entirely distinct because, while as a matter of fairness to the individual it is usually desirable to give the failures another opportunity in some other department, the percentage of them who make good should be kept track of, and that can not be done unless we know the actual number who were transferred under such conditions. It appears generally to be found that a sufficient number of those who fail in one department succeed in another to make it well worth while to hold this second opportunity open at the option of the employment department, but it is not thought that the percentage of those who succeed in the second department is large enough so that it can be said to be universally true that everyone should have a second or a third opportunity.

Under the head of "Transfers on account of departmental fluctuation," we take care of cases where one department finds itself temporarily out of the normal amount of work through lack of delivery of material, or for any other reasons, and the people employed there must be taken care of in some other department instead of being allowed to drift outside.

THE INFLUENCE OF WORKING CONDITIONS.

Under the head of "Exits," broad divisions were made between (1) those who left of their own accord, (2) those who were discharged or dismissed from the employ of the company, (3) those who were laid off, (4) those transferred to other departments, and (5) the exits which were unavoidable by any act which the company might take. Under those who left of their own accord, which should be understood to include only conditions which might be remedied if the com-

pany saw fit to do it, we make the three broad divisions of those who left (a) on account of working conditions, (b) on account of location, and (c) for other reasons.

Under the head of "Working conditions" we made the subdivisions of those who left on account of wages, that is, those who were able to or thought they were able to get larger pay, those who left on account of heavy, wet or dusty conditions, which column might also be used to cover many other conditions such as those due to lead poisoning, etc., those who left on account of ill health, and monotony. Two additional columns are left for specific reasons which may apply only to the shop which is using this form.

Probably in almost every concern, the largest number of assignable reasons will be those relating to "Wages." It was thought that experience might show a certain more or less definite percentage of people leaving on account of their wages, which might indicate a danger point and that salaries or wages should be increased. For example, if the turnover due to people leaving the concern on account of wages alone should become more than, say, 30 or 40 per cent, it might be deemed desirable to consider seriously the question of a general increase of wages in the department affected.

Under the head of "Heavy, wet, or dusty, etc.," of course, are included conditions which are oftentimes inherent in the business itself, and which must be faced. Sometimes, however, the fact that we are able to show to the management that a larger percentage of people than they had supposed leave us on account of these reasons, may indicate to them the desirability of spending considerable sums of money in remedying conditions which they had been inclined to think were of comparatively little importance.

Under "Ill health" are supposed to be included only such cases as are contracted inside of the employment, and such few cases of sickness as come about through the fault of the company itself or through defects which it might readily remedy. Others should be classified under "Unavoidable reasons."

"Monotony," is often the cause of people leaving, although it is not always easy to discover this reason from the excuses given by the people themselves, and especially from the excuses given by the foremen. Where it is suspected that work is monotonous, care should be taken to draw out the opinion of those who leave.

LIVING CONDITIONS AND THEIR EFFECT.

Under the head of "Location," we have made two divisions, one "Due to the family moving from town," which, of course, usually applies to the children or the younger people in the family. We usually consider that if the head of the family is the one who takes the initiative in leaving town it must be for some other reason, and

will be classified under another head, that is, he may be leaving town on account of any of the working conditions which we have already mentioned, or it may be because we have laid him off, and he is only able to secure a position somewhere else.

Under the head of "Housing conditions," we place the leaving of employees because they are unable to secure the kind of tenements or houses which they desire, or cases, which often happen in rush times, of their being entirely unable to find accommodations at all. We place this under the avoidable causes, because it is something which concerns have usually considered in locating their plants out of the center of large cities. The concern may not care to go to the expense of reducing the turnover due to the lack of good transportation or good housing, because it feels it is making more money through some of the other advantages of distance from the center.

A number of blank columns are left here. The only miscellaneous reason which we are giving is "Unknown," which, unfortunately, it seems to be necessary to maintain. It is usually possible to get some reason assigned for every person's leaving, but many times these reasons are such that we doubt them. Therefore it seemed desirable to leave a column frankly for those whom we do not wish to assign to any particular cause.

CAUSES OF DISMISSAL.

The first group of exits from work on account of dismissal has been classified under the head of "Careless," the careless man perhaps being the greatest bugbear that we have, although sometimes carelessness is a curable disease. Laziness is our second classification, though as a usual thing it is very hard to distinguish between carelessness and laziness, the results and the symptoms being very much the same. It was, however, thought that there would be men who are exceptionally active whose carelessness is the result of over-enthusiasm and whose classification falls under the first head rather than the second.

Incompetency is a very common cause of dismissal in these times when men are apt to represent themselves as more capable than they really are. In a measure, the turnover due to incompetence may be said to reflect somewhat on the employment department, which should be sufficiently keen to discover such cases before hiring them. It is certainly a part of its duty to give such people another opportunity, if possible by transferring them to some other department, so that we would expect that this column would not be especially large. Under the head of "Unreliable" we would place such men as we considered were actually competent but, through carelessness or laziness, were apt to be variable in their actions. Probably not a great many would be classified under this head, as they would

most naturally fall under the two heads of "Carelessness" or "Laziness." The columns "Liquor," "Trouble breeder," "Insubordinate," and "Misconduct" probably need no explanation. There are very few places where any of us can afford to keep men who abuse the use of liquors or those who are in the habit of stirring up trouble with other people. Our general experience with insubordination, however, leads us to feel that there are very few cases which could be clearly placed under this classification, as most men are willing to subordinate themselves to a foreman's instructions if they are given clearly so the man does not misunderstand them and if they are given in a proper spirit. Most of the men who are insubordinate under proper conditions may be said to be trouble breeders by nature and should probably be classed under that heading.

WHY MEN ARE LAID OFF OR TRANSFERRED.

Under the subheading of "Laid off" we have made the following divisions:

1. To decrease the force, probably made necessary by lack of work, although it might be due to the fact that additional machinery had been installed which required less labor to operate, or because the men already on the job had become more efficient and were able to do the work in a smaller group.

2. Those laid off for physical reasons include those who have become aged in the service of the company, and those who as a result of some sickness, or accident, have become incapacitated. It seems, however, that very few should be placed under this column, as a man who has become incapacitated as a result of the work which he has done seems to be a proper object for further care by the company, either by being placed in some easier, less active job, or by being placed on some sort of pension roll.

The next column accounts for the laying off of those temporarily employed, which reminds us that under the entrances no division is made between those who are employed for temporary work and those who are not. It is very difficult usually to determine at the time a man is hired whether his employment is to be temporary or not. We may have a gang of 50 men and we may wish to increase that gang temporarily to 75. In hiring 25 new men we are almost certain that some will prove to be men whom we will wish to keep at the expiration of the time when the work is done for which they are hired, preferring to lay off some of the men who are already on the job as being less capable.

The subheading for men transferred is divided into those transferred for physical reasons, which is covered also in our statement regarding those laid off; for those promoted, which is usually obvious, although promotion at times may appear to be a little vague. Oftentimes, a man asks for a transfer from one department to another which he believes will prove to be a promotion for him, when it seems to us to be a demotion. However, we should feel, we think,

TURNOVER.

Turnover is the change in personnel brought about by hiring and termination of employment. Many conditions enter into these changes, some of which are beyond the employer's control or influence. Other conditions are largely within the control of the employer, and because of their obvious importance, they demand serious consideration.

Problems relating to personnel are no less vital than problems relating to markets, materials, and machinery. Conditions affecting turnover lie at the heart of all personnel problems. Intelligent consideration can not be given these conditions without knowledge of facts, and such knowledge depends upon accurate data.

It is impractical merely to group or express in total percentage all the factors entering into turnover; these factors are irreconcilable. It is of value to know the per cent of exits, but it is of more value to know the causes of those exits; therefore a detailed analysis of reasons underlying termination of employment becomes valuable.

With the above in mind and appreciating the necessity of uniform records if future discussions of the problems of turnover are to be of value, the Employment Managers' Association of Boston has adopted this provisional form and method for computing turnover. The association anticipates its later revision in the light of experience to be secured through its use.

As a convenience and economy to employers this form is printed and carried in stock by the Library Bureau, Boston, Mass

103021*—17. (Back of Form 1.)

DEPARTMENT SUMMARY.

Entrances:	Number.	Per cent.
1. Employed.....
2. Reemployed.....
3. Transferred.....
4. Total entrances.....	<u>.....</u>	<u>.....</u>
Exits:		
5. Left of own accord.....
6. Discharged.....
7. Laid off.....
8. Transferred.....
9. Unavoidable.....	<u>.....</u>	<u>.....</u>
10. Total exits.....
Deduct unavoidable (9).....	<u>.....</u>
Balance=department turnover.....

Remarks:

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As a convenience and economy to employers this form is printed and carried in stock by the Library Bureau, Boston, Mass.

103021°-17. (Back of Form 2.)

PLANT SUMMARY.

Entrances:	Number.	Per cent.
1. Employed.....
2. Reemployed.....
3. Transferred.....
4. Total entrances.....
Exits:		
5. Left of own accord....
6. Discharged.....
7. Laid off.....
8. Transferred.....
9. Unavoidable.....
10. Total exits.....
Deduct transferred and unavoidable (8 and 9)
Balance=Plant turnover.....

Remarks:

that anyone who is bettered either mentally, or physically, or pecuniarily, is promoted even though it may not appear to an outsider that the new job is better than the old one.

Those who have failed in one department and are transferred from that department on that account, also, of course, appear in the entrances under the head of those transferred. Departmental fluctuation is supposed to cover the transfers made from time to time from one department to another, and more especially between departments of the same nature, but, perhaps, in different buildings under different foremen. This would cover such cases as those where a number of people leave one department, and in order to fill the gap others are shifted from other departments to that, possibly temporarily and possibly permanently. Transfers under this heading would not constitute promotions nor indicate that the person transferred is in any sense a failure.

Under "Unavoidable causes" are classified those who are superannuated or pensioned for any other reason, those whose marriage takes them away from the shop or office, and the deaths which are caused by exterior causes, or those due to occupation in the works. We felt there should be this last distinction between the two because exterior causes are not a reflection upon the industry at all, while those coming from the occupational diseases or from accidents should be kept separate so that we may have an index of the dangers of our work.

At the bottom of the sheet [Form 1], it will be seen that there is provision made for getting the percentage of leaving for each one of a number of different causes. There is first a footing for the total of each individual column. By dividing that total by the average number of employees concerned, we arrive at the percentage leaving for that particular department for that individual reason, and for the time covered by the sheet. Then the next totals are for the totals of the subheadings—that is, the new entrances, the reemployed and transferred, those who left of their own accord, those who were discharged, those who were laid off, those who were transferred and the unavoidable. Then the third set of totals and percentages is for those coming and those leaving, so that if this is applied to the whole plant, the percentage of those leaving over the average number employed will give us the total turnover for the whole plant. On the other hand, the sheet gives us a classification as fine as anyone probably will require, so that a study of these sheets will give a bird's-eye view of the whole condition, and as finely subdivided an opportunity for study as can be wished. The recapitulation of these figures by departments and by plants is provided for, as may be noticed on the back of the two forms.

DISCUSSION.

The CHAIRMAN (R. C. Clothier, assistant to vice president, A. M. Collins Manufacturing Co., Philadelphia, Pa., in the chair). Mr. Trigg has asked me to express his regret at having been called away. The international situation has brought some duties to him that made it necessary for him to leave the meeting.

Mr. Fish has asked us to enter into an informal discussion of his paper, and we will set aside 15 minutes for that purpose. I will take a minute or two myself.

I received from Dr. Gallagher a copy of this form, and had a chance to look it over and apply it to our own company. There were several suggestions that presented themselves to me. I notice particularly, in the question of the transfer, that a person to be transferred must have been promoted or must have failed, or there must be physical reasons, or there must be a departmental fluctuation. I question whether there should not be another division labeled "Particular fitness." Of course, all this work is closely associated with vocational selections; that is our job, to get the men and women into work for which they are best fitted, and it is quite possible that our original selections may be wrong, and that we may want to transfer people later to another department, to take up work for which they are best fitted. I have found in the last two weeks, since receiving this form, that we have had to lose a large number of girls on account of home conditions, their mothers being taken ill or other such conditions, and I suggest the advisability of having that included in this form.

Another division is that of "General discouragement." I have had, within the last month, opportunity to talk with one or two men who have left our concern and could not give any reason except that they were discouraged. I interviewed those men very carefully, and I did my best to get their point of view, and yet they could give no reason for leaving except discouragement. That may not be the experience of the rest of you; you may be better at getting at the real reasons than I have been, but perhaps you find that there is need of such a division on this form.

My last suggestion has to do with "Regularity of attendance." The work must be gotten out, that is our first duty, and for that we must have the men on the job, and we must have them on the job as nearly all the time as possible. When a man is constantly and regularly absent, especially on Saturdays and Mondays, the first

and second and third offense may be tolerated, but the time will come when definite action must be taken; he must be more constant or he must give way to somebody who will stay on the job. I therefore give that as a possible suggestion.

Now, has anyone any question to bring up in reference to this paper?

Mr. MARKERT, of the Emerson Co., N. Y. I would like to ask a question with reference to the subject of furloughs. Suppose a concern has a large number of men to furlough. Let us say your pay roll at the beginning of the month was 1,000 and at the end of the month you were going to furlough 250 men, say. How do you consider the average pay roll for the plant? Because on the following month your pay roll begins with 750. Now, in two or three months you are going to take on those 250 men again. It seems to me the question of a plant average there is important, and I was wondering how you would arrange that.

Mr. FISH. I might answer that question first, although I have quite a number of questions here that have been handed me. That was the idea in leaving the column, "Laid off," as separate from those who leave of their own accord and those who are discharged. Of course, to get the complete turnover you would have to take all of these people in, but if we have one turnover for those who have left of their own accord and another for those who are discharged, then that due to lay-off can be figured separately, too, and we shall have something that we can present to the management to let them see what is going on. If the factory, we will say, had to lay off 250 men, due to fluctuation in the work or whatever else might make it necessary to lay these men off (of course your question also covers the people that are temporarily employed), that does affect your total turnover, if you want to use it, but it does not affect the turnover for those discharged and for those who left of their own accord.

Mr. MARKERT. What arrangements have you with your paymaster's department, as to how it is to be marked?

Mr. FISH. In my particular case the paymaster's department has nothing to do with that. The paymaster's department pays the men on the pay roll that the cost department says have worked.

Mr. MARKERT. I have a case where about two-thirds of the men have given the company a week's or two weeks' notice. If those men give a week's notice and it happens to come in the middle of the month there will be 50 new men, which increases your pay roll probably by 50, whereas the real number ought to be 750 instead of 800.

Mr. FISH. Of course, you have the difference there between your pay roll and the number of men who actually work. I do not imagine that any plant can give you identical figures for the number still on

the pay roll, and the number actually working to-day. I would not think that possible, because you would naturally keep some on the pay roll that were out and who you hope will return.

Mr. TOLSTED, of the Independence Inspection Bureau. Have you any classification there of men who quit simply to get their wages that are due? For instance, I find that in Ohio, at the present time, there is a great deal of quitting to get wages that have been earned. For instance, a man works for three days, and then if he continues to work he will not get his money for two weeks. He wants to get his money as soon as possible. There is a three-day period which must be added from the quitting time, and he wants to get his money at the end of that three-day period. If he quits Wednesday night, say, he wants to get his pay Saturday. We find a great many men quit on that account.

Mr. FISH. I think that would usually be classified in some other way. I suppose you are referring to a man who wants to "go on a bat," and in order to get the funds he throws up this particular job; I think 99 per cent of those would come under the head of "Incompetent" or "Careless" or some one of these things that we have already defined. We do not always know that that is the reason why he quits. Of course, sometimes he tells us that that is the reason.

Mr. TOLSTED. I had a manager tell me that 33 were quitting in order to get their pay.

Mr. FISH. If I were the employment manager there I would suspect that there was some other cause.

Mr. TOLSTED. Would it be well to have a column at the extreme end showing the number each day? That could be averaged, then, for the month. It seems to me these headings at the bottom of the sheet—"Number of employees in plant on last day of last month," and "Last day of this month"—might be misleading [indicating]. I think a good many might average those two and that might give an incorrect figure.

Mr. FISH. One member of our committee was anxious that we should do that, and of course that would give us the mathematically correct denominator to be used for that fraction, but the majority voted him down on the score that this would be near enough, because, of course, all these figures on percentage of turnover are relative, and the question of whether it is 114 or 114.2 does not make very much difference in regard to the action we will take.

Mr. FLEISHER, of the Metropolitan Life Insurance Co. This is essentially a factory form and I think if we try to solve problems of dealing with other groups of employees, particularly a group of

salesmen, some of those headings do not readily cover the case. For instance in the case of the salesman, it may be that he is not lazy or incompetent; he may not have had the right chance—we may not have put him to selling to the right people.

But the point that I think we are all most interested in is to fix the responsibility for the severance of connection with our companies. Is it our fault? Is it the employee's fault? Is it the community's fault? These are the three headings in which we are primarily interested. If the man is lazy, is it because he is ill? If he is ill, are we trying to remedy the condition? If he is incompetent, is it the fault of the school for not having prepared him to do the work in life that will make him a valuable member of society? Does he leave because the community does not provide proper schools for his children?

A recent analysis of our own figures indicates that these three factors enter into any computation in this field. Could a form be arranged to indicate where the responsibility should be placed? This will make the problem of removing the cause of the evil more simple.

Mr. FISH. Speaking for myself, without regard to the rest of the committee, I think it is extremely doubtful if you can express those things in any kind of form. That, it seems to me, reduces itself to a study that must necessarily be made in order to handle our business as it ought to be handled—of all reasons for leaving. This simply classifies them in a general way, so you can get a bird's-eye view of the whole situation, and if you find that a given foreman, or the head of a department, has lost a lot of men because they are incompetent, you can begin to question whether that incompetence was inherent in the people or whether it was because the foreman was not able to get results. And then you have to study your individual case, and I think you have to study your individual case almost always when you get beyond the classification that a sheet of this kind shows you. The particular thing you speak of I would classify under the head of "Incompetent." The way in which workmen are incompetent might make some other subdivisions, but it seems to me we already have the sheet pretty cumbersome, and I think you should take these things up personally.

The CHAIRMAN. The time is up for this discussion, and we will proceed with the next paper. We will have the pleasure of hearing a paper by Mr. Boyd Fisher, vice president of the Detroit Executives' Club.

DETERMINING COST OF TURNOVER OF LABOR.

BY BOYD FISHER, VICE PRESIDENT, DETROIT EXECUTIVES' CLUB.

The following tentative proposals for a real cost system for labor turnover are offered for criticism. To date all estimates of the cost of hiring and firing have been mere guesswork.

Mr. Magnus Alexander's thoughtful paper in "Personnel and Employment Problems," the only study of the subject, has been of use in making up this system, but one is forced to point out that his method of arriving at cost is more suggestive than authoritative, and was doubtless not intended to be final. He uses the opinions of experienced men, including his own, as a basis for arriving at each element of cost. This procedure might be repeated indefinitely without giving us anything reliable.

To follow the method here proposed will be expensive, but once there have been accumulated reliable statistics on the subject the process of correction and follow-up will not be costly. Furthermore, the research can well be parceled out among various plants to render immediate results of value. This, however, should not be mistaken for saying that the extent of each element of cost is the same in various plants. It is probably merely sufficiently the same so that if several plants study each feature the average results will yield an honest, average figure. Each individual plant must determine its own cost to get accurate results for its own guidance, and must expect the cost to vary somewhat from year to year.

Mr. Alexander estimated the cost of hiring a laborer at \$8.50 and an unskilled machine operative at \$73.50. Thus we see that if his figures are correct a 100 per cent turnover of unskilled machine operatives costs as much as an 860 per cent turnover of laborers. This difference in cost warrants our spending money and time to get reliable data. Furthermore, it reveals how inconclusive is the practice of stating turnover merely in percentages which lump together turnover of all grades of workers. A definite knowledge of cost will show us where we ought to place the greatest emphasis in efforts to reduce turnover, and will guide us accurately in deciding how much to spend on apprentice instruction, welfare work, and improved employment methods, and especially give us knowledge of an employee's increasing usefulness to a concern as a basis for making wage increases for long service.

It should be noted, in connection with the accompanying outline, that no mention is made of the cost of rehiring former employees.

This obviously differs from the cost of hiring new men. The cost, however, can be figured for each item precisely as with new employees. Former and new employees should simply be analyzed separately.

DETERMINING COST OF TURNOVER.

I. What is meant by "turnover":

1. The average standing pay roll for any given period should be given as basis.
2. In case there is a general reduction in the number of positions during the period, the percentage of new employees to the average standing pay roll should be taken.
3. In case there is an increase in the organization, the percentage of quitters to the average standing pay roll should be taken. In the first case the amount by which the number of quitters exceeds the number of new employees accounts for the reduction. In the second case the amount by which the new employees exceeds the quitters accounts for the increase.¹

II. Variables in the cost of turnover:

1. Cost varies by classes of skill of employees hired—
 - A. Highly skilled, all-round machinists or master workmen—
 - (a) Require little instruction.
 - (b) Are easy on machines.
 - (c) Are economical with supplies.
 - (d) Soon reach normal output.
 - (e) Scrap minimum of product.
 - B. Semiskilled men—"operatives"—who have operated some one or two machines just long enough to make production on those machines—
 - (a) Require instruction on new jobs.
 - (b) Are harder on machines.
 - (c) Are careless with supplies.
 - (d) Do not soon reach normal output.
 - (e) Have high scrap average.
 - C. Unskilled operatives—
 - (a) Require still more instruction.
 - (b) Are deadly on machines.
 - (c) Are wasteful of supplies.
 - (d) May never reach normal output.
 - (e) Scrap as much as they produce.
 - D. Laborers—
 - (a) Require little instruction and get less.
 - (b) Don't use machines.
 - (c) Can't waste many supplies.
 - (d) Have short learning periods.
 - (e) Scrap nothing.
 - E. Clerks—
 - (a) Require as much instruction as "B."
 - (b) Are about as hard on machines as "B."
 - (c) Use cheaper supplies.
 - (d) Take as long as "B" to reach output but cost less per unit.
 - (e) Use no product and hence waste none.
 - (f) Have a high factor of expensive errors.

¹ R. A. Feiss, in *Personnel and Employment Problems*, p. 51.

II. Variables in the cost of turnover—Concluded.

2. Cost results will vary according to completeness of analysis. We should consider the following items:¹
 - A. Cost of hiring, the only item which has a tendency to go up with the reduction of turnover, because it is the only factor on a "production" basis.
 - B. Cost of instruction.
 - C. Cost of added wear and tear on equipment operated by green hands.
 - D. Cost of reduced production on machines operated by green hands, when payment is not strictly proportional to output.
 - E. Cost of excess plant necessary to make up production lost on machines operated by green hands.
 - F. Cost of scrap over and above the amount normal for experienced men.
We need not consider reduced sales due to delay in schedules or to spoiled work because they are too difficult to determine; neither should we count danger of strikes due to agitation among new employees, because too occasional. But these things exist and should be considered, as showing our other cost estimates as probably conservative.
3. Cost results will vary, according to length of time new employees are followed up—
 - A. Hiring does not vary in this way.
 - B. Instruction usually is limited to an arbitrary time—two or three days.
 - C. The new worker probably requires around three months to get familiar with machine in all respects, although this estimate remains to be proved.
 - D. Up to probably four weeks the new employee improves rapidly. It takes him probably six months to "hit his best stride." Not so, however, with laborers.
 - E. The excess plant requirement is proportional to reduced production.
 - F. Excess scrap probably persists for a longer period than reduced production, because most men acquire speed more quickly than accuracy.
 - G. Waste keeps pace largely with scrap.
4. Cost varies according to the type and value of the equipment used by new employees, with respect to cost of—
 - A. Hiring—not so.
 - B. Instruction—true to a large extent.
 - C. Wear and tear—to very large extent.
 - D. Reduced production—holds true.
 - E. Excess plant requirement—especially and chiefly.
 - F. Scrap—to some extent.
 - G. Waste—to some extent.

Among the different classes of employees this variation is significant, as follows:

Class A. This is important, because they are likely to use expensive equipment.

Class B. Important for same reason.

Class C. Important.

Class D. Does not hold true of laborers, who use little equipment.

Class E. Holds true in less degree.

¹ My attention has been called, since this paper was read, to the omission of the item of cost of accidents incurred by new employees. It should be considered in each of the places in the outline where the following classification is used.

III. Figuring total costs, while taking the above variables into account:

1. To figure cost of hiring—itemize—

- A. Standard cost per employee for physical examination. Spread cost of total number examined over total number hired.
- B. Membership in employers' associations and other labor bureaus. Spread annual cost over number hired.
- C. Clerical help and all other salaries of employment department. Figure total number of men on "live" record during the year, whether employed or not. Subtract the total for average standing pay roll. The ratio of remainder of names to the total on "live" record is proportion of cost of salaries which should be spread over the number of men hired.

This subtraction of a proportion for employees on the pay roll is made in recognition of the fact that there would need to be clerical work of this sort, even if there were no hiring done at all.

- D. Cost of advertising, trips out of town for men, office rent, new badges, and miscellaneous, divided among number hired.
- E. Cost of printing prorated over number hired according to "C."
These items do not vary according to length of service or class of skill or types of equipment used.

2. Instruction—itemize—

- A. Time of foremen spent with new employees.
- B. Time of workmen detailed as instructors for handling machines.
- C. Time of "time study" men acting as occasional instructors for handling work.

Figure separately for an average month for each class of skill "A" to "E."

3. Wear and tear—itemize—

- A. Time of maintenance department on machines operated by new employees minus a constant factor of time for experienced employees. (Obtain this factor by recording for a sufficient period the time of maintenance men spent on the average with a selected group of employees of all lengths of service over one year.)
- B. Cost of materials used for repairs on machines operated by new employees, minus a constant factor of material, for all employees. (Obtain as in "A.")

The above necessitates at least temporary use of job tickets for maintenance men, with space on tickets to indicate time spent with new and old employees.

- C. Breakage and wear on tools, dies, and jigs used by new employees, minus a constant factor for experienced employees.
- D. Constant factor of cost per man for premature depreciation of machinery.
This can only be guessed at, but it may be more closely approximated by a genuine research, which would—
 - (a) Take certain typical machines now worn out.
 - (b) Find out best records of wear from the makers.
 - (c) Compare average wear in given plant; and
 - (d) Spread the difference over the number of new men who worked on those machines during
 - (e) The actual life of those machines. Once determined by careful studies and compared with the results of other students, this could be made a constant factor for each plant, or each type of machinery, relative to complexity of design. Figure all but the last point for average month for all classes of skill, save laborers.

III. Figuring total costs, etc.—Continued.

4. Labor cost of reduced production. This can not be figured exactly, but can be, approximately, by averaging the results obtained by looking at the matter from several points of view. I suggest the following—

A. First alternative—

- (a) Determine by time study and standard practice the ideal capacity of each machine and production center in terms of production per hour.
- (b) In order not to charge up to turnover any loss of production due to defects in scheduling, record the actual man-hours worked on each production center for a given period and, thus,
- (c) Arrive at total ideal output for that number of hours.
- (d) The difference between this and the actual output is the loss due to turnover and may be
- (e) Prorated to the number of men hired for the period. Theoretically, workers have been paid for ideal output. Price this reduced production, therefore, at cost of departments in question of direct and indirect labor. All other items of cost are elsewhere provided for, under "waste," "excess plant," "wear and tear," etc. If a piece price is paid, however, new workers, like old, being paid only for work actually done, only the cost of indirect labor should be assessed against the labor cost of reduced production. The above method is not strictly true, but if the ideal machine capacity is based upon the observed output of experienced operatives, it will be sufficiently correct.

B. Second alternative—

- (a) Select a number of machines worked by new men and an equal number of like machines worked by men over a year in service.
- (b) Record the production of each group until the total of the new men reaches the total of the old men.
- (c) Time required to reach this may be taken as average learning time.
- (d) Total difference of production during this time may be spread over the number observed and the average taken as the loss for the average man hired.
- (e) For men dropping out of the groups while under consideration substitute other men with approximately equal production and equal length of service. Separate observations should be taken for each class of skill—"A," "B," "C," and "E."

C. Laborers can be figured in about the same way, namely—

- (a) Take a set quantity of trucking, etc.
- (b) Compare the number of new as against the number of old men required to do this fixed quantity.
- (c) Drop men as they improve so as to keep output constant
- (d) Until number in first gang equals number in old. This gives the learning time for laborers, and the loss of production of average new laborer.

5. Excess plant cost of reduced production—

A. Assume that the plant investment required under present conditions will bear the same ratio to total investment in plant which would be needed if there were no turnover, as the production which would be possible with the present equipment operated by all experienced men would bear to the present actual output. In other words, if your reduced production is 20 per cent your excess plant required is 20 per cent. This is stated as axiom.

B. Find present total inventory.

III. Figuring total costs, etc.—Concluded.

5. Excess plant cost of reduced production—Concluded.

C. Figure on the basis of your present loss of production how much less equipment would be necessary without labor turnover.

D. The difference may be used as basis for figuring the amounts of—

(a) Interest on capital.

(b) Depreciation.

(c) Power.

(d) Insurance.

(e) Rent.

(f) Repairs.

Which are due to turnover.

E. Figure by shops, as if separate plants, for each class of skill using equipment and spread cost over turnover in those classes.

Excess plant cost and labor cost of reduced production should be figured separately and then added together, instead of prorating excess plant cost as a burden on the labor cost of lost production, because the burden is not the same man for man, and department for department. Furthermore, in departments where wages are in proportion to efficiency, "excess plant" costs plus excess supervision constitute the sum lost by slow production.

6. Spoiled work—

A. Select at random two equal groups of men representing evenly all grades of skill save laborers, one a group of new employees, the other, of men over one year in service.

B. Compare total scrap losses for each group until approximately even per day period for some time. The point at which it begins to be even may be taken as showing the average time required to reach normal scrap record.

C. Subtract total scrap made by old men from total made by new men and divide the difference by the number in a group to get total scrap per new employee hired.

7. Waste—

Figure the same as scrap. The item includes waste of oil, cutting compound, compressed air, etc.

Now, nobody has done this so far as I have heard. There is a good deal of possibility that not many will do it, but although it is going to be expensive to do it once, it needs to be done only once in a long period, certainly not any oftener than you ought to take a physical inventory, and, I think not as often as that. I do hope, however, that enough employment managers will apply this or a similar method of examination into the cost of turnover to give people like Prof. Joseph H. Willits and Mr. Ralph Wells and Miss Frances Kellor, and a number of the rest of us who are preaching the importance of a good employment department, figures that we can wave in front of the faces of the factory managers and say, "It costs you so much for the turnover of labor and we can prove it." It seems that there are a large number of managers who can be convinced only by combining an appeal to their altruism with an appeal to their pocketbooks. I agree

with Miss Kellor that the appeal to the pocketbook alone does not carry very far. I agree with Mr. Morris L. Cooke that an appeal to their altruism will get managers out of their seats every time, but I am sure you want to do more than to get them out of their seats. You want to make them go back to their plants and do something, and I feel that the only effective appeal is an appeal to their altruism, combined with the figures as to cost.

So I believe that, considering the great extensions we are now demanding of factory managers, unless we have more than mere estimates of the cost of turnover, we can not proceed much further with complicated methods of personnel management.

DISCUSSION.

The CHAIRMAN. I take great pleasure in calling on Mr. Tead.

ORDWAY TEAD, of Valentine, Tead & Gregg, Boston, Mass. I would like to say a word or two concerning each of the addresses to which we have just listened.

In the first place, concerning the compilation of labor turnover, it seems to me in considering and criticizing forms the question we should ask concerning these forms is what the weak spot is or what the weak spots are in the organization. What are the causes of turnover which we want to reveal and indicate to the responsible management?

Our turnover figures should be an index of the efficiency of the employment department. If that is the case, it seems to me that there is considerable soundness in the contention made by the gentleman from the Metropolitan Life Insurance Co., when he said we should consider the causes of leaving rather than simply whether a man leaves of his own accord or is discharged—consider them as personal causes, company causes, and those which might be called community causes.

I have not the time, and this is not the place, to go into an elaborate discussion of the admirable form which Mr. Fish submitted, but I would like to submit for your consideration, that in the analysis of “exits” in Mr. Fish’s blank it would be a more effective and usable document from the point of view of the management, if, however arbitrary the final result might be, we divided the causes of leaving into personal causes without any fault, personal causes with personal fault, and company causes.

Let me explain what I mean, and why I use those terms. If in your labor-turnover figure your final per cent, or any other per cent, is to indicate the efficiency of your department and is to indicate the weak spots of the organization, it seems unwise to include in the final figure those causes of leaving for which no one is responsible. It seems to me, therefore, that to bring them together and deduct them from the number hired, before figuring your per cent, gives a much more fair and indicative figure. For example, if we deduct the number leaving on account of death, marriage, moving away, unpreventable sickness, better positions, and other miscellaneous causes, from the number who are hired to replace losses, we are then in a much better position to consider what are the causes which can be removed—which is, after all, what we are trying to

ascertain—than if we simply lump them in this somewhat indiscriminate way. We can then classify company causes in some such way as accidents, occupational sickness, disagreeable character of the work, wages, not adapted to the work, and any others; and personal cause with fault, as laziness, irregular attendance, drunkenness, dishonesty, and others. It seems to me that to separate them in some such way rather than into the almost bewildering analysis treated in the second half of this turnover sheet that Mr. Fish describes, is a much more helpful way of getting at the problem. At any rate I submit it for your consideration.

The other suggestion that bears on these forms is an item giving the employment of those who leave and the length of employment of those who stay. There is a method of compiling that on a sheet about the same size as the turnover sheet, which does not unduly complicate your record but gives you important information which is highly illuminating as to that phase of your turnover, and which it seems to me should be added to the figures which Mr. Fish's blanks call for.

Another line upon weak spots in organization will be necessary, because in particular departments or particular places a high turnover will be seen to exist. It seems to me, therefore, that the form should be sufficiently flexible to adapt it to specialized treatment of the particular problem for several months.

For example, you might want to know the turnover for a particular job in some particular room at some particular machine, and your form should be adjustable, so as to allow for that particularized analysis.

To illustrate what I mean, one department in a textile factory showed an abnormally high turnover. The employment manager looked into it and by keeping figures by jobs, found that the turnover was altogether among the coal passers; and he found that the company was paying coal passers ten cents a day less than the railroad was paying coal passers, a little way down the road. Therefore they increased the wages of the coal passers 10 per cent and stopped losing them. That indicates that this analysis of turnover by jobs will often prove helpful in getting at the cause of any large percentage of turnover in any department.

Just a word in closing in regard to a possible suggestion of an addition to the memorandum that Mr. Fisher has just presented. I would like to submit for consideration that another item in the cost of turnover might very well be those accidents which cause disability up to a certain arbitrarily defined time, which might vary and would vary considerably from industry to industry. For example, the expense of accidents causing disability for periods up to two or three months would be charged to the cost of turnover. It would seem

also that whatever special expenses, with relation to discharge, are included should also be itemized. It may be that they are included in the figures as given. As items in that cost should also be added the work in the paymaster's office for specially paying off, the special time that foremen have to give to adjustments, the time that the employment office used, and the time required for transfers and discharge.

I have an interesting illustration of one method of compiling one item of cost which I recently obtained from a textile concern. The employment manager had an individual card for the name of each new employee in an occupation, which, in this particular instance, was spinning. This card showed the number of weeks the person was there, the wages paid, the wages earned, and the cost of construction.

A special instructor trains the new spinners. The spinner is paid a flat rate of \$7 per week for three weeks, which time she requires to get to earning, on the piece basis, at least \$7. The first week she is familiarized with the routine and earns nothing. The cost is \$7. I may say that this is not an attempt to make a carefully itemized statement, but simply to find out what the cost is in production. The second week she may earn \$2.25. In that case the cost is the difference between \$7 and \$2.25, which is \$4.75. The third week the spinner perhaps earns \$7. The difference between what is paid and what is earned is listed in the cost column. This is continued for eight weeks. That difference amounted, in the figures shown me, to between \$60 and \$80 per employee. This would seem a rather large sum, but, for my part, I could not but see that it had been reached by a sound method of compiling.

The CHAIRMAN. Mr. Tead says he will be glad to answer any questions that are presented, and we will give 10 minutes to that.

Mr. FISH. I would like to answer one or two things that were brought up, because I feel that this committee went over pretty thoroughly all of the things that Mr. Tead has suggested.

Evidently we did not feel that this percentage of turnover, whatever method it was figured on, was an index or should be in any way considered the index of the competency or incompetency of the employment department. It is a method of presenting to the management conditions in our shops, in our offices, in such a way that they can give us the authority to go ahead and fix those things. When that has been done, if there is any glory, we would, perhaps, like some of it, but the glory part is the last thought we have in doing it. We are working for the concern and in the interest of the concern, and we are trying to get the cooperation of other people in this respect, and if we succeed in getting the cooperation of others the credit will probably come irrespective of whether anybody thinks this is an index of our ability or not.

Then on this sheet for turnover, any attempt to classify these different things under the heading of whether avoidable or unavoidable would depend so much on the concern which is using it that it would be necessary for each concern to have a sheet printed for itself. We were attempting to get out something which would be used by as many people as possible and to as good an effect as possible by them, and therefore we thought our classification, possibly, was workable by a large number of people. I, perhaps, was the strongest advocate on the committee of doing the thing the way Mr. Tead suggested, but the arguments of the others overcame my opposition, and I came to see it in the way they did. I am fully convinced now that it is best to leave that as it stands, because in so many cases the management may say, for instance on the question of distance of homes, "Well, we built our factory here knowing that there would be trouble about getting help; we built it here because land was cheap, because we could get land enough, and so we could have opportunity for expansion. We faced that thing years ago, and you can not tell us anything more about it." And that is true with a number of these different things and different places.

RALPH G. WELLS, secretary Employment Managers' Association of Boston. I was very much impressed with Mr. Tead's criticism of the blanks. I think his suggestion that the different causes should be segregated into two or three groups is a very good one mathematically, and perhaps from a scientific standpoint, but it occurs to me that there is one danger. While I agree that we are not getting turnover figures necessarily as an indication of the efficiency of the employment department, we want to get turnover figures from different causes as an indication of conditions in the plant, and if we divide the total turnover percentage into two or three parts there may be a tendency on the part of the employment manager, and also on the part of the management itself, to use those divisions as an excuse to escape or get out of doing certain things; that is, if a plant has a total turnover of 80 per cent, 30 per cent of which is due to the personal reasons, the manager who is holding back a little bit may say, "Oh, well, my turnover is only 50 per cent." It seems to me also that in the handling of the personal reasons for leaving, which we may be inclined to consider as being due only to the employee, the management and the employment department should also realize that if you handle the employee properly, as Mr. Fisher suggested, or do as Mr. Henry Ford does—pay a large enough wage—you will find that the personal reasons will figure hardly at all. A great many of the causes of turnover that we might call personal reasons, such as the conditions at home, can, I think, be obviated, by the use, say, of a visiting nurse,

or by investigating unexcused absences, and if the management is willing to address itself to certain things that are not necessarily plant causes, I think it is highly desirable that we should carry all the figures straight through and make it a total sum, so that it will be as severe an indictment as possible.

That is what I wanted to bring out. I think in regard to this blank, the question of the long service is very important. One of our members, Mr. Gardner, of Cheney Bros., has drawn up a blank similar to this, which covers leaving, by length of service, and I think, as Mr. Tead does, that it is exceedingly valuable for any plant, in addition to these blanks, to keep a record of those leaving, by length of service.

The CHAIRMAN. Would you like to say a word, Mr Gardner?

H. L. GARDNER, employment manager, Cheney Bros., South Manchester, Conn. I think Mr. Wells has covered the subject very well. We keep at the Cheney Bros.' establishment our tabulations of labor turnover under the classification of male, female, married, single, length of service, nationality, and operations in different departments. That can all be done on another sheet of this same size, as the turnover sheet and at the same time. I think if the Library Bureau can be induced to print not particularly my submitted sheet, but a corrected sheet, we can get the whole thing in one fell swoop.

Mr. WELLS. If there is a sufficient demand for sheets additional to these two I think the Boston association will be very glad to go ahead and draft them along the lines suggested by Mr. Tead and Mr. Gardner and see if we can not arrange with the Library Bureau to publish them in connection with these other two.

DUDLEY R. KENNEDY, director, labor department, B. F. Goodrich Co., Akron, Ohio. In the address I am to make to-morrow morning I expect to show some lantern slides of the Goodrich Co., Akron, Ohio. Some of you may have seen them. From these slides you will see that the whole thing is kept on one sheet, a little larger than that of Mr. Fish, by using a cross-index system. This gives the reasons down the left-hand column, where I think Mr. Fish now has "Departments" [see Form 1, facing p. 55]. Reversing his process, by putting the reasons down the left-hand column, and then taking the other factors and putting them along the top, and keeping a short inventory as he goes, he would have the whole thing.

We use the nationality, married or single, length of service, whether a man owns his home, rents his home, boards, or lives with his parents, and we have analyzed the thing as fully as we wanted to go with it, and in the end we have a cross-index digest of the whole thing every month.

The CHAIRMAN. Mr. Tead has one word to say in conclusion.

Mr. TEAD. It occurs to me that if anyone is interested in seeing what practical form the criticism I have made of this record blank here will take, he can, I think, if there are not too many, be supplied with a similar form that is in use, is about to be put in use, by the Plimpton Press in Norwood, Mass., and I will see to it that anyone who applies there is allowed to have one of these blanks.

The CHAIRMAN. I have a question from Mr. W. F. Winan, of the National Carbon Co., which he wants presented to Mr. Boyd Fisher.

The question is, What percentage of working force is involved in larger portion of labor turnover? That is, are the majority of "quits" on a relatively small number of jobs?

Mr. FISHER. Of course I think the answer to that will vary in different plants and different departments. A while ago Mr. Tead mentioned the high turnover among the coal passers, and in any plant you will find that the turnover shows up especially in certain departments or at certain critical length of services, or as the result of certain conditions, or as the result of treatment by certain foremen. The reason for a turnover blank like this—together with space for the recording of some other items I have suggested, namely, the length of service by weeks, months, and years, whether married or single, the nationality, whether they own their own homes or not, a lot of other things you may take up statistically—is to find out what are the special causes for turnover, and wherever special causes obtain, you will find that results will be special, of course; that is, you will have a high turnover in this department, a high turnover in this class of workmen, and a high turnover at a given time among this nationality of workmen, and I think the answer to Mr. Winan's question is, Yes, you do have a higher turnover in some cases in some departments than others. I think by and large you may state it as a principle, that the highest turnover comes—this is so obvious as to be funny—among new employees. When you analyze it you will see that it is all right, that if you have kept your employee a year you are likely to keep on keeping him.

And so there are certain dangerous operations, occupations, which the workmen themselves recognize as being dangerous and try to avoid; although I think I will never forget the case of one man in a motor factory in Detroit who died of tuberculosis—probably brought on by reason of the fact that he worked in connection with a sand blast—and his dying request was that his son be given this job.

The CHAIRMAN. I will go on to the second question. I would like to present to Mr. Fisher a question of Mr. Edgar M. Hawkins, of the M. D. Knowlton Co., What is the unavoidable turnover percentage?

Mr. FISHER. That is like asking, What is the standard of living? I must say that I would like to "pass the buck" on that, and I think I shall. I believe that Mr. Alexander figured 21 per cent as the unavoidable turnover of labor. Mr. Tead dealt with that also.

It is quite obvious that there is a certain percentage due to deaths, and to certain community causes which may conflict, from time to time, and to certain personal reasons, which are the results of inefficiency of the employment departments. Mr. Alexander says that 80 per cent is a reasonable efficiency to demand from a high-grade employment department. I think it is unsafe—I agree with Mr. Wells that it is unsafe—to consider an unavoidable percentage of turnover. I think you ought to act as if all of it were avoidable, because you can not put your finger on any given section of it. You can not even say that death is inevitable. I would see the life extension institute and avoid a part of that.

The CHAIRMAN. The third question is from Mr. Meech. The question is, Is it advisable to have men or women as instructors of women? Will Miss Gilson answer it?

Miss MARY BARNETT GILSON, superintendent, employment and service department, the Clothcraft Shops, Cleveland, Ohio. We have instructors, both men and women, in our organization to instruct the new employees, and we have found them perhaps equally good. We have found it of advantage for women to do the instructing in a number of the departments. We do not feel that we can attract the right type of women employees unless we offer them an opportunity, and we have found successful results. I wish all the managers' associations would be as broad.

Mr. FISHER. I want to say before we adjourn that I accept both of Mr. Tead's amendments to that cost system. I think the cost of accidents should be taken into consideration, and also some portion of the cost of discharges.

MONDAY, APRIL 2—EVENING SESSION—BANQUET.

CHAIRMAN: JOHN M. WILLIAMS, SECRETARY, FAYETTE R. PLUMB (INC.); PRESIDENT, PHILADELPHIA ASSOCIATION FOR DISCUSSION OF EMPLOYMENT PROBLEMS.

TOASTMASTER: MORRIS L. COOKE, CONSULTING ENGINEER; FORMER DIRECTOR OF DEPARTMENT OF PUBLIC WORKS OF PHILADELPHIA.

The **CHAIRMAN**. It gives me great pleasure, first, to see the assemblage we have, and, second, to feel that all I have to do is to introduce another man and let him do the work. It is a great pleasure to me personally to introduce to you our toastmaster, Mr. Morris L. Cooke.

The **TOASTMASTER**. Josiah Royce, shortly before his death, speaking to Harvard students, said: "Rejoice when you find yourselves a part of any great ideal enterprise." Now, it seems to me that you men and women that have gathered here to-night can rejoice in the fact that you have a part in a great ideal enterprise. There is an ideal side to it and I doubt if it could have been presented in a more masterly way than Mr. Alexander presented it this morning. Mr. Alexander would be the last man in the world to say that it stopped there. In fact, the motive power back of his inquiry was of the other kind, the search for the ideals of democracy.

I know it is a popular thing to say that you have to show the money side of anything in this country in order to give it the widest vogue and make it succeed in the shortest possible time; but I think any analysis of this movement, any study of the history of this movement, will prove that the men and women who have made it what it is to-day have brought it there in a wonderfully short space of time, have almost without exception been actuated by ideals, and when they have brought out the money side, the economies that have been produced by the work that they have been doing, have rather felt like apologizing for it.

Now, there must be a number of people here this evening to whom the word "unemployment," as we use it here, has an indefinite meaning. In my own thought as to this part of industrial activity, I say to myself we have had up to the present time three important men in industry. We have had the sales manager, the financial man, and the employing man—it doesn't make any difference what you call him. Now, we have introduced a fourth element into industry that we call employment, labor, or personnel, and it is this fourth arm of industry which has brought us to Philadelphia for these discussions.

In this connection I want to suggest to you that this matter of terminology is not significant. I remember that when I was doing

some work in a plant near Boston I was waited on by a group of young women who worked in one of our departments, and they said they objected to the term "gang boss." They not only objected to it but they felt it was inconsistent with the whole theory on which we are all trying to work. I agreed with them, and personally have never used the words "gang boss," either gang or boss, since that time, and feel that the equivalent terms "group" and "coach" much better carry out our thoughts.

Somebody told me they were in charge of the labor bureau of such and such works. I believe that is a mistake, because you are right away drawing a distinction between different classes of people, and there is no fundamental distinction. Therefore I hope in our further figures in this work that we will attempt to consider even such things as terminology, and that we may ultimately arrive at a synonym for employment, if employment is not just the word, and personnel happens to appeal to me as one which will better express the idea that is in our minds.

Just one thing more before I give you a chance to hear the real speakers of the evening. The workers of the world are restless; they are asking for things they have never had before. I do not like the use of the word "demand," but in some quarters they are certainly demanding it.

We have in this country at any rate some degree of political democracy, but any close analysis of our industrial conditions, the conditions under which the greatest amount of industrial work is conducted even in this country, will satisfy the student that we have not even the beginnings of an industrial democracy.

Now we must crawl before we walk, but, if I am not very much mistaken, in the hands of the people in this room to-night lies the task of laying the foundations in this country for a genuine industrial democracy.

Mr. Fisher in his remarks this morning spoke of the solemnity—perhaps he did not use that word, but he used a word very much like it—which he would throw around the matter of the discharge of an employee, and in that part of what he said I certainly fully agree. It has never come to me just that way, but it seems to me that an event such as the separation of a man from his livelihood and his opportunity for a career ought to be a solemn thing. But then Mr. Fisher advocated something that I believe is an error. He said before anybody is discharged a committee must be appointed to vote on the matter. Now, gentlemen, it seems to me that right there we depart from what should be the future of industrial democracy. We must fight for an individual leadership which is supported by the group, and not for group leadership. And it is only as we interpret that to the industrial classes in this country—and I make no distinction

between the president of the company and the porter—it is only as we interpret to the industrial classes of this country the efficiency which goes with the right of the individual to decide when he is ready to decide, with opportunities for appeal and review and reversal, that we will really get what we are looking for, the maximum of production—because in that, after all, lies the future of society.

I take great pleasure in introducing to you our first speaker, Mr. Henry S. Dennison.

WHAT THE EMPLOYMENT DEPARTMENT SHOULD BE IN INDUSTRY.

BY HENRY S. DENNISON, PRESIDENT AND TREASURER, DENNISON MANUFACTURING CO., FRAMINGHAM, MASS.

As the work of the mechanical engineer has been to the physical well-being of this country and of all countries, so I believe the work of the social engineer will be to the mental well-being of the people of this country, and as the work of the mechanical engineer and the civil engineer has prepared the way for the work of the social engineer by making it possible to create a surplus over the bare needs of subsistence, so I think the work of the social engineer in another five generations, ten generations, perhaps, will clear the path for the higher work for spiritual well-being.

I remember the growth of the purchasing agent even in my own connection with business. When we first spoke of having one purchasing agent for our concern, the scornful giber told of the qualifications that would be necessary for one man to do all the buying for any such company as ours. It was an absurdity of course and he proved that there could not be any such thing as a purchasing agent for the whole company. Now the job of employment manager looks at the beginning to be just about as complicated and to require as many impossible characteristics as that of purchasing agent; or, again, as the mechanical superintendent when we first proposed that he should have general supervision of the machines in a shop.

I want to show my own very intense belief in the endless opportunity that is presented to you as social engineers within the concern and outside the concern. I have a feeling—and more than a feeling—that the work that lies before you, the opportunity for service, is so great that it will warrant any amount of overtime or over-effort that you may put in to hurry along this natural development and reach your fields of big opportunity as quickly as you can get there.

Inside of your factory or your store there are, as you know, a hundred opportunities for betterment, that you have come here to get light upon, to study more in detail. I want to bear down for just a moment on one in particular, not that it is most important, but it happens to be the one that is nearest my heart. This is the function of foremen-choosing and foremen-training. I think here is a great chance for study, a great chance for betterment. To the employee the foreman is the company. I do not care how splendidly humanitarian the head of the company may be or how well he may mean, how fair he may be, the connection of the employee with the company is the connection of the employee with his foreman. If

the manager gets around once in two or three months—perhaps that is all he can average in a large concern, to see each single individual and have a word or two with him—if he happens around once in six weeks, that is pretty nearly overcome by the fact that every hour in the day and nearly every minute in the hour the foreman is rubbing against that employee; and if that contact is unsatisfactory, no ideals, no general management policies will ever quite overcome its bad effects.

Now, we have not chosen foremen in the past scientifically. We have not used either the Blackford system or the Scott system. I understand that they are sharply contrasted.

We have usually chosen the foreman from among the most skilled workmen. Now, in other walks of life, in the matter of committee chairmen, for instance, in a chamber of commerce, it frequently turns out that the most skillful man is the poorest chairman. He either wants to do all the work himself or else, perhaps, he knows so much about it that he can not listen to any point suggested by anybody else. The same general points hold true in regard to a foreman. If he knows so well how to run a machine or all the machines under him, he is usually impatient with those who never will attain his own degree of skill, and because he knows his machine so well he never quite gets to know his man well enough. The foreman is there to handle the men and the men are there to handle the machines.

Now, of course, Mr. Cooke has his answer ready—functionalize your foremanship, don't have foremen in the sense I am speaking of at all, and the whole question is solved. Well, while reaching that point we still will have some of the old-fashioned foremen, and let us then, while we still have them, use all the sense we have in choosing and training them.

But if your work is to be anything more than of the day and for the day, if it is to lead on, there are two big visions that must be before you. Somehow, nobody knows how, I think, we must make up the loss of the joy of craftsmanship; somehow or other we must put back the joy of work which arises out of that absolutely fundamental human instinct, the instinct of workmanship, or craftsmanship. Secondly, we must build up, slowly, as Mr. Cooke has said, the spirit of democracy. We must get the spirit of democracy into industry.

You will take the first step toward finding some way to make up for the loss of craftsmanship in your attempt to fit your men, better and better, to and for their jobs, and then from that the second step, and so on.

The building up of the spirit of democracy will follow any honest effort of an employment manager. It is the *spirit* of democracy that I speak of. A *plan* for industrial democracy I do not believe exists

to-day. If it is to come it will grow out of the spirit, it won't come first. Any system—as profit-sharing system, bonus system, scientific-management system—as every one of you here must know, has its distinct limitations. It is only a system, only a tool to be used by a human being, and the spirit in that human being is so much more important than the system that we have found in dozens of cases a first-rate profit-sharing plan scheme entirely unsuccessful and a hopelessly unscientific profit-sharing scheme working splendidly.

Any plan, if it is good, is an expression of a spirit. Now, the spirit of democracy we can look for, whether we know any plan for it or not, and for a definition of that spirit of democracy I am indebted to two men almost equally, to Richard Feiss and to Thomas Carver. I had landed almost on the page—had not quite reached the page—in Carver's *Essays in Social Justice* that gives a splendid notion of social democracy, when I read Feiss's letter in the *Bulletin of the Taylor Society* which referred to it, and to both I am very deeply indebted. You must read it, I shall not try to paraphrase it. But there are two essentials I shall emphasize, that the spirit of democracy calls first for an open and equal opportunity for everyone to reach the highest position he is fitted for, and for anyone who is fitted for it to reach the highest position in a concern—an open and equal opportunity, and second for responsiveness in the leader—the keen awareness of the leader to the feelings and thoughts and spirit of the people he is leading.

With those two essentials of the spirit you can have almost any form and you will have the beginnings of industrial democracy; and there is no finer example of industrial democracy to-day than Mr. Feiss's own plant.

Inside your factory or store you will have to face, if you face this issue of democracy, that very difficult question of absentee ownership and absentee management. It is perfectly apparent to my mind—whatever it may be as a scientific fact, I can not break away from it—that if the concern is managed by directors who do not live there you can not get the touch of true management. If the concern is owned by stockholders who never visit it and do not know where it belongs, as so many do not, the ultimate control, the ultimate ownership resting in their hands, will always make a chasm between the working force and that so-called "owning" body of men. There is a problem big enough for a national association of its own.

In a word, if you are going beyond to-day's work in your jobs—and every one of you is—you will be recognizing that the best employees, the ones you want, do not live for or by bread alone. Something more than the idea of the money return has got to be in a company if they are going to get the best men, and through that attempt to

put in more than the money feature you have the responsibility and the opportunity of rebuilding a human contact in industrial concerns that has been lost through growth in size, and you will humanize industry. You will give the corporation a soul, which it ought to have.

To put a soul into a corporation you say is a pretty big contract. Perhaps I have made my specifications for an employment manager more exacting than Mr. Alexander's—but you have to do it, if you are going to do your job—whether it is a big one or a middle-sized one or a little one, it has to be done.

Then here is a bigger one, outside of the company, outside of your factory and shop—you employment managers are going to see somehow that the big gap in our political structure, which has been left yawningly vacant by the business manager, will be filled. In our political life the lawyer has always been represented; labor, through keen organization, has been represented, and the social scientist has been pretty strongly represented of late years; but those who have been at the various statehouses throughout the East, and throughout the West too, realize the absence of any thoughtful presentation of the point of view of the employer. He tried in the earlier years to fill that gap with his money, and he tried later to fill it with his lawyer, but did not even fill a chink. The benefit of the views of the business manager has been badly needed in legislation, and not a business man in the country who has not gone up and studied the laws and fought his fight for or against them has a right to whimper about the undue influence of labor or the long-haired reformer, unless he is willing to get into the game and work as hard as they and make his contribution. Certainly they will have their influence if they are there and know something about it, but the employers have not been there.

That gap has got to be filled and you should see that it is filled. Why you? In the first place, your problem is simply one part of the whole problem of social structure. Your problem is simply part of and parallels the general political problem. Your problems of labor stamina, of the ability of the individual laborer to do the work, have their parallel in the sanitary conditions and the laws that regulate them, in the laws attempting to face the problems of the "under-wage" and the evils that arise therefrom. Your problems of absence have direct connection with accident prevention and with sickness prevention. The labor-turnover problem suggests the possible prevention of unemployment. I know that people think it is silly to talk about preventing recurring cycles of unemployment, but unemployment has to be prevented, and we have to take steps in that direction. Your problems of old-age disability, of handling the long-time employee, touch the old-age dependency social problem, the problem of the old-age pension.

These particular political problems that I have mentioned—compensation, health insurance, pensions, and the like—are just the points of contact that the business man would use and must use in beginning to take up his share of the political load. You must spur him on now, to-day, to take up his share of that load, to get into those problems, honestly, to get in all over. I am not a bit afraid that he would get in selfishly if he should ever get in. But when he cheerfully goes to the statehouse and says, "I never read this bill and I don't know anything about it, but I don't believe in it," he can not help being selfish. If employers will study the social problems we are facing and must face in the next dozen years, their contribution will be of inestimable value.

You yourselves will soon be the business managers, as Mr. Alexander has promised you, and then you will take your part in these political problems. Seriously, I look forward with great hope to the day when that will be more and more true; that is, when the man coming up through the human side, the man handling the questions of personnel in industry, will become the business leader, and not the man that has come through either the cold mechanical side or the colder financial side.

Then, through the industrial and commercial structure, and out into the political and social structure, your opportunity beckons to you. A small group now, even this roomful, for the job it has got to tackle, a small group, and mightily ignorant of its work, but conscious of that ignorance and determined to overcome it, this group here perhaps is the first in the newest and possibly the greatest profession—the social engineer.

The TOASTMASTER. We have with us to-night a speaker from the Plimpton Press, Norwood, Mass., and it seems to me that in the Plimpton Press there is a moral for every employment manager. The Plimpton Press, from the time when it began its reorganization, some 10 years ago, has sought in every possible way to help other industrial plants, and I can see before me to-night a great many men and women who have gathered instruction from that plant. If I were giving a suggestion, a concrete suggestion, to an employment manager to-night I think I should suggest to him that he try to get somebody to help some other employment manager in his problems, because the moment you start to help somebody else with his problem you have to have something to help him with, and the reflex action of having to bring people in on your problems always pays in large measure.

I have the pleasure of introducing our next speaker, Mrs. Jane C. Williams.

THE REDUCTION OF LABOR TURNOVER IN THE PLIMPTON PRESS.

BY MRS. JANE C. WILLIAMS, EMPLOYMENT MANAGER, PLIMPTON PRESS, NORWOOD, MASS.

The manufacturing of books is the business of the Plimpton Press and this industry is divided into three classes of work: Typesetting, printing, and binding. About seven years ago the Taylor system of scientific management was introduced, and at the same time an employment department was established, whose immediate object was to centralize in one department the hiring, disciplining, and discharging. As the new system of management by gradual processes effected economies in the cost of production, so the employment department enlarged its scope and in time became responsible for savings in the human cost of this industry.

One of the early results of the improved methods of handling materials, routing, etc., was to show that the plant was overmanned and the number of people employed was reduced from between 800 and 900 to approximately 500. This change took place over a period of three years and was not brought about by discharging. When an employee left, he was not replaced by hiring a new worker, but by transferring from within. The working force at the present time numbers about 500, 300 of whom are men, while 200 are women.

The management of the Plimpton Press, realizing that a large part of the workers' lives is spent within the factory, endeavors to make the surroundings acceptable. The workrooms are high, and there is no crowding of workers; in fact, more space is allowed to each person than usually is found in offices or classrooms. This fact of ample room, especially around each machine, accounts in large measure, we believe, for the low percentage of accidents. The workrooms are well supplied with windows and these furnish proper light and ventilation. The entire lighting system, both natural and artificial, has been studied by experts, and workbenches and machines are so arranged that no eyestrain can result to the workers.

The nature of the work is clean and there is an ample force constantly at work to keep the factory clean. This effort meets with much approbation on the part of the people, who readily complain of any omission. The lighting, ventilation, and cleaning are a part of the responsibility of the factory nurse.

THE WORK OF THE NURSE.

A trained nurse is in charge of the hospital, including an office, a rest room, and a surgical room, located in the central part of the factory. Here all accidents and illnesses are cared for. The acci-

dents consist chiefly of minor cuts and bruises, and since these are given proper care at once, the danger from infection is minimized and very little time is lost to the worker because of accident hazards. The bookbinding industry, owing to its use of heavy machinery, is not as a whole free from maiming injuries. The low percentage of such injuries which we have experienced in the last eight years we believe is due to the following causes: Proper lighting, ample work space, guarded machinery, care in selection of operators, and freedom from hurry.

In addition to the first-aid service, the nurse performs much preventive and educational work in the plant and social service in the community. The personal contact resulting from the various activities of the service department has made it possible to get in touch with home conditions. The visiting of homes was brought about gradually and at first only by the expressed wish of the individual. Now such visits are welcomed and the nurse visits all who are away from work more than one day.

The results of the work of the nurse can not be overestimated. She has greater opportunities for close relations with workers than has any other person. She hears directly and indirectly of dissatisfactions which would not otherwise be known. When her vision is broad, she brings about a sympathy between the viewpoints of the employer and employee.

PROBLEMS DUE TO SEASONAL DEMAND.

A large part of the work done by the Plimpton Press is the making of school textbooks, and the seasonal character of this work is due to the fact that school boards make their adoptions late in the school year. In consequence, the peak of the production curve occurs during July and August and the lowest point during January and February. This in turn affects the workers, as some reduction in the force and in the hours of employment is inevitable. Every effort is made by the sales department to counteract this condition by procuring work for the dull season, and a measure of success is resulting. Besides this, the following methods have been adopted: Every worker is taught several operations so that he may be transferred from one department to another as the work fluctuates; the minimum force is retained as the permanent force; and this force is increased only when absolutely necessary. In this minimum force there is very little turnover, 81 per cent of the entire number having been in the employ of the Plimpton Press over five years; 27 per cent, over 10 years.

The work hours are from 7.30 to 5.15, or eight and three-quarters hours daily, with one hour allowed for lunch, except on Saturdays, when the hours are 7.30 to 11.45, making 48 hours per week.

This applies to all workers. There is very little overtime and no Sunday or holiday work.

Rest periods of 10 minutes morning and afternoon are given to routine workers, such as monotype keyboarders, gold layers, and the accounting force, and during this time the windows in these rooms are open. These periods also furnish an opportunity for the worker to take some exercise.

SOURCE AND NATURE OF THE LABOR SUPPLY.

The Plimpton Press is located in a community which is able to furnish a large part of the necessary supply of labor. The policy of filling vacancies by promotion within the ranks results in the hiring chiefly of unskilled workers who usually are young. Through friendly relations with the public-school officials and teachers, a valuable source of supply for this type of employee is available. Another equally helpful source is found in the present workers who are glad to recommend their friends. In addition, many applicants come of their own accord to apply for work, so that there is a long list of applicants ever available. Under terms of agreement with the trade-unions, they have the privilege of supplying workers from among their number, provided they can fill the requirements. If a skilled worker is hired, he usually is obtained in this way.

All candidates for work, except porters, must be English-speaking and have the equivalent of at least a grammar-school education. Each applicant is interviewed by the employment department and asked to fill out an application blank which is kept on file. On the back of this form are later written the impressions of the interviewer and such other information as may indicate the desirability of the applicant. In this interview, an effort is made to make the applicant feel at ease in order that we may judge of the natural person. It is most desirable to know something of his tastes, his natural aptitudes, and his ambitions. One of the chief purposes of the interview is to determine the probable attitude of the worker toward the organization. A person is never hired on the day when he first applies for work, as it is desirable to consider the applicant apart from the first appearance which he makes.

In order to get at just the requirements necessary for each job, work is now being done on "job analyses," which means a careful analysis of each particular job in its relation to each particular worker. This includes, besides the time study of the job, a careful study of the home conditions, temperament, and age of the worker, all physical surroundings of the work place, such as air, accessibility to toilets, rest periods, possibilities of sitting, ventilation, light, noise, any nervous strain resulting from the nature of the work, methods of payment, relations of this job to the rest of the organi-

zation, and all other features which may make that job different from any other job. This job analysis should show just the proper requirements for the best kind of worker on that particular job, and enable the employment department to choose that individual who will suffer least from working in that particular position, as well as bring the best results in point of production.

The efforts to steady employment by transferring workers from one department to another as work fluctuates necessitate, in making a selection of a worker, the consideration of two factors: First, the adaptability of the worker to the particular job in question; and second, the adaptability to the two or three other jobs at which the applicant may be called upon to work; that is, given two applicants, one especially well adapted to the particular job for which he is being considered, the other, though not so well adapted for that particular job, better fitted for the group of jobs at which he may be required to work during dull periods, the selection would be made of the second worker.

INITIATING A NEW EMPLOYEE.

It is the purpose of the employment department when hiring a new worker to tell him something of the general policies and standards. The candidate is then taken to the factory nurse, who questions him in regard to his health and who explains some of the special features of the service department. If the applicant is a girl, she is introduced to the head of the department in which she is to work. She is also taken to her work place, introduced to those who will become her fellow workers, given a key to a locker, and told of such other features as may be desirable for her to know. If the person hired is a boy or a man, he is taken to the head of the department, who in turn takes him to his work place and follows a similar procedure. The first impression made upon the employee is most important, as at no other time is his mind so open.

The group boss in charge of any group of workers, which in practice does not number more than 10, is responsible for all instruction in regard to the work to be taught to the new employee. There are also written instructions relating to the performance of all tasks. Responsibility for all other training and education rests with the employment department. In this field of activity, the aim is to assist the employee in developing his own abilities and in discovering latent capacities if they exist, and to make opportunities for their use in this plant if possible. It sometimes happens that this business does not furnish the best avenues for future growth, and in these cases attempts are made by this department to find the right environment for the worker elsewhere.

The employment department keeps in touch with the newly appointed employees by interviewing them at least once a month to

see that they are fitted for their work, to give them such assistance as they may need, and to find out how they react to the work. A record is kept of each employee from the time of his employment. Information in regard to age, education, marriage, parentage, nationality, number of dependents, and previous employment is obtained from the application blank. Dates of increase in pay, transfer, etc., together with reasons for the same, are entered as they occur. On the back of the sheet spaces are provided for entries, once in every 13 weeks, for—

(a) An estimate of the excellence, or the reverse, of the discipline which the worker has maintained;

(b) His efficiency as determined by his bonus earnings in departments where a bonus is paid;

(c) The name of the group boss in consultation with whom the employment manager has formulated his report;

(d) The total number of hours during that period the individual was employed, the hours he was out on his own time, and the bonus hours he made;

(e) His total earnings, as shown by the payroll. Space is also provided for items concerning the worker which may affect his work, such as home conditions, etc.

It is with a view to finding out what the average weekly wage per year is for each worker that this record is made, which shall show quarterly the exact amount of money each one has actually taken home during that period. It does not so much matter to the worker what his rate per hour or per week may be. The important thing to him is the amount he earns over a period of time. A man's hourly rate may be high, but if he has short time, his wages are still small. Unless actual figures covering a definite length of time are periodically brought to the attention of someone whose business it is to safeguard the interests of the employee, many maladjustments of wages escape even a well-intentioned management which believes wages are high because rates are so.

It is the custom to consider each employee once at least in every six months to ascertain whether or not he is deserving of an increase in pay, and if he is, it usually is granted. If he is not deserving of an increase, he is interviewed and the reasons for withholding the raise are talked over with him. This increase in pay continues until the rate equals the union scale.

DISCHARGE AND DISCIPLINE.

The authority for final discharge rests with the head of the employment department. Group bosses or others in authority may recommend for discharge and if, upon investigation of the case in hand and presentation of proper data on both sides, it seems desirable that the worker be discharged, it devolves upon the employment manager to perform that duty. Individuals may, if they feel that the decision is unfair, take the matter to the works manager,

but this privilege has never been used. An employee has the privilege at any time of taking a complaint to the employment department or works manager.

Discipline is reduced to a minimum by the system of management which is self-disciplinary in its operation, but such matters as require discipline are usually attended to by the employment manager. A joint committee to consider all grievances brought before it has worked well. This committee consists of a union representative, usually the president of the local union, a representative from the department where the grievance occurs, the works manager, who represents the firm, and the employment manager, who is a neutral party on the committee. A great variety of subjects is brought before this committee, as, for example, such questions as certain pieceworkers doing a little extra work during the noon hour, rearrangement of locker rooms, distribution of work, and similar matters. Questions of pay which are not concerned with union agreements, but merely affect a special piece of work, are also brought up for discussion at these meetings. So far all grievances have been discussed and settled on a basis of facts and to the mutual satisfaction of all parties concerned. The great benefit resulting from these meetings has been the training of the members to look at the various questions from point of fact rather than from tradition or someone's personal opinion. Once facts are established, there is seldom any argument as to the right action.

IMPORTANCE OF MAINTAINING CLOSE CONTACT.

Realizing that any group in society advances only as its individual members advance, the employment department endeavors to know each worker individually, and this is brought about not only by direct methods but by other avenues which it has at its command for getting into close touch with the employees. An important channel is the library, consisting of several hundred books of nearly every description. Fiction is most sought for, of course, but there is a demand for technical books, travels, music, art, etc. Foreigners are often very glad to be shown what kind of books to read, and it is possible frequently to give them almost a graded course. Many of them read philosophy, history, economics, etc., and are grateful for help in the selection of their books. Others, of course, need a much simpler line of reading, but follow suggestions readily. Technical and trade magazines are sent monthly to those likely to be interested in the special contents.

As a result of observation of the faulty habits of diet prevailing among those who brought lunches, the project of establishing a lunch room was discussed with a number of the employees. The idea met with such hearty cooperation that three years ago a small lunch

room was started. Food is served at cost, and, with the exception of the cook, service is voluntary, being given by members of the office force. Practically no one suffering from indigestion now reports to the hospital in the afternoon.

Recreational activities outside of the factory are not now carried on. Norwood has a civic center of exceptional excellence where gymnasiums, swimming pool, bowling alleys, dance halls, club rooms, sewing and millinery classes, etc., are open to all by the payment of a small fee.

The employees, with the cooperation of the management, have organized two voluntary associations, the Plimpton Savings Bureau and the Plimpton Mutual Benefit Association. The management of both associations is controlled entirely by the employees.

THE OPERATION OF THE SAVINGS BUREAU.

The savings bureau was founded with the object of promoting thrift among the employees, 80 per cent of whom are members. Annual deposits total usually about \$15,000, and the present balance is \$11,000. A depositor is required to pledge a stipulated weekly amount of from 10 cents up, but he may deposit as much more as he chooses any week. Withdrawals may be made at any time. Each department has its own collector and collections are made on the weekly pay day. Interest on deposits is paid at the rate of 4½ per cent per annum. Many people save money for their insurance, rent, other periodic bills, vacations, and Christmas in this way. Depositors may borrow sums not exceeding \$100 upon furnishing proper security. Where workers have fallen victims to loan sharks, installment buying, etc., it has been possible, in many cases, to make arrangements, by means of weekly deposits in the bank, to pay off these debts. At the same time the man learns something of thrift in saving for future needs.

As an example of the kind of work that has been done through the bank, the following illustration may be of interest. A man who had been in our employ for a number of years and whose work was proving more and more unsatisfactory, finally had three assignments upon his wages come in almost simultaneously. In taking the matter up with him in an effort to make an arrangement so that he could obtain releases by paying into our bank a small amount on each one of these assignments weekly, he finally disclosed the condition of his home finances. He was very heavily in debt and was endeavoring to pay on about twenty back bills which covered a term of at least five years. Much of his money had gone foolishly, some of it for liquor and other equally unnecessary expenses, and both he and his wife had reached a hopeless state of mind. We were able to suggest many economies to them and to help them make up a budget so that

they saved something weekly in the bank for all monthly expenses, such as rent, insurance, and something toward all back bills. In a year's time, he had paid up two-thirds of his indebtedness and his work had improved sufficiently so that he had been given two increases owing to his added value to the business. He is now considered one of the best workers in his department. Although not an habitual drinker, he had been in the habit of celebrating on holidays. The instilled interest in his family affairs and expenses in contrast to his former indifference replaces his need for occasional dissipation.

THE MUTUAL BENEFIT ASSOCIATION.

The Plimpton Mutual Benefit Association was organized six years ago to provide a sick and death benefit for its members. It is entirely self-supporting. Each member pays fifty cents monthly and may, upon presentation of a doctor's certificate, receive benefits of \$7.50 per week for 13 weeks, with a possible additional benefit for 13 weeks more of \$3.50 per week. In case of death, the beneficiaries receive \$75.

All employees are insured under the workmen's compensation act and each case in which compensation is due is carefully followed up by the nurse to see that full benefit is received. Compensation for accident, other than payment of hospital and doctor's bills, does not begin until two weeks from the date of injury. Realizing that many injuries do not require two weeks' absence and that loss of pay for the first two weeks is often the hardest part of the burden of accident, the Plimpton Press pays full wages for these two weeks to its injured employees when such injuries are not caused by willfulness. The Press also furnishes at the local hospital a free bed which may be used by employees and their families.

An agency for insuring with the Massachusetts Savings Bank Life Insurance is maintained. This is a State organization and furnishes insurance at a minimum expense.

METHODS OF PAYMENT.

Four methods of payment operate in this plant:

1. Salaries: These are paid to the office and administrative force.
2. Hourly rates: These are paid to nearly 50 per cent of the entire force.
3. Task and bonus: Task and bonus is paid to about 43 per cent of the force. This method consists of a flat wage rate which the worker receives in any case. In addition, a worker is given the opportunity to earn an additional amount by performing satisfactorily a certain fixed task.
4. Piece rates.

Weekly rates of pay for women in the bindery working on an hourly or task and bonus basis are from \$6 to \$9.12 plus task bonus, which amounts to from \$1 to \$2. Pieceworkers average about \$15

for a full week's work. The weekly rates for women in the composition department range from \$6 to \$22. In all departments the range is from \$6 for the younger boys to \$23 for journeymen, according to the operation each performs.

THE PROBLEM OF LABOR TURNOVER.

Since 1912, the percentages of the labor turnover have been as follows:

	Per cent.
1912.....	18.6
1913.....	22
1914.....	18
1915.....	13
1916.....	¹ 35

The problems of turnover so far as they affected this establishment had been successfully dealt with until the year 1916. This year presented entirely new problems and efforts to solve them are now being undertaken. A large percentage of the increase in turnover was among the unskilled workers. Among the new aspects the following are most prominent:

(a) The abnormally high rates of wages paid to unskilled labor drew many of this class to the cities and to other plants working on war contracts. We were unable to equal the rates.

(b) The unusual demand for labor made a scarcity of this commodity and as our busy season begins much later than those of other industries in our locality, the best workers had been engaged before we went into the market. Consequently we were forced to hire a lower grade of help than in former years and they, in many cases, proved undesirable or unstable. There are two possible solutions to this problem—either to retain a larger working force or to increase our force at an earlier date.

(c) In accordance with agreements with the unions, they are given the first opportunity to furnish skilled workmen. This operates well when the union headquarters are in the same locality, but when they are in the city, as is the case with the typographical and pressmen's unions, they furnish unstable force. Workers sent out to small towns naturally return to the city as soon as the opportunity presents itself. This problem brings up the question as to the advisability of training an even greater number of our own employees.

Every industry has problems of employment peculiar to itself, depending in a degree upon the nature of the work, but more especially upon the character of the personnel of the organization. Here innumerable variables enter. Policies which are welcomed by cer-

¹ Of this 22 per cent was to increase the force and 13 per cent to replace losses.

tain classes of society would quickly offend other classes, but in any organization success can come only in the measure of the spirit of cooperation. No class of person likes to be ruled and consequently a democratic internal organization proves to be the most satisfactory. On the worker's side, the fact of his having a voice in government increases his self-respect and makes him more ready to take a sporting chance on the results. On the side of the management is the possibility of utilizing the vast fund of experience to be found in the ranks of the workers. Both sides gain the added strength of unity.

THE TOASTMASTER. It is fortunate that this kind of work is not confined to any section of the country. We will conclude our program with two short papers, and the first one is from St. Louis. Mr. Clarence H. Howard will give us a talk on "Fellowship: basis of true relation of employer and employee."

FELLOWSHIP: BASIS OF TRUE RELATION OF EMPLOYER AND EMPLOYEE.

BY CLARENCE H. HOWARD, PRESIDENT, COMMONWEALTH STEEL CO., ST. LOUIS, MO.

The science of this relation is human engineering, for we must have "humanics as well as mechanics," which means, in plain words, treating men as men, not as machines. That we may all understand what is meant when fellowship is mentioned, I will give you the definition which I have worked out through years of earnest study and application of its principles to business, which has proven a practical basis for putting all, from the office boy to the president, on the same plane. Then as a whole, we can work out together the problems of the day and in such a way that each one feels that he or she is a coworker in the great work of rendering service.

FELLOWSHIP.

Fellowship is a comprehensive vital force, always finding expression in the practice of the Golden Rule. It broadens our views, increases our abilities, enriches and purifies character. Its chief foundation stone is cooperation. By its very nature it is unselfish; therefore it can not exist alone, but requires all mankind to share it. Fellowship has no elements of failure, no racial or other prejudices, no hate, envy, jealousy, or "who shall be greatest." Therefore it must aid in ending strife, strikes, and wars. Fellowship understood and practiced establishes the brotherhood of man, which is, "On earth peace, good will toward men." Fellowship is the lever which elevates mankind and establishes home relations which unfold a wealth of affection—a tenderness not merely talked, but felt and lived. So you can readily see fellowship belongs to no race or nation, but is universal in its adaptation and bestowals. Its language—an honest heart, cheerful smile, and a hearty hand grasp.

Believing in and loving our fellow men and being willing and able to serve with them in the right is the heart of fellowship. Fellowship always figures how much it can share with the men, not how little it can give them. In fellowship, authority is a position of trust and not one of personal power and aggrandisement. Fellowship is not an "easy boss," but a truly just one, being strict in acknowledging and rewarding merit and in discountenancing apathy, inefficiency,

and carelessness. Organization to be most effective must have a common objective, one that all the units of the organization see and understand, and this objective should be so coupled with individual benefit and group benefit as to furnish the most powerful incentive toward individual and group effort. This is simply the adoption of the principle of right as the unerring law of action, and we all acknowledge that the right way gives us the right of way. When causes are right, effects take care of themselves. High individual efficiency in the organization brings greatest service to the customer in company product, and when service is right the customer's confidence is earned and success is assured. Service must be expressed in safety, efficiency, and economy, and character building is its highest goal, which enables one to profit with his fellow man and community but never at their expense.

How is highest individual efficiency to be obtained? Efficiency is expressed through willing, skillful workmen, whom we are all seeking in order to secure the acme of workmanship. What is skill? Skill is doing the right thing the first time. We must use wisdom in selection, through a competent employment department, to get skillful men, and the fellowship spirit and activities will make any reasonable man willing.

HUMAN ENGINEERING.

The most important engineering course to-day is the human engineering, and fellowship is its basis. For if a man knows all there is to know about business and all other human activities, and has not fellowship that he may work for and with others harmoniously, how can he utilize what he knows? Therefore you get right back to what the greatest man that ever lived taught—it's the one thing needful—fellowship.

Human engineering demands our being willing and able to treat men as men. The welfare of the man is more important than tools and machinery, for man thinks, and he acts according as he thinks. It is not what we say about human engineering but what we understand and practice of what we say that brings results. Human engineering is one of the most important factors in reducing labor turnover. It teaches that you can not receive anything with a closed hand; you must open up first. This makes it evident that "the hole you make in giving is the hole you must receive through."

People who give little receive little, but the fellow who is willing to do big, broad, charitable things and has a true sense of service to his fellow man makes a great big hole in giving and therefore receives countless blessings. Consequently it is plain that we can not make or buy our blessings; we can only provide channels through which they may come to us from the one source of all blessings.

SAFETY FIRST.

Only about 30 per cent of accidents can be prevented by mechanical safeguarding; the other 70 per cent must come through human engineering (fellowship). Our slogan should be "no accidents," and wouldn't you rather know that every man who comes to work is going home safe and sound to his little family? Of course you would. Accidents have no necessary part in the conduct of successful business; they are unnecessary inefficiencies. Accidents were once considered inevitable, but out of the nightmare of the past has emerged a safe, practical, and orderly condition in industry.

The safety movement is one of the greatest constructive conservation movements that has ever come among men. The economic losses in the country through accidents have been almost beyond belief. There is nothing more useless than an accident. The victim, his family, his company, and his community are the losers. Safety work is found to be the scientific study of the right and orderly way of doing things. Good safety work makes even the humblest workman in any plant a safety man. The safety movement has proven to be one of the great agencies toward a realization of the brotherhood of man.

EFFICIENCY.

Fellowship is efficiency. One of our great efficiency engineers made the statement that Jesus was the greatest efficiency expert the world has ever known. I asked him why and he replied, "Jesus accomplished more, in less time and with less equipment and materials than anyone else," and these are the fundamentals of efficiency. Efficiency must be equally practiced by employer and employee, thereby blending together all efforts in one unified purpose of doing unto others as we would have them do unto us. This will avoid antagonisms and misunderstandings, and will bring true cooperation, contentment, and success. Another factor in efficiency and human engineering is poise, which has been beautifully defined as follows: "Poise is that state of consciousness which is at rest and peaceful when no one praises and undisturbed when opposed, censured, or misunderstood." To lose your poise because of any disturbed condition only makes a bad thing worse.

One evidence that Jesus was the greatest efficiency expert is that he said to you and me, and to all mankind, that we should "Judge not from appearances, but judge righteous judgment," and that we should be lifted up and draw all men unto us, and "Let your light so shine before men that they may see your good works and glorify"—you? No! But glorify the power which makes it possible for you

to be lifted up and to let your light shine. This means that we must so conduct our business that it will command the respect and cooperation of the five factors in business which must be coordinated, namely, the employee, the employer, the man from whom you purchase, the customer, and the stockholder. It necessarily follows that your business will then win the respect and cooperation of the community. A broad-gauged, public-spirited business man must be intent, uniform, consistent, and sympathetic. When difficulties and misunderstandings arise he must be wise, brave, and unselfish, which will waken a tone of fellowship that shall emphasize humane power in a community.

The Constitution of the United States does not provide that arbitrary human force shall regulate man. Rather does it imply that righteousness shall permeate our laws. Mankind will be rightly governed in proportion to the utilization of the Golden Rule in law and its practice, which will insure the rights of man and hold sacred the liberty of conscience.

The TOASTMASTER. If there ever was a time when we Americans ought to be interested in the subject of Americanization it seems to me it is now. It is one thing to have an idea, it is another thing to be able to visualize that idea for the man on the street, for the public at large. Therefore it seems to me we are specially fortunate to-night in having with us Frances Kellor, of the Americanization committee of the United States Chamber of Commerce, not only on account of her knowledge of the subject but also on account of the specially noteworthy way in which she has visualized this subject to the American people through her work and writings.

[Miss Kellor read a paper at this time, but as it was impossible to secure a copy her paper has been omitted.]

The TOASTMASTER. I will call on Mr. Wells for a moment.

Mr. WELLS. Several associations have been invited to select representatives to consider the matter of forming a national society, and I move that the official representatives of each of the employment managers' organizations represented at this conference, as shown on the official program, meet this evening at conference headquarters on the second floor of this hotel, immediately following the close of this session, and consider the desirability of forming a national affiliation for employment organizations, and if this meeting feels that such an association is desirable, that it report Tuesday, April 3, the plan on which such an affiliation shall be formed.

[Motion seconded, question put, and the resolution offered by Mr. Wells adopted unanimously.]

The following persons were appointed on the committee to report on the conference:

Association.	Representative.
Boston.....	Ralph G. Wells.
Detroit.....	Boyd Fisher.
Chicago.....	C. R. Beard.
San Francisco.....	F. Dohrmann, jr.
New York.....	E. B. Gowin.
Newark.....	F. I. Liveright.
Rochester.....	L. B. Ermeling.
Cleveland.....	C. Gildersleeve.
Pittsburgh.....	E. F. Harris.
Philadelphia.....	J. H. Willits.

TUESDAY, APRIL 3—MORNING SESSION.

CHAIRMAN: MEYER BLOOMFIELD, DIRECTOR, VOCATION BUREAU, BOSTON, MASS.

THE SELECTION OF EMPLOYEES AND TERMINATION OF EMPLOYMENT.

The CHAIRMAN. Mr. L. B. Ermeling, of the Rochester Employment Managers' Association, has consented to read Mr. Hubbell's paper, which should have been presented last night.

THE ORGANIZATION AND SCOPE OF THE EMPLOYMENT DEPARTMENT.

BY N. D. HUBBELL, EMPLOYMENT MANAGER, GENERAL RAILWAY SIGNAL CO., ROCHESTER, N. Y.

[Read by L. B. Ermeling, Rochester Employment Managers' Association.]

INTRODUCTION.

The following paper is an elaboration, or, more correctly speaking, an exposition of an outline submitted to the employment managers' group of the industrial management council of the Rochester Chamber of Commerce at its meeting on February 20, 1917. The purpose in trying to cover the whole field in one paper is not to put forth a set of conclusions which would tend to close specific subjects and render discussions of them unnecessary, but rather to coordinate these same subjects so that we can see at a glance their relation to the whole scheme and rate them in importance accordingly. It will also serve as a tangible basis for consideration by a plant just starting or considering the starting of an employment department, since it suggests in concise and coordinated form what functions might be covered. The points raised here pertain almost wholly to activities connected directly with employing. No effort has been made to take up the subject of welfare or service work because this subject in itself furnishes material for several separate papers.

With this viewpoint in mind let us take up the organization and scope of the employment department proper.

RESPONSIBILITY.

Probably the first question in connection with an employment department is "To whom should the employment manager be responsible?" It is now pretty well agreed that he should be directly responsible to the manager and answerable to him alone. Of course titles of executives vary in different organizations, but the point here is, that the employment manager should come directly

under the highest executive immediately responsible for all phases of manufacture. He may be called the general manager, manager, factory manager, works manager, general superintendent, or any one of several other titles. This brings the employment manager coordinate with the production and mechanical superintendents, also the heads of the inspection, engineering, and any other departments of similar rank, depending on the type of organization. Although the employment manager must be primarily an executive, his position is largely that of a staff man, and his dealings with the manager will be, to a great extent, in an advisory capacity on all matters pertaining to the policies of the company affecting the relations between employer and employee. Being coordinate with the superintendents responsible for the conduct of labor coming under their supervision, he is able to act as a check on the interpretation of the company's policies as administered to employees by their superiors. This, of course, places him in the position of judge in the court of appeals, on questions involving the relations between management and employee.

ESTABLISHING AN EMPLOYMENT DEPARTMENT.

The mere signing of an order does not establish an employment department, but the authorization and backing by the management are absolutely essential. Assuming that these are granted, the establishing of the department is a slow, gradual process. It requires time and ceaseless diplomacy, energy, perseverance, and patience on the part of the employment manager in educating and gaining the confidence of the foremen. The fact that he is organizing an employment department will prejudice most of the foremen against him because they feel that he is trying to take some of their authority away from them. The employment manager must size up each individual foreman and study his personality to learn the best way to approach and work with him. It is also very necessary to make the foremen feel that the employment department is being established to help them, and to explain thoroughly how it will accomplish this. He should also listen carefully to any ideas the foremen may have on employment department work, and wherever possible should incorporate their suggestions. Above all else, he should aim not to antagonize the foremen and should always deal with them in a frank, straightforward, open manner, giving them no occasion to feel that anything is being "slipped over" on them. When once the foremen realize that he is working for their interests and is always willing and glad to cooperate with them on any phases of the work where they are mutually concerned, he will have little difficulty in getting a fair trial for any plan he may wish to put across. Another very important part of this missionary work is in gaining a general working knowledge of all operations and getting

the foremen's ideas on what types of men they want for them. This is laying the foundations for standard specifications later on. The employment manager must be first, last, and all the time a thirty-third degree diplomat. He must put in operation one thing at a time and be sure that everything else in operation is working out satisfactorily before starting anything else.

SCOPE OF THE EMPLOYMENT DEPARTMENT.

Although the employment department deals primarily with hiring, its scope should by no means be limited to securing help. In the more progressive concerns the following up of employees and acting as a point of contact between the management and employee is just as important, if not more so. This is shown by the fact that the title "supervisor of personnel" is now being widely used instead of "employment manager." At any rate, the function of the employment department is to—

Build up a list of applicants available.—The extent of this list will depend upon the conditions of the labor market. Some concerns do not put on file any applications which can not be used at the time, while some go to the other extreme and hire only from applications on the shelf. Under present conditions it can not be assumed that an application will be good for very long unless the concern has such a good name that men will leave others to accept positions with it. However, there is little doubt concerning the advisability of putting on file applications of desirable workmen who apply at a time when they can not be placed. This makes it unnecessary to depend entirely on men applying at the office, because this is a very uncertain quantity, and repeaters at the office do not represent the best class of workmen, especially on skilled work. The man wanted is generally not there when needed. Very often the opening will occur within a short time, and as a general rule part of those sent for will come in. Applicants can be encouraged to call up occasionally, or even to advise if they have accepted other positions and whether or not they still want to be considered as available. Putting applications on file, provided a reasonable number are sent for, is sure to have a desirable effect on workmen in the locality, for it shows a personal interest which is appreciated, because they feel that this same interest will extend to men in the employ.

This file should include desirable applications selected from—

(a) Those applying at the employment office: These require a great deal of weeding out, because this class does not represent, in the majority of cases, the best type of workmen. However, it is essential to have men applying at the office, and the aim should be to raise the standard of this class as much as possible by encouraging desirable men to return and tactfully tending to discourage those

not desirable. This class of applicant is indispensable for filling positions in a hurry. Many good men can be secured on short notice, because they are most of them out of work when they apply.

(b) Those recommended by employees: This class is probably the most desirable when once properly placed, because they have friends in the organization who will introduce them and make them feel more at home during the first few days, which are the hardest. They will also have ties which will tend to hold them, once they are hired, because they will feel under obligation to make good for the sake of the men who recommended them. In order to carry this out successfully, however, it is necessary to make an employee feel at the time he recommends a man that he is to a large extent assuming the responsibility of his being a desirable character and capable of making good. He should be informed if the man does not come up to expectations. An employee should recommend an applicant by talking the matter over with the employment manager. If it seems advisable to interview him, the employee should be given a form to fill out and sign, vouching for him. This slip when presented by the applicant will serve as an introduction to the employment manager.

(c) Those obtained by scouting: This class represents largely men whose names have been obtained in connection with some specific opening. By scouting is meant any means of still hunt, such as getting in touch with workmen, other employment managers, schools, or any other sources which might be able to suggest capable men.

(d) Those obtained by advertising: Advertising is, of course, a last resort but is nevertheless necessary at times. "Blind ads" should be used only when absolutely necessary. Ads over the company name are much quicker and should be used except where a responsible position is to be filled or where a replacement is to be made which should be kept secret and might be "given away" by the ad. The custom of running blind ads to test the loyalty of employees should be discouraged, because it savors strongly of underhand methods.

(e) Those obtained by other means: This includes men recommended voluntarily by outside sources, private individuals, public, fraternal, or other employment agencies charging no fees, schools, or any organizations capable of supplying the right class of men. These sources should be encouraged, but at the same time educated as to the class of men acceptable. As a general rule it is not very satisfactory to take men from private agencies charging a fee. The employment manager is laying himself open to the charge of being in league with private agencies, and although his intentions are of the best he is often misunderstood. From the applicant's standpoint he has bought his job and this obviously is undesirable.

Select the best talent available for positions open.—This immediately brings up the point of where the power of hiring should be placed. The old idea is that the foreman has absolute power of hiring. There is now in successful operation in many plants the other extreme, viz, the employment manager has the absolute power of hiring and the foreman can not reject except after giving the new employee a fair trial. Although the latter may come in time to be the prevailing practice, few employment departments are well enough established to carry it out satisfactorily now, even if the power were delegated to them. For a workable scheme, then, let us make a compromise. Let the employment manager hire, unless for certain work the foreman expresses on his requisition for help a desire to see the applicant before he is engaged. This will have a tendency to shift gradually the responsibility for hiring over onto the shoulders of the employment manager as he comes to understand more fully what the foreman wants, and the foreman comes to put more confidence in the selection of the employment manager. The ability and knowledge to select competently come only after considerable preliminary work has been gone through. They involve—

(a) Information in advance as to vacancies: This is one of the worst features of modern conditions. Workmen must be educated to give sufficient notice of leaving and foremen must notify the employment department immediately when such notice is given, thus allowing as much time as possible for securing people to fill the positions. This education of the workman involves, in addition to making him realize the fairness of it—(1) a system for paying off in full, when they leave, those who give sufficient notice; (2) having an understanding that leaving without notice must be counted against his record should he ever want a reference from the company; (3) checking up a previous record of employment to see if he has quit without notice; and (4) it also involves, on the part of the employer, giving notice when letting a man out, except in cases of discharge for insubordination, malicious conduct, and the like. The case of a conscientious workman not making good will be taken up under another heading.

(b) A thorough knowledge of what material is available: This includes, in addition to applications on the shelf, a knowledge of conditions of the labor market in the locality, and any strikes, layoffs, and other conditions affecting it.

(c) A close personal contact with foremen: This has been touched upon before as part of the missionary work. It is simply getting around the shop as often as time permits and keeping in touch with the foremen regarding their wants and what is available.

(d) A general working knowledge of all operations performed: From personal observation and talks with the foremen a general knowledge of the work can be acquired.

(e) Standard specifications for all classes of help used: Standard specifications would be an outgrowth of contact with the foreman and would involve a knowledge of the operations and the corresponding kinds of help preferred. These should be reduced to writing and approved by the foreman and employment manager.

(f) Knowledge of rates and earnings: It is necessary for the employment manager to have a thorough knowledge of rates paid for all classes of work done. This should include day rates and a general knowledge of average earnings on piecework in the plant and as much of this information as can be gained pertaining to other plants in the locality.

(g) Investigation of applicant's record: Proper cooperation on the part of employment managers on the matter of references will enable them to weed out many of the undesirables. It is largely a matter of the employment department having sufficient data to give an intelligent and comprehensive record of the man.

(h) Physical examination of applicants: Many of the larger and more progressive concerns are now insisting upon a physical examination of new employees before starting work. In many cases it is the outcome of rigid accident compensation laws, but from the purely business standpoint doctors' examinations are a good proposition. They are so common now that very few applicants object to them. A comprehensive employment department is not complete without them.

(i) Character analysis: Opinions of employment men vary as to the value of scientific selection and character analysis, but there is without doubt something in the science which would be of value to most employment men. It is for each to use as much of the science as his experience justifies.

(j) Testing out applicant for certain work: Many concerns are finding it advantageous in some cases to take the applicant to the department and give him a superficial try out. This is of special value in the case of operators for special and automatic machines where a minute or two at the machine will prove whether or not the applicant is familiar with it. However, this should be discouraged rather than encouraged.

This will also include taking the applicant into the factory to see working conditions in certain special cases.

Introduce new employees.—At the present time there is not enough attention paid to introducing new employees into the organization properly. If an applicant has been accepted it is worth while to start at once to make him feel at home. The impressions gained

during the first few days stay with him and a little personal interest at the start helps him over the critical period. Some one from the employment office should take him to his department when he starts, and the introduction should include:

(a) Introduction to foreman and fellow employees: If he is not already acquainted with the foreman he should be introduced to him and arrangements should be made for him to be made acquainted with fellow employees.

(b) Explain rules and policies of the company: The most satisfactory way of explaining rules and policies is to give the new man a brief, concise booklet, and supplement it with a verbal emphasis on important points. This gives him an opportunity to study them over at leisure, and not rely on memory to carry all the details.

(c) Explain location and use of hospital: The new employee should be shown the location of the factory medical department and impressed with the necessity of going at once to the hospital in case of any injury, no matter how slight.

(d) Point out physical surroundings: General lay out of buildings, offices, stock and tool rooms, lunch room, exits, etc., should be pointed out.

(e) Point out location of conveniences: This should include wash room, lockers or coat rooms, and toilets to be used in the department to which he is assigned.

Follow up performance of employees.—By taking up this function the employment manager is taking up employment work in the broader sense. This phase of the work is, nevertheless, important, because by following up the performance of all employees, especially new ones, attention is called to "deadwood," round pegs in square holes, and real live material within the organization. It also acts as a check on the judgment of the man doing the hiring and he should benefit by the experience. This follow up should cover—

- (a) General conduct.
- (b) Average earnings.
- (c) Lateness and absence.
- (d) Health and accidents.
- (e) Efficiency rating or periodic certifications by foreman covering at least—
 1. Workmanship.
 2. Reliability.
 3. Willingness.
 4. Attitude.
 5. Industry.

Render final decision on differences.—The employment manager should render final decision, subject only to the manager, on all differences between employees and superior where a satisfactory

agreement can not be reached by those concerned. In this connection, however, an effort must be made to discourage workmen bringing their troubles to the employment department before they have taken the matter up with their foremen. This can be accomplished by sending them back to talk it over with the foreman or immediate superior first, then if a satisfactory agreement can not be reached, it will logically come back to the employment department to be straightened out. This would cover—

(a) Dissatisfaction with rates.

1. Daywork rates.
2. Piecework rates.

(b) Dissatisfaction with working conditions.

(c) Alleged unfairness of any kind.

Render final decision on recommendation for discharge.—The employment manager should render final decision, subject to the manager, on all cases of discharge. Unconditional discharge should be a serious matter and should be used only as a last resort. It should reflect on the foreman as well as the man. At the present time discharge is treated too lightly, and the authority given the foreman is many times abused. For this reason all cases should be subject to review by the employment manager who can, by getting both sides of the story, together with his records, render an unbiased decision. A foreman should have the privilege of saying that a man can not work in his department, but it should not be for a foreman to say that a man can not work in the plant at all. This should rest with someone whose responsibility covers the entire plant. Some plants have gone so far as to give the employment manager the power to force a foreman to take back a workman, provided conditions indicate that the foreman is in the wrong. However, there is nothing to be gained by sending back to a foreman a man he does not want. He can easily make life so miserable for the man that he will be glad to quit. A foreman should have the privilege of returning to the employment department any man whom he does not want in his department, but it should be up to the employment manager to say whether the man deserves unconditional discharge from the employ of the company or whether he should be given a chance in another department. In order not to weaken the discipline in the department, great care must be exercised by the employment manager in handling such cases. It is advisable to get the foreman's signature to a statement as to whether or not he would be satisfied to have the man transferred to another department. A negative answer to this question should be substantiated by very sufficient reasons before it is accepted by the employment department and the man discharged from the employ of the company entirely. It must be constantly borne in mind, however, that in most cases the foreman must be

backed up, but the fact that his action is subject to the approval of the employment manager will make him consider carefully before he recommends discharging a man. This also involves considerable education of the foremen, and they should be instructed to talk over with the employment manager all cases of recommended discharge before taking definite action. With a broad-minded, unbiased employment manager this plan will strengthen rather than weaken discipline, because it assures every one a square deal. It protects an employee when he is in the right and makes his punishment more severe when he is in the wrong.

Investigate reasons for leaving.—Too much emphasis can not be put on this point. The periodic chart of reasons for leaving is the index to the whole subject of turnover. Success or failure in coping with the problem depends upon reading accurately and interpreting properly what is shown there. The employment manager personally should see every man before his name is taken off the pay roll, and in most cases a frank, truthful statement can be obtained as to the real reason, which should be made a matter of confidential record. This material will serve as a basis upon which to work. The reasons should be thoroughly and accurately analyzed in order to locate the trouble. When once it is located, it should, together with complete recommendations for a solution, be referred to the proper authority and persistently followed up until some action is taken. The problem of turnover, like any other problem in business, must be solved by thorough scientific methods, and the employment department is the place from which the work should be directed.

Arrange for transfer of men not making good.—Opinions differ as to the extent to which this should be carried out, but it is unfortunately true that a conscientious man is not always placed at first on work for which he is properly fitted. This may be due to error in judgment on the part of the man who hires him, or he may consciously or unconsciously misrepresent himself. But the fact remains that every organization has far too many round pegs in square holes. Misplaced workmen whose record otherwise shows them to be desirable should be given as many chances as possible without placing an extra burden on the organization. After an employee has been working a short time, his adaptabilities are more evident and he can then be placed with more accuracy than before. In general, a foreman is suspicious of a man who he feels is being "wished on him" because the man is not making good. But this, again, is a matter of education. It may not be long before the foreman has just such a man himself whom he would like to see placed. A few cases where misfits have been advantageously adjusted will soon convert the foreman to the principle of "live and let live."

Render final decision. subject only to the manager, on (a) change of rate; (b) transfer; (c) promotion. A thorough check on change of rate, transfer, and promotion involves a careful scrutiny of the record of the employee concerned. The employment manager, with the complete record of the employee before him, is obviously best equipped to exercise this function. He is not only familiar with shop conditions involving rates, openings, and available material, but is also in touch with these same factors as they concern the outside. It is of course essential that any one of these three changes have the written approval of the foreman, general foreman, and superintendent concerned before being effective, in order to keep them informed as to what is going on in their departments. This, however, does not constitute a check on the employee's record, because they do not have as complete information available as the employment department. Neither do they have the first-hand information regarding the labor market. In order to get best results a foreman should go over with the employment manager the cases of change of rate, transfer, or promotion before starting the slips. This will enable him to take into consideration the information on file in the employment department regarding the workman in question.

Study earnings of workers.—The necessity of becoming familiar with rates has been taken up before. Earnings, both day rate and piecework averages, should be carefully analyzed and this information, together with turnover figures, will show where it is necessary to make adjustments. Unasked-for increases to dayworkers should be arranged through the foreman, instead of waiting until the employee becomes dissatisfied and asks for a "raise." The foreman is so busy with production problems that he can not be expected to follow up such matters systematically. By working through the foreman in recommending wage increases the employment manager is helping him rather than interfering. The best way of accomplishing this is for the employment manager to go over with the foreman at stated periods of three or six months the rates of all men under him and follow with rate increases which seem justifiable. Average earnings of pieceworkers, together with turnover figures, will show where rates are too low or too high, and these also can be taken up with the foreman and proper adjustments recommended to the rate-setting department. Systematic following up of earnings, and granting of unasked-for adjustments will materially reduce turnover.

Prepare chart of understudies for all positions of responsibility.—It should be the aim of every concern to have within its organization men in training for all executive positions so that any vacancy could be filled by promotion. This involves a chart of the organization which shows the position, its responsibility, the man holding the position, and the man who could be put into the position should it

be left vacant. This will enable the concern to hold within its organization a better class of executives because they will know that they are in line for promotion as openings occur. The organization will also benefit because there is a decided advantage in having men who have proven themselves capable, and who are familiar with the plant and also fairly familiar with the duties of the position. This enables them to take up the work and carry it on without interruption.

The "three-position plan" of promotion as outlined by F. B. and L. M. Gilbreth, makes each employee in any plant a member of three groups. He belongs to the group next higher up as a learner, and part of his time is spent in preparation for that group. He belongs to the group below as a teacher, and part of his time is devoted to instructing some one in this lower group to take his place. How long a man stays in this working group depends upon how soon he can train a man below him to take his position and receive training himself for a position in the next higher group.

Keep adequate records.—Records are the foundation upon which the employment department is built; naturally the foundation should be as strong as possible. Additional files and records do not necessarily mean more strength for the system. Files should be reduced to the smallest number which will furnish an adequate check. All information relating to the individual employee should be concentrated in one place, thus making his complete record available at a glance. Filing systems should be as simple as possible, thus reducing chances of misfiling. It is also essential that all filing be kept up to date so the latest information is always available. It is important that such records be kept confidential, access being given only to superiors of the man in question. They should never be allowed out of the employment department. Copies might be made in certain special cases. The following are suggested as sufficient files to afford adequate information for reports and for individual records:

(a) Applications on file: The method of filing depends upon the kind of forms used. Applications should be so filed as to be readily accessible by name of applicant and by class of work for which he is fitted.

(b) Complete record of individual employees: As these records are generally referred to by name they should be arranged alphabetically. This would include:

- I. Information obtained at time of hiring: This, of course, covers application card, any references secured, note of introduction, if any, slip from doctor showing medical rating, any correspondence relative to his application, and previous record in case of men rehired.

- II. Record of change of rate, transfer, and promotion: This should cover not only a notation of the change, but a record of any reasons or other circumstances connected with it.
- III. Summary of pay-roll records for individuals: This will cover a summary, by stated periods, of average earnings of pieceworkers, bonuses, and late and absence reports. If the pay-roll department can not compile this data in such form as to render it available, the employment department should arrange to get the information and compile it for its own use.
- IV. Summary of other follow-up records: This includes efficiency record or periodic certification by the foreman; periodic summary of accidents, sickness, and hospital service; any awards for suggestions; conduct worthy of special note either in his favor or otherwise; or any information of value concerning the individual which has been called to the attention of the employment department.
- (c) Record of exemployees: This also should be alphabetically arranged and consist of the record above mentioned, together with all information gathered at the time of his leaving.
- (d) Numerical file of employees: It is necessary to have a cross index to the alphabetical file for the purpose of assigning badge or identification-check numbers. This need contain nothing more than the man's name, department, and number.
- (e) Daily blotter of men hired and transferred: This should be a pencil memorandum giving the name, department, number, and rate of all men hired and transferred. This information is necessary for compiling reports at the end of the month, because when the records are once filed it requires considerable time to sort them out again according to dates.
- (f) Daily blotter of men removed from pay roll: This should include the name, department, number, date hired, date removed, and a brief statement of the reason. This again is for convenience in compiling reports.

Compile periodic reports showing turnover.—The value of reports on turnover is not questioned now. The object should be to gather only information which is of value and present it in simple, concise form. It must be remembered, however, that the compiling of reports, in itself, is a waste of time unless something is done with them. They are merely an aid in the solution of turnover problems. They must be properly interpreted and recommendations made and followed through. The following are suggested as being of value. In most cases it will be advantageous to combine two or more of them in one report.

(a) Number hired, by departments.

(b) Number discharged, laid off, and resigned, by departments, compared to corresponding number on pay roll.

(c) Number discharged, laid off, and resigned, by departments and causes.

(d) Number discharged, laid off, and resigned, by departments and length of service.

(e) Number discharged, laid off, and resigned, by classes of work.

Supervise proper instruction of new employees.—The proper instruction of new employees is of vital importance from the standpoint of turnover. There are few organizations which are not lame on this particular point. Some, on the other hand, have gone so far as to establish instruction departments independent of the manufacturing organization. This may be a little radical for some of us now, but the employment department when it turns over a new man to the manufacturing department should make arrangements for adequate instruction. Further than this, in following up the new employee's performance until he is broken in, the employment department should insist upon his getting proper instruction and make such recommendations as seem pertinent, with a view to improving the methods used. This also involves some arrangement with the rate-setting department for a satisfactory wage for beginners.

Investigate cases of absentees.—This may border upon welfare or service work, but it is nevertheless a part of the legitimate employment department function. The shop clerk or time department should furnish the employment department each morning with a list of all absentees, giving the reason for the absence if any is known. It should be left to the judgment of the employment manager in each case to decide how long they should wait before sending some one to look into the case. If properly handled, workmen will appreciate rather than resent having some one call at their homes. A written report should be made of the visit. These cases naturally fall into three classes:

(a) Out on account of sickness: In case notice has been sent in that an employee is sick it is desirable to have some one call within a few days to see how he is getting along. Very often there is something that can be done to help.

(b) Out on account of injury: In cases of injury where employees are not able to report at the factory hospital for treatment, it is of course necessary to have the factory doctor call, but in addition someone from the employment department should stop in occasionally. A little personal interest in injured employees is a good investment. Misunderstandings regarding accident compensation can be straightened out and in many cases the company can be of assistance in other ways.

(c) Out for unknown reasons: Investigation of cases of employees out without sending in any reason will very often find them sick, and occasionally injured, and in many cases dissatisfied with their work. There is a question of how far to go in the latter case, but generally it is advisable to have the man come in and talk the matter over with his foreman. In many cases a misunderstanding can be adjusted and a good employee saved. However, care must be exercised not to let an employee feel that the company is running after him, because he may feel that he is indispensable. Even if the man is not brought back to work, his real reasons for leaving are obtained. This alone makes the visit worth while.

Aim to give the plant a good name.—In order to obtain the most desirable employees, it is necessary to establish among workmen a good name for the plant. One “knocker” can do endless harm in this connection. There are three ways of accomplishing this which are worthy of note:

(a) Prompt and courteous treatment of applicants: Have an adequate and comfortable waiting room, but handle applicants as quickly and smoothly as possible, because they soon tire of waiting and others coming in will not stay if there is a crowd waiting and it is being handled slowly. It is also essential to treat courteously every one applying, even if it is necessary to turn him down, because the impression he takes away with him may have considerable influence among workmen.

(b) Just and courteous treatment of employees: Although this reputation must be founded on more than the employment department's treatment of employees, that department is in a position to follow up any dissatisfaction on the part of employees and insure their getting a square deal.

(c) Fair and courteous treatment of workmen leaving employ: The men who have worked for a concern play a large part in molding the general opinion of workmen toward it. It is therefore essential for the employment manager to see each workman leaving and make his last impression of the company as agreeable as possible. There is in almost every instance a way of “firing” a man without having him go away a “knocker.” The same applies to men leaving because they are dissatisfied. If the company's viewpoint is properly explained they can grasp it in most cases, and realize that the fault is at least partly their own.

This paper is not held up as a ready-made plan for an employment department, applicable in toto to all plants. It is, rather, a survey of what is coming to be recognized as the best in modern employment-department practice. An effort has been made to make the paper comprehensive, but it is by no means exhaustive. Each one, viewing

it from the standpoint of the plant he represents, can undoubtedly see modifications, additions, and omissions which will make the scheme stronger in its application to his particular organization. We hope that there may be found in this outline some points of value to those concerns which have not as yet a fully developed employment department.

The CHAIRMAN. When the local committee learned that Mr. Roger W. Babson was to be here the committee was very glad to make a slight alteration in the program this morning, so as to give him a few minutes. It gives me great pleasure to call on Mr. Babson.

ROGER W. BABSON, statistician; president, Babson's Statistical Organization. Let me first congratulate you all on what this association is doing. I feel that, as Mr. Filene said at dinner last night, the country which enjoys the best relations between labor and capital will be the country that will lead after this war is over.

The trip I am just returning from, of some ten or twelve thousand miles, convinces me that is so. Not only that, but the concern which best solves that problem will lead in that country. I for one wish to acknowledge my indebtedness to the chairman in bringing that point to my attention some years ago. I think he was one of the first to impress it upon me.

The fact which I wish to bring out this morning is that I hear too little about ambition, enterprise, and imagination among the employment managers with whom I talk. Now, if statistics show anything it is that ambition, initiative, enterprise, and imagination are the things that really make money for concerns, make money for individuals, and make industry itself grow.

The other mechanical things we talk about are of very little account. Capital amounts to nothing of itself; labor amounts to nothing of itself; and it seems to me we are all fooling one another in talking so much about those two material things. The things that really count are ambition, imagination, enterprise, and the other intangibles. When capital has these things, it makes money. When the workingman has these intangibles he automatically becomes a capitalist.

Hence I am much interested in some experiments to help you employment managers discover the men in your concerns who have those qualities and to develop them in all the others. Can it be done? I say that it can and that it is being done.

The success of every organization depends not on the thousands of employees but on half a dozen men with imagination, enterprise, and originality. In studying failures, we find that a great percentage of the failures are due to the fact that the half dozen men who make up the management have not been kept "bred up." As long as the

management has been kept "bred up," then the business is successful, but when it has not been, then the business fails.

I started, three years ago, to experiment in ways of picking out from our own organization those few who had these qualities of enterprise and ambition. We tried various ways. We finally hit upon a plan. At the present time it is being experimented with by 12 manufacturing concerns in New England. It consists in the placing of stories in the pay envelopes of the employees, stories which have a certain reaction and which result in bringing the hopeful employees to the attention of the management.

We have experimented with a great number of stories and with a number of kinds of stories. The stories which are most successful, 95 per cent of you would cast aside as absolutely no good. We, however, have gone into it scientifically by visiting moving-picture shows and by watching what the working people read on the street cars. We find that the stories which appeal to them do not appeal to you; and that the stories which appeal to you do not appeal to them. On the other hand, we find that nothing appeals to them like a story.

Now, I want you folks to think this thing over. I want some more concerns to join these 12 in experimenting along these lines. The idea is to pick out a story as you would a phonograph record, to bring out some particular trait. For instance, say you want to find some one among your 200 employees to develop as a salesman. Now, instead of going at that blindly, instead of thinking you know who is the best man, put, some week, a certain salesman story in all your pay envelopes and see who, among your 200 employees, comes to you as a reaction of that story. Perhaps the man who comes will not be the man you want; but it will be a surprise to you to see who comes. Some one is coming back as the result of that story whom you have not dreamed is interested in becoming a salesman. Other stories can be used for other purposes—why we even have eliminated gossip from a mill by the use of a story.

I beg of you not to try to solve these employment problems along mere statistical and mechanical lines. I tell you I was relieved last night to see how statistics are being handled by statisticians in Philadelphia. Now, those are the kind of statisticians that the employees need; it is not the cold-blooded, thin, icy fellows who can do nothing but run an adding machine.

Remember, it is ambition, initiative, originality, imagination that are going to keep your concern going. Neither card records nor any other mechanical thing will put life into your business. It is not going to be money, it is not going to be manual labor, but it is going to be those few intangibles which will make your concern lead. Hence the great job of the employment manager to-day is to pick out the men who have those intangibles.

The CHAIRMAN. Mr. Boyd Fisher, in his paper, alluded to certain methods and performances which call themselves character analysis, psychology, and selecting employees scientifically. There is absolutely no subject in which an employment executive must use his safety device to such an extent—I mean the safety device called common sense—there is no subject on which that safety device must be so constantly worked as that dealing with the so-called science of human nature. No employment manager is fit to hold his job who does not, at this late date, at least know the difference between phrenology and psychology, between science and its opposite, between observation and opinion, between judging men and fortune telling. Our next speaker is Prof. Walter Dill Scott, who has been loaned by the Northwestern University to the Carnegie Institute of Technology for the purpose of working out tests, and testing tests, in the field of management.

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VOCATIONAL SELECTION AT THE CARNEGIE INSTITUTE OF TECHNOLOGY.

BY WALTER DILL SCOTT, PH. D., CARNEGIE INSTITUTE OF TECHNOLOGY.

The Department of Applied Psychology of the Carnegie Institute of Technology is not interested primarily in developing tests but its interest is in the broader problems of vocational guidance and of vocational selection. The vocational-guidance work is under the supervision of Messrs. Bingham, Miner, and Thurstone, Dr. Kate Gordon, and Miss Free. Tests are being developed and applied, as one of the devices in assisting students to select their life work. Beginning with next semester, the staff will be increased and every entering student will be subjected to vocational tests before being permitted to enter the different schools for instruction.

The bureau of salesmanship research is a subdivision of the Department of Applied Psychology but is a part that has nothing to do with vocational guidance, although it is interested in vocational selection in the very restricted field of the selection of salesmen.

In our general survey of the different methods or devices actually employed in vocational selection, we found very great diversities in practice. All the following have been or are being used by business men: Astrology, augury, chance as manifested in drawing of straws, casting of lots or the flipping of a coin, chiromancy, chiromancy, clairvoyance, Dr. Katherine Blackford's system of character analysis, divination, fortune telling, graft, horoscope, intuition, magic, mind reading, necromancy, nepotism, omens, occultism, palmistry, phrenology, soothsaying, sorcery, sortilege, subconscious hunches, talisman, and telepathy. It may be difficult to prove the inadequacy of any of these systems but there seems to be no evidence of their value.

There is another group of factors which seem to possess great potential but little actual value. To this group belong inheritance, or ancestry, and physiognomy. Historically speaking, inheritance has been the greatest factor in both vocational guidance and vocational selection. It is not alone in India that the son is selected for the occupation of his father. We all make some use of physiognomy even though we are unable to state the way we do it. All attempts to classify our knowledge of physiognomy or reduce it to a scientific basis have resulted in miserable failure when applied to vocational guidance or vocational selection. The bureau has given consideration to these two factors but so far has been unable to discover any practical method whereby the sales manager may make use of either

inheritance or physiognomy in selecting applicants for selling positions.

In our more detailed survey of the 30 cooperating firms of the bureau, we found that, in selecting their salesmen, they all depend on one or more of these three factors: The previous experience of the applicant; human judgment concerning applicant; and special tests administered to the applicant.

No system of vocational guidance and vocational selection can be thought of as adequate unless it gives full significance to the previous record of the individual. The child that prefers manual training to more literary work is advised to enter industry. The youth who excels in physics and mathematics is advised to become a mechanical engineer. The one who delights in commercial geography, economics, and psychology is urged to become a traveling salesman. The successful traveling salesman is advised to become a sales manager. We have faith in such advice for vocational guidance, but in the main our faith is based on nothing more substantial than a fond hope. For vocational selection, however, the previous record is a source of dependable knowledge. The college that is in a position to select among applicants for its freshman class knows that, other things being equal, those who ranked among the upper fourth of the students in the preparatory schools will make a better standing in college than those who ranked in the lower fourth in the preparatory school. The medical school knows that the best results can be secured from those who in their preparatory and college classes stood high in scholarship. Likewise business houses have found that those who stood high in school succeed better in business on the average than those who stood low.

In general, it seems to be pretty well established that any employer will do well to select from the upper rather than from the lower quarter of any class, and to select from those who continued to pursue the more advanced study rather than from those who dropped out of school at a lower grade. Within a business organization those who have succeeded in minor positions thereby indicate their fitness as beginners in more responsible positions. Classes in school and positions in business are not only places of training, but they are also places of testing as to fitness for other positions. A crying need in every employment department to-day is more adequate data concerning the degree of success attained by the applicants, both in school days and in all positions filled since school days. When the employment department becomes, as it should, the pivotal department in our commercial and industrial organizations, every position will be looked upon not merely as a productive unit, but also as a place for training and for testing fitness for more responsible positions.

The bureau has been attempting to make the most of previous experience in vocational selection by standardizing application blanks and letters to former employers, and also by systematizing the rotation within the organization—the line of promotion within the organization—so that success in any position is not only the best training, but also the best possible evidence of fitness for the next higher position.

The second factor in general use by commercial firms in selecting salesmen is human judgment concerning the applicant. This may be the judgment of the youth himself (supplemented by that of a friend) or that of the employer. In order that the judgment of the youth may have value he must have some knowledge of his own strength and weakness; in addition to that he must have a knowledge of the requirements, the hardships, and the rewards of the one or the many positions under consideration. In these particulars the youth may be assumed to have some knowledge, but unfortunately his ignorance exceeds his knowledge. In the future we shall doubtless do more to help the youth in his self-analysis, and we shall provide him with more adequate data under the general name of "job analysis." For the present, the greatest weight in vocational selection must be given to the judgment of the employer or of his representative. This judgment is ordinarily formed at the time of what is spoken of as the interview. Strange as it may seem, no standard practice has been evolved for conducting the interview in such fundamental features as the length of time devoted to an interview, the method of conducting it, the points to be looked for in the application, the standard scale for weighing the applicant, and the method of recording the interview. From work that has been accomplished during the present year, it seems perfectly certain that a study of these factors in an interview will result in a reduction of 50 per cent of the time the employer spends in interviewing and will increase the value of his results 100 per cent.

These two factors, previous experience and human judgment, are and possibly always will be, the most important factors in both vocational guidance and vocational selection. However, many of us who have been studying and experimenting with employment problems have become convinced that these two factors are too expensive and too uncertain to meet the demands of the twentieth century business world. We need some additional, inexpensive, simple, accurate method of estimating the fitness of each of the applicants for the many positions into which modern business is subdivided.

One method proposed which meets these conditions and which is being used by firms is that of special tests. The first special test devised and employed according to scientific principles for selecting the fit from the unfit among applicants is that devised by Prof.

Seashore, of the University of Iowa, in selecting applicants not for business positions, but for entrance on a musical career. During the last few years many of us have been trying to accomplish for particular vocations that which Prof. Seashore accomplished for music.

The bureau of salesmanship research is experimenting with such tests for selecting salesmen. Any description of these tests and the principles on which they are based is of course out of place at this time. From my experience in devising and applying tests, I am convinced that special tests are to be an important part of every successful attempt to deal with the employee problem in business.

The bureau of salesmanship research has been working with methods of evaluating tests, and feels justified in presenting four such methods for checking the accuracy of special tests used in selecting the most capable from among a group of applicants for a selling position. The first of these checks is what we have named the "firm rank." It may be illustrated as follows: If the task is to select salesmen for a particular commodity working under special conditions, the sales manager can readily try out the tests in advance by the following method. Let him select from his present force 10 successful salesmen, 10 who are moderately successful, and 10 who have been thoroughly tried but have not been successful under the conditions for which new men are sought. Let him arrange these 30 in rank order, from best to poorest. Let his rank order then be combined with the rankings made independently by two or more executives of the firm who are acquainted with the salesmen and their work. This combined ranking may be called the firm rank, and should agree closely with the rankings of the 30 salesmen secured from the test, if the tests are dependable. In actual practice a correlation is frequently secured in excess of 0.75.

The second check of the tests is called by us the "ringer check." It consists in having experienced men tested with the applicants. If a man has already proved himself successful in a given position and then is tested with the applicants for the position, he should make a good showing if the tests are adequate. Correspondingly, the man who has been thoroughly tried in the position and has failed should not be able to make a good showing if he takes the tests with the applicants. Men of known ability appearing with applicants are called "ringers" and are useful in checking both the adequacy of the tests and of the method of giving the tests.

The third check on tests is called the "vocational accomplishment check" and is the most dependable of all. But it is not available until after the applicants have been put to work and their accomplishment watched for months or even years. It consists in comparing the ratings received in the tests with the later accomplishments in the vocation. No man engaged in vocational selection

should rest content in giving any tests that are not constantly being checked up by this most exacting of all checks.

There is a fourth method of checking tests for vocational selection. For the lack of a better name, it may be designated the "applicants-experts check." A concrete illustration will make this method clear: About 230 applicants had been recommended for appointment to a selling position by the officials of a large company. (For a period of years about 85 per cent of all applicants recommended for appointment fail, resign, or are discharged.) It is only fair to assume that these 230 men are a typical group, that 85 per cent of them, if appointed, would fail. Before appointment the men were all subjected to a series of tests. In the territories where these 230 applicants were being tested about 20 managers were induced to take the tests with the applicants. These 20 managers had all succeeded in the task for which the applicants were being tested. The term "applicants" as used here refers primarily to those who will later fail and the term "experts" refers to those who have, at least in a moderate degree, succeeded. The accomplishment of the two groups in the tests is indicated in charts. In all the charts the figures on the base line indicate the score received in the test. The numbers in the vertical column to the left indicate the percentage of the group securing that particular grade or worse. Thus 30 per cent of the applicants received in Test I a grade of 51 or less. Thirty per cent of the experts received a grade of 68 or less.

Each of the tests separated the groups fairly well with the single exception of the word-building test. Test II is too difficult for either group, but still it differentiates the groups. Tests I, III, and IV are very satisfactory in differentiating the groups.

Test I is a test on general native ability. Test II is an unpublished test for foresight or for imagination of the constructive type. Test III is a test of system and speed. Test IV is a measure of one's ability to see what is wrong in a more or less complex situation and to make it right. The word-building test is the measure of rapidity of a low type of thought.

We feel safe in recommending the continuance of the use of any test that has been found satisfactory by each of these four checks. No matter how clever a test may appear, what theory underlies it, or who recommends it, we have no confidence in any test for vocational selection until it has been checked up by some such practical means as the four just described.

I recommend for immediate use the firm rank, employment of ringers, the preparation of the data for securing the accomplishment tests, and the applicants-experts test wherever you can check up the experts on the one side and the balance on the other. If this group of employment managers is really to become professional, I think it

must be because you do what the other professions do, you utilize all that science has available for you at this time. If you are advocating any insurance scheme do not get it up yourself, and do not advocate a scheme that is condemned by all the actuaries. If you have a scheme for promoting health, question it seriously if it is condemned by all the doctors you know. If you have a scheme of dividing off rooms and space that is condemned by all the architects that you know, assume for once that you are mistaken. If you have a scheme for selecting employees that is condemned by every psychologist you know, you should realize that you are acting unprofessionally.

I believe the welfare of this organization is pretty closely connected with the utilization of the results of modern science in your work. In all the sciences I have mentioned we have a perfectly responsible group of men at work, and if we ask the entire group a question on their specialty and they tell you "This thing has been condemned long ago by us," you are not professional, you are not keeping an open mind, by going against the opinion of the experts.

I believe that this will be a professional group, and I believe it will be so largely because you utilize the findings of modern science and apply to your work critical tests of the kind I have just been describing.

The CHAIRMAN. To get an illustration of the scientific method of selecting help we may go to that used by Mr. H. L. Gardner, of Cheney Bros., of South Manchester, Conn.

THE SELECTION PROBLEM OF CHENEY BROS.

BY H. L. GARDNER, EMPLOYMENT MANAGER, CHENEY BROS., SOUTH MANCHESTER, CONN.

I am asked to speak on "The selection problem of Cheney Bros." Use of the word "selection" would imply the existence of a supply from which to select. I am frank to admit that "elimination" would better describe our policy of the past year or more—that is, we have by a process of elimination turned away only those whom our conscience would not allow us to employ. I have been issued strict orders by the committee to confine myself to a statement of actual procedure at our plant; to talk interestingly of our employment methods to a body of experts is a difficult task, but with your indulgence I shall try to follow orders.

A few words of explanation for the benefit of those who may not be acquainted with South Manchester, Conn., and with Cheney Bros. We are situated in a live town of 19,000, with excellent schools, churches, amusements, and opportunities for recreation. We are, however, isolated from other textile centers and dependent largely upon "family help" in getting out our product. We are the oldest and largest silk manufacturing concern in the world, employ approximately 5,000 people, and carry the process from the imported raw material to the finished goods under our own roofs. In addition to strictly textile work, we have our own machine shop, electrical department, carpenter, paper-box, and paint shops, millwrights, tanners, and plumbers, pattern shop, private railroad line, and yard labor. Incidentally we handle the manufacture, installation, and maintenance of the town gas and electric light. It is, then, easy to realize that we are hiring for a total of several hundred different operations, the requirements of which are varied and more or less specific.

We might any of us be excused if we should casually consider "selection" a comprehensive topic or an independent operation of employment work. Upon careful thought, I know you will all agree with me that the subject of "selection" can not be touched upon without disclosing its intimate relationship to other phases of the work, such as source of supply, promotion and transfer, job analysis, etc.

"Birds of a feather" is a pretty true adage, and I certainly believe the existing working force of any plant is usually the source of the best applicants for work. If consistent personnel work has developed an esprit de corps, a "good name," for your plant, you may count on obtaining, among friends and relations of your desirable employees, the best type of new material for your factory.

Success in this method necessitates the creation, in the minds of your employees, of the proper feeling of responsibility toward work and employer.

Such recruiting of applicants by your working force must be shown due appreciation, cold cash being perhaps the most tangible form such appreciation can take; results, while limited, are usually comparatively excellent as to quality and continuity of service.

We have in South Manchester an excellent trade school, with day and evening courses. Cheney Bros. are under contract to take textile graduates at a high starting wage and all encouragement is shown to those of our employees who are seeking to broaden the scope of their wage-earning ability by attending the evening classes. In almost every case we have promoted the workmen who strive to fit themselves for higher grade jobs. The less interesting sources of supply such as advertising and scouting are, of course, common to us all and need no comment.

We are trying to carry to its fullest possible realization the policy of transfer and promotion from within. Application files, tests, and a cross index by operation of all our employees capable of more than one type of work, help us to eliminate the tendency to "go outside" in filling the better openings.

Possibly I have appeared to be aiming somewhat wide of my mark "selection." Our situation in South Manchester might be likened to that of a man picking apples from a tree; his skill may enable him to select the best on the tree, but after all is said and done, he is absolutely dependent upon the quality of apples grown on that particular tree. The real work ahead of us lies as much in the improvement of basic conditions affecting the quality of our supply as in the actual selection of individuals from that supply.

A few generalities on the employment policy of Cheney Bros. The entire work is handled in the employment department; foremen are not allowed to hire under any conditions, but may refer to the employment bureau any applicants they desire in their department. Applicants are not allowed in the mills or at the various department entrances, but must come to the bureau to be interviewed. We are notified of vacancies through use of "requisition for help" sheets made out by foremen and O. K.'d by superintendents. We are making some study of "job analysis." I believe that written specifications are of great value in hiring for highly skilled tasks, or where experiment and study have demonstrated the absolute necessity of certain physical qualifications in the successful operative. I also believe that in dealing with mental and nervous requirements, or in filling vacancies such as in a sales force, where personality, tact, etc., are of great importance, an analysis can not be too complete. I am convinced, however, that we face the danger of carrying job analysis too far, of depending too much upon a set rule. Any semiskilled

operation will offer unlimited examples of highly successful workers exactly opposite in type to that called for by an apparently practical analysis of that job; human nature itself is too complex for us to expect it to conform with any degree of certainty to the most careful job analysis. My view might perhaps be summed up in the statement that any specifications for hiring should serve only as a guide or reminder; constant contact with the workers and with the work itself, coupled with a lot of horse sense, insures fairly successful selection.

To get down to brass tacks, and to our methods of selection, I am going to deal with this operation under the following general headings:

1. Personal interview.
2. Physical examination.
3. Interview with foremen.
4. Mental tests.
5. References.

In taking up topic 1, personal interview, let me explain that such interview is necessary before receiving offer of employment by Cheney Bros.; we make no promises of jobs by mail. In our window interview we try at once to secure from applicant all the information necessary for complete record and to give us a comprehensive understanding of the task at hand, namely, to place that applicant on the job for which he is best fitted. Some of the important factors brought out in this interview are the applicant's education, experience, recent earning power, stability on last job, whether or not he has friends or relatives in our employ—in other words, a "stake" in our town which would indicate the chances of his service being continuous—and above all, the mental attitude of the applicant toward the work, pay, conditions, etc. We work on the theory that we should attempt to find a suitable job for the man and not a perfect applicant for every job.

Our next step is the physical examination, compulsory for all new or reinstated employees, all transfers, and promotions, regardless of the class of work to be performed.

Statistics of the work of our medical department for the past year are of a most interesting nature and show some surprising facts; time does not warrant my giving much in this line, but a few items might be worth while. Our medical department averages in the neighborhood of 40 cases a day, it has disclosed nearly every form of affliction and disease, corrected subnormal vision, advised and prescribed for physical ailments, arrested incipient tuberculosis, prevented the placing of color-blind applicants on color work, flat-footed sufferers on standing jobs, applicants with hernia on heavy work, people with suspicious lungs in dusty places, and has performed numberless such acts of humanity and of hard business sense. You may wonder, in view of my last remarks, how we can find anyone

whom we consider fit to employ, and yet, without deviating from our prescribed course for certain classes of work, our medical department in a recent month rejected for employment only 11 applicants out of a total of 240 and odd examinations. The humanitarian results of the medical examination form sufficient argument for its installation in every manufacturing plant, but the effect of such work is far from altruistic; it should be interesting to the manufacturer, from the standpoint of dollars and cents, to know that our medical department is more than paying for total expense of maintenance in the savings effected by reduction of absenteeism calling for payment of health insurance, by reduction in amount of workmen's compensation paid, etc., not to mention the benefits derived from improvement in general health of employees with its resultant increased efficiency, in raising the standard of physical condition and cleanliness of new employees, and the beneficial effect on civic and home conditions. So much for our physical examinations.

When we have selected and examined an applicant, with a specific task in mind, we go one step further. We almost invariably send that applicant for an interview with his prospective foreman. By means of a small card and return envelope, we get this foreman's opinion of our selection. He may even express his unwillingness to accept the applicant, but he must state his reason in full. If the foreman wishes the applicant to work in his department, he checks on this card his opinion of the man we have selected. Filing these cards gives us some interesting references to compare with foremen's opinions of same employees when they leave or are discharged, and surely serves to keep the employment bureau interested in this particular phase of the work.

In dealing with the fourth topic under "selection," that of mental tests, I shall merely touch upon our application of such in connection with selection of applicants for higher grade work—clerical, systematizing and cost work, and executives and sales force. We are using, in the main, a series of tests devised by Prof. Scott, whom we have just heard in a very interesting and comprehensive talk on this very subject. We have tested several hundred "victims," tabulated the results of papers for particular qualifications, and have watched the actual achievements of the subjects of these tests. I can say without reserve that the correlation of tests with subsequent accomplishment is extremely high, and that such tests offer a very valuable aid in selection for mental qualities. Another result of the tests of Cheney Bros., and by no means an unimportant result, has been the stimulation of our employees to take these tests as a means of advancement and promotion to better work. We select all our loom fixers from the ranks of weavers, on the strength of their "showing" in a test for mechanical ability; we have secured scores of good timekeepers, schedule men, and clerks from those of our mill operatives who

showed ability on simple mathematics, general intelligence, speed, and accuracy—just an added incentive to both employer and employee to foster the “promotion from within” idea.

The last topic under discussion, that of reference from previous employers, I believe deserves a few words. There seems to be a prevalent opinion among employment men with whom I have talked that benefits derived from looking up references are, as a rule, doubtful if not negative. I admit that we all frown when called upon to fill out a long questionnaire asking for the color of the applicant's hair, how intimate our relationship has been with him and his family, and whether or not he has ever given us a ride in his automobile. We use at Cheney Bros. a card 6 by 4 inches with return stamped envelope, asking former employer simply to check off, in spaces provided, the nature of the applicant's service as to work, conduct, ability, and character. We get excellent cooperation from firms to whom we have appealed, and receive sufficient information in 95 per cent of the cases investigated. Any one of the numerous instances in which we have detected, by means of reference, labor agitators, trouble makers, and men or women of objectionable moral habits unquestionably has paid for the postage and slight extra labor for the year.

This merely leads me back to the conviction that no employment department is half accomplishing its purpose by selecting sufficient help to supply the plant satisfactorily with workmen skilled in the work required. We are striving to secure workmen who will be an asset to the mental and moral status of our plant and our community. The ideal type of employee which we are all scouting for will appreciate the opportunity to work for a concern that realizes and expresses its responsibility toward its human investment, and will feel a reciprocal responsibility to do good work and assist in making the relation of employer and employee one of cooperation in all matters.

Furthermore, if it is made difficult for the undesirable to “get by,” the unhealthy or unclean to obtain employment, it follows surely that the undesirable will not try to get a job at your door, and selection from the greatly improved grade of applicants will become less and less of a problem.

In closing, and as a balancing thought, let me state that figures for the past few months show that we are finding work for approximately 76 per cent of our applicants. I emphasize this point for the following reasons: If we are going to get anywhere in the larger scope of personnel work—“fellowship,” industrial democracy, Americanization, and all—we employment men must school ourselves, even in times of more plenteous labor supply, against anything but the most discriminating and justified rejection of applicants. We are, all of us, laboring for the privilege of existence, of providing a home and caring for our family; “there is so much bad in the best of us and so

much good in the worst of us" that we must surely be willing to give our fellow men at least the benefit of the doubt.

The "problem" resolves itself, as I see it, into ability to see something of the other fellow's viewpoint; not to expect to select a 100 per cent efficient worker for each vacant job, but by study, experience, scientific aids, and a whole lot of heart ultimately to place the deserving human souls that come under our influence in a position to get the most out of their labor and their lives. The resultant benefit in such cases to the employer, to the plant, to the community, and to the great cause which has called this convention will certainly be its own ample reward.

The CHAIRMAN. Thanks to the cooperation of the speakers this morning, in keeping to the schedule, we shall be able to do justice to the other two speakers announced and yet provide for a very important interruption at this moment. Mr. Gilman and Mr. Kennedy will deal with reasons for leaving, and Mr. Kennedy's talk will be illustrated with lantern slides, which will necessitate our darkening the room. That would, of course, properly come toward noon, and we shall be able to follow that program and yet give everyone of us here the benefit of hearing a very important message. There is not an employer in the United States who is not interested in knowing at this moment what the Council of National Defense, through its advisory committee on labor and welfare of workers, has just passed on in Washington. Indeed, several gentlemen here have asked that some message be secured from them. Two members of that advisory committee have just arrived to take part in the proceedings—Mr. Alvin Dodd, whom we are glad to know is willing to make a statement, because he thinks it will be both reassuring and interesting; and he suggests that Mr. John Fitch, the well-known industrial investigator, will add anything that should be added to Mr. Dodd's statement. I will call on Mr. Dodd to say something about the meeting in Washington yesterday and its relation to our convention.

ALVIN E. DODD, secretary, National Society for Promotion of Industrial Education. A meeting of the advisory committee on labor and welfare of workers connected with the Council of National Defense was held all through the day and until nearly midnight yesterday, and was of almost as much importance as the President's message given at the Capitol last evening at about 8.30 o'clock.

The welfare managers should know about the work that the Government now has in mind because they will take back to their communities a message which will have great influence in maintaining the poise and the clear thinking that is so necessary at this time.

First of all, you know, an organization of national defense was appointed some time ago, consisting of the Secretaries of Agriculture, Commerce, Labor, War, Navy, and Interior; Mr. Howard Coffin; Dr.

Martin, representing the physicians and surgeons of America; Dr. Godfrey, representing the scientists; Mr. Gompers, representing labor; and Mr. Willard, of the Baltimore & Ohio Railroad. The Government is planning definitely on a three-year basis of war and our people will be surprised at the careful planning that has been done by the Government in anticipation of events.

The Secretary of Labor pointed out to us that it is not safe for this country to count upon the developments in Russia as being of sufficient influence over the rest of the world to bring peace early, and if Russia proves to be unsteady, the situation confronting the United States will be far more serious than many of us have comprehended. The members of the Council of National Defense have been asked to organize committees of citizens and representatives throughout our country which may bring together the information, the knowledge, and the judgment of the country, to be utilized in national defense.

The committee on labor and the welfare of workers which Mr. Gompers was asked to organize sat all day yesterday and discussed plans of organization. The feeling is very strong that this country should profit by the experience of England and other countries. We should not allow ourselves to become involved in the labor difficulties which arose after the outbreak of the war in England. We should guard against the very serious possibilities of disorganization and disruption of industry and of the force now dealing with the most important resources, which this country must place at the disposal of the cooperating countries immediately.

It was felt that an organization committee should be called to plan for certain subcommittees, and that the central committee and these subcommittees should see if it would not be possible to work out in our organization how to conduct the war successfully on a democratic basis which would preserve our ideals of democracy and prevent our reverting to the oligarchic methods which were necessary in England.

I wonder if you realize the rather extraordinary power that was given to the President in the Army bill. The President and the Secretary of War have power to-day to take over any plant or organization in this land and to utilize it for governmental purposes. It is not intended, however, to proceed on that basis, except where actual necessity requires. During the next few weeks it is hoped that the machinery of organization may be put into operation so that it will bring a cooperation which will be far more effective than any autocratic methods, because it will bring not only efficiency but loyalty and a spirit which we all realize is going to be so necessary for success in whatever we undertake.

Now, briefly, these committees are made up of representatives of the three groups, the Government, employers, and employees. There are committees on wages and hours; standards; fatigue and physical

welfare; sanitation; housing; equalization and conciliation; and education.

These committees drew up the plans yesterday which are being presented to the Council of National Defense to-day for approval and judgment, and suggestions on the assignments of various functions of these different committees which may have been overlooked.

The executive committee, which was appointed yesterday, and which will remain on the job in Washington, consists of the following: Samuel Gompers, president, American Federation of Labor, chairman; Miss Gertrude Beeks, National Civic Federation, secretary; William B. Wilson, Secretary of Labor; Warren S. Stone, grand chief, Brotherhood of Locomotive Engineers; Frank Morrison, secretary, American Federation of Labor; James Lord, president, mining department, American Federation of Labor; James O'Connell, president, metal trades department, American Federation of Labor; V. Everit Macy, president, National Civic Federation; Elisha Lee, general manager, Pennsylvania Railroad; Lee K. Frankel, third vice president, Metropolitan Life Insurance Co.; C. E. Michael, National Association of Manufacturers; James W. Sullivan, assistant to Samuel Gompers as member of advisory commission; Louis B. Schram, chairman, labor committee, United States Brewers' Association; R. M. Easley, assistant to Samuel Gompers as chairman of executive committee.

The committees gathered yesterday were asked to go back to their communities to set the machinery of every national organization in motion and everybody in this country at work on careful thinking and planning of how each might be of the greatest possible service. .

The time has come when we are to turn our faces not toward the past and the difficulties between labor and employers, but as to how we shall get together for the common purpose of preserving this Nation and the ideals on which it was founded.

There is no more important group of people, who will deal with the problems before us, than those representing the employment end of the various industrial concerns over our land. It is not the idea of the Government that we are going to need at once enormous numbers of soldiers for service abroad, and even if we did need them our situation is such that they could not be efficiently prepared. The maintenance of supply ships between this country and Europe would be almost physically impossible for maintaining such a force, if we were able to send such a force over at once. But, as the President pointed out in the message which you have all read, all our industrial and financial resources may be quickly mobilized and during the next few months we will be preparing the military and the naval service for the work which they may have to undertake.

The problem of food alone in this country is regarded as very serious. It is extremely important that the agricultural as well as

the industrial opportunities and facilities should be speeded up, and that we should get busy at once on the question of supplies, not only for ourselves, but for the countries across the sea.

There are certain very fundamental questions such as the standards which labor has carefully built up, and which may be more or less changed during the next few months or years, with which the workers are concerned, and these in fairness and in all propriety should be definitely understood and settled before we go very far. We do not want any questions in the minds of employers or employees that will hold back the progress of our Nation in the fight in which we now are.

I think the greatest significance of the meeting yesterday was that some of the people most hostile as individuals forgot all differences, and sat down together on this problem, with the determination to reach a proper and satisfactory understanding on plans. If the war goes as far as it may, one great good will come out of it—better understanding between capital and labor.

JOHN A. FITCH, of the Survey, New York City. There is but little to be added to what Mr. Dodd has said of the significance of yesterday's meeting. It consists in the fact that those groups of people got together, and they got together historically nearly a year ahead of the same thing's happening in England. Not much has been done yet. What may be done is the important thing, and the cooperation of you who are in the meeting and doing the important things that you men are doing is absolutely essential to make that meeting of yesterday really work out any accomplished facts.

The spirit of the meeting was what Mr. Dodd has told you. Mr. Howard Coffin appeared at the meeting and said that the manufacturers of the country would be willing to serve their country without regard to making profits in time of war. I do not mean to say that he said they were willing to manufacture goods without profit—they ought not to do that—but he made it clear that there would be no desire to take advantage of an opportunity to make excessive profits.

The Secretary of Labor, a member of the largest union on this continent, the United Mine Workers of America, with 400,000 members, said that labor was ready to make concessions; that labor would not demand all that it has been demanding and all that it might demand under other circumstances; that they, too, were prepared to make concessions in order to serve their country.

The thing that I want to call particularly to your attention, however, was the thing that stood out through all the discussion, and it is a thing which I think concerns a point that is a very grave danger. We are likely to have, on the one hand, demands made upon people that they shall do more than they ought to do. On the other hand, there will in all probability be a desire on the part of many people to do more than they ought to do, to try to do so much that they will be ineffective rather than effective.

Already there are suggestions that laws that set up standards and put restrictions on employment should be set aside for the time. A bill is before the New York Legislature to abandon standards that have been worked out through many years. Such bills will undoubtedly be passed in other States. On the other hand, it is proposed by union men that they shall voluntarily give up restrictions on the hours of labor, and a little while ago a labor man of prominence was quoted as saying that labor would be willing to work 15 hours a day in an emergency if necessary.

Now, that is splendid, but those who are offering it and asking it, who read the history of England in the last few years, know that that sort of thing is not efficient, that that sort of thing does not mean the utmost output. At the beginning of the war they threw aside all restrictions; they worked overtime and worked seven days a week. There was a case where some girls worked 24 and 30 hours on a stretch, and there was a prosecution under the law on account of that overworking of those employees, and the judge dismissed the case and said the girls were entitled to medals for the work they did. Yet when they sent a government committee to make an investigation they found that in the interest of getting out munitions it was necessary to put back the restrictions, not all of them, perhaps, but to put back the one day of rest in seven, and to put a limit upon the amount of overtime that would be permitted.

They also found it was a good thing to give back the holidays that they had taken away, and recently I understand that several additional holidays have been given to the workers in England, and also that vacations are given sometimes, in order that the workers may be refreshed and strengthened, so that they can go back to their work with renewed vigor and help England to win the war.

Now, this is the point—we have, on the one hand, to keep in mind that a demand will come from the public that men should work beyond their strength, and on the other hand, to restrain that patriotism that will suggest to workers that they do work beyond their strength.

That point was emphasized throughout the meeting yesterday, and yet it will have to be carried out far beyond anything that the members of that committee can do; it will have to be recognized and preached by everybody that has an opportunity anywhere to exert influence, and may I commend to you the examination of the reports of the Committee on the Health of Munition Workers, which committee was organized under the ministry of Lloyd George, as Minister of Munitions, and which said at the outset that they had but one purpose—to determine how best to secure the efficiency of the workers. They had no sentimental influences, no emotions

whatever; they wanted to know how to create the maximum efficiency in order to win a war, and with that spirit they suggested reasonable restrictions on hours of labor.

The CHAIRMAN. Are there any who wish to ask questions of Mr. Dodd?

DISCUSSION.

L. S. TYLER, of New Haven, Conn. There is one question I would like to ask: Whether these organizations, which are not directly and self-evidently engaged in the manufacture of war supplies and which have offered their plants and organizations to the Government, when a call for volunteers is issued by the President, as will probably be the case very soon, are in danger of losing elements of their organization vital to the proper running of their plant if the Government should need that organization and plant in the near future?

I ask this on account of our own situation, for the better part of our executive organization consists of young men who attended the Plattsburg camps last summer, and who will be the first to answer the call for volunteers. To what branch or office in Washington may we refer for specific directions as to whether we should report to them a danger of breaking up our organization as the result of a call for volunteers, or whether the men should be allowed to act as they see fit?

The CHAIRMAN. For the present I should communicate directly with Mr. Howard Coffin, of the Council for National Defense. It is the feeling, I think, of all concerned, that the call for half a million men which the President has asked Congress to issue very shortly will not seriously disrupt the industries or the concerns making either munitions or necessary supplies, though it may do so in some cases, but the council has very much in mind the necessity for early organization in order to protect the country in just the way that has been implied by Mr. Tyler's question.

Now, there was a very strong note sounded that the Government should take steps at the earliest possible moment to prevent hardships coming upon families of men who did enlist, and I dare say that within a very few days some things will be worked out, or at least the thought will be crystallized for later action on that problem.

It is so obviously impossible for us to use our troops to any extent at the present time except for internal protection, etc., that there is going to be time for gathering the machinery together. I do think that the plants having employment managers here and the plants having large numbers of workers should take into account what has been brought up, Shall we or shall we not urge our workers or perhaps hold them back a little, or consult with them about the

desirability of their going into service at once? Of course through the National Guard the larger number of soldiers will be recruited, but there are going to come within the next few months developments along other lines, perhaps Federal or national lines, for gathering troops, and one of the things that is sure to come to our attention is the taking of workers from places or allowing workers to go from places where they can be spared or whether other workers can be shifted, from one work to another, perhaps from plant to plant or locality to locality, to meet the vital needs of the country.

Mr. TYLER. That answers my question.

The CHAIRMAN. Mr. Wells, will you read the report of the organization committee?

Mr. WELLS. The committee that was appointed and was requested to meet in accordance with the motion passed at last night's session got together in the evening and discussed the question of forming a national organization. It was felt that while the time was hardly opportune for forming a formal organization with elaborate machinery yet there was need of a closer affiliation among the existing associations. It was also felt that to a great extent the wonderful success of the employment managers' movement had been due to the fact that there had been in the several communities groups that had been working intensively on the question and that nothing should be done which would interfere with the work of the local association. It was the unanimous opinion of those present at that meeting last evening that no formal organization should be formed, but that we should have a national committee of employment executives' associations, with a single representative from each local employment managers' association, or other organization which is similar in character; that in addition to this national committee, which is the one which would have power to arrange national conventions and to take up such matters of cooperation that might seem desirable, there should also be an advisory committee consisting of two leading business men selected from the community by the local association. In accordance with the sense of the motion that was passed, expressing the opinion of the group assembled last evening, the following resolution has been prepared, which with your permission I will read and then move its adoption:

REPORT OF ORGANIZATION COMMITTEE.¹

Whereas it is desirable to bring about a closer affiliation among existing organizations of employment executives and such other similar organizations as may be formed in the future; and

Whereas it is desirable to provide a means of arranging for future annual conferences:
Therefore be it

¹ See footnote p. 132.

Resolved by this convention, That there be established a national committee of employment executives for the purpose of bringing about a closer affiliation among existing associations, and that each of the following organizations, namely—

Boston Employment Managers' Association,
 Employment Management Group of the Detroit Executive Club,
 Chicago Employment Managers' Association,
 Philadelphia Association for the Discussion of Employment Problems,
 San Francisco Society for the Study of Employment Problems,
 New York Society for the Study of Employment Problems,
 Newark Society for the Study of Employment Problems,
 Rochester Employment Managers' Group,
 Cleveland Employment Managers' Group,
 Pittsburgh Employment Managers' Association,

be requested to select one of its active members to serve as a member of this national committee, said committee to elect its own chairman and secretary; and be it further

Resolved, That the duties of this committee shall be, first, to arrange for a general meeting similar to this convention, approximately one year from this time, in cooperation with such local association as may be selected by said committee; and, second, to arrange for such cooperation among local associations as may seem desirable to the committee; and, third, to invite such other organizations of employment executives as this committee may decide to be eligible to membership in this affiliation to become members and designate one of its members to serve as a member of this national committee; and be it further

Resolved, That the executive committee of each local affiliating association be requested to select two leading business men who are actively represented in the membership of such local association to serve as members of an advisory committee to the national committee of employment executives.

Mr. WELLS. That is the resolution which I believe embodies in a more formal manner the sense of that meeting, and I move its adoption.

[The motion was seconded, the question put, and the resolution unanimously adopted.]

A. LINCOLN FILENE, of William Filene's Sons Co., Boston, Mass. May I say just one word at this particular moment? As most of these employment groups are here in the east, and as we only have a few from the Middle West, I think it is wise for your committee to

¹ This committee met at Rochester on May 17, 1917, to organize a permanent national committee which would serve to correlate the independent local organizations. The following committee was appointed: Chairman: Joseph H. Willits, secretary of the Philadelphia Association for the Discussion of Employment Problems.

Vice chairman: John C. Bower, secretary of the Pittsburgh Employment Managers' Association.

Secretary-Treasurer: Ralph G. Wells, secretary Boston Employment Managers' Association.

Mark M. Jones, president Newark Society.

C. L. Miller, secretary Employment Managers' Group, Detroit Executives' Club.

W. H. Winans, Employment Managers' Group, Manufacturers and Wholesale Merchants Board, Cleveland.

E. B. Gowin, secretary The New York Society.

C. R. Beard, president Chicago Employment Advisers' Club.

Lewis B. Ermeling, Rochester Employment Managers' Group.

F. Dohrmann, president San Francisco Society.

The object of this organization is stated as follows:

(1) It aims to bring about a closer cooperation between organizations devoted to the study of employment problems;

(2) It shall arrange for national conferences; and

(3) Assist in the interchange of reports of meetings, investigations, and information of interest to local associations.

have taken cognizance of that point, as they have done. But it seems to me that this group of men could take back into their factories this one thought, and that is that concerns which they represent ought to ask themselves concerning the attitude of the management toward the enlistment, and the help generally, of the men and women in their employ in this crisis of American history, and what they are really going to do when their men say they want to enlist or their women say they want to enlist, or the city or State or country is calling on them for special service.

In other words, if this group could take back into their organizations an outline or survey of the attitude which the firms they represent are going to take in this crisis in our history, the work which the employment managers are now on the eve of making so great and so important a factor in history will well have begun.

I want to say that I have just returned from a three months' vacation, and have not been home, and yet in my mill yesterday morning I received the statement of the manager of our concern, which told what attitude the management was to take toward the men and women enlisting, how we were going to substitute their work, what part of our organization could in a measure substitute, so as to expand at the point where the men who went to war if they had to go would be able to get the same salaries that they get, by helping out with the rest of the organization, within reason, and to keep the pay roll within bounds.

Those are only two or three points, but we have a great many things in which we here are going to be able to aid.

The history of what has happened in Europe and the substitution of men in factories ought to be known to every man and woman here who has anything to do with employing help. There is a great deal of history already made, which this country does not need to repeat, in the mistakes of Europe, and if we could find out just what has happened in Europe, and how much of that should not be applied here, it will adjust itself and some day we will look back in a proud way in thinking that the first national meeting of employers was at a time of crisis in this country.

I hope the men and women here will take back that word to their own organizations and be able to tell the National Council of Defense, or other Government agencies which may need this kind of knowledge, be able to tell the Government, what their concerns are willing and ready to do.

The CHAIRMAN. Now, to carry out suggestions Mr. Filene and others have given, we need technical information. The next speaker will be Mr. J. T. Gilman, employment supervisor of William Filene's Sons Co., Boston, Mass.

ANALYSES OF REASONS FOR LEAVING AND THEIR USE.

BY JOSEPH T. GILMAN, EMPLOYMENT SUPERVISOR, WILLIAM FILENE'S SONS CO., BOSTON, MASS.

No progressive business house to-day questions the statement that one of the largest economic losses in industry is the loss due to high labor turnover. It seizes with avidity upon any machinery or method of control which will tend to reduce the number of "hirings and firings."

Mr. Boyd Fisher, of Detroit, in his paper "How to reduce labor turnover," has given a complete and comprehensive method of attack upon the problem. At the moment we are concerned only with the "reasons for leaving" as an aid to the reduction of turnover.

In order that we may have a guaranty that leavings are for adequate reasons and that control of them is efficient, it is absolutely necessary that all questions affecting individuals or groups of individuals should be placed in the hands of a labor department, which should have full power on all questions of employment, discharge, transfer, wages, hours, and conditions of work, etc. I do not mean by this to take away from foremen or department heads the right to remove from their department, but to take away from them the right to remove from the business, thus giving the labor department an opportunity to check the action of every department head, to investigate every case of removal, and also to have an opportunity to try out the individual in some other place.

In Filene's we have an added check through the arbitration board, a short description of which will not be out of place.

Purpose.—The purpose for which arbitration is established in the business is to insure justice in the administration of the work of the store.

Scope.—The scope of its activity shall include all cases in which any member of the cooperative association has reason to question the justice of a decision by a superior or the action of a cooperative association committee or member.

Duty.—The duty of the board shall be to see that justice prevails either by initiating an inquiry or by granting a hearing to any member of the cooperative association. It shall conduct an exhaustive examination of each case coming before it.

Powers.—The powers of the arbitration board are intended to extend to all cases of difference relating to—

- (1) An employee and the management.
- (2) Two or more employees in matters of store interest.
- (3) The justice of a rule in question affecting an employee.

The questions most frequently brought before the board are of dismissals, changes in position or wage, transfers, location in the store, missing sales, shortages, lost packages, breakages, torn or lost garments, differences between employees, payment for suggestions.

The decision of the board is final for all cases arising within its jurisdiction; it may, however, reconsider a case upon request if it so chooses.

In cases of dismissal or increase of pay a two-thirds vote of the entire board is needed but in all other cases a majority vote of the entire board decides the case, and in cases of salary deductions shall be an order for refund.

In minor cases, by majority vote of the whole arbitration board, the chairman may appoint a subcommittee of three members to act as an arbitration committee. Its action may be appealed from, by either party, to the board for confirmation or further action by the board.

Any executive may have any controversy between him and the executive authority of the corporation, in respect to his employment, arbitrated by a special committee—one member to be chosen by the executive, one by the corporation, and the third by these two. Decisions given by a majority of these three arbitrators is final.

The arbitration board consists of 12 members elected one from each section of the store, and a chairman appointed from the council by the president. The member of the board elected from each section of the store shall be the counselor or adviser of that section. Duties of the section counselor are:

- (a) To advise the employees of his section on questions arising in the conduct of their work.
- (b) To distribute information as to the arbitration board among the people of his section.
- (c) To instruct an appellant in the detail of presenting his case before the board.

The findings of this board are confidential. It is of interest, however, in viewing its work to note that through the years, the cases seem to average about half in favor of the firm, and half in favor of the appellant.

The action, or I might say, possibility of action by this board guarantees the cause of dismissals before allowing discharges to be made. By a more careful investigation of all requests for removal, we have cut the number of arbitration cases, during the past two years, from about 50 per year, to only 7 cases in the last 10 months, and those were cases where the issue was not clear cut, but largely a matter of opinion.

In order to arrive at a fair decision on any case, the first thing to secure is the real or fundamental reason given upon the request for

removal. By fundamental reasons, I mean such things as health, home conditions (concerning which most concerns know all too little), bad working conditions, unfair boss, and the like. Our monthly employment record is open to criticism from this standpoint. The reasons for leaving listed upon it are too general. Take, for example, unsatisfactory work as a reason. There is seldom any doubt that the work of the individual is unsatisfactory, but what is the reason? May it not be due to home conditions which cause an unsettled state of mind? May it not be due to bad habits after business hours? May it not be due to a physical defect not easily discerned? Or perhaps to as simple, but hard to discover, reason as personal dislike on the part of the boss? As another example, take illness: Who is to blame, the individual himself or the business, because of the conditions surrounding his employment? To my mind, it is imperative, if we are to know the facts as to why our people leave, that we must use only the most fundamental reasons as a basis for analysis. Fundamental reasons must be individual reasons. No two people are alike and no two sets of factors the same, and it is my belief that we should individualize our analysis of labor turnover. We should not deal with our employees as so many people, but look upon them as Nellie Jones plus Helen Smith plus Bessie Brown. If we believe in democratic principles in industry as we do in government, it is the only way we can look upon labor.

Now let us consider the machinery to use in the analysis of the reasons for leaving.

At Filene's we have a form which is called "Monthly employment record." It is in a transition state and far from ideal, but, we believe, a move in the right direction. This record is in the form of a large sheet and summarizes the changes in personnel for the entire store, both numerically and from a dollars and cents' point of view.

At the left the several departments and divisions of the store are listed with intervening summary columns. The tabulation columns fall under two general headings—"Entrances" and "Leavings."

The first column shows for each department and division the number on the pay roll the first of the month. Next comes "Number added," which is subdivided into "New people," and number added "By transfer." "Amount of salary those added" very properly appears next, after which are two cumulative columns for "Number added and amount of salary of those added for the month and since September first," which is the beginning of our fiscal year.

The tabulations for "Employees leaving" fall into the two divisions of "Resigned" and "Dismissed." There is a separate column for each of the several reasons for leaving.

Under the head of "Resigned" are: "Illness," "Died," "Leaving town," "Other line of work," "Return to school," "Marriage,"

“Better opportunity,” “Stay at home,” “Refused transfer,” “Dissatisfaction,” “Left without notice,” “No reason given.”

The reasons for dismissals are: “Dishonesty,” “Expense reduction,” “Unsatisfactory work,” “Irregular attendance,” “Disobedience,” “Bad habits,” “Unsatisfactory references,” “Unable to get along with associates,” “No opportunity.” This last arises where employees have obviously reached their limit or are not adapted to the job, in which case it seems best for the employee concerned to seek another line of work for which he might be better suited. This we believe to be important because it acts as a check on the employment office from a standpoint of poor selection. People are never dismissed for this reason until they have been given an opportunity to try out in some other line of work. If we are unable to fit them into positions for which they are better adapted, the employment office then endeavors to find them jobs elsewhere. I am glad to say that in many instances we are able to place them.

Columns for totals leaving, with salary figures, figured also from September first, are included.

This tabulation embodies two additional analyses, by departments, which are interesting and particularly useful to the executive. One of these is a summary of the length of service of those leaving, figured—

Under 6 months.

Under 1 year.

From 1 to 3 years.

From 3 to 5 years.

From 5 to 10 years.

Over 10 years.

A careful analysis of these figures will throw the spotlight on departments with high turnover and short periods of service.

Watch your new people. Know when they leave after short terms of employment as well as the reasons themselves for leaving. There is usually some connection between this “why and when.”

Secondly, turnover is figured by departments, both monthly and cumulatively since September first.

This tabulation presents to the management monthly a complete employment balance sheet and when supplemented by special reports covering unusual conditions forms a complete industrial audit.

It may be repeated that the success of the scheme lies in the constant vigilance on the part of the executive in checking by personal investigation the “exceptions” as pointed out to him by the summary.

The main weakness which we find with this form of record is the one already spoken of, the reasons which we are at present using we do not consider fundamental enough. Bearing this fact in mind, by

special investigations of such reasons, we, to some extent, are able to obviate this weakness.

The advantage of this summary sheet is our ability to figure turnover by departments or bosses, by reasons for leaving and by length of service. It also acts as a check upon pay roll.

To sum up, an analysis of the reasons of leaving and its use fall under three main divisions:

1. Guaranteeing that there is a reason for leaving by—
 - A. Centralized employment.
 - B. Centralized discharge.
 - C. Appeal to arbitration.
2. Securing the fundamental reason for leaving. It should be fundamental instead of superficial, as is too often the case. Fundamental reasons fall logically into three divisions:
 - A. Relation of the individual to himself. (Home conditions, health due to habits outside of the business, inherent physical weaknesses, etc.)
 - B. Relation of the individual to his environment. (Working conditions—light, ventilation, dust, etc., occupational diseases, accident, etc.)
 - C. Relation of the individual to his executive. (Departmental turnover.)
3. What do the reasons for leaving mean? i. e., analysis by—
 - A. Departments.
 - B. Causes.
 - C. Length of service.

Modern industry is losing that advantage which grew out of the intimate and close touch which the old-time boss used to have with Bill Jones, Tom Smith, and John Brown, and their families.

The thought which I feel to be most important, and which I hope you will take home, is that we are all inclined to deal with the problems of labor in the aggregate and in our analysis do not individualize enough, for in dealing with people no two cases have identically the same factors.

The CHAIRMAN. In order that we may arrive here promptly at 2 o'clock for one of the important sessions, Mr. Kennedy has been kind enough to agree to postpone, until this afternoon, his illustrated talk.

TUESDAY, APRIL 3—AFTERNOON SESSION.

**CHAIRMAN: CLARENCE H. HOWARD, PRESIDENT, COMMONWEALTH STEEL CO.,
ST. LOUIS, MO.**

FOLLOWING UP AFTER HIRING.

The **CHAIRMAN**. It is my pleasure to introduce some one who needs no introduction to anyone interested in these subjects. I am glad to present Miss Gilson, who will speak for herself.

**WORK OF THE EMPLOYMENT AND SERVICE DEPARTMENT OF THE
CLOTHCRAFT SHOPS.**

**BY MARY BARNETT GILSON, SUPERINTENDENT, EMPLOYMENT AND SERVICE
DEPARTMENT, THE CLOTHCRAFT SHOPS, CLEVELAND, OHIO.**

“First catch your hare and then cook it,” implies that, while the act of catching the hare is a very important preliminary, it is after all not the whole story. So it is with catching the employee. It is essential to select the right man for the right job, but it is equally important that this should be regarded as merely the first step of many leading to the development of the personnel of an organization.

When an applicant is chosen from our file to fill a certain position in our organization, he is notified to come in at a specified time or to notify us when his services will be available. The first procedure when he comes to us consists of eye, dental, and general physical examinations, a careful record of which is kept in such form that all further data concerning the health of the employee may be entered on the same sheet. If a physical defect which incapacitates the man for the job in question is discovered, an attempt is made to place him elsewhere. In this case his record in the office files is starred so that the medical record may be consulted if a transfer is contemplated at some later time. In case the employee reveals no disqualifying physical defect he is turned over to the superintendent of the employment and service department, who introduces him to the general manager and then talks to him on the following subjects:

SUMMARY OF PRELIMINARY INTERVIEW OF NEW EMPLOYEES.

I. Responsibility of organization toward worker:

1. Earning opportunity—

- (a)* Hours of work.
- (b)* Minimum starting wage.
- (c)* Wage system (piece rate, task, etc.).
- (d)* Basis of promotion.

I. Responsibility of organization toward worker—Concluded.

2. Regularity of employment—

- (a) Providing of work and exact positions.
- (b) Scientific assignment of workers according to need.
- (c) Teaching each worker several operations.
- (d) Security of position.

3. Policies and methods of cooperation—

(a) Purpose of service department—

- (1) Adjustment of all difficulties.
- (2) Cooperation in development of mental, physical, and social wellbeing.

(b) Purpose of instruction department.

(c) Purpose of other departments.

II. Responsibility of worker toward organization:

1. Responsibility for maintenance of proper physical and moral conditions—

- (a) Value of neatness and order in surroundings.
- (b) Wholesome moral atmosphere.
- (c) Plain business dress and courteous manner.
- (d) Democratic spirit.

2. Regularity of attendance—

- (a) One worker for each position.
- (b) Importance of care of health with aid of factory medical department
- (c) Importance of home hygiene and avoidance of outside work.
- (d) Importance of regularity of hours and wholesome recreation.

3. Prime importance of character—

- (a) Character the greatest essential to fitness and advancement.
- (b) Reasons for giving proper notice when quitting (bonus for notice).
- (c) Necessity for being patient and reasonable and for giving work fair trial.
- (d) Frankness and promptness in presenting complaints and criticisms.

After this interview the superintendent of instruction is notified to bring to the service department the proper instructor and the employee is introduced to him with the explanation that he is to pay close attention to the correct method of performing his operation and that he is not to concern himself with output until he is thoroughly acquainted with the one right way of handling his work. The instructor then helps the employee select his seat in the lunch room, his locker, etc., afterward taking him to his place of work where he meets the production and quality foremen, and instruction in the operation assigned is given. At lunch time the instructor sees that the employee meets the person at the head of the table where he is to eat, and it is the latter's duty to get him acquainted with the other people at the table. Before the new worker leaves the factory on the first day someone from the service department sees him in order to discover what has been his reaction to the day's work, and to reassure him if he has qualms and doubts concerning his ability to "make good." The employment and service department finds it advisable to have friendly and informal chats with every new employee the first, second, and third days, then at the end of a week and

ten days and two weeks, and so on until he has taken root and the first difficulties of adjustment are over.

The primary objects of the interviews of the employment and service department are not only to give information, but to establish friendly contacts. We aim to impress the worker with the fact that there are people in the organization who are definitely and vitally interested in him as a human being, and that our services are at his command if we can do anything to help him to secure steady and good earnings and to further the development of himself and his family.

It is very important that a friendly attitude toward new workers be developed in the entire personnel of an establishment. This can best be done by individual and group educational work. We have three valuable channels of communication through groups. These are foremen's meetings, employees' advisory council, and heads of tables' conferences. Our foremen's meetings are held once a week and are attended by production, inspection, and instruction foremen, and by superintendents and other executives. The foremen are made responsible through these meetings for explaining individually to their people the necessary instructions. The employees' advisory council, meeting also once a week, consists of one representative from every section in the factory and takes up questions of general and specific policy affecting the employees. The only group having the power of decision is the employees' advisory council, which often assumes the functions of a jury when questions of general interest come up. A Wellesley professor once told me that in examination one of her students had said, "The difference between mediæval trial by ordeal and trial by jury is that trial by jury rested on common sense and trial by ordeal rested on the judgment of God, and was wholly unsound." If this is a valid distinction, then the judicial methods of our advisory council are wholly sound. The heads of tables in the men's and women's dining rooms are elected by the people who sit at the tables and meet once in two weeks. These heads of tables have an excellent opportunity to discuss informally with the people at their tables any question of general interest. Frequently we find that it is much more effective to ask the heads of tables to report to us what the opinion of the majority is on a given subject than to attempt to have mass meetings. In fact, we try to get the people's viewpoint in every possible way, and we find the reaching of each and every employee possible through our individual contacts or through the medium of these groups. It is only by "putting it up to" bodies of responsible workers such as these that an atmosphere of cordiality toward the new worker can be created. By stirring the hearts and imaginations of all, by awakening a spirit of fellowship, by arousing a genuine contempt for snobbery—

only by these methods can such results as, for instance, the kind treatment of the newcomer be insured. The caste and clique systems among the employees in the ordinary industrial organization have contributed materially to the discouragement of new workers and the consequent large labor turnover figures during the first few weeks of employment. We are glad to say our office force and the clerical workers throughout the factory have long since passed the milestone of development which marked a feeling of superiority toward their fellow men. They do not feel, as so many clerical workers in a manufacturing establishment do, that they belong to the Brahmin caste.

We have enumerated the principal details in the following up of new workers. How about the great body of employees whose roots are firmly established? Do they not wish or require any manifestation of interest on the part of the firm and its representatives? We may honestly say they do. It is a matter of rejoicing, moreover, on our part that our people have such a fine spirit of confidence in our attitude toward them, that they do not hesitate to ask for help in the solving of their problems. They are not like the old woman who hurried up to the ticket window demanding a ticket "at once," and when the ticket agent asked her where she was going, said petulantly, "Well, do I have to tell you all my personal affairs?" Our Clothcraft men and women are intelligent enough to know that they must be frank with us if they wish our help and advice, and many a boy or girl goes to the manager of our organization or to one of his representatives as to his or her best friend, knowing there is no possibility of finding in response anything but the deepest human interest and that confidences will be jealously guarded. The follow-up work of so many establishments has pitifully failed because of a confusion of aims on the part of the management, because the management does not assume responsibility for training as a natural sequence to hiring. The lawyer does not say to his client, "Now, I will go just so far and no farther in inquiring into this case I have undertaken." He says, on the contrary, "I will do everything in my power to benefit you, but you must help me to do this by giving me your unreserved confidence." Why is this method, which is essential to the successful results of the lawyer, the physician, and the minister, considered by some people paternalistic when practiced by the industrial manager? Merely because these people do not think clearly on the subject. The physician, because of his wide experience, knows what personal habits will prevent ill health. Similarly, the man who has had wide experience in an industrial organization should know what will make for success in that organization, and should be able and willing to point out clearly and unhesitatingly the line of conduct which will bring that success. With neither patient nor employee can real results be attained if there are too many mental reservations

on the part of either. If a girl is deliberately forfeiting a good earning opportunity by late hours, improper diet, and an aversion to fresh air, is it intrusive and impertinent for the man or woman of experience to call her attention to the outcome of her carelessness? If a man is plainly developing faults which will eventually cause him to "come a cropper," is it objectionably paternalistic to show him clearly the trouble he is storing up for himself? How many times we have heard people say, "If some one had only told me!" Our policy, then, in the Clothcraft shops, is to be frank and open and aboveboard with each other, the management with the employees and the employees with the management. Our philosophy is based on the hypothesis that life is a school, and that no one, ourselves included, has attained a sufficient degree of training and education to be considered a graduate. Our philosophy is also based on the theory that justice and fair play and the rights of the individual can in no other way be so securely established as through human sympathy and understanding.

I am amused at the wide-eyed surprise of some of our business friends when we tell them of the extent of our personal work in the homes and at the factory. Some of them, convinced of the efficacy of human interest but still not comprehending the methods, say, "Oh, well, of course you know you have a different class of people from ours. Our people wouldn't stand for that." I wish to say right here that our men and women are even more independent and self-respecting and devoted to personal liberty than the average, and that they are not merely acquiescent but grateful for help and advice and encouragement. As for the younger workers it is sheer ignorance and selfishness to deny responsibility in connection with their training. I believe it has been estimated that 85 per cent of the boys and girls of this country never see high school, and we know that, of these, thousands never pass beyond the fifth grade. Vocational education and vocational guidance are making big strides in preparing boys and girls for the work they are to undertake, but I do not look for the time ever to come when industry can afford to shift the entire responsibility to the schools, either in the matter of vocational or of character training.

We find that the majority of boys and girls consider themselves educated for life when they leave school. Should it not be one of our plain duties to impress these young people with the actual necessity of keeping up some form of mental training outside of working hours? Our work itself requires mental effort, as our people are engaged in very few operations which do not demand concentration and a careful adherence to our quality standards. Moreover, they do their own bookkeeping and must be capable of understanding and following instructions regarding routing of work, help outs,

etc. In connection with this I may mention that Dr. Scott, the eminent psychologist, very recently conducted some tests in our organization which have led us to deduce that the successful performance of our factory work requires a higher standard of mentality than of mere manual dexterity. Whether, however, any especial kind of work, repetitive or nonrepetitive, requires mental effort is beside the point; we assert that no industrial organization can afford to let pass any possible opportunity for the continuous development of the minds and characters of its members. The progressive manager knows full well that a staff of workers without any incentive or ambition is an expensive and losing proposition. It is not enough to talk in glittering generalities about chances for advancement when a worker is hired; far more important is the definite and specific mapping out of the path upward, and this is a procedure which to bear fruit must stir both the mind and spirit of the worker. More and more as functionalized management is adopted, people must be trained for leadership, for the guidance and direction of others; and more and more as employer and employee occupy a common ground must there be, not the old stolid acquiescence or antagonistic suspicion, but an intelligent understanding of mutuality of interest, of the joy and profit of team play. Each worker must be brought to realize the part he performs in providing steady work for his fellow workers by his promptness, his regularity of attendance, his ever-willing spirit to cooperate with each and every member of the organization. Workers must realize their interdependence and the value of mutual help. Above all each individual must realize that his permanent success can not be achieved apart from the success of the entire body of workers; that the man who would "make good" must know the value of cleanliness of personal habits, of faithful response to duty, of consideration of others, and of the accurate and honest performance of his work. Women and girls must learn that thoroughness in business adds to their womanliness, and that they can not profitably regard their work as unworthy of their best effort merely because there is a probability of its being temporary. They must be taught that industrial efficiency is an asset to them even though they later elect to become wives and mothers; that assuming of responsibility, that reliability and honesty count in any walk of life. All these points of view can be brought about only by the development of the general intelligence of the worker.

There are still, I regret to say, business men who hold that manual dexterity is all they require in their workers, not realizing that it is as important for the manual worker to preserve an even balance by mental development as for the mental worker to preserve his by some form of physical exercise. Aside from the harm which such managers work to the community, they are too shortsighted to observe that it

is only by furnishing mental stimulus, by helping to develop each worker in the organization, that the entire personnel becomes steadier and more reliable, that workers are more competent to observe the laws of health, that they are more intelligent in the spending of their time and money, and that, above all, you can "get across" to the man who uses his brain. The man who has been trained to think is amenable to reason; the man without mind follows brute instinct, and is a menace to the well-being of any organization.

What, then, are the means most effective for the development of workers? We have mentioned the instructor whose duty it is to teach the worker the correct method of performing his operation. It is very important that the superintendent of instruction and his staff keep in close touch with the employment department, as the instructors have unequalled opportunity for the observance of the characteristics and aptitudes of the worker. If, after a reasonable length of time, an employee does not evidence any progress, and the instruction department advises a change in type of work, a transfer is effected. This is not done, however, without a careful investigation by the service department to make sure the lack of success is not due to physical condition, home worries, or to some subtle psychological attitude which, if discovered, can often be changed. Many times most valuable light is thrown on a seemingly hopeless situation by the instructor. It is obviously to the latter's interest to aid in reducing the list of quitters, so that he will have more time for thorough instruction of old workers who are promoted, etc. Every effort is made to awaken each worker to the value of attaining his full earning capacity without driving, without coercion, but by a spirit of helpfulness on the part of all. Many an opportunity offers here to point out the relation of health and mental attitude and the cultivation of right habits of work to earning power.

An excellent means of contact with the individual worker is furnished by our daily absence report. Every absentee is visited in his home, and countless are the opportunities thus gained for securing the good feeling and understanding of the home folks, who are only too often inclined to make matters worse by ill-timed sympathy or positive antagonism due to lack of understanding. It is not necessary to mention the innumerable chances thus presented for instruction in the care of the sick, in preventive hygiene, and in other subjects vitally affecting the well-being of the individual. A fruitful as anything are the intimate friendly chats concerning plain business dress, the advantage of Rosie's being allowed to entertain her friends in the little parlor at home instead of going on the streets and into the dance halls, and a thousand and one home and business

problems which Rosie's mother discusses with you, confident in your genuine interest in her Rosie's success and advancement.

Concise reports of home visits are sent to the production and quality foremen in charge of the employees who are absent, and to the superintendent and general manager, in order that they may know briefly the cause of absence. If the home visit discloses a personal grievance on the part of the worker he is asked to return and "have it out" with the offending party. We seldom find an employee unwilling to do this, and we invariably find that the open airing of grievances is a successful cure. We do not belong to that school of pacifists who hold that lasting and enduring peace can be secured by the mere separation of offending parties, and we therefore never transfer a worker from one section to another for reasons of personal antipathy. This we believe is a method which only stores up trouble for the future. We are glad to say that our foremen are the stamp of men and women who would rather apologize if they owe an apology than to have a worker transferred to another section still harboring resentment against anyone in our organization. It is our policy in cases of all complaints to hear the worker's side first and then to call in the foreman or superintendent or fellow worker and have a clear understanding of both sides before attempting to do any bridging. Above all, it is obvious that, in all cases of discipline, honest, straightforward dealing is the only policy, and the worker justly resents deeply any attempt to smooth things over without cutting out the root of the trouble.

It is now so thoroughly accepted in the Clothcraft Shops that discipline and discharge are functions of the service department that both foremen and operators bring their disputes to the department as a matter of course. No foreman, in truth, wishes to assume the whole burden when a worker is "down in the mouth," or "up in the air," or suffering any of the other maladies to which every human being is occasionally subject. He is only too glad to have our help in a ticklish situation. Moreover, an operator or a foreman may be transferred from one section to another, and the foreman recognizes fully that it is essential for one department in the factory to have all the accumulated knowledge of the progress, the faults, and the virtues of each individual in order to help him intelligently in his personal contacts. The service department serves, then, as a clearing house for the knowledge necessary to the proper adjustment of human relationships.

It is our aim to have every foreman and every superintendent in our organization realize that his function is an educational one. The employment and service department considers discipline to be one of its main functions, but it never permits entire responsibility in this field to be shifted to it. I am reminded of the time when one of our

inspection foremen came to the service department in desperation because he could not impress some of the operators with the magnitude of their carelessness. He was given some such ammunition as this: "Girls, our trade depends on giving satisfaction to our customers, and you can not expect to have steady positions unless each one of you does everything possible to turn out work of satisfactory quality. It is only good work which brings a demand for our goods." Still the foreman begged some one else to do the talking for him, and it was finally agreed that some one should go along and bolster him up if he fell down in the points he wished to make. When he had summoned his operators into the superintendent's office he said vehemently, "Now, girls, this has got to stop. Youse know that we have to satisfy our customers, and no customer ain't goin' to come back if his pants is stitched crooked." While the form of expression was not all that was to be desired, he certainly "got across," and the girls went back to work with a clearer idea of the connection between carelessness and "slack time."

For the training of foremen we offer an apprenticeship course consisting, among other things, of instruction in every operation in the factory. College graduates, as well as others, have availed themselves of this course with the understanding that they are to have no privileges nor favors extended to them, but are to share the common lot. They are taken on probation, being started in on a regular factory job, on the same basis as any other beginner, and their viewpoints and capabilities are carefully observed during this probationary period. Of course workers in the factory who have not had any degree of formal education but who show promise of ability are given the same opportunity.

It can not be too much emphasized that the members of a department responsible for the hearing of complaints, for recommendations concerning placing, transfers, and promotions, and for home visiting and other personal follow-up work can not have too thorough a knowledge of shop conditions and of what we now term "the contents of the job." A home visit can be twice as effective if the visitor has even a fair knowledge of the technicalities of the work.

All home-visit reports, telephone messages, and any other information concerning absentees is placed on the desk of a member of the employment and service department at the end of the day's work in order that she may have this information at hand when conferring with people who return to work the next morning. No one who has been absent is permitted to go to his place of work without first seeing a member of the employment and service department. "Tardies" and absentees are interviewed each morning. Absentees who have been out on account of sickness are referred to the doctor and nurse and those who have been out for other reasons are handled as the

occasion demands. This morning interview has the added value of furnishing an opportunity for a personal expression of sympathy when the cause of absence requires this and for the discovery of many chances for service in solving personal problems.

Other normal means of contact with the employees are furnished by the library, the bank, the dispensary, the teaching of English to foreign-born employees, and by noon games and recreations. I think I may safely say that in conjunction with the records of work these activities furnish us the most valuable means of determining the fitness of a worker for advancement to positions of responsibility. It is said that only responsibility itself fits for further responsibility. It is presumably a common experience of all of us, that we never know how much we can do until we do it. So it is with each and every worker. We can see the person who is a natural leader assuming responsibility in starting the noon-hour games, in managing the shop parties, or in some other activity outside of working hours. This assumption of responsibility is an evidence of qualities required in supervisory positions.

The library is a whole chapter in itself. The reading of good fiction is encouraged because we believe it is one of the greatest means of furnishing a broader outlook on life and of bringing to people a sympathetic understanding of their fellow men. Besides the books of fiction, travel, biography, history, and poetry which are lent us by the Cleveland Public Library, we have our own ever-growing collection of books and pamphlets on management and organization which are being read by an increasing number of our people. The discussion of a book frequently gives an unexcelled opportunity for getting close to a worker. Sometimes the most reticent person will become expressive and responsive under the stimulus of discussing a book he has enjoyed.

The Clothcraft Penny Bank also furnishes most vital means of establishing human contacts. Arousing an interest in saving for some specific purpose, such as a vacation or a new suit of clothes, is often a step toward a worker's becoming a regular depositor and surprising himself with the amount he can lay by for the future. Six per cent interest is paid as an inducement to save, and when a worker has accumulated \$100 he is asked to transfer his money to one of the city banks. Anyone who has ever worked with girls knows how few of them have the opportunity to learn how to spend or to save. This furnishes us a good pretext for a home visit the purpose of which is to persuade the parents to allow the daughter to deposit in the bank all she earns over the base rate of her operation which is in every case a more than fair wage. Frequently a formerly unambitious operator when given the incentive of her own bank account increases her earnings very materially. We have found the

average parent averse to consenting that her daughter pay board, as this seems to signify too great independence.

Our foreign-born employees are given as much individual attention and follow up as possible. Long ago we discovered what our Nation has been only too slow in discovering, that men's lack of understanding of one another is a real menace and that there can be no understanding without the common currency of language. Some years ago we established classes in English at the factory. During the past year we have directed those few who still needed further instruction to the evening schools, making arrangements with the principals of these schools for a two-night instead of a four-night a week attendance. This has been closely followed up by sending post cards each week to the evening schools attended by our people and obtaining by means of return cards a weekly record of attendance. Our men who were preparing to take out their second papers attended the citizenship classes in the public libraries. Even this phase of our work required continuous follow up (chiefly along the line of recommending books and giving monthly tests) and some home visiting. For example, Sam B— reported that he could not go to evening school because his wife would not let him. On visiting Mrs. B— we found Sam's story was only too true. Mrs. B— was distinctly averse to Sam's learning any more English. She knew none and got along very well (it was necessary to converse with her through an interpreter) and what was the use anyway? After using all the arguments at our disposal we finally said, "Well, Sam is continually having trouble at the factory because he can not speak English, and he must go to school. That is all there is to it." Then with waving of arms and flashing of eyes Mrs. B— poured forth expostulations, introducing the word "swoboda" in every sentence. Now "swoboda" in Bohemian means "liberty," so we told the interpreter that Mrs. B— was the one who was depriving Sam of his "swoboda," not we; that Sam wanted to go to school and she would not let him. This seemed to bear conviction and Sam was forthwith permitted to attend evening school, for which concession on the part of his wife he now claims to be very grateful.

Our dispensary naturally provides more opportunities for discovering and uprooting causes of failure than any other activity of the employment and service department. Often a worker becomes temporarily discouraged because of ill health, the reason for which is, in most cases, ignorance and disregard of the first principles of hygiene. Women are habitually imprudent in matters affecting the health, but men and women alike need constant advice and help in maintaining the human machine, as Dr. Sedgwick so aptly terms this intricate, complex body of ours, at its full efficiency. I have spoken of our preliminary physical examination; periodic examina-

tions are equally important. Owing to the nature of our industry we feel that even small visual defects should have prompt attention. Our oculist, one of the best in the State, visits us twice a week and careful follow-up work is done with the aid of our nurse. The dentist visits the factory once a week, his work consisting of prophylactic work and examining. He is always willing to furnish estimates and as his rates are low and his work good many of our employees prefer him to another dentist, though of course they are free to choose anyone they please. Our dental work has been of great value in awakening people to the importance of the care of their teeth. Careful record is kept of all absences due to sickness which, in addition to other information medical and personal, aids us in preventive as well as remedial work. Frequently dispensary cases lead us into the solving of all kinds of intimate, personal problems which are destroying the mental peace, and, consequently, the bodily health and working efficiency of the individual.

Games, dancing, choral-club parties, all these and other activities furnish a splendid method of demonstrating the real fun and the real value of team play. More than all, activities of this kind are an organized instrument for the expression of social instinct and the development of group spirit. Many people regard such things as fads and fancies in an industrial establishment, but I want to say that if you could visit one of our parties and see Mike proudly introducing his wife and children, and Lily shyly nudging you so you will turn around and "meet my friend"; if you could see us dancing the Bohemian "psenicka" and the Hungarian "czardas" and the Swedish clap dance, whether we are Bohemians or Hungarians or Swedes or Italians or Americans, and if you could see some staid old pressers taking part in the circus parade and their wives splitting their sides at one of the few "evenings out" they have had all winter, you would be convinced that we are not only having a "swell time," but we are getting results. We feel that everything which intensifies an interest in life is worth while, that music, good books, and wholesome fun are both legitimate and profitable.

But there are countless means of obtaining a normal approach to and a continuous contact with the individuals of an organization. For example, weeks before vacation (which is always the first week of September) we begin to interview people about their plans for getting out of town. With the cooperation of the Cleveland Vacation Bureau we are able to find farm houses, camps, and all types of places in the country and on the lake shore where our people can have an enjoyable vacation. But, as I have said, the opportunities for service and for personal contact are innumerable and only the physical limitation of time defines a boundary to the chances for developing the individual through all these means of approach.

And by no other means can you adequately "get under the skins" of people sufficiently to learn not only their capabilities but their aims and aspirations.

A careful recording and analysis of all reasons for quitting must be kept, no quitter being taken off the pay roll without a personal interview with a member of the employment and service department staff. Such a record is the only tangible measurement of the value of the work of the employment and service department.

And what is the object of all this follow-up work? Let me repeat, it is primarily for the purpose of developing men and women. More and more are we coming to realize that the justification of industry lies in the opportunity it offers to men and women to attain not only material, but mental, moral, and spiritual advancement. And this can not be secured unless the confidence of the worker is obtained, unless he develops the right mental attitude toward the organization for which he is working, including his fellow workers.

But his confidence must be built on right and lasting foundations. Employment and service departments can follow up until doomsday with no results unless the management, as a basis for its own success, has a sincere, genuine interest in furthering the advancement of workers, and unless it bends every effort toward the establishment of sound, fair policies which will insure equal opportunity to all. It is very important to emphasize that the wage problem must be regarded as fundamental and that this problem must be approached from the farseeing point of view that high wages are essential to the interests of firm and employees alike. There must be a definite system of promotion based on an intelligent classification of operations which recognizes differences in the valuation of skill and effort and establishes steps by which a worker can advance from one to another. There must be steady employment based on intelligent sales policies, on proper methods of routing work, on the continuous upkeep of machinery and other equipment, and on other fundamentals.

If the system of an organization is so planned that the distribution of work depends upon the personal favor of a foreman or clerk, or any one who may happen to be in charge, if there is no clear and definite method of keeping track of individual production, if there are all kinds of opportunities for friction and misunderstandings, due to chaos and disorder and general bad management, follow-up work will be a farce. I therefore wish to emphasize that employment work and follow-up work can not successfully be divorced from the general and specific policies of organization and management. May I rephrase an old proverb to read, "A company is known by the manager it keeps." When a manager realizes that training must begin with himself, and that his next duty is to train his superintend-

ents and foremen to breadth of mind and heart, and a genuine interest in human beings and their development, then, and then only, can the general follow-up work in an organization legitimately begin. Furthermore, an employment superintendent must have inspiration and spirit derived from an all-absorbing sense of duty toward the community and toward the Nation if he is to recognize fully his great opportunity for service. He must realize that his duty is preventive work, that if he is competent to hold his job he must do his part toward preventing the wholesale waste which has been inflicted upon employers and employees alike by the senseless drifting of workers. He must prevent, by close and continuous contact with his fellow workers and an intelligent and increasingly sympathetic understanding of their aims and aspirations, the manufacture of "unemployables," who can only too often be laid at the door of incompetent business management.

[A paper on "Analyses of reasons for leaving and their use" was read at this time by Dudley R. Kennedy. This paper is omitted, as it was not possible to obtain the manuscript.]

SERVICE WORK OF THE EASTERN MANUFACTURING CO.

BY JEAN HOSKINS, SERVICE SECRETARY, EASTERN MANUFACTURING CO., BANGOR, ME.

I feel that almost the last word has been said about service work and I am not going to try to improve upon what we all recognize as the highest principles and ideals of the work.

At our plant we are working along the same broad lines so ably presented to you by Miss Gilson.

The Eastern Manufacturing Co., of Bangor, Me., is composed of a pulp and paper mill and an electrochemical plant. There are also a box shop and woodyard somewhat separate from the other departments. The mill employs in all 900 people, of whom 600 are men and 300 women.

Scientific management has been in process of installation in the Eastern Manufacturing Co. for the last three or four years, and it was in the summer of 1915 that the need was especially felt for more personal work with the employees. In October of that year, the service department was organized.

Our chairman, Mr. Howard, has made the same error in introducing me that our newspapers in Bangor made when I arrived in town. The local papers lost no time in explaining to everybody just what we were going to do in the way of "social uplift," and also published my name as "Jane," so that by the time I reached the mill I was greeted by hard suspicious glances and was immediately dubbed "Sanitary Jane." The first few weeks I spent in what might be called a social survey of the plant, in becoming somewhat acquainted with the management and its policies, with the workers, and also, as far as practical, with the actual operations in the plant. I was expected to carry the employment as well as other activities, and the first thing for which I felt the need was a set of record cards for filing purposes. There were no records of the employees except a list in the paymaster's department consisting simply of the workers' names and numbers.

A standard record form was drawn up and the information secured by personal interviews with each employee. I interviewed each girl at her work and in this way not only gathered material for records, but also came in personal contact with each one. A young man who was familiar with the men and the mill work was chosen to interview the men.

In about two months the records were in very good working order.

For several years there had been a visiting doctor for accidents and a so-called dispensary in charge of the head machinist, who was very efficient in first-aid work. The dispensary room was rearranged, the necessary equipment added, and in a few weeks a graduate nurse was employed.

About the 1st of January the employment was centralized in the service department, and has been carried on largely in the way that other employment departments have been conducted, workers being selected by human judgment, attention to previous work, references, and perhaps a sprinkling of the other "57 varieties" spoken of by Mr. Scott. One feature seems worth emphasizing, and that is the close cooperation with department heads who up to this time had done practically all of this work. Great effort was made to get their ideas as to the kind of persons needed, and also their opinion of applicants. Being in a small community, many were quite well known. I made a point of asking the foremen to go over the list of applicants on file and in a general way to express their opinion as to their qualifications for different work. This was a great help both in making them more willing to turn over the employment and also in the selection of workers.

Care was taken not to employ any boy or girl under 16, and because of the unusually large number of older people already employed, older men and women were also not taken. Follow-up work has also been done systematically and records kept.

The condition of the girls had up to this time been given very little attention. Girls were working 10 hours a day for comparatively small pay and were a sorry looking set. It was no unusual thing for 20 or 30 girls to whirl through the mill and rush into the superintendent's office demanding whatever came into their heads. They were too dissatisfied to know what was wrong or how to go about making things better. The past management had meant well but had not sensed the situation.

When I arrived scientific management was about to be begun in this department, and since then the two have gone along together very successfully.

One of the first and most important matters was the reduction in working hours from 10 to 9 per day, with a 10 per cent increase in pay.

Early in 1916 a circulating library was opened, books for which were obtained from the State library free of charge. As the library was in my office and not very accessible to the mass of the people, we felt that our circulation of 500 books per month was very good. Special attention has been given to the use of the library by younger boys and girls of the neighborhood.

During the first year not much attention was given to recreation because there were so many more serious things to work out. How-

ever, we had one gymnasium class at the Young Women's Christian Association in Bangor, and two basket-ball teams.

The first deviation from routine work came with the 1915 Christmas tree, ablaze with colored lights and in view of all the employees as they came from the mill. Loud shouts were their token of appreciation and the neighborhood children were delighted. This proved to be really a community tree.

As the work progressed the matters of sanitation and hygiene were taken up. Attention was paid to ventilation, toilets, lockers, installation of paper towels, drinking cups, etc., which I will not discuss.

Up to the time of centralizing of employment not much attention had been given to the personnel—of the women particularly—the general opinion being that anyone was good enough to work in a paper mill.

I should like to emphasize one or two things which perhaps have not been done in many places. Last spring a gentleman from the German-American Button Co. came to see us about distribution of water through the factory during working hours. I conceived the idea of distributing milk in some similar way. This seemed worth while, especially for the girls. As we all know many girls rush off to work without breakfast, and a bottle of milk during the morning rest period does mean quite a little nourishment. I had also noticed the eight-hour-shift men eating lunches during their working hours. No objection had been made to this custom because of the necessity for irregular mealtimes for people on eight-hour work.

For the last eight months certified milk has been sold (one-third quart bottles and two crackers for 3 cents) in the finishing room during the rest period, delivered to the workers in other departments between 9 and 10 a. m., and sold from the storeroom any time during the day and night.

Between 450 and 500 bottles are used daily. Two crackers and a straw go with the milk, and if you were to pass through the finishing department at 9 o'clock in the morning you might think it a day nursery.

Last spring after the snow, which had been on the ground all winter, had melted, I noticed the dump we had at the entrance to our grounds. This place had been used for years for old tin cans, ashes, and other refuse. It was in this condition because it belonged to our good neighbor, and if thought of at all, had not been considered our responsibility. Forty loads of rubbish were hauled away and the rest buried under nice, clean earth. The little brook and culvert were cleaned out, the town wagons and old water tank removed, the trees trimmed, and grass seed and vines planted. Spaulding playground apparatus was ordered, but arrived so late in the summer

that organized work in the playground was not attempted. Eight playground patrols were appointed among the older boys and girls and they were given metal badges. These children with the assistance of one of the neighborhood women and the service secretary supervised the playground. More supervision and systematic playground work are planned for the coming year.

When I first arrived at the mill and was known as "Sanitary Jane" there was great opposition to any form of physical examination; in fact, on one occasion 30 angry girls rushed into my office and told me they were just as clean as I was, that they would not have physical examination and would not take off their shoes and stockings for anyone. I agreed with them and said I would not take my shoes and stockings off for anyone either, and really was just as indignant as they were. This rather took the wind out of their sails and gave me the opportunity I needed to explain to them what I had come for and to kill some of the ridiculous gossip going through the mill.

This all came about through some one in a blundering way trying to force one girl to come to the service department. This, of course, should not have been done, and I really felt the girls were right when they explained how and why they felt as they did. The necessary adjustment was made with the superintendent and the girls returned to work.

This shows the necessity and importance of some reasonable explanation for the introduction of this kind of work into a plant. Personally, I think a worker should begin as employment manager, developing other work later.

Since we were unfortunate enough to have aroused this feeling about physical examinations no effort was made in this direction until the following fall. The company is now examining all applicants for positions before starting them at work. This is not done with a view to excluding all but those who are absolutely sound in health, but as a means of knowing the physical condition of the employees in order to place them at suitable work and give them such assistance, advice, and care as will help them to attain or continue in good health. At this time no opposition is found, and entrance examinations are considered part of the usual routine. Not infrequently employees themselves ask to see the doctor. The Life Extension Institute, of New York City, is in charge of all work being done along these lines.

One of the most beneficial outgrowths of the service work, in my opinion, is the organization of the women in the community. In November, 1916, one of the women from the town came into the service department for advice as to whether South Brewer needed and could support a "charity society." She and the wife of one of our foremen were anxious to form some society of this kind, but

needed some encouragement and direction as to organization. As South Brewer had no systematic relief organization of any kind, and apparently no civic spirit, it seemed a splendid opportunity to develop something unusually worth while.

A body of 20 women met the next week and the Social Service League was organized. The methods and records of the Associated Charities have been followed and the league has been so formed as to include all kinds of civic improvement work as well. The club now has 70 members and is composed of the women and men (so far only the men in public work) of South Brewer. Practically all of these women are associated in some way with the mill. Besides helping those in need, the league has made Red Cross supplies and has sewed for busy mothers.

A Saturday-night dancing class is being conducted by the wives of four of the mill foremen. This class meets in the new service department rooms and includes neighborhood boys and girls between the ages of 14 and 17. There are about 30 members.

The league is also supervising the new service department rooms during Sunday afternoons from 2 to 5 p. m., when they are thrown open for the use of the neighborhood people. This large new department with attractive girls' and men's rest rooms, cafeteria, and hospital rooms is on the third floor of the paper mill, overlooking the Penobscot River, and has been open about one month.

The CHAIRMAN. We are going to have a paper on the question of mutual aid associations, in which we are very much interested, by Mr. W. L. Chandler, Dodge Sales & Manufacturing Co.

CONCLUSIONS FROM A SURVEY OF OVER 500 EMPLOYEES' BENEFIT ASSOCIATIONS.

BY W. L. CHANDLER, OF THE DODGE MANUFACTURING CO., MISHAWAKA, IND.

The employees' benefit association is the result of evolution and has apparently come about through a desire on the part of the men to cooperate for their mutual benefit.

Capital has but recently awakened to the value of these organizations in steadying the force and in reducing some of the unmeasured leaks of business.

No method has as yet been accepted as showing clearly the cost of absenteeism, or the loss of both quality and quantity of production due to workmen being harassed by debt incurred through sickness, or to their dragging themselves around in an effort to fight off disease without proper medical attention.

The presence of such losses is obvious on most casual consideration of the subject. Consequently, the only problems are those of measuring the amount of loss and of devising methods of loss reduction.

We may utilize the employees' benefit association for the mutual relief of employees and employer from such conditions. This has proven one very effective means of reducing some of these newly recognized leaks.

Some employers for many years have been cooperating with associations among their employees. However, it is only in the last few years that capital can claim to have frankly acknowledged the value to the employer of these associations.

Recently various stock insurance companies have been "sitting up and taking notice" of the possibilities for them in this new era which is developing.

In addition to the increased activity of the companies regularly writing sick and accident business, some of the larger companies are now offering group insurance through employers in such forms that premiums are paid to the insurance companies monthly by the employers.

The entire cost is absorbed by some corporations in connection with their welfare work, while others collect from the employees through the pay envelopes for part of the premiums.

Some of this group insurance embraces life insurance only. As a stabilizer of labor, life insurance does not seem to me to embody enough of the great essentials which attract the men. Any gratuity receives a welcome, but the money spent by an employer for life in-

insurance premiums might be used in other ways to greater advantage to both employer and employee.

Group, health, and accident insurance is something which can more readily be visualized by the average man and, as a stabilizer, produces more favorable results than group life insurance.

The greater the frequency with which a man feels the benefits derived from a gratuity or an investment, the more he will appreciate it.

In an average working force of 1,000 men, seven will die each year. In such a force, then, the group life insurance plan will demonstrate its value to the employees less than once a month and then very few employees hear about the payment of the benefits.

In such a force of 1,000 men some one is always either hurt or sick, and frequent contact of the individual employee with the disability benefits is secured either through his being a beneficiary himself, or because he is serving on sick visiting committees or in other ways sees benefits going far to relieve his friends in times of need.

Employees' benefit associations usually operate without much overhead expense. There is some expense of operation but the employer usually pays it. He does not always realize it, but he pays it just the same.

In some few cases the secretary circulates among the members collecting dues at regular intervals. It is probably safe to conclude that this is always on company time, resulting in relatively heavy cost to the employer.

However, in most cases, dues of the members are collected through the paymaster as an accommodation to the organization. This plan is far more effective for the association and costs the employer less than the former method.

Having almost no overhead expense, the association can handle business practically at cost and in many cases, through having outside income, for less than cost.

An employer who is aware of the value to him of having all employees become members of their benefit association may contribute toward the cost of maintaining the association and thus foster the organization operated by the men themselves, but his interest should not lead him beyond the point of cooperation. The members should know that they are operating their own association.

An employer's dollar spent in this way will go much farther than when part of it must be diverted from payment of losses to cover the overhead expense of a stock company.

Stock companies have a wonderful field of usefulness, but they are by force of circumstances unable to compete with the employees' benefit associations.

No form of insurance will sell itself. In associations operated by employees without the cooperation of the employers the percentage

of members to total number of employees varies from 2 per cent upward, the average being about 30 per cent. In cases where the employers cooperated in managing the associations, the average was over 60 per cent, and where the employers managed the associations alone the average was over 75 per cent. This points to one very important moral, and embraces one of the essential features of organizing such an association. In addition to that, it shows very forcefully the need for reorganizing a great many of the associations now in existence. Consequently, I believe those features which are essential when organizing will be equally essential when reorganizing an association.

This was the condition that confronted the Dodge Manufacturing Co.'s Mutual Relief Association two or three years ago. The association was about to celebrate its twenty-fifth anniversary. The corporation had maintained the attitude of allowing the employees an absolutely free rein. Some of our directors felt very strongly on this subject. The result was that in attempting to allow the employees to exercise their own judgment without interference from the corporation, we were, in reality, depriving them of the counsel and benefits which they might receive from directors and officers. Efforts had been made for several years to urge the officers of the benefit association to campaign for new members, and quite a little stimulant was thus administered. The membership continued, however, with slight fluctuation, to include between 35 and 50 per cent of the employees. It seemed quite evident that something was lacking, that this proposition must be studied just like any other problem of product, equipment, or labor. We set out to do that, making up a questionnaire which went to a number of corporations which we believed might be operating benefit associations. We made notations of the various problems which suggested themselves, and which we then set out to solve. It developed that we had 72 problems for the solution of which we must secure data. We found that the Department of Labor at Washington could give us a great volume of data from which we were enabled to compile percentages and other figures to aid in solving these problems. This, together with the information received in answer to our questionnaire, gave us considerably more data than we had anticipated when we started out.

Statistics themselves avail little in the brief consideration of so important a subject; suffice it to say that data were secured covering approximately 600 benefit associations, and copies of the by-laws were received from 78. We digested the data as best we could. For convenience in studying the various by-laws, we cut them up, and where necessary made digests of the individual provisions; so that by means of a card file we were able to gather into one group the various provisions for handling the numerous situations that arise,

such as the duties of officers, amounts of benefits, and administration problems generally. From this card file we compiled a set of by-laws which were then submitted to the members of our own association, who were asked to appoint a committee to go over the matter thoroughly; this committee, representing the different departments in the plant, met on company time one afternoon a week for about three months, with the result that our present by-laws include what, to that committee, seemed to be the best features of the 78.

Thus the corporation was of benefit to the association; first, in securing for them this volume of data that they might reorganize; second, in being able to show them that above all their plan must be attractive. The association is in the business of selling insurance; it must have a proposition which can be readily sold to the employees. We were able to show them some of the psychological features of the proposition, not through a definite study of psychology; but by bringing them to see the effect on prospective members of certain methods of procedure. One point that was kept forcibly in mind continuously, was this—the entire plan of reorganization must be above suspicion. There must be nothing about it which would permit the suggestion, by those of perverted mind, that the corporation had any motive other than the best interests of the employees. All decisions were to be made by the employees. We took pains to place before them, however, all of the facts, both for and against each proposition on which they were to ballot, so that they were benefited by the experience and judgment of those who had experience in insurance matters, sales promotion, and in addition, the facilities for securing information.

One point stands out forcibly: No matter how good the plan, it will not sell itself. It must have barbs on it; it must not work too smoothly. There must be things happening to keep alive the interest and enthusiasm of all the members. It is not sufficient to depend upon the secretary or any other one man to secure all of the members; all employees must be warmed up and kept warm so that a new man coming into the plant will immediately feel that influence and want to come in.

Instead of making outright donations to the treasury of such an association, it is far better to offer bonuses to the members for the accomplishment of certain definite results. Gratuities never develop the enthusiasm which follows sustained effort made to reach a certain goal and to earn a bonus prize.

Convert the campaign for members into a game wherein each member may become a salesman watching for an opportunity to get a new employee into the association.

The effect of enthusiasm may be seen in the fact that the membership of the association in the plants of the Dodge Manufacturing Co. doubled in the month following the adoption of the new by-laws.

A number of different stimulants were tried for the effect upon both members and prospective members, as evidenced by the percentage of employees in the organization. Our biggest stimulant so far has been that of dividends. We brought to the attention of the board of directors of the employees' benefit association the fact that their treasury was increasing very rapidly; that it was unfair to the members to retain this money when it was not needed by the association; that they could and should declare a dividend equivalent to two weeks' dues. There was considerable hesitation, however, for fear that the soundness of the organization might be jeopardized, but, upon thorough consideration, and at the recommendation of the officers of the corporation, they agreed that it looked perfectly safe. To save bookkeeping, this dividend was declared in cash. Each member received an envelope containing his dividend and bearing a message stating that the organization was quite prosperous; hence the dividend. The amusing part of the experience was that the membership went up about 50 per cent in the next six months, and the initiation fees from this influx of new members put into the treasury more than the dividend had amounted to. Thus the organization not only got its money back but increased its membership 50 per cent. However, the greatest value came out of the fact that after the first dividend was paid, as a surprise to the members, the solvency and soundness of the association were most emphatically impressed upon the minds of all the employees.

Successive dividends seem to be accepted more as a matter of course. Nevertheless, demonstrations of strength and solvency must be made at intervals to keep up the enthusiasm. This will extend the influence of the association into the furthest corners of a plant.

As pointed out previously, it is very evident that the management of such an organization should not be left entirely to the employees. However, I do not favor a management exclusively of the corporation. In my opinion, a joint management secures the counsel of the officers of the corporation and the interest, enthusiasm, and experience of the employees; thus the organization is operated for the best interests and secures the greatest enthusiasm of all concerned. The average executive, being of the individualistic type, does not clearly comprehend the viewpoint of the general employee who is of the collectivistic type. In my opinion, the joint plan of management is by far the best solution.

To revert to the discussion of ways and means of the employees' benefit association in general, some by-laws of other organizations

provide that one-half of the board of directors must be appointed by the corporation; the other half, by the employees. I believe it would be better to provide that "not more than one-half of the board of directors shall be appointed from the corporation officers." In fact, I prefer to say nothing about this phase of the matter, allowing the entire situation to rest upon its merits. The men will be very quick to know who among the officers of the corporation are with them and competent to advise them; and it will be noticeable that there will be no attempt on the part of the men to "railroad" anything through, provided that the corporation officers who take an interest in the work come clean with them and keep their ear to the ground.

Some one to act as an actuary should prove valuable in keeping an association on a sound basis. One familiar with insurance problems, who is interested in piloting the organization, may well be selected and held responsible to the association for the business policy. Such a man may be found among the executives of the corporation.

Another extremely important individual is the secretary. He should be elected by popular vote and, like the actuary, should be recognized primarily as representing the interests of members.

The employer may indicate a willingness that these men devote the necessary time to association activities, but the final choice of individuals should rest with the members.

One thing that struck me very forcibly is the desirability of voluntary membership. I found by investigation that in some of the organizations where membership is compulsory for employees, interest is absolutely lacking. The officers of such an association very soon become dictatorial in their attitude, and so far as I have been able to observe the members in most of these organizations look upon membership as a burden which they must carry in order to hold their jobs. Thus the value to the corporation is absolutely lost, and while it has a value for the members, they can not see it, and therefore it ceases to exist for them. There may be some compulsory organizations that are not subject to this criticism, but I have my doubts.

A chart was made showing the changes in five-year age groups resulting from the influx of new members after the reorganization of the association in the plants of the Dodge Manufacturing Co.

No old members dropped out but the new ones were of lower ages. This decreased the average age. Where the peak of the membership curve had been at 41 to 45 years, it moved down to 21 to 25.

It is generally considered that sickness may be greater among the higher than among the lower ages. A set of charts is now being prepared, which will show for the various age groups the relation between membership and the number of days off due to sickness or accident

and the number of cases of each. Indications lead to the conclusion that some of my previous ideas may be upset.

An important feature is that of "waiting time." Charts which I have prepared on this point show that the majority of disability cases are of short duration. The cases of six days' duration form 16 per cent of the total cases of more than three days' disability. I believe that it would not be feasible to pay benefits for disability of less than three days; first, because of the high cost; and second, because an employee who is at all provident will have no difficulty in financing himself for a three days' sickness.

Much discussion was given to the matter of the total amount of disability for which the employees' benefit association should pay. The most popular selection was 13 weeks. Some associations pay for 26 weeks, while others have different provisions. As an illustration of some of the features developed by charts I have prepared, we will assume uniform dues of 10 cents per week for sick benefits. With three days' waiting time, it is possible to pay benefits of \$1 per day for 13 weeks. If the waiting time were increased to seven days, the benefits could be increased to 19 weeks without any change in the dues. If the waiting time were made 13 days, as in most compensation laws, the benefits could be paid for 26 weeks. This shows the effect of waiting time and the relation between waiting time and the duration of cases.

Many employees' benefit associations provide what might be called "step-down" benefits, that is, \$1 a day for the first 13 weeks; 75 cents a day for the next 13 weeks; 50 cents a day for the next 13 weeks, and 25 cents a day for the balance of the 12 months. Others pay small benefits as long as one lives and continues disabled.

I have prepared a number of very interesting charts on these benefits and rates. For example, step-down benefits throughout 52 weeks, mentioned above, of \$1, 75 cents, 50 cents, and 25 cents, would require dues of a trifle less than 14 cents per week per member; other combinations in about that proportion. If it was desired to extend these benefits as long as disability continued, it would be necessary to add only 2 cents per week per member. These rates are based on a factor of safety of one-third. In other words, experience should not exceed two-thirds of the rate. This, however, is a necessary provision due to the fact that the statistics from which these rates were made are taken from the Dodge employees' benefit association, and checked up against the rather crude figures compiled from the statistics of 600 organizations. They appear to be perfectly safe. I very much favor the step-down benefits, but experience has shown that it is difficult to bring the employees to realize the advantage of providing for a long-time sickness. They

are all so cocksure that continued sickness will be experienced only by the other fellow.

There are two methods of collecting revenue. One plan is by levying assessments. Psychologically, assessments are wrong, dead wrong. It is true that no matter how you collect the money, the amount needed is essentially the same, but to the average mind, an assessment plan seems to be always working overtime. The men imagine that they are paying twice the amount that is really being collected, and that the assessments come twice as often as the facts really show. Regular dues at regular intervals are much more satisfactory from every standpoint. A member knows months in advance just how much his dues are to be, and when they are to be collected. Therefore, he is never surprised when they are deducted from his pay. In settling upon regular dues, it is naturally necessary to make these dues sufficiently large to take care of the fluctuations in benefits in order that the treasury may be kept intact, and the need for assessments eliminated. Experience shows that the fluctuations in benefits are not extreme; and with a fair-sized treasury, the organization is able to navigate successfully with dues very slightly in excess of average requirements.

The question of dues appears to be a difficult problem, but in reality is comparatively simple when one has access to the charts prepared on the subject. The logical method is first to settle upon the benefits that are to be paid, and then compute the necessary dues to secure these benefits. It makes a big difference whether all members pay the same dues, or whether one member may select benefits that suit him and pay dues accordingly. For instance, the dues above quoted for step-down benefits are based upon a plan whereby all members of the employees' benefit association pay the same dues, or, in a large organization, at least enough of the members pay dues on a uniform plan to provide a satisfactory average experience. Stock companies writing sick and accident insurance policies find a policy paying \$1 a day benefits with a premium of \$1 a month a ready seller. This furnishes us a guide by which to work, although I have found it operates better to quote rates in terms of weeks. The amounts look smaller, and the average employee is in the habit of thinking in terms of his weekly wage. It is, therefore, desirable to employ a language which he can readily understand. Ten cents a week seems to be quite popular, although our experience shows conclusively that the men do not hesitate to pay for anything in which they see value.

Another extremely desirable feature of this organization is that, according to the by-laws, the organization may do anything to promote the general welfare of its members. Under this provision, the association organized the Thrift Club. In this Thrift Club any

employee may authorize the association to deduct from his weekly pay any multiple of 25 cents. This must be left in the association treasury for at least 14 weeks; if left 26 weeks or more, it will draw 4 per cent interest. This interest, like the dividends, for psychological reasons, is paid in cash and not credited to the account. This acts not only for the employee's benefit, but as the following incidents will show, is of great value to the organization. When this Thrift Club was first started, the secretary of the employees' benefit association made it a point to visit all of the spendthrifts throughout the plant, making a special campaign with them first. Man after man declared, "If the company will raise my pay, I will be glad to go into it, but I can't live on my present wage, let alone allowing you to deduct anything for your Thrift Club." Each of these fellows was appealed to further; he was urged to allow 25 cents to be deducted from his weekly pay on the grounds that the secretary wanted the moral effect of his name to influence other fellows who needed the benefit of such a plan. All of these said that they believed in the plan, and were finally induced to lend their influence that way. As the weeks progressed, the secretary made it a point to see these fellows whose wages were "inadequate" and casually impressed them with the fact that this amount was climbing. This, coupled with the thought that they had induced so many others to join the Thrift Club, brought about the result that they volunteered to double the amounts, until within 10 weeks not one of them was saving less than \$2 a week, some as high as \$10. Before the 14 weeks are up for any Thrift Club member, the secretary makes it a point to see him and ascertain what he proposes to do with his money when he gets it. One of the fellows who had been most decided in the contention that he could not live on his wage, said that he was going to have something that he had never before had in his life, and that was a bank account. Another fellow said that he had been married for 15 years and had been head over heels in debt all that time, that he was going to spend \$15 of his savings for new clothes for his family, and that the balance would pay "every debt he had on earth," so that by continuing in the Thrift Club he would be able to "look everybody square in the eye," and keep out of debt in the future.

The corporation benefits in all of this from the very valuable fact that these men who formerly considered their wages inadequate have demonstrated to their satisfaction that it was not inadequacy but carelessness that had prevented them from saving money.

One case is interesting. One member had accumulated \$50; his 14 weeks were not yet up, but his wife was operated upon, and the doctor's bill was \$64. The doctor told him that if he would "scare up" the cash right away, he would make it \$50. He came to the

secretary almost breathless to see if he could get his \$50. It was gladly given him, and he saved \$14.

The boys are saving through this means to get married, for winter clothing, for coal, and for all sorts of things they want and need, including, in one case, a Ford. The man who saved for the Ford is the warmest booster we have.

A man who is proud of the employees' benefit association or of the Thrift Club, or baseball team, or band, must unconsciously have a good regard for the plant and organization behind it; which, barring irritants of some form to disturb the situation, will build for a low labor turnover.

The CHAIRMAN: Now we will have the pleasure of hearing from Mr. Jackson, vice president of the Philadelphia Association for the Discussion of Employment Problems.

MUTUAL AID ASSOCIATIONS OF STRAWBRIDGE & CLOTHIER.

BY JOHN JACKSON, SUPERINTENDENT, STRAWBRIDGE & CLOTHIER; VICE PRESIDENT, PHILADELPHIA ASSOCIATION FOR THE DISCUSSION OF EMPLOYMENT PROBLEMS.

The term "mutual aid association" is most frequently used as referring to organizations formed within a plant where employees join together to accomplish an object which is for general welfare and which can be more efficiently carried on than by working through outside agencies. The activities in which they may successfully work have varied widely in different organizations and what may be markedly successful in one instance will be a total failure in another, due to differing local conditions and sentiments. It is sometimes found that several lines of work can be successfully carried on by one association, but I believe that the plan of having separate associations to carry on distinctly different lines of work has been found the most feasible one.

Some of the activities in which mutual aid associations have succeeded are—

Sick and death benefit associations.

Cooperative saving funds, and

Building and loan associations.

Athletic associations for the promotion of health.

Musical associations for self-improvement, including choral, orchestra, and band organizations.

Literary clubs, sometimes with library equipment.

Cooperative lunch rooms.

Cooperative buying of home supplies.

The mutual aid associations of our organization I shall outline in the order of their formation.

STRAWBRIDGE & CLOTHIER RELIEF ASSOCIATION.

The relief association for the payment of sick and death benefits was organized January, 1880. At that time a small group of employees banded together for mutual help in case of sickness. The plan was early brought to the attention of the firm, who expressed a desire to help in the work, and so successfully was the plan of organization drawn that it has remained without fundamental change to the present day.

The administration of the affairs of the association has been entirely in the hands of officers elected by the members. The secretary and treasurer have been the only paid officers.

The visiting of the sick has been carried on by appointees from the membership, and this friendly call from a fellow worker has been a very valuable feature in creating a spirit of cooperation.

Benefits of \$5 per week are paid, in case of sickness, for a period not exceeding 15 weeks in any one year, and \$100 is paid on the death of a member. An emergency fund has also been created to be drawn upon, at the discretion of the board of managers, for urgent cases not provided for by the regular plan and for cases of prolonged sickness which justify extended aid.

Contributions from the firm supply about 50 per cent of the funds; the balance is raised by assessment of 25 cents per member, usually one assessment per month, but the cost per member per year has varied from \$1.25 in 1883 to \$5.25 per member in 1897, the average for 37 years being \$3.10 per year.

The average payment on account of sickness has been \$4.82 per member per year or less than an average of one week's benefits per member.

The average mortality has been about nine per annum per thousand members.

This has been carried on without requiring a medical examination for admission to membership. Any employee from 16 to 60 years of age and of good average health is admitted to membership, and members are eligible to benefits after two months.

The distribution of more than a quarter of a million dollars in benefits by this association carries its own message and leaves no need of comment from me as to the usefulness of such work.

THE STRAWBRIDGE & CLOTHIER SAVING FUND.

About three years after the relief association had been put in operation (1883) a number of the employees conceived the idea of cooperating to encourage systematic saving. From one of the original members I have the following:

A member of the firm, being asked his opinion of the plan, said that he thought it very excellent, but he did not see where they could help, as it was a matter for the employees to do with what was their own as they might decide.

"Very true," it was said, "but you could care for the moneys for us and perhaps you could allow us some interest on them."

This was readily agreed to and a plan was formed for a saving fund association. The plan is somewhat similar to the building and loan association plan.

Collections are made weekly and deposited with the firm, who allow legal interest thereon. At the end of the year the profits are divided among those shareholders who have continued throughout the year.

A shareholder may discontinue during the year and withdraw the amount deposited, but without profit.

The object is especially to encourage saving by the young and those who can lay aside only a small sum each week; so the payments were fixed as low as 25 cents per week, with a limit of \$5 per week, to care for those moderate savings. To many of you this may seem like a very small and slow accumulation, but I assure you it has been the beginning of some very substantial savings. At the end of each year when the amount is distributed there is opportunity for members to deposit in a special permanent fund where the money can remain and draw interest from year to year. While the association has paid to its members a rate of profit more than twice that usually allowed by savings banks, yet by far the most valuable feature is the spirit of thrift inculcated and the strengthening of the self-respect in those who systematically plan for their financial independence.

It will be noticed that these associations are conducted entirely by officers elected by the members. Where matters of policy are concerned there is consultation with the store management and with members of the firm, thus establishing a community of interest, but the administration of the affairs is in the hands of the officers, who assume full responsibility.

STRAWBRIDGE & CLOTHIER CHORUS.

The years of the early eighties seem to have been prolific in the formation of cooperative store organizations. At that time the original Strawbridge & Clothier Chorus was organized, and for a number of years it continued its rehearsals and gave several public concerts in this city.

The work of the chorus, however, was intermittent for several years, but with the approach of the twenty-fifth anniversary of the Strawbridge & Clothier Relief Association some suitable method of celebrating that event was discussed, which resulted in a reorganization of the chorus and the preparation for a public concert to be given at the Academy of Music. This was given early in 1905. So successful was this event that there was a demand for its repetition at Willow Grove, in June of that year, and from that time to the present it has been the rule to give two public concerts each year, one at the largest auditorium the city affords and the other at the music pavilion at Willow Grove. In addition to this a number of concerts, to which the public were invited, have been given within the store at Christmas and at Easter time.

The 150 or more members of the chorus are recruited entirely from within the store force, and the director of the chorus is also the general manager of the store, Dr. Herbert J. Tily, on whom was conferred

the degree of doctor of music in honor of his work in this and other musical lines.

The chorus meets regularly for rehearsals of one and one-half hours once a week for six or seven months of the year. This regular application, with the determination to produce a high-class musical work, is counted well worth while by those who are so fortunate as to be members of the chorus, and the associations which come to them by reason of this, both from within and without the store, are among the very pleasant features of their lives.

STRAWBRIDGE & CLOTHIER ORCHESTRA.

Another one of our musical organizations is the Strawbridge & Clothier Orchestra. This has maintained its organization for a number of years, meets regularly for practice, and is always ready to participate in organization meetings held within the store and also at times, in cooperation, in other outside events.

NOONDAY CLUB FOR GIRLS.

Nearly 10 years ago an organization was formed among the girls of the store for very brief classes to be held on their own time during the noon hours. This was arranged to cover educational as well as industrial features. Teachers were recruited from among the store force, and about 30 minutes were devoted twice a week to mutual improvement. Classes were formed in English, French, German, elocution, Bible history, current events, and piano; also, classes in plain sewing, millinery, embroidery, and crochet.

Once a year it has been customary to hold an exhibit of the work done in these classes; also, entertainments have been given at various times by the members. As many as 300 girls have been members of the club, and the work, as evidenced by their exhibits and by the entertainments given, has been highly creditable.

STRAWBRIDGE & CLOTHIER PENSION FUND.

The form of organization of the pension fund is based upon the principle of cooperation between the employer and the employed and the recognition of the necessity of making provisions for those who may become incapacitated after long years of service.

It was believed that the element of mutuality was necessary to insure the successful operation of such a fund, and that some portion of it should be directly contributed by the members. The dues, however, were fixed at a very low sum, so as not to be a burden to anyone, the directors believing that the accumulation of these small amounts, together with contributions from the firm, would insure a sufficient principal sum, the income from which could be applied to the payment of pensions.

Every employee over 20 years of age automatically becomes a member of the pension fund after six months of service. The dues are 15 cents per month.

The principal sum to be raised before any of the income could be applicable for pensions was fixed at \$50,000. This seemed like a very remote possibility with the small amount of dues required, but within five years the principal had been raised, and a plan for paying pensions, based upon term of service and salary received during the last 10 years of service, was put into operation. It has not been necessary to apply all of the income to meet the payments, and the principal sum is being steadily increased, in order to meet the heavier charges which must necessarily come with the increasing number who will retire by reason of the age limit.

STRAWBRIDGE & CLOTHIER ATHLETIC ASSOCIATION.

We believe that the group of employees' mutual benefit associations would be incomplete without an athletic association. The tonic of outdoor life and sports is one that can not be secured in any other way. The cooperation of a large number of people from the same organization and the healthy rivalry which is sure to be engendered by outdoor sports must make for personal as well as organization betterment.

The Strawbridge & Clothier Athletic Association had a very small beginning. For several years a number of the executives made a practice of going to a near-by country club after business hours for friendly games of baseball and tennis.

The interest increased to such an extent that later the firm felt justified in acquiring a suitable property, covering an entire city block, where a baseball field, running track, tennis courts, and other outdoor features were fully provided.

This was placed at the disposal of the athletic association, which was to organize and take charge of the sports. The annual dues are \$1 for men and 50 cents for women. The membership has been in excess of 1,700, who for this small sum are entitled not only to all the athletic privileges, but to attendance at all baseball games played on Saturday during the summer season.

Games are played by the athletic association team with the best class of teams from colleges and industrial and mercantile institutions. They have a large following from the section of the city where the field is located, frequently drawing 3,000 people to a game.

TUESDAY, APRIL 3—EVENING SESSION.

CHAIRMAN: A. LINCOLN FILENE, OF WILLIAM FILENE'S SONS CO., BOSTON, MASS.

The CHAIRMAN. As each of the speakers wants at least 55 minutes or an hour, the chairman does not propose to take any time of the audience with any remarks on his own part. The first speaker on the program is Mr. Williams.

AN ACTUAL ACCOUNT OF WHAT WE HAVE DONE TO REDUCE OUR LABOR TURNOVER.

BY JOHN M. WILLIAMS, SECRETARY, FAYETTE R. PLUMB (INC.); PRESIDENT, PHILADELPHIA ASSOCIATION FOR THE DISCUSSION OF EMPLOYMENT PROBLEMS.

THE USE OF AN EMPLOYMENT DEPARTMENT.

I wish to speak to-night of the need of an employment department from the standpoint of the average employer; and, to make myself entirely clear, I wish to point out conditions as they existed in our factory, and it is safe to presume, in the average factory.

First, I want to state that our firm is over 60 years old, and has built up a reputation for making high-quality tools during all of that period.

This is not intended as an advertising statement but is to give you some idea of the class of work we do, the problems we must solve, and, further, to make you feel that our employees, producing such work, must be at least of average intelligence, so that you will understand that the problems we met were not due to the fact that we had a lot of underpaid, ignorant employees. In other words, our problems are about the same as the problems you have in your own factories.

I also want to impress upon you the fact that while we are 60 years old, we are also 60 years young.

I am the oldest man in the executive department of our organization, and I am not much over 40 years old.

We have the reputation of being progressive along all lines of executive control and have established a record for efficiency along general factory lines.

We have technical graduates who have been employed in our various departments to keep us fully abreast of the times in all branches of research work, especially in the development of steel.

We have a cost system in our factory that was installed at the expense of thousands of dollars and is, to my mind, the most efficient

I have ever seen because it produces results and presents them to us monthly.

These points are brought out so that you will realize that we are not held back by any "old foggy" ideas on the part of our executives, and to bring home to you the appalling fact that in an organization such as ours, striving to be up to date, it has only been within the past few years that we have fully realized what a terrible drain excessive labor turnover makes on the pocketbook of the employer.

COST OF LABOR TURNOVER.

You have been instructed during the past two years by various speakers, authorities in their line, as to the cost of labor turnover, and I believe the fact is firmly fixed in your minds that there is such a cost, but as the statement of such cost has been so general you are more or less skeptical as to the actual amount involved.

I therefore propose to tell you about one of our departments and will consider only the actual cost to us of bringing a man in off the streets, placing him in a position that is only semiskilled, in fact, in such a position that with average intelligence a man becomes an effective worker in 12 weeks.

The department in question is run on a piecework basis and we have a plan whereby we pay each workman a day rate, in addition to a piece rate, until such time as he becomes efficient enough to earn a fair week's salary, which in this department is about 6 weeks, although to reach the full pay of an expert worker takes 12 weeks.

Our basis is as follows:

First week we pay 30 cents per hour flat.

Second week we pay 20 cents per hour and in addition pay for all production he turns out on the basis of regular piece rates for such production.

Third week we pay 15 cents per hour on the same basis.

Fourth week we pay 12 cents per hour on the same basis.

Fifth week we pay 8 cents per hour on the same basis.

Sixth week we pay 5 cents per hour on the same basis.

At the end of that time the man should be self-supporting. We credit this man with all work turned out, and yet our records show that such a man costs us, in excess daywork charges, the sum of \$42.

This, however, is only part of the cost, as in this particular department the overhead expense is 130 per cent, or for every dollar we pay in actual productive labor we pay \$1.30 for unproductive expense, such as foreman's wages, instructors' wages, inspectors' wages, power, heat, and light, repairs to machinery and fixtures (belts, shafting, benches, frames, etc.), oils, grease and kindred items, and expense materials that have no connection with the actual material in the tools, such as emery, grindstone, files, hand tools, etc.

This brings into the question the loss to any employer that is not realized, because it does not appear in the pay envelope, but is hidden in the cost of doing business and is assumed to be a necessary evil in the expense of conducting such a business.

This is mighty hard to express in terms of dollars and cents, but from our records I believe I have found a way to make it clear to you. In this department a skilled employee makes \$24 per week and (on the basis of unproductive factory expense of 130 per cent) it costs \$31.20 additional expense for his production. Our records show that a new man will have an average earning power of only \$10 per week over a period of the first six weeks. Please notice that for each skilled man who turns out \$24 worth of productive work per week we have an overhead expense of \$31.20 in this department. Now, for this \$31.20 we secure from a skilled worker a certain number of pieces of productive work represented by his earnings of \$24 per week. From a new man the average for six weeks is less than one-half the work turned out by a skilled worker, as shown by his average earnings of \$10 per week.

It is not fair to say that this man turning out only \$10 of productive labor will cost us as much in unproductive factory expense as the man who turns out \$24 of productive labor, but there are certain charges that must be assumed that can properly be figured on the basis of a man charge rather than a charge to a unit of production. The only credit the new man would have would be in expense materials, that is, materials such as emery, grindstones, and kindred items, where the greater the production the greater the consumption of such expense materials should be. This is based on the assumption that the learner will not use more of such expense materials in proportion than the experienced man, although it is a well-known fact that this is not correct. A learner always uses more expense material per unit of production than an experienced man.

In this department the factory expense materials are 50 per cent of the total factory expense charges, and in our figures we are going to disregard any excess charge for the extra amount of materials used by the inexperienced men. This, however, leaves us with 50 per cent of the unproductive expense of \$31.20 which we pay for the \$24 production of the experienced man, or \$15.60, which we must charge to the \$10 production of the new man. This charge of \$15.60 covers only such expense as foreman's, instructors' and inspectors' wages, power, heat, and light, repairs of all kinds, etc., or such expenses as must be assumed by the man unit no matter what his production is. In other words, it costs as much in such expenses for the \$10 production as it does for the \$24 production.

On the basis of an expense of \$15.60 for a \$10 production, the percentage is 156 per cent instead of 130 per cent we pay for the \$24

production, or a net excess cost to us of 26 per cent, or \$2.60 per week, or for six weeks an excess of \$15.60.

During the following six weeks which complete the 12 weeks we figure are necessary to produce an experienced man, this excess cost becomes less due to increased production, but if we cut it in half, it is six weeks at \$1.30, or a total of \$7.80.

These three amounts total an excess cost to us of \$65.40 to break in a new man in this one department.

These figures are based on the assumption that every man we hire stays with us long enough to become an experienced man, but our records show that we hire six men for this one job before we obtain one who stays with us long enough to become skilled.

If we added to the \$65.40 the actual cost of breaking in and training the five men who do not stay, the final cost to us of replacing an experienced man with a green man whom we have to train would be so much higher as to be staggering. As a matter of fact, our records of total excess cost in this department, not analyzed as I have done but taken in bulk and divided by the number of men trained over a given period, show the final cost to us per experienced man to be over \$100.

In this analysis I have purposely left out of consideration all expenses such as interviewing and hiring men, loss in defective work, and have charged nothing for money invested in equipment which we lose on account of low production. You may not have the same plan of payment, but by taking any plan you have and figuring in all collateral charges such as we have ignored, you will find that the average of \$40 per man, mentioned by various authorities, is extremely low.

This cost is brought out to show you how great the reward is if you can by any method reduce your labor turnover.

WHY WE STARTED AN EMPLOYMENT DEPARTMENT.

The work of this association opened our eyes to the importance of a better system of hiring and firing men. Our system heretofore had been the lack of system used by the average employer. When we needed men our foremen hired what men they could get through their friends, and the balance were picked up in the early morning from the floaters found at the door of every factory daily, and it is hard to conceive of a more undesirable source of supply.

This method is so bad in its results that I do not intend to dwell upon it but will relate actual occurrences that crystallized our ideas as to starting an employment department. We heard one of our foremen interview an applicant one day when our need of men was urgent, and the way he handled him opened our eyes as to the possibilities for evil under such a system.

We had at that time, when labor was plentiful, a scheme of partial remuneration, different from that outlined above. When the foreman appeared on the scene, after the man had been waiting almost an hour, he approached him with a belligerent attitude, with—

“Do you want a job?”

The answer was “yes,” and an inquiry as to the kind of work. This was answered in a monosyllable, and then the applicant asked what the job paid.

With no attempt to explain the method of remuneration the applicant was informed that we started men in and they could make 15 cents an hour but would soon learn and get more money.

The applicant said, “I could not work for 15 cents an hour.”

The foreman snarled, “Hell! You don’t want work,” and left the applicant standing in the hallway, with a blank look on his face.

At about the same period we advertised for men, and our office was filled daily in the early morning, and when the foremen had grabbed off as many as they needed in point of numbers, they paid no attention to the balance, but instructed an office boy to tell the applicants that all jobs were filled.

One day we received a letter from a workman who had noticed the advertisement, and wrote relating his experience in answering a previous advertisement from our factory. He stated that he did not want to try it again. He pointed out the fact that he had spent an hour and a half in the early morning to get to the factory, at a cost of 20 cents, a loss of an hour in waiting at the factory, and the fact that he had eventually been dismissed by an office boy with no opportunity to see an executive.

He was exceedingly bitter and deservedly so. We wrote him a personal letter, apologized for such a condition, and promised him it would never occur again to any applicant and I don’t believe it ever has.

The injustice of such a method, coupled with the ruinous effect it must have on our reputation, made such an impression that the whole subject was taken up with the board of directors, and it was finally decided to create an employment department.

START OF EMPLOYMENT DEPARTMENT.

When we had definitely decided to create this department, we knew that we had to make haste slowly, but that there were certain definite lines of policy that must be laid down at the beginning.

The first step was the selection of the heads of the department.

We finally decided that it must be in the hands of men with knowledge of our factory processes, men big enough to analyze con-

ditions, and important enough in position to have at all times access to, and the hearty cooperation of our executives, as we realized that employment problem studies would eventually lead to numerous changes in shop conditions.

We finally placed entire charge in the hands of our assistant superintendent, Mr. Wm. D. Plumb, together with our controller and cost accountant, Mr. James A. Mellon. The reason we selected these men was that we figured that the job had two sides. We selected our assistant superintendent because he was constantly in personal touch with the men throughout the factory, was also through his daily routine familiar with shop conditions, and in the best of positions to investigate complaints at first hand. We selected the head of the cost department, as this department was to be linked up with the employment department and was to keep all records necessary to take care of the information needed for a successful solution of our employment problems. The cost department in our organization is cold blooded as to figures, and we wanted them to show what progress we were making in dollars and cents and at the same time to act as a check on any proposed expenditure suggested by the employment department that did not promise to bring results in dollars and cents.

The question of taking from the foremen the authority to hire and fire workmen was carefully considered, but not definitely decided in advance, as it seemed such a serious problem.

We finally called a conference of our officers, the new employment managers whom we had selected, and our two superintendents, to discuss fully all questions connected with the establishment of the department.

There was very little discussion as to matters of general policy, until we approached the question of taking the hiring and firing out of the hands of the foremen. Both of our superintendents were opposed to doing this, and while they granted that we could possibly solve the hiring part, they saw great obstacles in the way of taking from the foremen the authority to fire men. The greatest objection was raised on their honest conviction that taking this authority away would weaken the foremen in the eyes of the men, and break down all discipline.

We argued the matter for some time, raising hypothetical questions of what could happen in a department where it would be necessary for a foreman to exert his authority at once, or lose his hold on his workmen. All cases were met with logical answers covering all points brought up as far as we could foresee them, and we all finally agreed that the advantages far outweighed the disadvantages, and the employment department was created with the full consent of all concerned. The work of the new department was outlined as follows:

MEMORANDUM, MARCH 30, 1916.

(1) The employment department is to examine and hire men. Requisitions for men from various departments are to be sent to the employment department by the foremen. From these requisitions the department is to get men to fill positions by advertising or from other sources of supply which it will be necessary for the department to create.

(2) The employment manager is to watch the men after they are employed, keeping records of the work, and to see that the employee is brought up to the standard of the department, one thought being that we should adopt an efficiency schedule, and if any man can not make good in the time set for him he will either be discharged, or, if he shows any adaptability for other work, placed in another department.

(3) After some discussion the general thought of the conference was that employees could neither quit nor be discharged without the signature of the employment manager. This would enable the employment manager to find out causes for men leaving, and while he might not be able to retain the men it would show him our weakness if any existed and enable him to eradicate it with future employees. The signature of the employment manager on the discharge slip of an employee would likewise make foremen more careful as to recommending the discharge of a man without a just cause.

(4) The employment department would keep records of absences of employees, general efficiency, and all items of this kind bearing on a man's value to the plant. This will be worked out by this department and is entirely in their hands.

(5) It was definitely decided that requisitions for employees presented by foremen must be O. K.'d by the superintendent in order to keep him in touch with the general situation.

HOW WE STARTED.

We at that time had nothing but an application blank on which to start, and no place except the hallway of the main office to interview applicants, but nevertheless we put the plan into effect at once and notified the foremen of the new procedure.

Considering the effect of such a change to the foremen it was accepted with a better spirit than we expected.

From the foreman's standpoint he was giving up a great deal more than we perhaps realized. He had been accustomed to an autocratic control of his department and he was rendered homage by his acquaintances through being the man who could place them in positions when he so willed it. Adulation is incense to most men, and our foremen were no exception. Suffice it to say at this point, however, that we have never had any real friction with the foremen on either point.

One of the first benefits we derived was in freeing the foremen from the daily necessity of looking over men they needed at the factory door. Under the old system, the first hour of each morning, and the most critical hour from a departmental standpoint, was signaled by the absence of foremen from their departments. The new system automatically changed this, and foremen were free to supervise work in their own departments, rather than lose hours daily in interviewing applicants for work. This has worked out so well in actual practice that I question if we have in

our organization to-day a foreman who would go back to the old method of hiring, and we unquestionably would not.

In addition to lost time, which can be more profitably spent in their own work, foremen as a class have not a broad enough viewpoint to select men dispassionately, nor have they the opportunity to select them. Quite often you will find, on account of the foremen, cliques built up within a department, due to nationality, creed, or secret societies. This is not always intentional, but is created because the foreman draws from his only source of supply, viz, his own friends and associates.

As to the firing end of the proposition there are many arguments against leaving this power with the foremen, but the following seems to my mind pertinent enough to point out the weakness of the practice, viz, factory managers check up their foremen on all material they use; watch them to see that the machinery is in good condition, and save every penny they can by careful supervision; but when it comes to firing men, they give the foremen full sway, because the potential value of \$50 to \$100 invested in that man is not shown in hard cash and is therefore overlooked.

The employment department found right at the start that they were handicapped by lack of facilities for interviewing applicants, and it was definitely decided that we should build an employment office for the purpose of housing the new department. Their preliminary studies had convinced the managers that valuable space was taken up by lockers and departmental wash-room facilities, so the suggestion was made that we combine with the building for the employment department a service building for the men, with sanitary lockers for each individual, good wash-room facilities and shower baths. This was done, and the building has been in service since July, 1916, and has undoubtedly had a great moral as well as physical effect on our workmen, in addition to the valuable and much-needed space which it has released for greater productive capacity in several departments.

It was soon apparent that it was necessary to keep a system of records of each individual from the time he made his application until the time he left our employ for any reason, and time and study have brought into daily use the forms herewith, which I shall try to make clear to you.

The following are a set of forms which we find necessary to use in our work. They are placed in order so that you can follow my explanations.

Requisition for help.—Sent to employment department signed by foreman. On reverse side we have printed a new employee slip, which gives a record of the man sent to fill the requisition.

REQUISITION FOR HELP

Always use this form when in need of help and whenever possible notify Employment Department one week ahead.

2/16. 1917.

Employment Dept.:
Please employ for Dept. 18 one man age 21 to 40

with the following qualities: *Some experience if possible or strong, sober man.*

Kind of work wanted for: *Polishing.*

Wages to start: *New rates.* Chances of advancement: *Piece work.*

Steady or temporary work: *Steady.* When needed: *At once.*

Signature *John Mc Mullin* Dept. *18*

Form I

Application blank.—All the questions we ask seem to us pertinent, and the answers give us a line on the applicant's desirability.

APPLICATION FOR POSITION

No. 1831 Date 2/24 1917

Name *John Sobritski* Address *4633 Milnor St.* Read Eng. *No*

Married Age *33 yrs.* Wt. *165 lbs.* Height *5 ft. 10 ins.* Write *No*

Single Speak *A little*

Last employed at *Henry Disston & Sons* Address *Tacony*

How long *6 months* Why released *Change of residence.*

LAST 4 PLACES YOU WORKED

Place <i>Roclands Spring Shop</i>	How long <i>1 year</i>	Why quit <i>Small pay</i>
Place <i>Barrett</i>	How long <i>6 months</i>	Why quit <i>Dissatisfied</i>
Place <i>Germantown Tool Co.</i>	How long <i>2 months</i>	Why quit <i>Too far</i>
Place <i>Fayette R. Plumb</i>	How long <i>2 years</i>	Why quit <i>To go to Germantown.</i>

Wages earned *11.50 to 20.00* Time Piece Wages expected *Piece work*

Kind of work done *Labor and Polishing.* Nationality *Polish*

Kind of work desired *Polishing*

Remarks:
Good polisher on edge tools. Quit because we called him for smoking in grinding room.

Form II

Employee's record card.—This gives an analysis of the man's record with us, and is used to make notes for future reference.

EMPLOYEES RECORD CARD.											
Dept.	18							Date	2/24, 1917		
No.	831.		Name	Sobritski, John			Age	33.			
Address			4623 Milnor Street								
Nationality		Polish		Languages spoken:		Eng.		A little		Read Eng.	No.
Write Eng.		No.		Societies		Two		Married <input checked="" type="checkbox"/>		Single <input type="checkbox"/>	
Children		3.		Rate per hr.		New rate					
Change of Wages	Date										
	Rate										
Employment ceased 5/17/18 <input checked="" type="checkbox"/> Quit—Layed off—Discharged <input type="checkbox"/>											
Cause To go to Detroit											
Remarks <i>May return. Gave week's notice. Good man—take him back if he comes.</i>											
Approved <i>O. K.</i>					Signed <i>W. D. Plumb</i>						
Approved					Signed						
2M-4-16											

Form III

Record card of work done and hours worked.—This card shows not only the kind of work done but the hours worked and the amount earned; in other words, it is a continuous pay-roll record for each particular man. This is valuable in our work as we are able to assort these cards by classes of work done, and quite often settle disputes as well as use them as a basis of records for the adjustment of wage rates.

In one case we stopped what seemed to be a serious walkout of 12 men, all working on the same kind of tools. They sent a delegation to the employment department with a request for more money, pointing out that the work was hard and that some men could make only \$14 to \$16 per week; that the men who made high wages were exceptionally able workers, and that their pay was not a fair basis for comparison with the average men.

By taking the cards of all the men on this particular work, our employment manager was able to show the delegation that the low-wage men were not working full time, but were the loafers of the

department, and that on the basis of the hours worked they were earning as much per hour as the high-wage men on this class of work.

The delegation was so convinced of the fairness of our position that the trouble died before it was born.

Name <i>John Sobritski</i>					Number						
Week	Description of work	Hours W. O.		Reason for being out	Pay	Week	Description of work	Hours W. O.		Reason for being out	Pay
	<i>Polishing</i>			<i>Moving</i>							
<i>5/1</i>	<i>A. E. Nail 1½ B. S. Hand 2 Engineers</i>	<i>30</i>	<i>22½</i>	<i>Bonus .37 Day rate 9.50</i>	<i>7.50</i>						
	<i>Polishing</i>										
<i>3/8</i>	<i>A. E. Nail 1½ " " " 2</i>	<i>52½</i>		<i>Bonus 1.31 Day rate 10.50 Piece 2 1.5</i>	<i>13.15</i>						

Form IV

Pass issued to workmen to leave the factory and reasons given. No workman can go out without a pass.

<i>Dept. 18</i>	<i>Date 5/12/17</i>	
<i>Name John Sobritski</i>	<i>No. 1331</i>	<i>Reason</i>
<i>Pass out at 10.15 and excuse</i>		<i>Work caught up.</i>
<i>Dept. Head John Mc Mullin 2M-5-16</i>	<i>Supt. H. T. Jackson</i>	

Form V

Leaving slip.—Slip for a man who is discharged or quits. Must be signed by the employment manager.

No. <i>1831</i>	Date <i>5/7 1917</i>
Please pay to <i>John Sobrúski</i>	Dept. <i>18</i>
wages for week ending <i>5/17/18</i>	
	Dept. Head <i>John McMullin</i>
Left <input checked="" type="checkbox"/>	Discharged
Cause <i>To go to Detroit to polish auto parts</i>	
Empl. Agt. <i>William D. Plumb</i>	
This slip must be signed by Employment Agt. if employee is leaving.	

Form VI

SPECIFICATIONS FOR HIRING WORKMEN.

While we have not gone far enough to indulge in psychological tests in the selection of workmen, and we do not differentiate between blondes and brunettes, we have found it necessary to have certain standards for the use of our employment department, and from our experience we have drafted a partial set of rules and specifications to assist in selecting the right men for each particular job.

These rules are as follows:

HIRING MEN

Be courteous. Be patient; remember you have much to do with "labor's" opinion of the factory.

If we have the kind of work the applicant wants, give it to him, provided he is strong enough, does not seem to be a floater, and has no infirmity.

If we haven't the kind of work he wants, try to interest him in something that is similar to it.

When hiring men, do as follows:

I. Ask them what kind of work they have been doing. If they haven't been doing any work similar to ours, ask them the kind of work they want. If they say *labor*, they are possible for following jobs, provided they come up to the requirements necessary for the several jobs: Yard, trucking, grinding, tempering, polishing, and heating.

If they ask for something in our line they are ready for application blank.

II. If applicant wants work in which we have no opening, or doesn't want work we have, do not bother with application blank unless he seems especially good.

III. Make out, or, if he is able to do it, have applicant make out application blank.

IV. If applicant wants work in our line, find out experience or reasons for wanting job.

V. If applicant comes up to requirements, explain to him carefully the job, the pay, the bonus system, the card system, the hours, and the fact that he must give a

week's notice before leaving to get pay in full, and that we hold back a week's pay. Finally tell him that the employment department is always ready to straighten out any misunderstanding he may have.

For grinders, the best to draw from are—Nationality: Polish, Lithuanians, or Americans, experienced grinders, or Americans who want to try it after being told that the job is hard work, wet work, and that the majority of the men are Polish, but the job pays good money. Ask them if they are ever troubled with their backs or rheumatism. Physique: Generally strong and big boned. Some small wiry ones make good, but not many of them. Explain: Must wear glasses, boots, and aprons for wet grinding, which we furnish, and for which they pay at the rate of \$1 per week.

Forgers in department 14—Boys for back of press; must be at least 18 years old, big boned, either American or American Pole. Remember that we want one that can work up to drop hammer.

Heaters.—Men over 21 years. Used to working in heat. A man that has worked in a rolling mill or any forging shop. Either American or Polish.

Drop or pressmen.—Transfer good heater. No heaters available, get old forgers on foreman's list. No one available, take men over 25, with intelligence and strong physique.

Handlers.—Americans over 21. Men accustomed to using a hammer preferred, such as carpenter's helper or chipper.

Finishers.—Girls 16 or over. Americans or Italian, former preferred. Some experience in factory work. Neat about clothing, without cheap finery. Better if they are not "flirty" and live at home.

Packers.—Americans, experienced packers preferred. In any case must be able to read and write well, must be reasonably neat, enough to show carefulness.

Handle beltlers.—Americans or Italian. 18 to 25. Strong wrists and quick movers.

There are similar instructions in regard to other classes of employees, but these will be sufficient to show the extent to which we have gone thus far.

WHAT WE HAVE ACCOMPLISHED.

When I asked our employment department what they had accomplished, the answer was, "Not much. We have hardly scratched the surface as yet." Realizing that they had only been in actual working order in their new building since July, 1916, or a period of eight months, a search of their records hardly bears out such an answer, but when the problems to be solved are so many, they evidently feel that what they have done is but a drop in the bucket. I propose to point out some of the things they have accomplished and leave it to your judgment if they are not at least on the way.

First.—A bonus system.

The employment department found that one of the greatest evils from which we suffered was continued lateness, continued absence, and workmen quitting at the drop of the hat. To discourage these practices and reward good workmen, they proposed, and we adopted, a bonus system as follows:

(a) A workman receives an additional 5 per cent of his weekly pay, providing he turns in a perfect weekly time card as to attend-

ance. Excused only if sent home by foreman or loses time due to injury incurred at factory.

(b) Receives another 5 per cent for maintaining the standard of a good workman. It is assumed that all employees have maintained this standard, unless they are reported to the contrary by their foremen or the superintendents. This bonus is deducted in extreme cases only.

(c) While workman is credited with the bonus from the day he starts, he must work 3 months before he obtains it. If he quits or is discharged before this time he receives no bonus.

(d) The bonus is paid by check, and a workman may leave his bonus on deposit with the firm and receive 6 per cent annually, payable semiannually.

We now have about 41 bonus books on deposit. We have greatly improved the conditions and feel that it has been a wise expenditure, but experience has proved that it needed stiffening, and we have added a ruling that seems to be having the desired effect. The ruling is as follows:

If an employee loses time three weeks in succession, except for reasons covered by provided excuses, he forfeits his rights to his entire bonus until he shows a perfect time card for one week. He is notified that if he continues this delinquency he is not considered desirable.

By showing delinquents how much they are losing in cold cash by being late and losing time they are made to realize that it does not pay.

Second.—Reduction in hours from 57½ hours to 52½ hours.

During the period when men were so hard to get we tried to analyze the cause for men either not hiring with us or not staying with us and the employment department made the following report as to one of the contributing causes:

Our work from its very nature is hard and laborious, tiring men out compared with work in the average factory.

We figure that in order to hold our men and make our plant attractive to new men it is necessary to reduce our week from 57½ hours to 52½ hours, with no reduction in pay.

We figure that it will not decrease our production but will raise it.

After some discussion their report was adopted and on December 4, 1916, all day rates were raised so that the pay equalled or slightly bettered on a 52½-hour basis the old pay on a 57½-hour basis.

All piece rates were carefully analyzed and adjusted in every case where the shorter hours affected the pay of the producers.

The results speak for themselves. The men felt better and appreciated our action. It is much easier to hire men than before.

The weekly production in one of our worst departments, in spite of the shorter hours, has increased 18.4 per cent and in the entire plant 10 per cent.

Third.—Reform within a department.

One of our departments demanded personal investigation, as we found it impossible to keep men or to maintain production.

An analysis by the employment department showed poor shop conditions in many phases:

(a) Inadequate artificial lighting at dusk, so bad that no one but the individual workman bent over his work could tell what he was doing. This part of room dark and cheerless.

(b) Bad drainage in the rear of the machines, which were fed with water. The water collected in spots. This section of the department had a dank unwholesome smell.

(c) The foreman was inefficient, had no control over his men, and therefore none over his department. He wasted most of his time doing clerical work that he dragged out almost over the entire day. The men who worked under him were as a class heavy drinkers and independent, worked when they wanted to and quit when they wanted to.

The following remedies were suggested and adopted:

(a) Improved lighting. 100-watt Mazda lamps were installed every 20 feet.

(b) Drain was put in which took care of all excess water, relieving the discomfort and destroying the odor.

(c) The foreman was discharged and a capable man from another department put in his place. This move stiffened up discipline and improved personnel of department.

(d) The entire layout was inspected, safety guards put on all machines where there was any chance of a workman getting injured. Everything possible was done to make the operation of the machines safe and convenient for the men.

(e) Two instructors were installed to teach new men.

(f) All piece rates were carefully analyzed and prices adjusted so that there were no "good jobs" and "bad jobs." They were all made "fair and square jobs."

Rates were equalized and set so that men could make an average sum per hour on any kind of work done in the department.

Since then there have been several adjustments and there are still a few to make, but we keep in close touch with the work and "raise before we are compelled to."

This is the department that increased production 18.4 per cent, with 5 hours per week less running time, and last month had the largest production in the past 3 years.

This attention to details has already proven it has paid, through the reduction in overhead expense per unit of production in this department.

Fourth.—Interviews with men who quit.

As all men are paid off through the employment department even the men who quit without notice must return to the department to be paid wages due.

All others must secure the signature of the employment manager if they give notice or are discharged, so we have a chance to interview all dissatisfied men.

Some of the results are illuminating. When men quit or are discharged they have no reason for withholding information. Complaints are heard of nagging foremen, lost time in waiting for work, and other complaints bearing on shop efficiency. Those are investigated and if the fault is with us it is remedied.

These complaints brought to light the weakness of one of our best foremen. He always had a "chip on his shoulder," approached his men with that attitude, and caused a great deal of friction before this fault was discovered. A talk by our superintendent convinced him that while that sort of attitude may have been all right 10 years ago, "it can't be done"—not now.

Another case: A man quit and on being asked for reasons stated that he had to lose too much time waiting for one indispensable tool and for material for his work; also, he was advised that his work was O.K. by one inspector only to finish it up and have half a day's work thrown back by another inspector. An investigation proved that the man was justified, the case was settled, and the man is still with us. As this man was an experienced hand in the department in which, as I stated, it cost us \$100 to "break in" a new man, it looks as though this was a fair day's work.

Fifth.—Transfers in the factory.

This was something never attempted. If a man did not suit his foreman he was fired and no questions asked.

Now we look into unsatisfactory cases, try to find the causes, remedy them if we can, and if we can't try to locate the unsatisfactory man in another department.

Just a few cases of what we have done:

We have one young man of undoubted ability, good personality, pleasant, and obliging. He became a regular Monday absentee, took all that was said to him as a reprimand with a lackadaisical air, and had evidently lost his "pep." We found upon investigation that he was fast becoming disgusted with his outlook and felt that he was up against a blank wall. We transferred him to a semiexecutive

position in another department, gave him larger responsibilities and a larger salary, and he has more than made good.

Another man was a boss trucker, who made a flat failure of the job. He was then made head inspector of one of our hardest departments and has done wonders in bringing up the general efficiency of the department. He was temperamentally unfitted for one job and fitted for the other.

Sixth.—Actual accomplishments.

I will not inflict upon you any details of labor turnover, but will simply point out the reduction in the number of men who have quit since the department has been in operation. Taking April, 1916, as a basis, during the month of July, one of our worst months on account of heat, the number of men who quit was reduced 25 per cent. This work has been steadily improving and in January, 1917, the reduction on the same basis was 48 per cent.

Since the installation of the employment department we have decreased our working force 10 per cent, reduced our working time almost 9 per cent, and increased our total shop production 10 per cent.

Seventh.—Indirect benefits.

When we first started the employment department our men looked on it with suspicion, as being another one of the things the boss was trying to "put over" on them under the guise of service.

This attitude of mind is common, and is no more than is to be expected through past relations of employee and employer. Vanderbilt's phrase, "the public be damned," has been paraphrased over and over again with the "men be damned" and the "boss be damned." Recollect that this feeling has been handed down from father to son and is bred in the bone. It is the survival of the days when "to the victor belong the spoils" and "might is right."

We are now on the threshold of better things. Employers know and workmen are learning that their interests are identical. One can not be prosperous without the other. This, however, is the new viewpoint and has only made headway within the past 10 years, and we can not expect to wipe out generations of suspicion and misunderstanding overnight.

Our employment department has adopted as its motto "put yourself in his place," patiently listens to complaints, and does not make the common error of believing that lack of education actually means lack of knowledge. Workmen do not put their kicks in purest English, although sometimes they adorn them with the strongest. Our men have learned that the employment department is built for

them, that it is a place where they get a square deal, and that they will be treated right on all occasions.

To show you how far we have gone I will cite the way disputes were handled before and have been since the creation of this department. Formerly men would stop work in a bunch, demanding something, and refuse to return to work until it was granted. In one case they gave us one hour to consider a question involving 50 men in one department, and before we had time even to digest the demand the hour was up and they walked out. Since April 1 we have had no strikes and no threats. We have had two requests, and the men have stayed at work until a decision was reached.

I wish to say that if our employment department had done nothing but produce this feeling of personal responsibility to each other on the part of the men and on the part of the firm, it would have justified its existence and its cost.

In conclusion, I feel that in the study of employment problems we are trying to solve issues ages old, and while the reward is great from the standpoint of efficient factory management, the reward is still greater if we can but help to solve the principle of humanity involved, and so insure that cooperation without which we can make no progress, and with which the watchword will be "prosperity for all" and not "prosperity for one."

NOTE.—If you think you do not need an employment department, find out—

(1) How many of your present employees have been with you over 12 months.

(2) How many men you have hired during the last 12 months. Count every name which has appeared on your pay roll.

At the Philadelphia plant of Fayette R. Plumb (Inc.) 500 men are employed. All the work above described is carried on by the assistant superintendent and the controller, appointed as employment managers, whose other duties take more than one-half their time, and two clerks. In a factory of 150 men or less an employment manager with the rank of assistant superintendent, with the assistance of a clerk for timekeeper, could do it all.

DISCUSSION.

Question. I would like to ask Mr. Williams whether the policy of hiring and firing was taken up with the foremen individually or collectively before the thing was put into effect.

Mr. WILLIAMS. No; it was put into effect first as a matter of policy and then told to them.

Question. Has the matter of the advisability of presenting it to your foremen first been discussed before your association?

Mr. WILLIAMS. No; I think that is a matter of shop policy in our factory; any change is adopted by the board and becomes a factory policy with which we expect our men to comply, whether they are foremen or workmen. We adopted this system first and told the foremen afterwards. Of course we consulted with our superintendent, but not with the foremen.

Mr. GOULD, of the B. F. Goodrich Co., Akron, Ohio. I would like to ask Mr. Williams how he keeps the record of absentees.

Mr. WILLIAMS. Simply by taking every morning a report of absentees by departments and handing it to our pay-roll department and our record department. That is all there is to it. We do that each and every day, and tabulate it daily by departments. Our system consists practically of a watchman who takes care of the cards and turns them in, as a part of his duty, to the record department.

W. F. WINAN, of the National Carbon Co., Cleveland, Ohio. I would like to ask Mr. Williams, if I may, this question: In your bonus for regularity or promptness, do you dock in addition to your system of paying additional, that is, do you dock for tardiness of, say, a half an hour?

Mr. WILLIAMS. Nothing but the loss of bonus.

Mr. WINAN. A man may come in fifteen minutes late; does he lose anything but the fifteen minutes?

Mr. WILLIAMS. He loses the bonus and the fifteen minutes, but he is not fined.

Mr. GOULD. I would like to ask what percentage of the workmen has received their bonus. I believe you said they had to be there three months before they received any bonus?

Mr. WILLIAMS. That would be mighty hard to say offhand.

Mr. GOULD. Do you find that many of them leave before the three months are up, that is, is the bonus an inducement for the men to remain with you?

Mr. WILLIAMS. Yes, it helps, but it does not obviate that three months' trouble; we all have that. We find that it pays to offer them that bonus, but what the percentage is I don't know.

Mr. GOULD. Do you find that a group of men quit at the end of three months after drawing the bonus?

Mr. WILLIAMS. Some do, yes, but we have cut down the percentage of quits 48 per cent in about a year, during the worst period I have gone through in my life, and so it must come from somewhere, and that is only one of the factors in the general situation.

Mr. JOHNSTON, of Atlanta, Ga. Do you not attribute your changed conditions in the factory, in the department you spoke of, to the shorter hours having an effect upon steadying your labor?

Mr. WILLIAMS. Surely; that is why we did it.

Mr. JOHNSTON. You found good effects from it?

Mr. WILLIAMS. We certainly did.

The CHAIRMAN. If there are no further questions we will now introduce our next speaker, Mr. Wolf, who has come to us from Canada.

INDIVIDUALITY IN INDUSTRY.¹

BY ROBERT B. WOLF, MANAGER, SPANISH RIVER PULP AND PAPER MILLS (LTD.),
SAULT STE. MARIE, CANADA.

About three years ago I was asked by the committee on economic administration of industrial establishments of the American Society of Mechanical Engineers what I considered to be the "new element in the art of management." At that time, while the general principles of what I wish to present for your consideration to-day were in my mind, they were more or less indefinitely formulated and I hesitated to give them expression. Since then, however, I have had ample opportunity to verify my earlier conclusions and have put many of them into actual practice.

In presenting for your consideration my conception of progressive industrial organization, I do not wish to have it understood that I am attempting to elaborate on the methods of Mr. Taylor and others, nor do I wish to detract in any way from the splendid work done by these men. I hope that this paper, however, will show that there is a relationship between the various methods and will point out how they are all forward steps in the great movement which increases man's productiveness and his creative powers.

In order to give you my ideas more clearly, a general review of present conditions in the industrial world seems to me necessary.

Many of you have undoubtedly had more or less opportunity to observe the deplorable inefficiency of most of our large industrial concerns, especially those commonly known as trusts, where a number of formerly independent plants have been united under one common management. The plants are usually scattered over a considerable area and the central offices located in some commercial center.

The first step in the organization of these corporations has usually been the removal of the resident owners and managers from the various localities to the central offices and the subsequent attempt to carry on the functions of management by the superintendent and heads of departments. These men, in most instances, not having had any real knowledge of manufacturing costs and profits, are, of course, incapable of conducting the business intelligently. It there-

¹ This paper is compiled from three papers by Mr. Wolf, two of which were published in the Bulletin of the Taylor Society for August, 1915, and March, 1917, and the other in the Pulp and Paper Magazine for Jan. 4, 1917. At the time the papers were written Mr. Wolf was in the employ of the Burgess Sulphite Fiber Co., Berlin, N. H.

fore becomes necessary for the central office to perform much of this work for the various plants.

As a rule no final manufacturing costs are made at the plant and as a consequence those who are held directly responsible for the cost of producing and who have the most intimate knowledge of operating conditions have not a very intelligent basis upon which to work. They can receive very little help from the former managers; in the first place, because these managers are so far removed from the actual conditions that their judgment is affected; and, in the second place, their interest is divided among so many different plants that, in the very nature of things, they can not give the various problems the time required for intelligent consideration.

A realization of the impossibility of keeping close watch on details at a distant plant is perhaps responsible for the removal to the central offices of some of the vital functions of the individual plants, such as purchasing, selling, construction and maintenance, cost keeping, etc.

A central purchasing department has undoubtedly many advantages, but as ordinarily conducted in large corporations these advantages are almost entirely offset by the obstacles placed in the way of free choice on the part of the mill organizations and the consequent discouragement of individuality in making selections. The impossibility of handling all of the purchases by one capable man necessitates delegating a lot of minor purchases to subordinates, who have no real knowledge of actual mill requirements. Even though they know what is required in one mill, they can not know in others where conditions are not the same.

The purchasing agent should have full power to build up an efficient organization for keeping informed of the market conditions, so that requisitions from the mills can be handled with promptness and dispatch. The department should be able to furnish full, complete information to the individual plants whenever they need it, in order to purchase supplies properly. It should encourage the mills to furnish specifications, and welcome attempts on their part to keep comparative records for the purpose of determining the best materials to use. It should always conduct itself toward each separate organization as if it were an outside firm, employed to give advice and assistance in every way possible to enable purchases to be made economically. Each plant should receive frequent reports from the purchasing department, giving complete information about materials found to be giving good results in other places. This one feature alone would make it immensely valuable to the parent corporation.

I have dwelt upon these details merely to show how greatly a central purchasing department can aid if put in its proper relationship to the various plants, namely, that of servant rather than the

equal of the manufacturing department. Certainly nothing can be more important to manufacturing than the proper purchasing of materials which are to be converted into the finished product or which are needed to affect this conversion.

Let us take accounting next. Why are accounts kept and what is their purpose? In the last analysis, accounts are records of the progress of accomplishment and are used to enable those in charge of the corporation's affairs to decide upon the future policy to pursue.

Why, then, should any attempt be made by the central office to keep accounts that are of strictly local interest to the individual plants? And why even attempt to dictate how and when these accounts should be kept? In so far as comparisons between individual plants are concerned, this is justified, but no further, and even in this case it should not be pushed to a point where comparisons which local conditions at the plants demand are not allowed.

The foregoing should not be misconstrued to mean that I believe a central accounting system for corporations is not necessary or desirable, for it most certainly is. The accounting department should confine itself, however, to such accounting as is of interplant nature, and not attempt to dip into local conditions, except in an advisory capacity.

One serious mistake often made is allowing the accounting department practically to control the mill offices. These, for reasons to be pointed out later, should be entirely under the control of the local management, subject, of course, to frequent auditing by the accounting department.

The central office of the corporation needs only resultant figures giving a true record of the progress of each plant, and made in such a way that comparisons can be easily made, the local plants being required to furnish any figures called for at all times.

The selling, in most cases, can be handled by the central office much better than any other function; indeed, the main purpose in forming large corporations was primarily to stop ruinous competition between plants, especially in periods of slight demand. There should, however, be much closer touch between the selling department and the mills, and a much more intimate knowledge of operating conditions by the salesmen. The degree of this intimacy is, of course, one of the important things to be decided by the chief executive.

"Maintenance and construction" is another thing which should be touched upon. There is usually much damage done to the individual plants by decisions of "absentee" engineers, whose knowledge of the plant conditions can not be of such an intimate nature that they can make intelligent decisions. This very often actually re-

tards progress in the organization and serves to discourage individual effort upon the part of the local mill management.

A high-grade consulting engineer, employed to devote his entire time to the corporation's affairs, would be a very valuable asset. He should conduct himself toward each individual plant exactly as he would if they were all independent establishments and his own clients. There would be this very important difference, however, which would mean much greater freedom of action—i. e., he would be entirely free to give each plant the benefit of his experience in others, and in this way would be a constant, highly intelligent means of exchanging ideas of mutual interest and benefit.

Of course, I realize that most of this is a review of things already known to many of you, but this review seems to me to be necessary in order to present properly what, I hope, will be more constructive in nature.

I am now going to make a plea for the development of plant individuality. This is not merely a return to old conditions existing prior to amalgamation, but a regaining of all the advantages of the old order of things with the additional advantages of the new.

To begin with, we must have managers in our plants who have real executive ability and who are not selected because of their particular skill in certain manufacturing lines. These managers should have power to select and form their own organizations, and for this reason must be men who have a broad realization of their unity with the parent corporation. They should be the kind of men who are ready to receive suggestions and receive them gladly, and at the same time have individuality enough to reject those things which, from their knowledge of conditions, it seems unwise to incorporate.

Having selected this type of manager, the work of developing the organization's individuality can begin.

A good organization must have the following elements:

1. A certain definite function to perform.
2. A definite central organization of control.
3. A thorough system of recording all events which take place in the performance of the work.
4. Means for vitalizing certain subconscious functions of control so as to produce prompt, intelligent action without direction from the conscious mind.
5. Means for making newly acquired accomplishments automatic.

In other words the question resolves itself into developing in the plant as a unit all of the functions so wonderfully exemplified in the human body.

Recognizing the principle that any organization to be progressive must have individuality, let us see how this individuality can best be built up. To do this we must have some knowledge of what con-

stitutes individuality, and I know of no better way to illustrate this than by showing how unity of action is maintained in the organized activities of the physical body.

The mechanism which enables the human body to act as a unit is the nervous system, which controls, either consciously or subconsciously, every bodily function.

In order to understand the reason for the simplicity and wonderful unity of the nervous system in spite of its apparent infinite complexity, it is necessary to describe its three great subdivisions:

The sympathetic system.

The spinal system.

The cortical system.

Take first the sympathetic system, which is the seat of those almost entirely automatic functions over which the conscious mind has only very indirect control. This consists principally of the efferent (or outgoing) nerve cells, whose bodies are collected into ganglia, or groups, located outside of the spinal cord, principally in the head and in the body cavities. For instance, the nerves which stimulate the growth of the hair, the fingernails, and even the growth of the body itself; the vasoconstrictor and vasodilator nerves controlling the contraction and expansion of the blood vessels; the nerves controlling the beating of the heart and thousands of other functions are all a part of the sympathetic nervous system. This is so designed that it constantly reminds and, in a sense, releases the forces required to keep in motion the routine work necessary to our preservation.

Next let us take the spinal system, which is located inside of and protected by the backbone. This is the seat of those semiautomatic functions over which the brain has a direct and constant control. These functions—such, for instance, as walking or breathing—after once being set in motion by the will, acting through the brain, or conscious mind, are kept in motion by the nerves in the spinal cord without the conscious effort of the individual. It is also the seat of the so-called reflex muscular action, which causes the body to act involuntarily for its own protection, when necessary.

The fundamental difference between the subconsciousness of the sympathetic system and the subconsciousness of the spinal system is that the stimulating nerve power of the latter is more or less directly under the control of the conscious will, while the sympathetic system performs its work independently of it.

Finally, let us describe the cortical system, which is really an outgrowth of the spinal system, surmounting it, coordinating and controlling its action. The upper portion, or cortex of the brain, is the seat of the memory, where all the sensory impressions from every portion of the body are brought by the afferent (or ingoing) nerve

paths, and from which originate the efferent (or outgoing) impulses, which keep the body functioning properly in accordance with its environment. The will, having the power to recall and use the stored-up records in the brain, can, by means of communicating nerve fibers in the cortex, direct the organism through its outgoing nerves to useful efforts of progressive accomplishment.

I could go on almost indefinitely with illustrations of this nature, but enough have been given to bring out the point I wish to make, namely, that the human body is an organization of many elements (and I might say of many personalities, for each cell has individuality of its own, and many can live outside of the body itself), all working together in harmony, under the direction of the will, acting through the nervous system.

Now, what I want to point out is that inasmuch as man's progress depends upon the perfect coordination of his forces to produce unity of action, we have no right to expect an industrial organization to make progress (which it must do as a unit) without the establishment of a conscious coordinating mechanism similar to the nervous system in the human body.

Is it not a fact, then, that the success of scientific management, properly applied, is due to its action in building up the individuality of the organization? I think there is not the slightest doubt on this point, nor is there any doubt that the failure of some organizations to put their business on a scientific basis has been caused largely by the fact that they have not used the mechanism of scientific management for the purpose of perfecting its unity.

Recognizing, then, these various recording devices and instruments which come in direct contact with the work as the end organs of newly acquired senses, we must conduct the impulses resulting from the instrumental contacts through suitable channels to the place where all things affecting the organization are recorded.

We must have, in other words, an organization memory, which is entirely apart and separate from the memory of the various individuals of the plant. It is only by having such a place of record, where all things affecting the organization as a unit can be recorded, that a proper perspective can be obtained.

A gradual development of such a memory by the addition of new senses will tremendously accelerate the rate at which the organization will progress, just as in the individual the addition of new concepts to the brain tremendously increases its reasoning power.

In designing the recording mechanism, or plant memory, it is best to use graphical methods in order that comparisons may be easily made. Figures, it must be remembered, are static, while curves show tendencies.

By the use of graphical records, things affecting each other can be brought in close relationship, enabling those whose business it is to control the manufacturing process to see at a glance what action is necessary on their part to produce the best results, not only with respect to their own department, but with respect to the whole plant.

Having described the memory part of the organization as corresponding to the cerebrum of the brain, let us now consider the part corresponding to the spinal cord, which is the seat of what we will call the vital or intelligent subconscious action. In our industrial organizations this corresponds to the control by the department heads and foremen, who are constantly directing and setting in motion corrective forces tending to keep the organization functioning properly. This is analogous to what the anatomist calls "reflex action."

Now, in the average organization much of the work is done in this manner without direction from the central conscious mind. There being no plant memory, this is the only way it can act and progress is necessarily extremely slow, as it is, for instance, in the insect world where the spinal system is not surmounted by a brain.

As the coordinating effect of a brain, however, enables the spinal cord to do much better work, so does the addition of a plant memory tremendously aid by intensifying the subconscious action; as, for instance, when it acts through its executive branch to stimulate the creative energy of a foreman, subforeman, and even individuals, by giving them a record of the performance of their work and by making comparisons with others. By this means a spirit of emulation is built up which makes each man desire to do good work of his own free will. The urge comes from within instead of from without. The result of having this spirit permeate the organization means an entire reversal of the old order of things, where the chief executive uses his creative force to make his department heads carry on their work and they in turn pass the impulse along to their foremen, and so on until it reaches the last man in the organization, where it is felt very faintly indeed.

The new order carried out to its ultimate point means that each man in the organization is interested because those above him have had brains enough to furnish him with the means of recording his progress. He then feels that he is creating something and is happy. His foreman, being released from the tedious work of making his men work against their will, finds stimulation in directing the forces he feels flowing upward for him to direct. As a consequence, he becomes creative in his work.

The department head has the same experience and finally the chief executive finds himself directing the forces looking to him for leadership and he himself becomes creative and no longer wears himself

out by trying to drive his own creative force into the men in his organization, thereby depleting his own supply.

Finally, let us take that part of the organization corresponding to the sympathetic nervous system, for it has a very important place in our scheme of rounding out the organization's individuality. Much of the organization's activity must become automatic, otherwise our capacity to acquire new accomplishments will be greatly limited. Man's progress in the world consists largely in the conscious acquisition of new talents and making them subconscious or automatic. We begin this when we, as children, consciously learn to walk and later in life, perhaps, learn by dint of hard work to ride a bicycle. Once having learned these things we no longer have to think about them, but our minds, while we are doing them, are released for other purposes.

Now, in our plant organization there is no better method of installing a subconscious control than by the use of a "tickler" system, as it is used in the Taylor system of scientific management. This consists simply of a cabinet with a drawer for each month in the year, containing substantially built folders for each day of the month. In these drawers are placed the various memoranda, to be taken out and distributed on the proper dates, reminding those to whom they are addressed of certain routine work to be done. A system so safeguarded as to keep the conscious mind of the organization informed when a departure is made from methods decided upon as best or made so responsive to changes in plant conditions as automatically to allow the executive branch to know when conditions should be changed is fulfilling a long-felt want. I can describe to you a thousand ways in which such a system is serving a large industrial concern and enabling the conscious mind of its executive, department heads, foremen, and others to do creative work for its advancement.

I want now to state, in as few words as possible, what it seems to me are the essentials of organization work. The first thing to decide upon is what constitutes individuality. The units must be no larger than they should be to function properly as units in the performance of a common task. If the corporation ownership is large, divide it into these units and make them come into the parent organization as complete units.

Having determined your units, give them individuality in the following manner:

1. Furnish them with means of becoming conscious of themselves and of their environment by building up a system of scientific registration and control similar to the nervous system of the human body.

2. Provide a definite central place for recording all of the various sensory impressions furnished by the recording mechanisms, arranged in such a way that comparisons of the whole progress of the plant can be made with the least possible effort, exactly as it is done in the brain of the human body.

3. Provide for the subconscious control of the newly acquired accomplishments as exemplified by the spinal and sympathetic nervous systems in man, thereby liberating the conscious mind to deal with new problems of a creative nature.

If these three functions of management are kept in mind there will be no danger of becoming confused by the mechanism of control, for it will always be seen to be what it really is, namely, the nervous system in progress of development in order to establish greater unity of organization.

Furthermore, a thorough recognition of these three cardinal principles for establishing unity of action is a perfect safeguard against oversystematizing. The human nervous system is extremely flexible and always more or less under the control of the will and it is of the utmost importance that the mechanism for controlling and unifying an industrial organization be equally flexible and capable of being modified.

Any system so designed that it does not permit the intimate contact of employer with employee and therefore does not fully recognize the value of the human touch is doomed to failure.

With respect to the relations between manager and employee, I have a feeling that there are certain things in the minds of some members of this society that are somewhat contrary to my own convictions. My convictions are based upon what we are actually doing in our mills at Berlin and are also based upon my three or four years' experience immediately after graduating as an engineer in 1896, when I was working at the paper trade in various mills in New York State and New England.

While this practical knowledge is a great asset, I believe the most valuable thing I learned was the workman's point of view, by direct intimate contact with him; so that our method of organization efficiency at the Burgess' plant takes this human factor into account to the fullest extent.

It is necessary to build up an organization unity, but in order to do this it is necessary to record the various elements that enter into the manufacturing operations in such a way that the results can be analyzed. These analyses can then be used as a basis for changing plant conditions, so that the laws that are discovered can be specialized through the creation of conditions for their expansion. This, as you can see, is a very definite, vital, human problem, and requires a constant development of the intellect of the men in the organiza-

tion. In other words, it is an educational process and the function of the management becomes primarily educational in nature. It is more a question of leadership than of compelling obedience. In other words, we have succeeded in getting every man in the organization (I say this in its broadest sense) trying to produce the largest quantity of the best quality of pulp at the lowest cost. It is not because the department heads, superintendent, or myself are making superhuman efforts to produce the results but because we have succeeded in getting everyone to cooperate with us. There is a desire to get this result on the part of the workmen throughout the entire plant.

To be more specific, we will take the digester building as an example. You are undoubtedly familiar with the old methods of cooking, where a man judged the cooking operations by the "feel" of the digester and the relief valve, and based his judgment as to when the digester should be blown upon the color of the liquor and the smell. You can easily imagine that with nine different men cooking our digesters we got nine different kinds of pulp. It was necessary for us to hit upon some standard method of cooking and then get everybody to follow this method. We began by putting on the bottom of the cooking records a graphical chart, upon which the cook plotted the gauge pressure, the steam pressure (which corresponds to the temperature in the digester), and the gas pressure, which was obtained by subtracting the steam pressure from the gauge pressure. By watching these curves our cook could tell whether the relief was as it should be by noting the drop in his gas pressure. If it dropped too rapidly, he would shut off the relief valve; if not rapidly enough, he would open it up wider. By gradually determining the ideal standard cooking chart, the men began to take a keen interest in their work, as they were in reality following an ideal which they recognized to be the true ideal in order to get the best quality of pulp.

Through studying the effect of the maximum temperature upon the quality of the fiber, especially the strength, and studying also the effect of the acid strength upon the maximum temperature, we gradually began to accumulate a lot of information which enabled us to coordinate and bring together certain parts of the plant which had been running more or less independently. There were hundreds of variables, we found, entering into the different operations and we soon began to accumulate an enormous amount of data which, because of its volume, tended to confuse our minds as to what the real facts were. In other words, by carrying the analytical process to its extreme point, we found a definite necessity for starting a synthetic process which tended to unify and bring together the various factors, so that they would enable us to see the underlying principles involved in our manufacturing operations. To make a long story

short, we began to record our operations graphically, adding one thing after another until we now have a graphical chart room which contains over 2,000 charts, all having to do with the manufacture of bleached sulphite pulp. We have many other charts for our various by-products, in addition to these, but these are handled more or less as separate organizations.

The net result of a long series of experiments was an increase in our production from 225 tons per day of the poorest quality of fiber to 400 tons per day of fiber which to-day is recognized as a standard of excellence all over the world. This was done without adding a single digester or putting in a single additional wet machine for handling the finished product. Of course, the physical equipment of the plant was changed very radically; in fact, with the exception of the digesters and wet machines just mentioned, there is hardly anything left of the old equipment. In our wood room practically everything has been changed—the method of barking wood, chipping wood, screening and sorting it; our entire bleaching plant has been rebuilt, a different method of bleaching being used; our entire acid plant has been changed so completely that anyone who has not seen it since seven or eight years ago would not recognize it at all.

Of course, it goes without saying that we were obliged to put into control of our manufacturing processes technically trained men, and this was done by gradually working these men into the plan through our chemical and engineering departments. By putting men of this caliber in as department heads, after they were thoroughly familiar with the practical part of the business, and putting the responsibility for the operation of the department up to them, we were able to maintain, in spite of the rapid growth of the organization, the human relationship and contact with our men which is so essential to the welfare of the workman.

We make it a policy to record the operations of the individual workmen in such a way that they have some means for recording their progress and are thereby able to realize just what their efforts are producing. This brings out what we call the creative faculty of the man to the fullest extent; he is able to really enjoy his work by being given opportunity for self-expression. In all of our operations we work to produce this result, realizing that we are primarily developing human beings and that plant efficiency is not an end in itself, but that the real aim is the development of men. I could tell you some very interesting things that have happened to men in our employ who have changed their habits of living, decidedly for the better, simply because they were being given opportunity to find joy in their work, and have changed from men doing negative, destructive work to men doing positive, constructive work. It is a fact that is beginning to be recognized to-day by men who are thinking deeply along

these lines that a man is internally purified by doing work which is fundamentally creative in nature. The desire for self-expression is one of the most fundamental instincts in human nature, and unless it is satisfied it is bound to manifest itself in all sorts of abnormal ways which to-day are working such havoc in society.

I would like to call your attention here to the fact that we do not use any of the so-called efficiency methods of payment, such as task or bonus and piecework. Our men are all paid by the hour, except those who are on a salary basis. In other words, we have enabled our men to forget that the dollar is the most important thing in life and by paying them liberally (much more than in any other sulphite mill) enable them to devote their energy entirely to the task and are actually doing their work well for its own sake. This brings back, as you can readily see, somewhat the old artisan idea, where the workman took pride in the execution of his work because he had means for realizing himself in it; only in our case the man does not create the complete finished article, but does create and form a more or less definite record, and realizes its relationship to the finished product in which he takes a personal interest and pride.

In answer to Mr. Green's statement at the October meeting that "We on the management side have the means of directing in detail the treatment of every batch of stock in every beater, day and night, and of taking the full responsibility which belongs to us for the results," I replied:

Our efforts, ever since we began to realize the workman's point of view, have been not to take responsibility from him. It is our plan to increase his responsibility, and we feel that it is our duty to teach him to exercise his reasoning power and intelligence to its fullest extent. There is no advantage gained by stimulating a man's reasoning power, and through this means his creative faculty, if the management relieves the man of the responsibility for each individual operation. The opportunity for self-expression, which is synonymous with joy in work, is something that the workman is entitled to, and we employers who feel that management is to become a true science must begin to think less of the science of material things and think more of the science of human relationships. Our industries must become humanized; otherwise there will be no relief from the present state of unrest in the industries of the world.

In this connection it might be well to observe that our experience in the pulp industry has been that instructions which go too much into detail tend to deaden interest in the work. We realize fully the value of sufficient instructions to get uniform results, but we try to leave as much as possible to the judgment of the individual operator, making our instructions take more the form of constant teaching of principles involved in the operation than of definite fixed rules of procedure. It is necessary to produce a desire in the heart of the workman to do good work. No amount of coercion will enlist him thoroughly in the service.

The more knowledge a man has of the laws that he is working with the more he is able to create conditions for the expansion of these laws. As I have said before, man does not create matter nor force,

but he does create conditions for the specializing of the natural process, and, as this is the basic instinct in all mankind, the progress that is made in any organization depends upon the amount of opportunity given to the human units, of which it is composed, to do creative work.

Of course, the great problem of management is how this can be done and at the same time blend all of the various individuals into one great harmonious whole.

I should like to define what it seems to me we can classify as three great fields or forces which we managers are working with and their relationship to one another.

The first we may call the field of nature, and in this field the natural or generic laws are the great dominating factor. It is the function of scientific research to discover and record these laws, which have to do with the character of our raw materials and the effect of the various conditions of manufacturing upon the conversion of these raw materials into the finished products. These laws in the field of nature are recorded in such sciences as chemistry, physics, and mechanics. Mr. Taylor's classic analysis of the factors entering into the art of cutting metals was clearly an exploration into this field.

The second field has to do with what has been designated "the will of man." This will is essentially free and creative in essence, and has dominion, as it were, over the generic law in proportion to its intelligence. In other words, man's power to change the destiny of nature depends upon his knowledge of the laws of nature and his wisdom and intelligence in creating conditions for the specialization of these laws. It is our failure to recognize this "originating, choosing, and adapting" power and to direct it scientifically into positive constructive channels that has caused it to turn into a negative, destructive force, retarding the spiritual development of the human race.

The third field, or power, is much more difficult to define, but it no less than the other two is a distinct aspect of life. We might define it as the great universal, unifying principle of which the self-conscious faculty of man is a particular manifestation. In our industrial organizations its emanation shows as what we call "esprit de corps," and it is generated by instilling into the minds of the men in the organization a consciousness of their place in the great scheme of things and a willing desire to cooperate with their associates. In other words, we must plan to develop not only the self-conscious faculty of our men but also a consciousness of their unity with the whole; a sort of universal consciousness, as it were. Organization consciousness, or plant individuality, can be genuinely obtained only when this power is thoroughly recognized.

If we make sure that at the same time the self-conscious faculty is developed a cosmic or universal consciousness is also developed, thereby enabling each man to realize his place in the organization, there is little danger of interferences which will cause trouble. In other words, that great power which we may call "the will of man," operating in the natural or generic field, can not destroy itself if it becomes conscious of the great unity of the whole and its particular place in the universal scheme of things. It is necessary to teach men their place in the parent organization, as well as to teach them how they can become more intensely creative in their own particular sphere of operation.

I sincerely hope that, in outlining this philosophy of management, I have indicated to you how an organization can be made so conscious of itself as to realize at once when the human units, of which it is composed, are not being given the proper opportunity for self-expression; or to realize as well when these same human units are not receiving the sympathetic help they need for their own individual development.

Men can be productive only when they take an interest in their work, and they will not take this interest unless those intrusted with the direction of their efforts realize that they must teach them constantly how to exercise their creative powers.

DISCUSSION.

Mr. TYLER. I want to ask two simple questions of Mr. Wolf. Do you consider that superimposing premium or bonus methods on your methods would vitiate them to any extent?

Mr. WOLF. I do not know that it would.

Mr. TYLER. I might say that I have a prejudice in favor of not having that system if it is not necessary.

Mr. WOLF. In other words, you do not think it would be a benefit?

Mr. TYLER. I would rather reward the men liberally, take away from them the economic pressure, and then let them do the work for the joy of doing it.

Mr. WOLF. Do you think where the task and bonus system was already in operation the introduction of your methods would still further increase production?

Mr. TYLER. I have no doubt of it.

Mr. HOWARD. Do you consider that in your work character work is your highest product?

Mr. WOLF. Unquestionably the man product seems to be the most important.

Mr. WELLS. You know the methods of Mr. Babcock at the Franklin Motor Car Co.?

Mr. WOLF. Yes; I am familiar with them.

Mr. WELLS. Do you think that the element he has introduced of presenting his men with a period record of their performance along with his task and bonus system is perhaps part of the secret of the wonderful results he is getting there?

Mr. WOLF. Yes, I do, and I will tell you something that confirms that. I gave this talk to the boys at Ann Arbor once while the Taylor Society was having a meeting there. Mr. Carl Barth was sitting in the audience, and when I made the statement that I thought the fine results came largely from the record system and not from the bonus I thought Mr. Barth would chase me off the stage; but he did not, strange to say, and afterwards I saw him at a dinner at Prof. Somebody's house, and he said, "You are dead right; fully 80 per cent comes through the system in regard to the record and only 20 per cent from the bonus he gets." I was glad to have Mr. Barth say that.

A man said the same thing after a talk I gave in New Haven outlining this method, and he added that this explained to him why, in

certain task and bonus payment methods he knew about, results were obtained, and in others no such results were secured.

Mr. PLACE, of the National Civil Service Reform League. I wanted to ask Mr. Wolf whether he had ever talked to Prof. Irving Fisher, of Yale University.

Mr. WOLF. We are very good friends.

Mr. PLACE. He gave me quite a little lecture on this same subject, and I thought you must have talked with him, because your views seem to be so identical.

Mr. WOLF. Last summer I went to Silver Bay, on Lake George, to the Y. M. C. A. summer training school, and at Mr. Dennison's request I gave this talk. Mr. Fisher, who was there in the audience, came up to me and shook hands, and said, "I have been waiting for 20 years to hear somebody say that could be done. I have always maintained that the creative instinct was the basis for human activity."

Mr. WELLS. There are other fundamental instincts besides the creative instinct. Have you given your mind at all to the instincts that make the joy of life?

Mr. WOLF. Oh, yes.

Mr. WELLS. What are they?

Mr. WOLF. There are a great many of them.

Mr. WELLS. What is the strongest one?

Mr. WOLF. The creative instinct, because it is the reason for existence. That is what we are here for. A man never creates matter, never creates force, but he creates. The law of the conservation of energy teaches us that, and that must be the reason for man's existence, because that is what he is doing with that choosing, adapting power which is the basis of the whole thing. In the old days, of course, before the advent of civilization, man had to struggle to exist; he used all of his energies simply to surmount his environment; but now he has been able to do that, he is on an entirely different plane; he has to create mentally, and unless we give him an outlet for mental creation this power is going to go into physical excess and dissipation; his nervous energy has to be dissipated somewhere.

Mr. MARKERT. Any man that is working because he desires to do it and not because he is driven to do it is working creatively. The normal man will begin to work from within, out, if he gets the opportunity. As an illustration, we had three men doing lime slaking. In this lime-slaking work we mix a certain amount of lime with a certain amount of water. Now, we have a refrigerating plant there to keep down our temperatures. That is all brand new, and we have many things that are new, that do not exist anywhere else. In this par-

ticular case we did not want these men to put any more steam into that lime than could be helped, because we had to take the heat out again by refrigeration if we put in more than was necessary. A fellow named Fagan said, "I have a way to make the fellows want to keep that temperature down." Now, there was a case where imitation, if it was pure imitation, would do just as well. But they did not have the desire to keep it down. So what did Fagan do? He put a recording instrument in the pipe line so that every batch of lime would be recorded in temperature. He found that 4 degrees' rise above normal was all that was necessary to slake the lime. He went down and said, "Here, we are up against it; let's see what we can do; see if we can not find out what the biggest rise is that you have to have to get results," and they all worked on that and they were interested in doing it. One of them was a Syrian, one a Russian, one a Canadian Frenchman, and two of them could hardly talk English. They were the ordinary type. Having found that 4 degrees was the ordinary rise, Jimmy said, "Let's call that 100 per cent; 4 degrees more than that we will call zero." They thought that was a great scheme. He posted the records, and he has not had any trouble since, and those fellows are having a bully good time doing it. Now, there is that creative faculty. The desire is there because they are forming this record; it is the formation of this record and the feeling every day that when a man comes in he can know the result of his efforts.

Mr. HOWARD. I was going to ask you a question right there. Don't you think that when you go to those men in a fellowship way and put your hand on them that that has as much to do with it as the record?

Mr. WOLF. That is very good, but we discovered that part of it afterwards. The first thing we did was to put these records out in sort of an arbitrary way. But finally, in order to get the maximum results, it wants to be that other thing. But you can not help getting those results if you keep teaching your men all the time.

Mr. FILENE. If we are still anxious to keep on talking I will ask Mr. Wolf a question: What is the population of the town where your factory is located?

Mr. WOLF. Fifteen thousand.

Mr. FILENE. And how many employees do you have?

Mr. WOLF. Twelve hundred.

Mr. FILENE. You have nearly 10 per cent, or about 8 per cent of the population of the town, then?

Mr. WOLF. Yes.

Mr. FILENE. Now, don't you really—and I suppose there is no doubt but that you do—lay down as a fundamental that if your plan is worth while finally you are going to build the kind of a town there—that is, you are going to build the kind of citizen that will make a town there—that will stand out as the kind of community we should have in a 15,000 population: that is the test, is it not?

Mr. WOLF. That is the test.

Mr. FILENE. That is, you hold that up as the final test?

Mr. WOLF. Yes.

Mr. FILENE. If you simply build a creative power in man to produce his weekly wage you have not built the right kind of creative power?

Mr. WOLF. No.

Mr. WELLS. I am sure that is your object. It is the all-round man that you think your plan is going to develop?

Mr. WOLF. Yes. It may interest you to know that it has had a far-reaching effect on the civic life of the community.

Mr. KRAMER, of Dayton, Ohio. I have not heard discussed in the two days' conference anything about the new Federal law for vocational education. In my estimation it is very important, because I believe that it will have much to do with the decrease in our instruction expense to new employees. I do not want to take up any time at this late hour, but I suggest that if you are not familiar with the law, when you get back to your respective homes you make an effort to find out just what that law is. I think myself that it is a very good law. It is the teaching of various industrial trades, also agriculture and commercial interests, and I think it will have a great deal to do with our turnover.

Mr. HOWARD. Is that the Smith-Hughes bill?

Mr. KRAMER. Yes.

Mr. FILENE. I think the bill referred to is the bill by which the Government is going to give national aid to the State for agricultural education and also domestic science. I think that that will no doubt be discussed at length at the other conference that is now in session in Philadelphia.

Mr. WELLS. I move we adjourn.

[The motion was seconded, and the question being taken, the conference closed at 11.20 p. m.]

