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THE HANDBOOK SERIES

SELECTED ARTICLES ON

EMPLOYMENT MANAGEMENT

COMPILED AND EDITED BY

DANIEL BLOOMFIELD

AUTHOR OF "LABOR MAINTENANCE." EDITOR HANDBOOK "EMPLOYMENT MANAGEMENT," ASSOCIATE EDITOR "INDUSTRIAL RELATIONS." BLOOMFIELD AND BLOOMFIELD, BOSTON, CONSULTANTS IN EMPLOYMENT MANAGEMENT AND INDUSTRIAL RELATIONS.

WITH AN INTRODUCTION BY

MEYER BLOOMFIELD

AUTHOR OF "LABOR AND COMPENSATION," "YOUTH, SCHOOL AND VOCATION," "MANAGEMENT AND MEN," ETC. EDITOR, "INDUSTRIAL RELATIONS, BLOOMFIELD'S LABOR DIGEST."

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EXPLANATORY NOTE

The purpose of this volume is to present the best material available on the new subject of employment management in the form of a handbook for ready reference.

Those interested in the subject, especially students of employment management courses in the colleges, will find this volume convenient for use. They will no longer have to spend the time in looking up scattered material. This book will be of particular value to industrial executives who are interested in the human problems of management.

It will be found that some of the articles repeat ideas and facts contained in other selections in this handbook, particularly in discussions concerning labor turnover. The editor has purposely refrained from eliminating these repetitions because of their importance. Such repetitions will help drive home facts which otherwise might be neglected.

To make this volume of the greatest practical value an appendix has been added containing examples of typical forms used in any well-organized Employment Department.

April 12, 1919. DANIEL BLOOMFIELD.

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SELECTED ARTICLES ON EMPLOYMENT MANAGEMENT

INTRODUCTION

This book is significant of our time. You may ransack the literature of industrial management written ten years ago and you will not find the phrase "employment management" used or the work of the personnel or employment supervisor mentioned. No college or university school of business training of that day dealt with the problem. And the reason for this is simple. Neither the work of employment management nor the functions of an employment executive were recognized in the scheme of industrial organization as it was commonly carried out.

This is not to imply that industrial managers were unaware of what a sound plan of personnel organization meant to industry. As a matter of fact, there were corporations here and there, engineers, and business executives who had for a long time clearly perceived that a new function was developing in business administration, and moreover, had taken steps to put into practice their perception of this new function. There were men filling various posts on the executive staff who were daily demonstrating the best principles of employment management.

But industry as a whole, a decade ago, had either no idea of the new service which needed incorporation in the management plan or had not seriously addressed itself to the task. All this is now changed. There is a growing and an important literature on this subject, as the present volume so effectively proves. The profession of employment manager has come into its own. Colleges give courses of training for it and every enterprising employing organization features its employment work.

This change has been most beneficial both to employer and employed, and it has brought a new human note into industry. From the most hard-hearted business viewpoint, management has everything to gain from a sincere and intelligent attempt to deal with the problem of building up and maintaining the working

force in the light of principles and experiences which the movement of employment management is systematizing. From a social or civic viewpoint the movement has as its prime motive the conservation of human energies to the end both of industrial efficiency and of human satisfaction through work.

Because of this twofold, positive contribution to production and well-being, this movement was bound to grow as it has. Beginning in a most modest way in Boston, with a small group of men invited to consider the project of meeting regularly for discussion of employment problems; with a tentative training outline in employment work submitted to Dartmouth College; and with what was a pioneer organization known as the Boston Employment Managers Association, the work has developed rapidly. Unlike many another pioneer work, it has not had to fight its way. On the contrary, it has received universal welcome.

And here is a danger. The work has grown too fast for standards to be all that they should be in every case—vision, fitness, and good sense are sometimes missing. It is well to know this, for by knowledge improvement and changes come. There are standards today by which to criticize and measure. Once this was not possible. Now that it is, the growth of employment management will be due as much to rigid appraisal of men and methods as to enthusiastic and uncritical acceptance. Indeed the line of most promise for this vital work is in the increasing subjection to test and criticism of all personnel and programs in the field of employment management.

This book will serve as an excellent manual. Its material is helpful to the formation of a sound judgment as to what is best in the employment management field; its information is practical; its general outlook sound. It is the first book of its kind and will meet a need not otherwise met.

The employment manager has come to stay, though time and growing experience may enlarge and modify the present conception of his work and duties. Those who are concerned with making him and his service in industry a source of upbuilding for management and men, and a help to right industrial relations, will find this book a valuable guide.

April 12, 1919. MEYER BLOOMFIELD.

EMPLOYMENT MANAGERS ASSOCIATIONS

NATIONAL Association of Employment Managers, Box 543, Orange, N. J.
(Publishes Monthly Bulletin called "Personnel").

CALIFORNIA
Oakland—Service and Employment Managers' Association.

CONNECTICUT
Bridgeport—Employment Managers' Association.
Hartford—Employment Executives' Club of Hartford.

ILLINOIS
Chicago—Employment Managers' Association.

INDIANA
Indianapolis—Employment Managers' Association.

MASSACHUSETTS
Boston—Employment Managers' Association.
Pittsfield—Employment Managers' Association of Berkshire County.

MICHIGAN
Detroit—Employment Managers' Club of Detroit.
Muskegon—Muskegon Employment Managers' Association.

MISSOURI
St. Louis—St. Louis Employment Executives Club.

NEW JERSEY
Jersey City—Jersey City Council of the National Association of Employment Managers.
Newark—Society for Study of Employment Problems.

NEW YORK
Auburn—Employment Managers' Association of Auburn.
Buffalo—Associated Employment Supervisors.
New York City—The Executives' Club of New York, 30 Church Street.

New York City—The Personnel Managers' Club of the Chamber of Commerce, Borough of Queens.

Niagara Falls—Employment Managers' Group, Chamber of Commerce.

Rochester—Industrial Management Council of Rochester Chamber of Commerce.

OHIO

Canton—Starke County Employment Managers' School.

Cleveland—Employment Managers' Group of Chamber of Commerce.

Cincinnati—Employment Managers' Association.

Hamilton—Employment Managers' Club.

Toledo—Toledo Employment Managers' Club.

PENNSYLVANIA

Erie—Employment Managers' Association of Erie.

Philadelphia—Employment Managers' Association.
—Philadelphia Association for the Discussion of Employment Problems.

Pittsburgh—Employment Managers' Association of the Employers' Association.

RHODE ISLAND

Blackstone Valley—Employment Managers' Association.

WISCONSIN

Milwaukee—Milwaukee Employment Managers' Association.

CANADA

Toronto, Ontario—Employment Managers' Association.

FOUNDATIONS OF EMPLOYMENT MANAGEMENT

MOTIVES IN ECONOMIC LIFE[1]

The first quarter of this century is breaking up in a riot of economic irrationalism. The carefully selected efficiency axioms of peaceful life are tossed on the scrap heap, and all society seems to be seeking objects and experiences not found in any of our economists' careful descriptions of the modern industrial order. War allies refuse to unify their military policy, Russia is called on to exhibit a sedate and stable economic life when she lacks wholesale all the attributes to it. And we Americans, despite the notorious record of stringent social accounting imposed by the standards of war efficiency, still lean with fine confidence upon the structure of genial optimism which dominates so much of our national psychology. We look hopefully to see patriotism flow pure and strong from an industrial stratum whose occasional phenomena are Lawrence, McKees Rock, Paterson, Colorado Fuel and Iron, the Durst hop ranch in California, Everett in Washington, Butte in Montana, Bisbee in Arizona. Though strikes have increased some 300 per cent over peace times, though the American labor world is boiling and sputtering disturbances, bewildering in their variety and rapidity of appearance, our cure is a vague caution to "wait until casualties begin to come," an uneasy contemplation of labor conscription, or a wave of suppression.

Though national unity, economic and military, seems the obvious and essential aim of the patriotic citizen, much done in the name of unification seems to be curiously efficient in producing disunity. The following commonplace incident illustrates this. Note first that Seattle is in a state of extreme industrial unrest. During a single short period this summer, that city had a two weeks' strike- paralysis of its street-car system, a threatened walk-out of the gas workers, was the strike center of a complete

[1] By Carleton H. Parker. American Economic Review. 8:213-31. March, 1918.

tie-up of the lumber industry of the state, experienced a building-trades strike involving the entire city, had a walk-out of 30,000 shipbuilders, an express drivers' strike, a candy workers' strike, a newsboys' strike, and enjoyed the beginning of an organization of domestic servants. This city so described becomes the environment for the following incident.

The I. W. W. is strong in the Pacific Northwest, and though it bitterly fights the American Federation of Labor, some of the federation trade unions found in the rough-handed trades, such as lumbering, stevedoring, and even shipbuilding, have drifted toward syndicalism and many of their members even carry secretly the red cards of the I. W. W. The federal government has met the anti-war agitation of the I. W. W. with fair cleverness. When arrests have been made, publicity has been given to the alleged treasonable activity of the leaders, and the government case sustained before the public. The economic activities of the rank and file of the I. W. W., however, have not been interfered with, and their meeting halls in the Northwest continue thronged and the center of their strike activity. A Mrs. Sandburg, a Finnish woman, widow, with two children of three and six, lives on a small farm near Seattle. Being destitute she had been awarded a mothers' pension by King County. On November 17 of this year this pension was cut off and the woman recommended for deportation because federal officers asserted that "she was actively working in the interests of the I. W. W., meetings had been held at her home, and members of the organization had visited there frequently." Nothing could be more ingeniously done to focus the interest of a large unrestful labor group in the state of Washington on syndicalism than this incident. This well-intentioned and conventionally patriotic act is not merely inopportune, it is unhappily creative. The great emotional outflow stimulated into existence by the startling announcement of our national danger is being transferred from its desirable nationalistic object and focused on such activities, distressing both socially and economically. It seems an accurate example of the Freudian *übertragung,* the transference of emotional expression. Such a mutilation of the psychological basis of Seattle's patriotic unity does not run counter to the current standards of acceptable economic or social development. To most of the citizenship national unity remains a legal concept.

It is a far cry from such a pseudo-politico economic illustration to a consideration of the delinquencies of modern economics, but there is a vital relation. Our conventional economics today analyzes no phase of industrialism nor the wage relationship, nor citizenship in pecuniary society, in a manner to offer a key to such distressing and complex problems as this. Human nature riots today through our economic structure with ridicule and destruction, and we economists look on helpless and aghast. The menace of the war does not seem potent to quiet revolt or still class cries. The anxiety and apprehension of the economist should not be produced by this cracking of his economic system, but by the poverty of the criticism of industrialism which his science offers. Why are economists mute in the presence of a most obvious crisis in our industrial society? Why have our criticisms of industrialism no sturdy warnings about this unhappy evolution? Why does an agitated officialdom search today in vain among our writings for scientific advice touching labor inefficiency or industrial disloyalty, for prophecies and plans about the rise in our industrialism of economic classes unharmonious and hostile?

The fair answer seems this. We economists speculate little on human motives. We are not curious about the great basis of fact which dynamic and behavioristic psychology has gathered to illustrate the instinct stimulus to human activity. Most of us are not interested to think of what a psychologically full or satisfying life is. We are not curious to know that a great school of behavior analysis called the Freudian has been built around the human instincts. Our economic literature shows that we are but rarely curious to know whether industrialism is suited to man's inherited nature, or what man in turn will do to our rules of economic conduct in case these rules are repressive. The motives to economic activity which have done the major service in orthodox economic texts and teachings have been either the vague middleclass virtues of thrift, justice, and solvency; or the equally vague moral sentiments of "striving for the welfare of others," "desire for the larger self," "desire to equip oneself well"; or lastly, that labor-saving deduction that man is stimulated in all things economic by his desire to satisfy his wants with the smallest possible effort. All this gentle parody in motive theorizing continued contemporaneously with the output of the rich literature of social and behavioristic

psychology which was almost entirely addressed to this very problem of human motives in modern economic society. Noteworthy exceptions are the remarkable series of Veblen books, the articles and criticisms by Mitchell, Fisher, and Patten, and the significant small book by Taussig entitled *Inventors and Money-Makers*. It is to this complementary field of psychology that the economists must turn for a vitalization of their basic hypotheses. There awaits them a bewildering array of studies of the motives, emotions, and folk ways of our pecuniary civilization. Generalizations and experiment statistics abound ready-made for any structure of economic criticism. The human motives are isolated, described, compared. Business confidence, the release of work energy, advertising appeal, market vagaries, the basis of value computations, decay of workmanship, the labor unrest, decline in the thrift habit, are the subjects treated. A brief list of these economic-psychologists is impressive: Veblen, Thorndike, Hollingworth, Dewey, James, Watson, Holt, Sumner, Thomas, Stanley Hall, Jastrow, Patrick, Hobhouse, M'Dougall, Hart, Shand, Wallas, Lippmann, Freud, Prince, Southard, Glueck, Brill, Bailey, Paton, Cannon, Crile, and so on. One might say, with fairness, that each one of these has contributed criticism touching the springs of human activity of which no economic theorist can afford to plead ignorance. The stabilizing of the science of psychology and the vogue among economists of the scientific method will not allow these psychological findings to be shouldered out by the careless a priori deductions touching human nature which still dominate our orthodox texts. The confusion and metaphysical propensities of our economic theory, our neglect of the consequences of child labor, our lax interest in national vitality and health, the unusableness of our theories of labor unrest and of labor efficiency, our careless reception of problems of population, eugenics, sex, and birth control; our ignorance of the relation of industry to crime, industry to feeble-mindedness, industry to functional insanity, industry to education; and our astounding indifference to the field of economic consumption—all this delinquency can be traced back to our refusal to see that economics was social economics, and that a full knowledge of man, his instincts, his power of habit acquisition, his psychological demands were an absolute prerequisite to clear and purposeful thinking on our industrial civilization. M'Dougall, the Oxford social psychol-

ogist, said in direct point: "Political economy suffered hardly less from the crude nature of the psychological assumption from which it professed to deduce the explanations of its facts, and its prescriptions for economic legislation. It would be a libel not altogether devoid of truth to say that the classical political economy was a tissue of false conclusions drawn from false psychological assumptions."

What then are the facts of human nature which the newer psychology offers as the beginning of economic theorizing?

Man is born into this world accompanied by a rich psychical disposition which furnishes him ready-made all his motives for conduct, all his desires, economic or wasteful, moral or depraved, crass or aesthetic. He can show a demand for nothing that is not prompted by this galaxy of instincts. He is a mosaic of unit tendencies to react faithfully in certain ways when certain stimuli are present. As M'Dougall has graphically put it, "Take away these instinctive dispositions with their powerful impulses and the human organism would become incapable of activity of any kind; it would lie inert and motionless like a wonderful clockwork whose mainspring had been removed or a steam engine whose fires had been drawn. These impulses are the mental forces which maintain and shape all the life of individuals and societies, and in them we are confronted with the central mystery of life and mind and will."

Thorndike, the Columbia psychologist, in his analysis of human motives, has written, "The behavior of man in the family, in business, in the state, in religion, and in every other affair of life, is rooted in his unlearned original equipment of instincts and capacities. All schemes of improving human life must take account of man's original nature, most of all when their aim is to counteract it."

Veblen wrote in his book, *The Instinct of Workmanship*, "for mankind, as for the other higher animals, the life of the species is conditioned by the complement of instinctive proclivities, and tropismatic aptitudes with which the species is typically endowed. Not only is the continued life of the race dependent upon the adequacy of its instinctive proclivities in this way, but the routine and details of its life are also, in a last resort, determined by these instincts. These are the prime movers in human behavior, as in the behavior of all those animals that show self-direction or discretion. The human activity, in so

far as it can be spoken of as conduct, can never exceed the scope of these instinctive dispositions by initiative of which man takes action. Nothing falls within the human scheme of things desirable to be done except what answers to these native proclivities of man. These native proclivities alone make anything worth while, and out of their working emerge not only the purpose and efficiency of life but its substantial pleasures and pains as well."

John Dewey wrote in his *Democracy in Education*: "The instinct activities may be called, metaphorically, spontaneous in the sense that the organs give a strong bias for a certain sort of operation—a bias so strong that we cannot go contrary to it, though by trying to go contrary we may pervert, stunt, and corrupt them."

Cannon, the Harvard physiologist, has said: "More and more it is appearing that in men of all races, and in most of the higher animals, the springs of action are to be found in the influences of certain emotions which express themselves in characteristic instinctive acts."

Instincts to their modern possessor seem unreasoning and unrational, and often embarassing. To the race, however, they are an efficient and tried guide to conduct, for they are the result of endless experiments of how to fight, to grow, to procreate, under the ruthless valuing mechanism of the competition for survival. In fact, outside of some relatively unimportant bodily attributes, the instincts are all that our species in its long evolution has considered worth saving. When one considers the unarmed state in which the soft-bodied human is shoved out in the world to fight for his existence against creatures with thick hides, vise-like jaws, and claws, it becomes clearly evident that if man had not been equipped with an instinctive and unlearned code of efficient competition behavior his struggle on this earth would have been brief and tragic. And also in contrast with his own remote ape ancestors, one could in retrospect see that the survival of the human species must have had as a prerequisite a rich and varied instinct equipment which removed man from the necessity of learning a complete scheme of behavior via the dangerous trial and error method. The species, without some unlearned and protective capacities, would not have lasted the instruction. Within the past ten thousand years nothing in our brilliant experiment with

the environment called civilization has been long enough adhered to to bring about a psychical adjustment capable of physical inheritance, and so the basic motives of the business man today remain those of his cave ancestor. The contribution of civilization has been merely an accumulation of more or less useful traditions touching habits accidental in character and questionable in desirability.

All human activity, then, is untiringly actuated by the demand for realization of the instinct wants. If an artificially limited field of human endeavor be called economic life, all of its so-called motives hark directly back to the human instincts for their origin. There are, in truth, no economic motives as such. The motives of economic life are the same as those of the life of art, of vanity and ostentation, of war and crime, of sex. Economic life is merely the life in which instinct gratification is alleged to take on a rational pecuniary habit form. Man is not less a father with a father's parental instinct-interest just because he passes down the street from his home to his office. His business raid into his rival's market has the same naïve charm that tickled the heart of his remote ancestor when in the night he rushed the herds of a near-by clan. A manufacturer tries to tell a conventional world that he resists the closed shop because it is un-American, loses him money, or is inefficient. A few years ago he was more honest when he said he would run his business as he wished and would allow no man to tell him what to do. His instinct of leadership, reinforced powerfully by his innate instinctive revulsion to the confinement of the closed shop, gave the true stimulus. His opposition is psychological, not ethical.

The importance to me of the description of the innate tendencies or instincts to be here given lies in their relation to my main explanation of economic behavior, which is:

1. That these instinct tendencies are persistent, are far less warped or modified by the environment than we believe; that they function quite as they have for a hundred thousand years; that they, as motives in their various normal or perverted habit form, can at times dominate singly the entire behavior and act as if they were a clear character dominant.

2. That if the environment through any of the conventional instruments of repression—such as extreme religious orthodoxy, economic inferiority, imprisonment—or physical disfigurement—

such as short stature or a crippled body—repress the full psychological expression in the field of the instinct tendencies, then a psychic revolt, a slipping into abnormal mental functioning, takes place, with the usual result that society accuses this revolutionist of being either wilfully inefficient, alcoholic, a syndicalist, supersensitive, an agnostic, or insane.

Convention has judged the *normal* man in economic society to be that individual who maintains a certain business placidity, is solvent, safe and not irritating to the delicate structure of credit. Trotter, the English social psychologist, has said that today's current normality has nothing to do with either stability of institutions or human progress. Its single important characteristic is that it is conventional. He urges the imperative need of a new concept of economic normality.

Perhaps one should stop to most seriously emphasize this concept of a new human normality, and also to appreciate the handicap to discussion which comes when every analyzer at a round table has a very different brand of human normality in mind. There is that theoretical 100 per cent normality which is gained for the individual by free mobility plus a full and fine environmental equipment of persons and instruments, and which results in a harmonious and full expression of his psychic potentialities. Since each vigorous life lived under these conditions would generate wisdom in direct proportion to it, I think that an evolutionary and also conventionally desirable progress could be prophesied as a result. This progress has no so-called idealistic goal or direction. It has merely a potentiality for more wisdom, and that wisdom might lead to any of countless possible developments.

A second normality would be that produced by that freedom in instinct expression and that environment which would give far more unconventional experimentation, far more wisdom than we now have, but not the amount which would crack social life by hurrying the change of traditions too much, or destroy those civilization institutions which could be modified with some hope of their higher usefulness. Conscious that man will change, if he is to change, to this latter compromise-normality concept, it is such a normality that I have in mind when I use the term.

If normality be that state in which the inherited instinct-potentiality in man is realized, then a cataloguing of the various instincts would be an invaluable aid in constructive social an-

alysis. Such catalogues exist in most of the modern psychologies and social psychologies but all the catalogues differ from each other in kind and complexity. James and Thorndike give man a multitude of instincts, Trotter and Sumner limit them to four, Brill to two, hunger and sex. A more important disagreement between instinct theorists is, for instance, that existing between M'Dougall and Thorndike. Thorndike protests against sticking into man's permanent psychic equipment any sort of unit characters, for instance, like a gregarious urge or a pugnacious bent. He claims this to be a reversion to the old and abandoned scheme of "moral faculties." Thorndike's "instinct" is an unlearned and original proclivity to react in a certain fixed, simple way, particular to one simple stimulus. Under his scheme man's instinct-acts would run up into the innumerable. The findings of fact and the hints of the psychopathologists seem strongly to substantiate Thorndike's thesis. However, the reflex acts used by Thorndike in his illustrations of instinct behavior group themselves more or less naturally under sort of "faculty" titles; and it seems that if too great delicacy of application be not demanded a tentative and useful short category of instincts, similar to M'Dougall's, can be schemed. The list which I shall suggest is an attempted harmonious amalgamation of instinct categories which seem to have reasonably withstood criticism. It is an effort to describe certain consistent behavior practices in man, the appreciation of which might give to social critics added capacity in behavior prophecy.

The following catalogue of instincts includes those motives to conduct which, under observation, are found to be unlearned, are universal in the species, and which must be used to explain the innumerable similarities in behavior, detached in space and time from each other.

1. *Instinct of gregariousness.*—This innate tendency is exemplified in two ways. Modern economic history is full of that strange irrational phenomenon, "the trek to the city." Even in thinly settled Australia, half the population lives in a few great cities on the coast. In South America and on the Pacific Coast, this same abnormal agglomeration of folk has taken place. The extraordinary piling-up of labor masses in modern London, Berlin, New York, Chicago, has created cities too large for economic efficiency, for recreation or sanitation, and yet, despite their inefficiencies and the food and fire risk, the massing-up

continues. Factory employment, though speeded up and paid low wages, grows popular for it caters to gregariousness, and domestic service is shunned for it is a lonely job. Huddle and congestion seem the outstanding characteristics of the modern city.

The second exemplification is seen in man's extreme sensitiveness to the opinion of his group—which is an irrational gregarious reflex. This instinct is the psychic basis for his proclivity to react to mob suggestion and hysteria. In a strike, each striker has a perfectly biological capacity for violence if the group seems to will it. Because of this same gregariousness, a panic can sweep Wall Street, or an anti-pacifist murmur turn into persecution and near-lynching. The crowd members find themselves fatally gripped in the mob drift, they press forward willingly, all yell, and all shake fists and the most gentle spirited will find himself pulling at the lynch rope. Royce has said, "Woe to the society which belittles the power and menace of the mob mind." The lonely sheep-herders become in the end irrational, and solitary confinement ends in insanity or submission.

The slavish following of fashion and fads is rooted in gregariousness, and the most important marketing problem is to guess the vagaries of desire which the mob spirit may select. A great crowd or festival is satisfying for its own sake. The installation of a president of a university needs behind the rows of intellectual delegates a mass of mere onlooking humanity, and it gets it by various naïve maneuvers. Crowds seldom disperse as rapidly as they might. They are loath to destroy their crowdishness, and therefore irrationally hang about. If gregariousness should weaken, a panic would seize municipal values, and professional baseball, the advertising business, and world fairs and conventions would become impossible.

2. *Instinct of parental bent: motherly behavior: kindliness.*— In terms of sacrifice this is the most powerful of all instincts. This instinct, whose main concern is the cherishing of the young through their helpless period, is strong in women and weak in men. The confident presence in economic life of such anti-child influences as the saloons, licensed prostitution, child labor, the police control of juvenile delinquency, can be well explained by the fact that political control has been an inheritance of the socially indifferent male sex. The coming of women into the franchise promises many interesting and profound economic

changes. What little conservation exists today goes back to the male parental instinct for its rather feeble urge.

The disinterested indignation over misery-provoking acts which comes from the parental instinct is the base stimulus to law and order, and furnishes the nebulous force behind such social vagaries as the Anti-Saloon League, Society for the Prevention of Cruelty to Animals, the Associated Charities, the movement for juvenile courts, prison reform, Belgian relief, the Child Labor League. The competitive egotism of pecuniary society has stifled the habits which express the parental bent. We are not habituated to humanitarianism.

3 *Instinct of curiosity*: *manipulation*: *workmanship.*—Curiosity and its attendant desire to draw near, and if possible to manipulate the curious object, are almost reflex in their simplicity. Of more economic applicability is the innate bent toward workmanship. Veblen has said that man has "a taste for effective work, and a distaste for futile effort." This desire and talent that man has to mould material to fancied ends, be the material clay or the pawns in diplomacy, explains much of human activity, while wages explain little. Prisoners have a horror of prison idleness. Clerks drift out of stereotyped office work, and the monotony of modern industrialism has created a new type of migratory worker. As James has said. "Constructiveness is a genuine and irresistible instinct in man as in the bee or beaver." Man is then not naturally lazy, but innately industrious. Where laziness exists it is an artificial habit, inculcated by civilization. Man has a true quality sense in what he does: there is, then, a "dignity of labor," and it is the job and the industrial environment that produce the slacker, and not the laborer's willful disposition.

4. *Instinct of acquisition*: *collecting*: *ownership.*—Man lusts for land, and goes eagerly to the United States, to South America, to Africa for it. It is the real basis of colonial policy and gives much of the interest to peace parleys. A landless proletariat is an uneasy, thwarted militant proletariat. The cure for unruly Ireland is proven to be peasant proprietorship, and the social menace in the American labor world is the homeless migratory laborer. Russian peasants revolted for land, and this is the single consistent note in the anarchy chaos in Mexico. Man, much of the time, acquires for the mere sake of acquiring.

A business man is never rich enough. If, however, making more money uses his acquisitive capacities too little, he may throw this cultivated habit-activity into acquiring Van Dykes or bronzes or Greek antiques, or on a smaller and less aesthetic scale, postage stamps, signatures, or shaving mugs. Asylums are full of pitiful, economic persons who, lost to the laws of social life, continue as automatons to follow an unmodified instinct in picking up and hoarding pins, leaves, scraps of food, paper. The savings banks in large part depend on this inborn tendency for their right to exist.

5. *Instinct of fear and flight.*—Man has the capacity to be fearful under many conditions. His most important fear from an economic standpoint is the stereotyped worker's or business man's worry over the insecure future. This anxiety or apprehension which is so plentiful up and down the scale of economic life has a profound and distressing influence on the digestive tract, and in turn on the general health. Much of nervous indigestion so common in the ruthless economic competition of today is "fear-indigestion," is instinct reaction, and can only be cured by removing the cause. This removal of the cause is performed many times by an equally instinctive act, flight. Flight in business may take the conventional form of retirement or selling out, but often adopts the unique method of bankruptcy, insanity, or suicide.

6. *Instinct of mental activity: thought.*—To quote Thorndike: "This potent mover [workmanship] of men's economic and recreated activities has its taproot in the instinct of multiform mental and physical activity." To be mentally active, to do something, is instinctively satisfying. Much of invention springs costless from a mind thinking for the sheer joy of it. Organization, plans in industry, schemes for market extension, visions of ways to power, all agitate neurones in the brain ready and anxious to give issue in thought. A duty of the environment is not only to allow, but to encourage, states in which meditation naturally occurs.

7. *The housing or settling instinct.*—In its simplest form, the gunny-sack tents of the tramps, the playhouses of children, the camp in the thicket of the hunter. The squatter has a different feeling for his quarter section when he has a dugout on it. Man innately wants a habitation into which he can retire

to sleep or to nurse his wounds, physical or social. The Englishman's home is his castle.

8. *Instinct of migration: homing.*—To every man the coming of spring suggests moving on. The hobo migration begins promptly with the first sunshine, and the tramp instinct fills Europe with questing globe-trotters. The advice, "Go West, young man," was not obeyed on account of the pecuniary gain alone, but because the venture promised satisfaction to the instinct to migrate as well.

9. *Instinct of hunting.*—Man survived in earlier ages through destroying his rivals and killing his game, and these tendencies bit deep into his psychic make-up. Modern man delights in a prize fight or a street brawl, even at times joys in ill news of his own friends, has poorly concealed pleasure if his competition wrecks a business rival, falls easily into committing atrocities if conventional policing be withdrawn, kills off a trade union, and is an always possible member of a lynching party. He is still a hunter and reverts to his primordial hunt habits with disconcerting zest and expediency. Historic revivals of the hunting urge make an interesting recital of religious inquisitions, witch burnings, college hazings, persecution of suffragettes, of the I. W. W., of the Japanese, or pacifists. All this goes on often under naïve rationalization about justice and patriotism, but it is pure and innate lust to run something down and hurt it.

10. *Instinct of anger: pugnacity.*—In its bodily preparation for action, anger is identical with fear, and fear constitutes the most violent and unreasoning of purposeful dispositions in man. Caught up in anger, all social modifications of conduct tend to become pale, and man functions in primordial attack and defense. Anger and its resulting pugnacity have as their most common excitant the balking or thwarting of another instinct, and this alone explains why man has so jealously, through all ages, fought for liberty. Pugnacity is the very prerequisite of individual progress. Employers fight a hampering union, unions a dogmatic employer; every imprisoned man is, in reality, psychically incorrigible; students rebel against an autocratic teacher; street boys gang together to fight a bully; nations are ever ready, yes, hoping, to fight, and their memory of the cost of war is biologically rendered a short one. In fighting, there is a subtle reversion to the primitive standards, and early atroci-

ties become the trench vogue of later months. Patriotism without fighting seems, to western nations, a pallid thing. Most of the vigorous phases of modern civilization remain highly competitive and warlike. Ethics has a long psychological way to go in its vitally necessary task of sublimating the pugnacious bent in man.

11. *Instinct of revolt at confinement: at being limited in liberty of action and choice.*—As above noted, man revolts violently at any oppression, be it of body or soul. Being held physically helpless produces in man and animals such profound functional agitation that death can ensue. Passive resistance to war can only be possible when nearly all of man's inherited nature is removed. In primitive days, being held was immediately antecedent to being eaten, and the distaste of physical helplessness is accordingly deepseated. Belgium would rather resist than live; an I. W. W. would rather go to jail than come meekly off his soap box; the militant suffragettes go through the depravity of forced feeding rather than suffer their inequality; and the worker will starve his family to gain recognition for his union. Man will die for liberty, and droops in prison. So physically revolting is confinement that the alienists have been forced to create a new disease, a "confinement insanity," a prison psychosis.

12. *Instinct of revulsion.*—The social nausea which society feels towards discussions of sex, venereal disease, leprosy, certain smells, is not founded on willfulness. It is a non-intellectual and innate revulsion to the subject. It is only within the last twenty-five years that scientific attitude itself has been able to overcome this instinctive repugnance and attack these problems, intimate and perilous to human society, which have languished under the taboo.

13. *Instinct of leadership and mastery.*—It often appears that man seeks leadership and mastery solely because their acquisition places him in a better position to gratify his other instinctive promptings. But there also seems a special gratification in leading and mastery for their own sake. Modern life shows prodigious effort, paid only in the state of being a boss of the gang, a "leading" college man, a "prominent citizen," a secretary or a vice-president, a militia captain or a church elder. A secret ambition to some day lead some group on some quest, be it ethical or economic, is planted deep in our nature. Every dog longs to have his day.

14. *Instinct of subordination: submission.*—In contrast to leadership, man longs at times to follow the fit leader. Soldiers joy in a firm captain, workmen quit a lax though philanthropic employer, instructors thresh under an inefficient though indulgent department head. Eternal independence and its necessary strife are too wearing on the common man and he longs for peace and protection in the shadow of a trust-inspiring leader. To submit under right conditions is not only psychically pleasant, but much of the time to be leaderless is definitely distressing.

15. *Instinct of display: vanity: ostentation.*—This old disposition gives the basic concept for Veblen's remarkable analysis of the economic activities of America's leisure class. The particular state of the industrial arts with its trust control and divorce of producer and consumer, plus political peace, has taken from man his ancient opportunity to show his unique gifts in ownership of economic goods and in valor. So he is driven in his yearning for attention to perverted activities. He lives to waste conspicuously, wantonly, originally, and, by the refined uselessness of his wasting, to show to the gaping world what an extraordinary person he is. The sensitiveness of social matrons to mention in the society columns, the hysteria to be identified with the changing vagaries of the style, the fear of identification with drab and useful livelihoods, offer in their infinite variety a multitude of important economic phenomena.

16. *Instinct of sex.*—Of the subjects vital to an analysis of life, be they aesthetic or economic, sex has suffered most from the revulsion taboo. Manifestly an instinct which moulds behavior and purposeful planning profoundly, sex as a motive-concept is barred from the economic door. Despite the proven moral and efficiency problems which arise with the postponement of marriage due to modern economic conditions, the massing of unmarried immigrant men into tenement rooms, or the condemning of some millions of migratory workers to a womanless existence, conventional morality meets every situation by denying the sex instinct, by a blind belief that in some strange way modern economic civilization allows its inmates "to mortify the deeds of the body."

While at any particular moment in our behavior we are a blend or composite of many instinct activities, it is accurate to describe much of behavior as dominated at any one time by

either a single instinct or at most two or three. A certain environment can habituate man to a specialization in gratification of a single or a pair of instincts. For instance, war matures and educates habits gratifying the instincts of pugnacity and hunting. At the war front, this habit bent gives basis for gradually sloughing off the humane restrictions governing the fighting, and armies mutually obey their new psychology. Machine-gun men know they will not be taken prisoner and their service is now known as the suicide squad. Hospitals or undefended towns are bombed, a very conventional minimum of attention is fixed for the enemy wounded, the primitive method of warfare of the French African troops which at first disturbed the ethics of the Allies is now forgotten under the more liberal interpretation of the revamped war psychology. At home the citizens of the belligerent countries gain a cathartic for their overstimulated pugnacious bent by rioting the People's Council, or tar-and-feathering the I. W. W., or organizing a man-hunt for a lately immigrated Austrian or German. It is quite natural that the actors in these domestic dramas should build up explanatory rationalizations for their activity. It is their mild bow to the fast dimming conventions and traditions of peace. As a gentle and aged lady deplored, "I cannot fight, but I can at least go about and listen and report on the unpatriotic."

The tongue-tied and paralyzed after-dinner speaker is a singleminded expositor of the strange instinct of subservience. The worried father of a sick child seated at his office desk is not an economic man. His behavior is dominated by the parental motive, and in this fact is found the only explanation of his distracted conduct. Veblen in a shrewd analysis of industrial evolution noted that the early pre-capitalistic culture, with its handicraft production and small intimate social groups, stressed the habits which express the instinct of workmanship and the parental instinct. With the industrial revolution and the immergence into the pecuniary scheme of things of a small property-owning class and a large proletariat, life presented habit opportunities which stressed, in the master class, the so-called egotistical instincts of leadership, hunting, ostentation and vanity, and for the working class removed the opportunities to express the instinct of workmanship and reduced and restricted the other avenues of expression or perverted them to non-evolutionary or anti-social behavior. Instinct perversion rather than

freely selected habits of instinct expression seems broadly a just characterization of modern laborclass life. Modern labor unrest has a basis more psychopathological than psychological, and it seems accurate to describe modern industrialism as mentally insanitary.

A remarkable analysis of instinct dominance over behavior is illustrated by the experiments at the Harvard Medical School and described by Professor Cannon. He notes that among the instinct emotions active in man those which are identified with a physical struggle for existence have both a physical and mechanical authority over all other instinct urges to conduct. Like the military general staff, they shoulder aside, in times of stress, the aesthetic and peaceful enthusiasms and mobilize every mental and physical efficiency to their war purpose. The central nervous system is divided by Cannon into three parts, all of which, under peace, function normally. If, however, the brain be stimulated to fear or anger, one of these parts, the so-called "sympathetic part," becomes the dictator. Its particular nerve fibers are, of the three parts, by far the most extensive in their distribution, and permit immediate mobilization of the entire body. Its mobilization consists in "secession of processes in the alimentary canal, thus freeing the energy supplied for other parts, the shifting of blood from the abdominal organs whose activities are deferable to the organs immediately essential to muscular exertion (the lungs, the heart, the central nervous system), the increased vigor of contraction of the heart, the quick abolition of the effects of muscular fatigue, the mobilizing of energy-giving sugar in the circulation—every one of these visceral changes is directly serviceable in making the organism more effective in the violent display of energy which fear or rage or pain may involve."

But the most unique war-footing activity of the body in this vigorous preparedness is the functioning of the adrenal gland. To use Cannon's words: "Adrenin, secreted by the adrenal glands, in time of stress or danger, plays an essential rôle in flooding the blood with sugar, distributes the blood to the heart, lungs, central nervous system and limbs, takes it away from the inhibited organs of the abdomen, quickly abolishes muscular fatigue and coagulates the blood on injury. These remarkable facts are furthermore associated with some of the most primitive experiences in the life of the higher organisms, experi-

ences common to man and beast—the elemental experiences of pain and fear and rage that come suddenly in critical emergencies."

The conclusion seems both scientific and logical that behavior in anger, fear, pain, and hunger is a basically different behavior from the behavior under repose and economic security. The emotions generated under the conditions of existence-peril seem to make the emotions and motives generative in quiet and peace, pale and unequal. It seems impossible to avoid the conclusion that the most vital part of man's inheritance is one which destines him to continue for some myriads of years ever a fighting animal when certain conditions exist in his environment. Though, through education, man be habituated in social and intelligent behavior, or, through license, in sexual debauchery, still at those times when his life or liberty is threatened, his instinct-emotional nature will inhibit either social thought or sex ideas, and present him as merely an irrational fighting animal.

Since every instinct inherited by man from his tree and cave ancestors, literally sewed into his motivating disposition, has survival value, an environment which balks or thwarts his instinct expression, arouses directly and according to the degree of its menace this unreasoning emotional revolt in him. The chemical proof of this emotional revolt is found by Cannon even in individuals suffering from vague states of worry or anxiety. Here the single problem is the manner in which the angry or fearful person coins his revolt emotion into behavior, and this largely depends upon the right and proper method which society has selected for expressing psychical dissatisfaction. There are folk ways of distress behavior just as certainly as there are of religious enthusiasm or patriotism. Since the emotional tone stimulated by the balking of "minor" instincts would naturally be lower than that intense tone generated by a threatened rending of one's flesh, or imprisonment, to the same degree is the behavior stimulated by the lower-toned emotions less vivid and noteworthy than the blind and frantic resistance to the direct physical threat. The behavior reflex to the emotions generated in a state of worry, anxiety, economic servility, or personal humiliation, instead of expressing itself in violent revolt, is shown in states of mental inertia, loss of interest and power of attention, labor inefficiency, drifting off the job, drink and drugs. These behavior states which under conventional and economic

moral theorizing are barrenly and inaccurately described as willful acts are elemental, irrational, and blind reflex activities. Under conditions which allow the satisfactory expression of man's original inherited proclivities, this warlike specialization of the mind and body is avoided. There the canial or sacral sections of the peace-footing "automatic" section divide with the warlike "sympathetic" section the authority over the body. Health and nerve reserve are built up, a quiet brain permits rational orderings of the associations of the mind, social behavior habits can influence the order and connections of the neurones and insure their perpetuation; in short, intellectual progress becomes possible.

The instincts and their emotions, coupled with the obedient body, lay down in scientific and exact description the motives which must and will determine human conduct. If a physical environment set itself against the expression of these instinct motives, the human organism is fully and efficiently prepared for a tenacious and destructive revolt against this environment; and if the antagonism persists, the organism is ready to destroy itself and disappear as a species if it fails of a psychical mutation which would make the perverted order endurable.

Even if labor-class children evade those repressive deportment traditions that characterize the life of the middle-class young, at a later date in the life of these working-class members certain powerful forces in their environment, though they work on the less susceptible and less plastic natures of mature individuals, produce obsessions and thwartings which function at times, exclusively almost, in determining the behavior of great classes of the industrial population. The powerful forces of the working-class environment which thwart and balk instinct expression are suggested in the phrases "monotonous work," "dirty work," "simplified work," "mechanical work," the "servile place of labor," "insecure tenure of the job," "hire and fire," "winter unemployment," "the ever found union of the poor district with the crime district," and the "restricted district of prostitution," the "open shop," the "labor turnover," "poverty," the "bread lines," the "scrap heap," "destitution." If we postulate some sixteen instinct unit characters which are present under the laborer's blouse and insistently demand the same gratification that is, with painful care, planned for the college student, in just what kind of perverted compensations must a laborer in-

dulge to make endurable his existence? A western hobo tries in a more or less frenzied way to compensate for a general all-embracing thwarting of his nature by a wonderful concentration of sublimation activities on the wander instinct. The monotony, indignity, dirt, and sexual apologies of, for instance, the unskilled worker's life bring their definite fixations, their definite irrational, inferiority obsessions.

The balked laborer here follows one of the two described lines of conduct: (1) he either weakens, becomes inefficient, drifts away, loses interest in the quality of his work, drinks, deserts his family; or (2) he indulges in a true type inferiority compensation, and in order to dignify himself, to eliminate for himself his inferiority in his own eyes, he strikes or brings on a strike; he commits violence, or he stays on the job and injures machinery, or mutilates the materials. He is fit food for dynamite conspiracies. He is ready to make sabotage a part of his regular habit scheme. His condition is one of mental stress and unfocused psychic unrest, and could in all accuracy be called a definite industrial psychosis. He is neither willful nor responsible, he is suffering from a stereotyped mental disease.

If one leaves the strata of unskilled labor and investigates the higher economic classes, he finds parallel conditions. There is a profound unrest and strong migratory tendency among department-store employees. One New York store with less than three thousand employees has thirteen thousand pass through its employ in a year. Since the establishment in American life of big business with its extensive efficiency systems, its order and dehumanized discipline, its caste system, as it were, there has developed among its highly paid men a persistent unrest, a dissatisfaction and decay of morale which is so noticeable and costly that it has received repeated attention. Even the conventional competitive efficiency of American business is in grave question. I suggest that this unrest is a true revolt psychosis, a definite mental unbalance, an efficiency psychosis, as it were, and has its definite psychic antecedents; and that our present moralizing and guess-solutions are both hopeless and ludicrous.

The dynamic psychology of today describes the present civilization as a repressive environment. For a great number of its inhabitants, a sufficient self-expression is denied. There is for those who care to see, a deep and growing unrest and pessimism. With the increase in knowledge is coming a new realization of

the irrational direction of economic evolution. The economists, however, view economic inequality and life degradation as objects, in truth, outside the science. Our value concept is a price mechanism hiding behind a phrase. If we are to play a part in the social readjustment immediately ahead, we must put human nature and human motives into our basic hypotheses. Our value concept must be the yardstick to measure just how fully things and institutions contribute to a full psychological life. We must know more of the meaning of progress. The domination of society by one economic class has for its chief evil the thwarting of the instinct life of the subordinate class and the perversion of the upper class. The extent and characteristics of this evil are only to be estimated when we know the innate potentialities and inherited propensities of man, and the ordering of this knowledge and its application to the changeable economic structure is the task before the trained economists today.

THE HUMAN FACTOR[1]

The business of an engineer is to deal objectively with material problems; his training consists in the acquisition of knowledge to this end. Curiously enough, the subject of labor is later to become almost the dominant and possibly the most troublesome of all his cares. Starting with a belief that his main object is the production of mechanism from material, he finds that, as time passes, he is much more concerned with finance, labor and the human factor—commercial or manual. He becomes more an administrator than a technical executive, realizes that selection of subordinates and the will to work of his staff—both psychological problems—are more potent matters even than organization and purchase of material. Human muscle—that is, its external appearance—is easily viewed, but the intelligence and capacity which, after all, animate it, are not so readily assessed. Capital and labor associated with system and organization—the marriage of credit and muscle—is too often superficially assumed to be a profit-making copartnership. It seems a usual view that provided sufficient of either is available, there should be little difficulty in earning dividends. The human factor, however, permeates the entire structure, and unless duly assessed and rightly placed, the anticipated profits may vanish unaccountably

[1] From Engineering (London). 104:443-4. October 26, 1917.

into thin air. It is too little realized that while share capital is definite, each human unit is a separate personal identity afflicted thereby with common human disabilities.

In actual practice there is only one penalty for failure or infraction of discipline—dismissal. On the other hand, no firm can afford for trivial cause to deprive itself of the services of a potential profit-earner; it would suffer a greater loss than that immediately realized, as change disturbs the poise and balance of the machine. The power of inflicting the extreme penalty is therefore more or less judicially exercised; first thought is often tempered with discretion. The outcome is that the two things—power and penalty—tend to equate each other. The man is kept in check by knowledge of the penalty, the management, knowing the difficulty of adequate replacement, is none too ready to use its privilege. Fear on both sides helps to keep each virtuous.

Technical troubles are apt to cause less serious problems than the human factor. It is an incomparable asset to be able without resentment to get the most out of a working force; to possess the knack of so doing is not a common quality. To diagnose the slacker may be easy, to understand why he slacks not so simple, to apply the correct remedy more difficult still. It is safe to say that a policy of bluff or of blackguardism is as likely to be wrong as continuous nagging or fault-finding. To handle an awkward case by tact and firmness, by the hand of steel in the glove of velvet, requires experience no less than natural ability. Some men possess this happy faculty, which keeps a sore place from rankling. To drop heavily on the wrong man, or for the wrong matter in the wrong way, displays a want of judicial insight and is fraught with perilous results to output. A man flagrantly caught out will suffer remarks and feel their caustic justice without subsequent resentment. To use the same method for purely accidental fault is to invite shrinking. We are, after all, each a member of a common human family, and whatever station we occupy our feelings are roughly equal. Any method whereby effort is induced is an end in itself worth consideration and some thought.

In normal times men often are hired, tried, and fired, at the wanton caprice of a technically capable but otherwise ill-equipped individual, because an excess supply of labor is available. With a restricted supply an explanation of the touchiness

of labor complained of just now in some quarters is afforded. The men are not rightly handled. To keep a large staff working harmoniously to a single end demands administrative ability of a high order. Judicious and just handling is of prime importance, the appearance of injustice, no less than a flagrant case of it, must be strictly avoided.

Profit-making is the cream on the milk of industry, it represents only a fraction of the bulk turnover, and it may be forfeited in many ways. System and organization is one part of the profit-earning mechanism, the correct handling of labor and its incitement to real effort are quite as important and not so apparent. To reach the desired end needs a judicial temperament coupled to an endowment of common-sense, scientific spirit and a frank recognition of labor's human structure.

There are productive and unproductive periods in each working day, alternations of normal effort and natural slackness. It is the dead centers which want attention, not the time of full crank effort. Conditions and environment have much to do with output. A difference of 10 degrees in temperature unrectified will produce remarkable results. Fresh air and light, the former costing nothing, do much to affect the total output. The human dislike of sheer monotony, its desire for rational change, are other questions for consideration. Piecework is one incentive, sheer interest in the job in hand another. If the shop recognize in its chief an able man, competent and efficient, the results will exceed those under the reverse conditions where and when they operate. Example does more than driving, as shown in the success achieved in many small concerns.

Production is a delicately-poised balance dependent upon quite small things, which in the aggregate are apt to turn the scale. Labor is generally found to be more troublesome where the supply is strictly limited; then the necessity for right handling is more acute, and as a consequence the result is usually better and the staff more satisfied. The inevitable result of scarcity is an increase in realized value; reduced supply may result in insubordination or, if the firm is wise, in improved conditions and better treatment. The intimate relation of isolated factory, scarcity of labor and welfare schemes point their own moral. The worst industrial conditions are found in large centers, where both man and management have a greater available choice. The necessity for better conditions is less ap-

parent and certainly less realized. Labor trouble points to a lack of visualization on the part of the management, to the desire on the part of the man to pick and choose, that is, to find an open market for his skill, or to injudicious handling, pointing to faulty executive.

Belief on the part of the man that he will meet with rational justice from his employer who, he feels, is human and personally interested in his work, tends to retain skill and competency, even when offered better terms elsewhere. More than one highly qualified producer has failed because of his inability to understand men other than as numerals or portions of an essential mechanism. Exploitation or unfair treatment, or possibly dismissal for small reason in the case of a single individual, shakes the confidence of the rest; the coördination of a labor force and their dependence in daily work one on another lend fatal prominence to a seemingly minor issue. A small grievance is like a gear wheel with a damaged tooth, which disturbs the smooth running of the train. The hostility and independence shown in labor troubles, the divorce of the men from the interests common to the firm as a whole, have been at least partly made and fostered by such causes. Confidence once lost is not easily restored. Like reputation, it represents a solid asset, and any effort to engender more cordial relations is worth the making, while the result is likely to be more beneficial than is often realized and well worth the trouble involved.

HUMANIZING THE MANAGEMENT OF INDUSTRY[1]

The relation between capital and labor is, of course, to a large extent an economic question, but it is also just as much a human question, and there is no more important and interesting problem to be solved in the coming years than the daily relation of the management to its employees.

One important effect of large scale production is that plants in industry where such production exists are no longer managed and operated by laymen of broad business training and experience but instead they are operated by technically equipped managers—men that have a specialized professional training.

[1] From an address by Sam A. Lewisohn, Treasurer, Miami Copper Co. Meeting of the Academy of Political Science, N. Y. City. Friday, December 6, 1918.

It is with these men that the handling of the labor problem in such industries finally rests. They are in the "key positions." As a consequence, there has been a good deal of talk of absentee landlordism—a good deal of criticism of the fact that the real owners of the property—the stockholders, whether they be a few holders of large blocks of stocks or a large number of small holders—are apt to be out of touch with the details of plant management and the charge has been raised that the directors are solely interested in finance.

Analogies have been drawn to the conditions that prevailed in subject provinces of ancient empires—the word "feudal" has been used to describe conditions. I am rather inclined to think, however, that these analogies have carried us somewhat astray and that our attention has been diverted from the root of the problem by this tendency to treat these questions in too melodramatic a fashion. To use a phrase of Grover Cleveland's "it is a condition which confronts us, not a theory." The condition is, in the opinion of many of us, a corollary of modern industrial specialization. The directors are in charge of finance because this is their specialty, and they do not interfere in labor problems any more than they interfere in technical problems. It is not because of any lack of human sympathy or understanding on their part but rather because such specialization seems best for effective administration. Even if they have the inclination, training and sympathy and time to study the labor problems, the owners and directors will in most cases feel it is wise not to interfere with the work of the manager in charge, because the local labor problems are so interwoven with the daily routine of other operating problems that they have not the intimate knowledge of the nuances of situations that warrants them in such interference. They have to rely on their managers for the facts of any situation and so while they can exercise much influence, and a good influence, in guiding general policies, it rests with the managers to apply these policies. There will be many exceptions where an active conscience will impel and conditions will permit a director or owner to interfere, but it is dangerous to rely on exceptions. And so after all the manager is the pivotal individual upon whom the modernization of the day to day relations between capital and labor depends. No matter how sympathetic the amateur on top may be to a liberal labor policy, it is impossible for him to carry it out unless the

technically equipped manager himself has the same point of view and understanding of the problem. A solution has been sought in the introduction of the new profession of employment manager, but though this is an admirable development—a very big step in the right direction—it is not in itself a solution of the problem. Unless the general manager in charge of the entire plant has the background to make him sympathetic to modernization in the methods of handling labor at his plant—unless he is sufficiently mature in his outlook to realize that the handling of labor is a specialty and will thus be sympathetic to the introduction of a particular department for handling these problems—he will and can block any such attempt at a modern scientific approach. For the management of the plan is in his hands—he is the "boss" and the methods of the operation of the plant must ultimately be under his direction and limited by his understanding. Even after a distinct department under an employment manager has been set up, the larger policies will depend on his final decision.

This points to the need of introducing into the curriculum of every technical institution for those students who by any possibility may in later life have charge of men, thorough courses in sociology and in the modern technique and methods of handling labor. Such courses should be "required" and should be thoroughly understood to be an integral part of the training of the students. Technical schools have too often lacked the inclusion of such courses—even as "optional" courses. Many technical men in the rush to earn a living do not get any broad humanizing courses at academic schools. As a consequence they have not even a meagre sociological background and nothing is done to make up this lack in their technical training with the result, that though they may be turned out thoroughly competent as far as their technical qualifications are concerned, they are left naïve in their approach to the human problems involved in their future profession. Particularly in the mining field there is abundant testimony as to the unskillfulness of young technical graduates in attempting to handle men, though of course there are notable exceptions. When put in charge of plants such men resist the introduction of modern methods in handling labor and even though they finally consent to an employment manager being put in charge, they do not give him the proper support or encouragement and are inclined to be obstructive. In any event,

even if they are willing, it is difficult for them to cooperate *intelligently*. The following excerpts from the report of the President's Mediation Commission are significant:

"The resident management . . . is wholly traditional in its effect, however sincere in its purpose. The managers fail to understand and reach the *mind* and *heart* of labor because they have not the aptitude or the training or the time for wise dealing with the problems of industrial relationship. The managers are technical men, . . . engineers of knowledge and skill . . . it has hardly begun to be realized that labor questions call for the same systematic attention and understanding and skill as do engineering problems."

Many of us hope that it will not be long before those responsible for planning the curricula of technical schools will take cognizance of the situation. We believe it deserves their most serious attention. May I also suggest that it is of the greatest importance that where such courses in industrial training are introduced, they be not treated by either faculty or students as fads but as very practical and essential parts of the students' preparation. Those of us who are employers can give positive assurance that such an addition to the equipment of graduates will have definite value to them in dollars and cents. But what is of more importance is that the attention of the faculty of our technical schools to this matter would mean much in the modernization of the handling of our labor problem.

Above all let it be kept in mind that this subject is not a technical problem but a human one. Not only the mind but also the heart of the prospective manager should be trained and he should be imbued with a thoroughly human and liberal attitude. Only thus will he be able to understand and reach the heart as well as the mind of labor.

AIMS OF THE NEW SCIENCE

THE NEW PROFESSION OF HANDLING MEN[1]

For more than eight years a new type of association dealing with the problems of hiring and developing employees has been at work in Boston. During 1911, the Vocation Bureau of Boston invited fifty men, who had in charge the hiring of employees in large shops and stores of the city and vicinity, to come together and consider the advisability of meeting regularly. As a result, the Employment Managers' Association was started.

The aims of this association are described as follows in the constitution:

> To discuss problems of employees; their training and their efficiency.
>
> To compare experiences which shall throw light on the failures and successes in conducting the employment department.
>
> To invite experts or other persons who have knowledge of the best methods or experiments for ascertaining the qualifications of employees, and providing for their advancement.

It will be seen that the aim of this new association was to provide a professional medium for the exchange of experiences in a field where little interchange of ideas had taken place; to study the human problem in industry on the basis of fair dealing with the employee. In short, there was a conscious effort to make industrial practice square with the dictates of twentieth century enlightenment.

Since the starting of the Boston organization, other cities have formed similar societies. The present indications are that a country-wide extension of such organizations will take place, because the idea underlying them appears to be fundamental, and in accord with the aims of both industry and social service.

If such extension, then, of employment executives' associations should take place, the time is opportune to consider their purposes, and their possible contribution to right industrial relations. Bearing in mind the fact that the original effort for such type of association came from an institution whose chief aim is the promotion of opportunity, the trend of development

[1] By Meyer Bloomfield, Consultant in Employment Management. Annals of the American Academy. 69:121-6. September, 1915.

in such associations should be along the line of enlightened thinking in modern industrial organization. If their growth remain true to the initial aims, such associations are in a position to help unravel the tangled problems of misemployment, underemployment and unemployment, and the waste of human capacity in general.

When everything that present-day science can suggest in the way of improving technical efficiency in systems of cost-keeping, equipment, machinery and material has been adopted, the biggest of all industrial problems still remains to be faced.

This is the problem of handling men. Every thoughtful employer knows that managing employees, selecting, assigning, directing, supervising and developing them, is the one phase of management which is most difficult and complicated; and it is the one problem in industry which has in the past had least consecutive thought bestowed upon it. Not that employers have been unaware of the size of this task. Experiment after experiment has been tried with varying results, all of them aiming at the goal of welding the working force into a stable, dependable, and well-assimilated organization. And yet such organization is rare in modern industry.

Figures as to the change in the working force of various establishments are not easy to obtain, but enough are at hand to indicate an enormous leakage of employees each year in the average store, factory, and other places of employment. Many a concern employs each year as many persons as its total payroll. That is, there is a "turn-over" of employees amounting to one hundred per cent. The figures range from one-third to many times the total number of employees. How many employers have figured out just what it costs in dollars and cents to change an employee? How many have estimated the cost in terms of organization, loyalty, steadiness and esprit?

Obviously, an organization cannot be held together with ropes of sand. The coming and going of employees on such a scale as the data available would indicate cannot but prove a disintegrating force, a foe to sound organization, a source of unceasing mischief.

Employers, of course, appreciate more or less clearly what all this means. But few, however, have set themselves to study this problem as it should be studied. Some have with unhappy results expected miracle-workers to solve this problem, and have

toyed with strange employment schemes. Some employers have trusted to sleight-of-hand performances in hiring men instead of dealing with their big problem in the way they deal with other knotty problems. If to psychology they must turn, a psychologist and educator like Prof. E. L. Thorndike of Columbia, for example, could have shown them that the application of science to the problem of handling men involved long and painstaking, not to say exceedingly laborious, investigation. There is no royal road to solving the man-problem in industry. But there are ways, intelligent, common-sense and practically understandable ways, of setting to work. There are certain principles to be observed, methods to be adopted and standards to be maintained in dealing with the question of personnel, and adhering to these can alone insure a reasonable degree of success. In any event the waste and friction now involved in the average treatment of the hiring problem can be materially reduced.

In the first place, the proposition must be firmly grasped that handling employees is a serious business. Not everybody can or should hire; not everybody can supervise men. But it is to the employment department of the establishment that we must look for a solution; to its powers, duties, functions and place in the scheme of organization. And above everything else we must look to the character, training, equipment and place of the man who does the hiring.

It is at this point that thought can be most profitably bestowed. A new conception is needed of the functions of the employment department, and the qualifications of the employment superintendent. Not every concern has a special employment department, although the large establishments are giving up the system of hiring by department heads, and concentrating the selection of employees into a separate division. More and more the need is recognized of functionalizing the hiring and handling of men. Without such specialized treatment of this problem it is impossible to give the matter the attention which it requires. Moreover, the power to hire and discharge extended to a number of individuals has given rises to abuses and frictions which have cost the employer dearly. Nothing is more fatal to sound organization than such power without adequate supervision. Petty executives should never be entrusted with this vital function. Right relations cannot be secured by such

a method. Hiring men and discharging men are serious affairs. Only big men can handle matters like these. Costly experience has settled this proposition. The human problem calls for its solution the best men and the most expert consideration.

This indeed is a moderate statement. To pump the life-blood through an establishment—this is what hiring men really means—is no trifling matter. The quality of the working force determines in the final analysis the quality of the organization, of its product, of its success. Nowhere is this fact more evident than in the organizations which sell service; for example, department stores and public service corporations. The point of contact between the business and the customers is always through the individual employee. The medium of communication is that very individual. The business is summed up as to its standards by this outpost in the person of saleswoman, telephone operator, or car conductor. Good will is made or unmade according to the type of representative. The larger the organization the more the units of contact. Business may be essentially impersonal, but it is highly personal in its service features. The teamster, driver, stenographer, floor manager, claim adjuster and scores of others act in a personal sense and with individual customers.

Who selects these people? On what basis are they selected? Is it all guess-work? Is it possible to standardize the work of selection? The business man who has not already asked himself questions such as these will do so before long. The whole drift of the time is in the direction of greater attention to the proper selection and supervision of the individual worker. It is no longer a by-product of other responsibilities, this matter of choosing help. It is no longer an inferior man's job.

The employment function is so important to good organization as well as right relations that the hiring office must be looked upon hereafter as one of the big departments of a business. Somewhere in the scheme of organization provision must be made for a well-equipped office to deal with the many problems concerning personnel. Only through such specialization can the solution be approached. In the first place, such office or department alone can deal with the task of scientifically organizing the source of supply of help. To depend on applicants at the gate, to hang out a want shingle or to advertise through want columns or the medium of other employees is too

haphazard a method. Raw material is not procured in this way. Scientific purchasing requires a study of markets, testing out of material and figuring of conditions. There is here no higgling and blind bargaining. The laboratory is fequently used to render final verdict in favor of or against certain purchases.

Why has the hiring of men been permitted to go on with less systematic scrutiny? One reason has been the surplus, the labor reserve. This will not long avail, first, because industrial conditions and legislations are working to diminish, if not to wipe out, the excess of applicants for work on the fringe of every industry; and second, because wise business management recognizes the good sense of organizing the source of labor supply.

Source-organization assumes various forms. In the case of prospective executives, some large establishments employ "scouts," (not unlike those of major baseball leagues, who range the minor circuits for promising players), who visit periodically the colleges and other institutions and discover the men of promise. One of the leading manufacturing companies of the country is noted for its post-graduate business opportunities. Indeed, it has built its entire executive force practically out of the findings of its scouts. Another establishment recruits its rank and file from a careful canvass, a block-by-block, and house to house visitation of neighborhoods. One of the leading department stores in the East has made special arrangement with the high schools of its city and suburbs to send during Saturdays and vacation periods boys and girls for try-out work. They are fairly well-paid during the probationary period. When they have finished their school work, positions are awaiting them, based on the observations and the records of the employment department which is charged with this duty.

The source of supply, then, is the first job of a properly organized employment office. Ample powers are given such offices to reach out and tap the best reservoirs. There is no reliance placed on securing a competitor's help. The aim of such offices is to develop its own material from the raw. Permanence of work is secured by the fact that fitness for the work required is carefully ascertained in advance. Discharge is not in the hands of a variety of sub-bosses. Whim and prejudice are eliminated. The employment office aims to secure help that will find it worth while to stay.

To help in the proper appraisal of the employee's qualifications, the office keeps complete records, reports, observations and other data. Each employee may consult the file belonging to him. His story is on file, impersonal as a barometer. But the most important record of all at the start, in the right sort of hiring office, is that which begins with the application blank.

As one studies the application cards of various concerns the reason for misfits becomes clear. So little analysis of the work required has been undertaken that we have practically no specifications, no blueprints of job-requirements in order to enable an applicant to measure himself against the actual demands. Hit-or-miss is the prevailing method. Here we have one explanation for the labor turnover. The hiring office properly managed knows that a well-devised application blank is one of its first tasks.

Some time ago the application blanks of fifty leading corporations were collected. If one cut off the firm names, there would be difficulty in locating from the material the nature of the business it pertained to. The blanks showed little understanding of the specific requirements of the various occupations. There was little differentiation in the questions asked. Employees cannot be properly selected on such a basis. Each establishment must work out its own needs and demands and record them in the hiring blank. No conventional forms will do unless selection be wholly given up.

In brief, to one who observes the current practice of hiring and discharging employees, the conclusion comes home with peculiar force that in no other phase of management is there so much unintelligence, recklessness of cost and lack of imagination. On the other hand, in the right organization of the employment scheme there would seem to be endless possibilities of genuine service, a service not possible even in the most benevolent of welfare projects.

The situation on the whole suggests the need of recognizing a new profession in the organization of industry—the profession of hiring and developing men. Executives will have to be trained for this work as they are trained for other important responsibilities. The employment manager, the executive within whose duties falls the direction of the personnel, must be prepared for this work as for a genuine profession. The handling of men in this century will call for unusual preparation in the way of understanding and a spirit of justice.

MAKING THE BOSS EFFICIENT[1]

Several hundred men from all over the country met a few weeks ago in Philadelphia to consider the problems involved in the relationship between employers and employes. They spent two days in frank discussion of industrial methods, they pointed out where managers and foremen were at fault and they talked about justice to the worker. There was earnest consideration of the question of legitimate grievances.

It was not a convention of an international trade union. Quite the contrary. The men present were the employment managers of some of the largest corporations in America. But they were meeting to exchange experiences and get new ideas in order that they might handle their jobs better, lessen the strain on industrial relations, and create more general satisfaction among employes.

These men were representatives of a new idea—an idea so hopeful and full of promise that there is just a possibility of its being the forerunner of policies and methods that will revolutionize industry. Whether it is as big an idea as that remains to be seen, but unquestionably it means new things.

When Saint Peter on the Day of Judgment begins to balance his books and tabulate his statistics he will find that until about midway of the second decade of the twentieth century employers of labor in general and critics of labor policies in general had one sin in common. They both believed that it didn't cost anything to replace one man in a factory with another.

There were exceptions, but in general the critics have expressed the idea almost exultantly. It makes a fine climax to a ringing denunciation of the employers' disregard of human welfare. "Aha," they have said, "he takes good care of his machines, new ones cost money. But his men? If he squeezes them dry and throws them on the scrap heap, what's the difference? A new man doesn't cost anything."

With certain honorable exceptions, the employers have believed the same thing. They have hired and fired with careless abandon. As a competent critic observes, "they have wasted human efficiency like water." The only thing many of them have cared to know has been whether men were standing at the

[1] By John A. Fitch. Survey. 38:211-15. June 2, 1917.

gate, seeking employment. So long as men were in reserve they have been indifferent to discharges and resignations.

With the employers holding to a theory like that, and their most active critics—even the unions—silent or acquiescent in the fallacy that a new man costs nothing, what could you expect? The Ford Motor Company in 1913 hired 54,000 new men to keep 13,000 jobs filled—more than four times as many men as there were jobs. To put it in terms of modern business problems, the "labor turnover" of the Ford company was over 400 per cent.

That was four years ago. Things have changed since the men began to get five dollars for an eight-hour day. But even now in other industries the Ford experience of 1913 can be duplicated. At the Philadelphia meeting a representative of the Goodrich Rubber Company said that in recent years it had been necessary to hire in a twelve-month nearly twice as many men as were on the payroll at one time in order to keep the plant fully manned. And he declared that, at the time of speaking, the labor turnover of that company was higher still.

Hiring and Firing

That there is a shocking social waste about such a condition has of course long been evident to everyone. That it is exceedingly discreditable to a society that permits it has been pointed out again and again. Even though we haven't known and do not know now just how fast the work of hiring and firing has gone on, we have seen it and been appalled by it in the seasonal industries.

We have blamed society for it, and rightly, where it has been due to the lack of training and guidance of the men and women who must be engaged in industry. We have deplored the blind alley jobs where a boy learned no trade and is turned out at maturity, too old for the job that spoiled his best learning years and incompetent for a better job, to drift from one unskilled task to another, never satisfactory and never satisfied. We have scored the employer for ruthlessly turning off his "help" whenever it suited his purpose.

We have seen that the whole proceeding is tremendously costly for society. The carrying of a dead weight of incompetents who might have been trained to skilful service and the

maintenance of an industrial reserve to await the pleasure of the employer has been a heavy burden on the public. We have seen, too, how, above all, it has been costly for the employe. Every member of this shifting army of labor feels in his own body the effects of unemployment and stamped on his mind is the discomfort and misery of constant economic uncertainty.

The High Cost of New Men

But we have continued to believe that it costs the employer nothing. How wrong we have been, the employer himself is now beginning to point out. There have been employers here and there who knew it all the time, but there was no talk about it. There was no general understanding. Most of the employers were wholly in the dark, and many of them continue in it.

The study made in 1913 by Magnus W. Alexander was the first attempt to grapple with costs. There were few guide posts pointing the way, but Mr. Alexander found no fewer than five distinct elements of cost in hiring and training new employes. These were:

1. Clerical work in connection with the hiring process.
2. Instruction of new employes by foremen and assistants.
3. Increased wear and tear of machinery and tools by new employes.
4. Reduced rate of production during early period of employment.
5. Increased amount of spoiled work by new employes.

He admitted that these were not the only costs and named two others: "Reduced profits due to reduced production," and "investment cost of increased equipment on account of the decreased productivity of the machines on which new employes are being broken in." He made no attempt, however, to estimate these costs.

He found next that these elements of cost varied with different classes of employes. After making due allowance for each of the five items of cost, and for each of five classes of employes, Mr. Alexander estimated that the cost of hiring a new man was between $35 and $40.

It was stated above that over 42,500 new employes were hired by twelve factories in a year that began with over 37,000 employes on the payroll and ended with about 44,000. After making deductions for changes due to unavoidable causes, Mr. Alexander came to the conclusion that 22,000 employes were unnecessarily hired, at an expense to the twelve factories involved of $831,000.

Mr. Grieves, who made a study of twenty factories in 1914, where 69,000 new employes were hired to maintain a force of 44,000, found the same elements of cost as those considered by Mr. Alexander. He estimated the average cost of hiring to be $40 per man and figured the extra cost of hiring unnecessary employes for the twenty factories was $1,760,000. John M. Williams, secretary of Fayette R. Plumb, Inc., of Philadelphia, in an address delivered in April, declared that $40 is an extremely low estimate of the cost of hiring a new man. His investigations led him to place the figure nearer $100.

Now that men are not so easy to get, employers are in a frame of mind to consider the new idea in employment, which has spread so rapidly within the last two years. That idea is simply this: That the employment problem should be studied as carefully and as scientifically as any other business problem. To make this possible the function of hiring and discharging is taken away from the foremen and placed in the hands of a centralized employment department. Foremen are hired, not for their ability to select good workmen, but for their technical knowledge and their ability to get out the work. It is a loss of energy and a detriment to the plant for the foremen to do the work of hiring new men—and in addition they are, as likely as not, incompetent for that particular task.

An executive of a manufacturing company that adopted the new method of employment last year said recently:

> 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 signalized by the absence of the 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.

By placing the function of hiring in a specialized department with a responsible executive in charge, it is possible to acquire a knowledge of the sources of labor supply that never could be had under the old system. At the same time a capacity for judging men and making wise selections is developed.

The first great function of an employment department, as I get it from the prophets and leaders of this movement, is the selection of the employe from an organized labor market—not at the gate. The fact that the old methods did not result in wise selections is one of the strongest reasons for the development of the new methods. Any analysis of labor turnover un-

der the unregulated, hit-or-miss methods of a few years ago will show a constant shifting because the men hired were not fit for the jobs. A very large part of the work of eliminating this waste consists in hiring the right men the first time—in getting men who are fitted to the jobs. Trained, intelligent, experienced employment men can do that far better than men whose training is exclusively in another field and whose experience is in operation rather than in hiring.

Round Pins for Round Holes

Not even men of experience and training can select men with 100 per cent success, however. They may be mistaken altogether, or they may have sent men to the wrong departments or placed them in the wrong jobs. The second chief function of an employment department, therefore, the leaders and wise men in this field tell me, is the training of men and the constant endeavor to place them in positions for which they are fitted or to which they are adapted.

When the hiring and firing is done by the foremen a man seldom gets a second chance to make good. He may be eminently fitted for some other job in the plant, but the foreman hasn't time to inquire into that. He simply discharges the man and tries another. Under the newer system the foreman has no power of discharge. He merely refers an unsatisfactory employe back to the employment department with a statement of his reasons for considering him unsuited to the work of his department. The employment manager does not then discharge the man except for the gravest of reasons. He studies his case, tries him out somewhere else and continues to try him until it becomes perfectly clear that he is hopelessly incompetent.

Most important of all from many points of view is the third function of an employment department conducted according to the new idea. Here is where new ground is being broken. The importance of hiring men who are fitted for the jobs has long been recognized. It is a new thing, however, for an employment department to consider whether the jobs are fit for the men. But that is what employment managers are now doing, seriously and in dead earnest. This is where, most of all, there enters what Meyer Bloomfield of Boston, calls "the new profession of handling men."

Loss from Trained Men Who Quit

Studies of employment problems have revealed that a high labor turnover is not due exclusively to hiring the wrong men. There are two elements in turnover—the discharge of undesirable workers and the voluntary leaving of desirable ones. The first element can be attacked effectively by careful selection. Discharges for incompetency may be reduced to a reasonable minimum. When this is done, however, the terrible drain due to the second element in the situation, the voluntary quitting of good men, is only emphasized.

Accordingly, the new employment department makes a careful study of the reasons for quitting. Many of them have a rule that a man cannot leave without passing through the office of the employment manager. A requirement that the signature of the employment manager must be secured before the last pay can be drawn enables the manager to have a face-to-face interview with every man as he leaves the company's employ. Of course it is not always possible to induce men to give their real reasons for leaving, but a tactful official can get pretty close to the facts in a majority of cases.

What this procedure means is that the management is getting the most accurate and valuable check it could possibly have on its own competency from the standpoint of dealing with labor. It is thus enabled to test the capability of foremen and gang bosses, and it receives illuminating reports on the physical condition of the plant and the acceptability of working conditions and of the scale of wages.

Nothing would illustrate the point better than the experience of a Philadelphia company that reorganized its employment methods only a little over a year ago. Speaking before a conference of employment managers in Philadelphia recently, John M. Williams, secretary of Fayette R. Plumb, Inc., explained that their employment manager has a chance to interview every man who is leaving the company's employ. He said:

> 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. These 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 ten 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. Likewise was advised that his work was O. K. by one inspector, only to finish it up and have a half 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 I stated it cost us $100 to break in a new man, it looks as though this was a fair day's work.

Other accomplishments of the new employment department in this plant, as related by Mr. Williams, are most impressive.

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. One hundred watt Mazda lamps were installed every twenty feet.

(b) Drain was put in which took care of all excess water, relieving both the discomfort and 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 machine 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 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 five hours per week less running time, and last month had the largest production in the last three years. . . .

Transfers in the factory had never been 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 cause, remedy it 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 told 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 semi-executive 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 temporarily unfitted for one job, and fitted for the other. . . .

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 fifty men in one department, and before we had time to even digest the demand the hour was up and they walked out. Since April 1, 1915, we have had no strikes nor 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 watch-word will be "prosperity for all" and not "prosperity for one."

Four years ago the Vocation Bureau of Boston awoke to a realization that something was wrong with employment methods. Their best efforts in placing young people in the right positions were nullified by a lack of effective cooperation toward the same ends on the part of most employers. There seemed to be little effort to fit the man to the job or the job to the man. A boy would be placed in a position only to lose it or leave it in a short time. In order to get a chance at least to talk things over the Vocation Bureau invited into conference a group of men connected with the various industries in Boston who dealt with the problem of hiring. From that initial conference grew a desire for regular and frequent conferences for the interchange of opinion and experience, and the first association of employing executives in the country.

Managers Organizing in Many Cities

Accordingly the Boston Employment Managers' Association was organized. Not all of the members were "managers" at the outset. The employment problems that were given an airing at these meetings, soon led to the conviction, however, on the part of most of the members, that the man in charge of employment should be a manager in a real sense—an executive with recognized responsibility and authority.

Almost simultaneously, in other parts of the country, notably in Detroit, similar organizations with similar convictions and aims have come into being. From these pioneer organizations the idea has grown until there are now in a dozen cities, from Boston to San Francisco, organizations known as executives'

clubs, employment managers' associations and the like which meet regularly to discuss employment problems. Three national conferences have now been held, the first in Minneapolis and the second in Boston—both of these were held last year, the third in Philadelphia in April.

It is difficult to say what this movement may mean to industry. The fact that it is a "movement" is what gives it significance. The individual conceptions in this new idea of employment are not themselves new. Some of them have been practiced for many years by individual employers. The important thing is their rediscovery and their restatement in a form that has taken hold of the imagination of employers the country over and so is gathering adherents like a new crusade.

The movement must give a great impetus to education and to the conservation of human skill. So much it must accomplish merely from the standpoint of getting the right kind of workers into industry. When industrial managers analyze industry itself to see whether it offers a fit career to the kind of men whom they would like to employ, the possibilities in the way of social betterment are very great.

The aims, the full intent of the new type of employment manager, cannot be described except in his own language. Robert C. Clothier, of the Curtis Publishing Company, has said, "The raising of the standard of efficiency of the working force, individually and as a whole, in order that the purchasing power of the wage-dollar may be increased—this as we interpret it is the broad function of the employment department." And he names among the essential principles to be observed, intelligent selection, instruction work, the creation of a "satisfied spirit," the stimulation of hope of advancement by filling positions from within the organization, and the avoidance of arbitrary or unjust dismissals.

President Hopkins, of Dartmouth, who reached his present position through the unique route of employment manager in several large corporations, speaks of the efficiency of a high wage and reasonable hours. "The truth is," he says, "that seemingly there is not yet any general understanding among employers that a high gross payroll does not necessarily result from a high individual wage, or expressed in slightly different terms, that cost per unit of production may be larger the lower the rate of pay to the individual worker."

The same idea is expressed by Boyd Fisher, secretary of the Detroit Executives Club when he says: "One of the most basic remedies for turnover is the payment of an adequate wage. . . . By adequate wage I don't mean merely a minimum wage. I mean a good fat wage. . . . Start your men right, promote physical efficiency, foster good habit, 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."

Mr. Fisher, who is one of the most irrepressible optimists in this movement, even goes so far as to recommend that when men must be fired—for he believes that "there is a legitimate place yet for the tin can"—"every discharge should be certified by a committee on which workmen are represented." This sounds like a radical proposition, yet at the Filene store in Boston no employe has been discharged for years without right of appeal to a board on which not only are employes "represented," but which is composed exclusively of employes. This board has reinstated some employes who have been discharged by the store, and others they have refused to reinstate. No one can come in contact with its work without being deeply impressed by the uncompromising standard of justice that has been set up toward the store management as well as toward the employes.

The Promise for Both Masters and Men

It would be too much to expect that industry in general will soon be conducted in accordance with these ideas. The labor policies of some of the largest corporations in the country are based on theories that are vastly different. But the fact that these new ideas in employment are finding such wide acceptance among employers and industrial managers does justify the hope that great changes are on their way—changes that will mean vastly improved conditions of living and of work, more amicable industrial relations and better industrial practice in every way, affording benefits to the employe and to the employer as well.

The new idea in employment methods must have the effect of changing altogether the attitude of mind of the employer as he approaches any question involving the satisfaction of his employes. The old, narrow-minded attitude that refuses to meet a

committee must give way to a more tolerant, a more scientific spirit. An employer doesn't refuse to give any consideration to a machine that has broken down, he tries to get at the cause; he doesn't curse a piece of material that fails to meet the required test, he sends it to the chemist for analysis.

It doesn't pay to have a different formula for treating human reactions. Dissatisfied men are expensive men to employ. The new attitude towards these matters is going to lead the employer sooner or later to consider coolly and on its merits every conceivable need and desire of the workers in his plant. It will lead him out into the community to discover whether there exists an opportunity for comfortable living at the wage he pays. And finally it must lead him to consider the question of the participation of the employes in problems of management. One of the biggest shoe companies in the country has 20 per cent of its employes in training all the time for executive positions. That number of men alternate between work on their machines and on executive work. Another has found it worth while to spend time explaining to the men its production problems. It turns over to the men all the knowledge in its possession, leads them to see the job not as a mechanical process but as a problem to be solved and thus it enlists their cooperation and at the same time gives them something worth working for.

It isn't industrial democracy—whatever that is—not yet. But the men in this new movement have said goodby to tradition. They have turned their backs on prejudice and the closed mind. They are ready to give a hearing to new methods in dealing with employes and even to give them a trial. When a big idea gets into the minds of men like that they are worth watching and the whole world is before them.

THE NEW ART OF HIRING AND FIRING[1]

"Turnover" is the phrase used in industry to express the great numerical loss of men suffered thru the ebb and flow of labor. Investigators who have set their minds to study the human problem have found that for every unit of a thousand men nearly three thousand have to be employed in the course of a year to keep the unit up to full strength. In this "Turnover" there is a great economic loss for both capital and labor. It has

[1] By J. D. Hackett. Independent. 92:144. October 20, 1917.

been clearly demonstrated that every workingman loses from $20 to $30 between jobs and every employer loses about twice as much in hiring and training a new man to take his place. Of course there is a great variation for individual jobs. A silk manufacturer found it cost him $70 to hire and train a broad silk weaver, $50 to train a spinner and so on thru the whole list. Very often, however, no benefit was gained because the employees quit soon after the period of training was completed. Imagine the aggregate loss to the individual and to industry; nearly a quarter of a million dollars in a plant where only a thousand men are employed. It went into many millions in the Ford plant before they "did something."

Knowing the extent and cost of turnover are but steps in the right direction; the next point is to discover and apply the remedy. This consists in getting the right sort of laborer, keeping him if you can and, if he departs, utilizing the knowledge of the cause of departure in order to retain the other workers in contentment.

Among those who have recognized the importance of anchoring their labor supply, it is becoming the custom now to make a comprehensive study of employment, beginning with the source of labor. From the period of men's application till that of their departure, their careers are studied with care, both individually and collectively. The location of dwelling in relation to the plant, transportation, age, nationality, height and other points are matters for consideration. The applicant is "introduced" with much formality and informed that complaints will be carefully considered. From exact specifications, previously compiled, he is placed in the position which seems to suit him best. Promotion is held out as an inducement to "stay put" and his possible advances in pay are specified. He is instructed what to do in case of accident and informed of the educational facilities in the neighborhood, in case he should desire to study. All such moves tend to reduce the human turnover of the plant.

Founded on the theory that you cannot reduce turnover till you have adequately diagnosed its cause, is the careful tabulation of the reasons why men leave their jobs. An analysis of many thousand reasons, actually recorded, has made it possible to eliminate the inessential and classify the essential into a short and usable list.

In all industry about 75 per cent of those who leave volun-

tarily quit their work and, on the average, not more than 15 per cent are discharged. The remainder are laid off thru seasonal or occasional work. When this balance is not maintained an inquiry is instituted as to the true significance of the change.

Excessive discharge may indicate that the employment methods are at fault, that some foremen are inconsiderate or that the limited labor supply necessitates the hiring of men who would not be taken on in normal times. A high percentage of voluntary quitters shows, possibly, that men are not satisfied with conditions as to work or pay. In either case the employer is mighty glad to find out which. He is not satisfied merely to learn that the work was found to be unsatisfactory. He desires to know specific complaints. These are carefully followed up so that unnecessarily bad conditions may be improved. Considerable expenditures for alterations often cost less than hiring and training new men. Damp floors may be drained. Windows may be enlarged to give more air. Dust may be removed by suitable exhaust systems so that the employee works in more comfort and does not find it necessary to look for a better job elsewhere.

A distinction is even drawn between men who quit because the pay is too small and between those who leave for better pay at another plant. When the aggregate number of these two classes increases, it indicates that the pay schedule needs revision. In this manner strikes are anticipated by the shrewd employer and much loss on both sides is avoided.

The personal reasons why men quit can all be recorded and grouped under the lowest number of essential headings so that the resultant statistics are an exact picture of conditions. If a large number quit because of bad housing conditions, it indicates that a comprehensive building scheme may be an absolute economic necessity in order to stabilize the force.

Time was when men were laid off without any other consideration than the immediate reduction in labor cost; no one had visualized the other expenses involved. Nowadays executives go to great lengths to equalize production in order to maintain the balance of their force. It has even been found advisable to acquire an unusual line of work to fill in during slack times in order to insure a steady supply of work. It is rather sad to reflect that so many men have been discharged merely on the unrestrained judgment of the foreman. That custom is now un-

dergoing a change. It is recognized that while a foreman has the authority to decide that a man is unsuitable for him, he has no right to consider he is unfit to work in any other portion of the plant.

The machinery for hiring, supervising and holding labor is best handled by a centralized employment department, in charge of a competent man versed in everything that pertains to the human relation in industry. Heretofore, perhaps, twenty foremen had absolute authority in hiring and firing. The plan did not work. Foremen do not and can not keep comprehensive records upon which the science of employment is based. Therefore, the employing function is now being concentrated and already the effect is demonstrating that specialization in employment methods, for the reduction of labor turnover, is a success.

NEW MEN FOR OLD[1]

If you would know at first hand the big weak spot in our American manufacturing system, throw away the current newspaper editorials on the Menace of the Unrestrained Labor Strike, and set your alarm-clock at 5.30 a. m.

It is worth an early start; for you are on the track of an economic wastage so colossal as to match its hundred dollars of annual loss to every ten dimes of financial injury wrung as the toll of the industrial deadlock.

In the chill of the gray dawn, dressed in the oldest clothing you can muster, turn your face from your familiar haunts in the office section of the city, and make your way toward the ranks of tall chimneys guarding the outskirts of the town.

Slip quickly by the silent bulk of a dead factory, union-picketed without and police-sentried within, which is featured in the morning's headlines; for your errand is not to the plant bleeding from industrial surgery by means of the strikers' axe, but to one whose line-shafting is seldom idle, and whose doors have been untroubled for twenty years by the shadow of a Walking Delegate.

You are in search of what is ordinarily reckoned the most commonplace and normal of all the daily sights in any manufacturing community—a nondescript group of job-hunters, tail-

[1] By Lilian Erskine and Treadwell Cleveland, Jr. Everybody's. 36:414-27. April, 1917.

ing down the block from a factory employment office's closed door. Nevertheless, as you take your place in line, and stand elbow to elbow with them in the keen air of the March sunrise, you have become a unit in a national menace to the employer, to labor, and to society at large.

The Old-Type Employment Agent

At the sounding of the whistle, and the vibrant coming to life of dead shafting and wheels inside, push your way with the others through the now opened door, and await your turn in the process of sifting the chaff of the old, the physically broken, and the alcoholic, from the residue of wheat that has been winnowed by the threshing-machine of industry. With the enforced patience of the job-hunter, try to realize (as they seem instinctively to do) the futility of appeal from the absolute authority of the little man of the hour who sits behind the rail.

Appreciate, as the other job-hunters can not, however, the heavy odds against him in his efforts successfully to fill those yellow slips upon his desk: requisitions sent to him but a few hours before by foremen whom he knows only by sight; from expanded departments he rarely visits; covering work with which he is technically unfamiliar, and subject to an output-standard of which he has barely heard. Fill out, at last, like the rest of the candidates, the personal questions on an application blank (such as could be duplicated in forty other factories handling an absolutely different class of labor and production), and eventually find yourself "hired," rather than "employed"—with a ninety per cent. chance against your having been assigned to the position or department for which you are physically or mentally fitted.

The Old-Type Foreman

Theoretically you represent an outlay of fifty cents to the firm, whose trade-mark has been stamped for a generation on the pay-roll upon which your name is entered. As a matter of fact (if you consent to see the experiment through), costliness will dog your footsteps from the moment you are sent up to your foreman, whom long experience with the hit-or-miss method of the employment office has prepared for the worst.

You are handicapped by lack of technical training, and by your need for supervision as to the handling of the machine on which you have been placed. But you soon discover that your foreman's only remedy against such incompetence is to follow the traditions in which he has been trained, and to threaten to "fire" you as arbitrarily as he fired the long line of your predecessors.

Antagonism is the key-note of your relations with the "man higher up." And this is fostered by the tacit bond of discontent which springs up between you and your fellow-workers. The noon whistle gives you your choice between the shop gossip over a cold dinner-pail in the workroom and hurrying—unwashed and as you come off your machine—to the more open criticism passed about in the haven of a near-by saloon.

But popular or the reverse, you take no orders save from your foreman; and you find you can look to none other than him for instructions in the rare intervals in which he is not setting piece-rates; planning the work assigned to his machines; setting speeds and feeds; deciding on tools and depths of cuts; supervising repairs to equipment; checking stock; adjusting wages; eliminating congestion; and overseeing the thousand and one details of his department.

One morning, when he has been "jumped" by the man higher up, and needs a safety-valve for his temper and over-tried nerves, you find yourself handing in your dismissal slip at the pay-window, while the firm's balance-sheet unknowingly carries the various costly items of your haphazard instruction, your unproductive labor, your retardation of the department's output, your breakage of tools, and your spoiling of material.

Familiar Game of Battledore and Shuttlecock

No one who has experienced at first-hand the "vicious circle" of our still persistent hiring and firing system; no one who has played even a voluntary part in the game of battledore and shuttlecock between the old-type foreman and the untrained employment agent, can be convinced that his experience is exceptional.

As a matter of fact (making allowance for a low percentage of insubordination, incompetence, and "just quitting"), you will find that you can duplicate your case by the thousand in any manufacturing center of the country. Whether you throw in

your lot with the unskilled "Hunkie" in the foundry, or with the trained mechanic in the tool-shop, you will learn that, excepting under the best standards of management, your livelihood and your hopes of advancement may lie absolutely at the mercy of a straw-boss, who neither hires you nor pays you a copper of your wage.

Yet it has been because of the very universality of the unregulated Labor Turnover thus engendered—of the percentage of workers who pass into and out of our factories and mills, and the continual and unnecessary substitution of new men for old, of the untrained for the experienced—that the magnitude of the economic losses involved has so long escaped widespread detection. The ebb and flow is silent.

The very fact that the process lacks the spectacular features of the widely advertised strike, renders it the more dangerous. Nevertheless, *it can be proved that the wastage of the Labor Turnover is a hundredfold more costly than that of the strike.* Unlike the strike, however, it automatically yields no hope of industrial or social gain, in better standards of wage or of living, or of broadened purchasing power. Only by its elimination can its constructive possibilities be realized. It may be likened to the daily strewing of countless grains of sand into the complicated machinery of the national output. And the resulting loss to capital and to society at large has been as final and complete as it was needless.

Who Pays the Cost?

If you imagine that your experiment in a factory workroom concerns you more than the firm that took you on, remember the machine you tried to run, failed "to get the hang of," and finally left out of commission when your foreman discharged you.

"I suppose that's typical of where our big leak has been," the General Manager confesses a few days later to the efficiency expert before whom he lays the output-record of your particular machine. "You see, there's a case where we threw away $2,500 on the original price of equipment; and a forty per cent. product is all we've got—besides that bill for repairs—to show for our money."

The visitor runs over the sheaf of yellow slips and emits a

low whistle. "But you've had thirty-two men on that machine in ten months," he says. "How do you expect to get an output?"

"What's that got to do with it?"

"I suppose you realize that in addition to that $2,500, you wasted nearly $2,000 of good money on breaking those men in. From my point of view, it's cheaper to throw machinery out of the window than to run a Turnover like that."

"I don't get you."

The visitor rises, and, going to the window, points across the factory yard to a group of men entering a door over which is posted a sign of "Help Wanted." "Supposing, Mr. Lawson, we drop the question of machinery for a while," he suggests, "and discuss instead what your employment office is costing you."

The General Manager looks relieved. "I know that labor's the biggest nuisance we're up against," he answers. "But so far as the actual cost of hiring goes, you needn't worry, Hartley. I understand we've cut that down to fifty cents a head."

"Taking on many?"

"Oh, I hardly know. Of course I don't bother with those minor details. We run a steady force here, but there's bound to be some shifting, of course, out of a payroll of six hundred. Maybe we take on a dozen, more or less, a day. Say, Clancy, how many foremen's requisitions are there on file to-day? Twenty-one? Didn't know it ever ran so heavy as that."

"And you say each new man costs you only half a dollar?"

"That's right, isn't it, Clancy? Yes; fifty cents apiece covers our employment costs."

"Suppose, just for the sake of argument," Mr. Hartley resumes as they again seat themselves, "that I tell you you're wrong, and that fifty cents apiece doesn't begin to cover those costs? Suppose I told you that, instead of fifty cents a head, each one of those unskilled men you took on to-day will cost you from $80 to $100 before he's thoroughly broken in and worth his full day's wage? And that every skilled man signed up this morning will stand you from $250 to $300? And that some of your most highly specialized workers can't be replaced under $1,000 apiece?"

"That's easy. I'd say you were off your head."

"But suppose I've got the facts?"

"You'll have to show me."

"What if I prove to you that you haven't, as you think, a

teady force'? That I've already informed myself that your oremen are shooting requisitions at your employment office at n average rate of twelve per day? That in twelve months—to eep up the 'steady force' you talk about—you've hauled 3,600 ien through your gates? That you're running a monthly Labor 'urnover of fifty per cent., and a yearly one of six hundred per ent.? That during the last year and a half covered by the recrds I found on file, you've practically thrown $350,000 of :gitimate profits out of your employment window?"

"The thing's utterly preposterous. Why, you say yourself hat we average only a dozen men a day!"

"But you'll find, Mr. Lawson, that if you averaged only welve a week, you'd nevertheless turn over your entire force nce a year. Don't you realize that if—out of every hundred n your employ—only five a month either move away, or become ll, or disabled, or 'just quit' for any trivial cause, a Turnover f sixty per cent.—or a majority of your pay-roll—will swing our yearly labor-balance over to the negative side?"

"Hold on! I begin to follow you. But when you talk of hrowing money out of the window——"

"What if I can prove that I'm putting you next not only your wn worst leak, but next one of the biggest leaks in industry o-day? Suppose I show you that even a little group of twenty f you manufacturers, in this section alone, employed 69,000 new workers this year to keep up your combined regular forces of 14,000 men? Would that mean nothing to you in dollars and cents? Couldn't you figure out for yourself that even if you should cut my estimate of eighty dollars cost a head in halves—even if you make allowance for a heavy shifting of unskilled labor in the less highly organized departments—the total waste of profits for all of your concerns together was in the neighborhood of $2,000,000 for the year? How long do men like you expect to keep it up? Do you think you can get away with this sort of thing indefinitely?"

The general manager is sitting back now, thinking hard, and watching the smoke-rings as they twist themselves out of shape against the invisible currents of the air. Presently he leans forward.

"Mr. Hartley, if you can prove one-quarter of your statements during the last ten minutes," he says, "you'll be putting me next a bigger thing than even you suspect. Clancy, will you

ask the other members of our staff to come here? We'll dig down to bed-rock together on this stuff. And if you're ready with your figures, we might as well get it doped out right."

The Normal Turnover

While, like the general manager, you may begin to be convinced that the substitution of new men for old is costly policy for industry, you are likely to be a believer in the widespread delusion that the worker (whether skilled or unskilled) is a born drifter. The fact is established, however, that not only is the Turnover involuntary on the part of labor, but that no firm is warranted in seeing it slip over the forty per cent. danger-line, without a thoroughgoing effort to cure the weak spots in its organization of which such excess is a trustworthy warning.

If you will bear in mind that but 1 per cent. of industrial employees die annually; that from but 4 to 5 per cent. are replaced because of absence due to prolonged illness; that under 8 per cent. leave for legitimate reasons; that only 5 per cent. are liable to discharge for cause; that a 6 per cent. allowance, only, is necessary to cover those employed on inevitably temporary work (such as building and construction and improvements); and that a 6 per cent. leeway is sufficient to include those who—because of race, religion, or politics—may prove temperamentally unsuited to shop organizations, you will begin to understand the scientific foundations upon which each firm may base its calculations, as to the limits within which it can build up a steady, efficient force.

Where the Blame Rests

"Well, Mr. Hartley," the superintendent begins when the half-dozen men are seated in the general manager's office, "I understand you lay our financial losses to our unsuspected Turnover; and put the responsibility for that Turnover up to the management."

"Squarely. I'm here, Mr. Gray, to be perfectly frank with you all, even if the truth is unpalatable.

"The phrase 'Unregulated Labor Turnover' is polite efficiency-English for 'Administrative Incompetence.' I've run down the facts of the normal Turnover, and I know that any-

thing beyond it is essentially involuntary. If it weren't for the demoralization of thousands thrown off by the needlessly seasonal trades, only a small minority of the skilled workers—and a steadily dwindling majority of the unskilled—would be drifters."

"But hold on!" exclaims the assistant superintendent. "You say 'the needlessly seasonal trades.' You don't mean to tell us that every plant can run on an even keel twelve months of the year, do you?"

"If they don't learn how to do it, they'll be crowded to the wall. I can show you plants—once seasonal—that by revolutionizing their rush methods of intermittent manufacture, of advertising, of salesmanship, and of order-placing, and by occasionally laying off the entire force one day a week when they are only running on stocking-up on low-cost standard supplies, have cut their Turnover from an even higher figure than yours, to well within a fifty per cent. limit."

"And save money?"

"And made money. Don't you believe me when I say that the Turnover is your biggest leak?"

"That's what we want to clear up," the general manager answers, picking up pencil and pad. "How do you figure on the estimates you gave me a while ago as to our labor losses during the last year and a half? We've been sweating blood here trying to pare costs a thousand here and ten thousand there, and yet you talk of our having thrown $350,000 out of our employment-office window, and nothing to show for it."

What's the Real Product of a Factory?

"In the first place," Mr. Hartley begins, as he jots down some figures on the sheet of paper before him, "you've got to learn the latest economic truth that 'the real product of a factory is not materials but men.' It's as dangerous to efficiency—which, after all, is only another name for harmony—to keep on ripping out a trained worker here and there and replacing him at random, as it would be to rip out essential parts of your machinery, and then replace them with any old junk you happened to have handy on the premises.

"There isn't such a record in the country as a fifty-cent maximum cost for a new employee. You may hold the overhead

charge for the upkeep of the employment office at that figure—provided you don't follow the best standards for investigating personal character and living conditions, for verifying working references, and for physical examination and efficiency tests. Even if your office charges (including the salary of a trained employment agent) stood you ten dollars apiece for every man taken on, you'd probably find it a big economy in the end. For the whole wastage of the Turnover hinges on not putting the right man on the right job at the right time, and on your not keeping him there by a square deal after you've taken the trouble to get him.

"I've followed this up in about every kind of plant, and you can take it from me that the first thing a man's up against, and the first expense the firm that hires him is up against, is his need for instruction."

"What's the matter with his foreman?" demands the assistant superintendent.

The Problem of Instruction

"There are usually a good many things the matter with his foreman. I'll come to that later. So far as the instruction goes, however, the trouble is that the foreman hasn't the time, or in most cases the faculty, to help him. Just knowing how a thing ought to be done, doesn't necessarily mean that a man is qualified to pass the information on. Particularly when a foreman has to do it so often that he is heartily sick of the job.

"Look here! Let's try to be fair. You put a foreman over a department to get the stuff out; and then you jump all over him because he can't do it with one hand, while he runs a school for new employees with the other. If he trains his men thoroughly, in a plant like this, he's bound to fall down on overseeing his end of the production. If he passes the new man over to some other worker, it's the same story. Either the fellow-worker won't bother with him, or somehow he can't get the information across. Or else, while he is doing it, maybe for several days running, he loafs on his job, and so balls up the balance of production.

"I've seen 100 machines standing idle on one floor, because (in the department next preceding it) two new men had smashed their machines, and blocked the whole flow of output for the

factory. No one had warned them when they were put on their machines to 'turn her over easy' before they started up. So they had simply grabbed the belt-shifter, started full speed, and in addition to the damaged machinery, they landed two fellow-workers in the hospital, with broken pieces of steel in them."

"You don't mean to advocate having special men to train new employees, do you?" queries the general manager.

"You hardly get a really one hundred per cent. efficient force of men, in a highly organized plant, without trained instructors. Nor can you hold your force steady, after you've got them, without constant supervision to make sure that each individual standard is being maintained at the high-water mark."

"You think, then, that we probably waste several dollars while teaching a new man as we do it now?"

"If you'll run over the figures I've just been jotting down, Mr. Lawson, you'll find why I was more interested in your Turn-over than in your cost of recent equipment."

Cost of Instruction

Although the lack of expert supervision of new employees is one of the leading factors in the shifting of labor, it is only lately that students of the question have been able to offer such figures as the expert now offers to the general manager—*a minimum* schedule of *actual instruction costs,* based on the experience of some of the leading employers in this country.

These are listed as:

Unskilled laborers	$2.00 to	$3.00
Clerical force	4.00	7.00
Handy men and helpers	5.00	
Skilled mechanics	7.50	10.00
Semi-skilled workers	15.00	18.00

Add to these approximate figures the initial cost of 50 cents to $10.00 for employment costs, and you have the first two items of outlay for the employers involved in the substitution of new men for old.

Cost of Damage to Equipment

In addition to the ten odd dollars wasted on lost time in a majority of cases, it must be remembered that it is primarily the new man who breaks tools and wrecks machinery. The more costly the equipment, the higher must be the estimate of the loss

to the employer. Hardly a firm that has worked out this angle of the expense of the Turnover, is willing to list the damage to equipment at less than an average of seven dollars per head.

Handy men and helpers	$7.00 to	$10.00
Skilled mechanics	1.00	10.00
Less skilled mechanics	5.00	10.00

Even with this third estimate added, you have only cleared away the preliminaries of employment, instruction, and breakage costs. You are now ready to deal with the more serious aspects, and the less easily determined financial wastage of the Turnover.

Cost of Lowered Production

No one need go into a factory himself in order to realize that at entry no new man can measure up to even a low standard of production. There are shops that have proved the fact (from their own experience) that it takes the average new mechanic from one to three months to meet the time-limits of his foreman. As a matter of actual record, he falls from three to five hours a day behind the pace of the seasoned piece-worker. But this phase of the question is economically bigger than the individual waste of wage.

In a well-organized plant each division depends for efficiency upon the continuous output of the division next preceding. Sometimes the slowing down of pace due to the breaking in of new employees is startling. It is because every minute so wasted leaves its mark on the balance-sheet of the firm that you will find this the most costly aspect of the "hiring and firing" problem.

For the sake of fairness to a wide range of industry, take the following *minimum* estimate of the costs of reduced production, which is based on the acknowledged losses involved for the less highly specialized type of plant:

Unskilled workers	$5.00 to	$8.00
Semi-skilled mechanics	18.00	30.00
Skilled workers	20.00	34.00
Piece-workers, miscellaneous helpers	25.00	33.00
Clerical force	20.00	

We must realize, however, that these figures do not attempt to cover the more demoralizing factors resulting from such decrease of output. The sense of friction, of uncertainty, and antagonism developed under such conditions, is as destructive

to the machinery of shop-efficiency as if oil of vitriol were to be habitually substituted for a lubricant.

The Cost of Spoiled Work

For the same reason, any calculation as to spoiled work must be unsatisfactory, because it is based on incomplete data which will vary in the case of each individual plant. Nevertheless, the following estimate is at least worth quoting, because it is drawn from losses in a wide enough variety of factories to make it a danger-sign on the pathway along which no factory management should persist in traveling:

Handy men and helpers	$5.00 to $10.00
Highly skilled mechanics	10.00 15.00
Less skilled	15.00 20.00

Something Bigger than the Employer's Direct Loss

The superintendent passes the penciled memoranda to the general manager with a confirmatory nod. "So that's how you ran up that eighty dollars—including employment costs—you loaded on us, Hartley."

"I'll guarantee that not a new man entered your gates during the last year who cost you a copper less."

"Yet you, yourself, halved that eighty dollars when you were talking about the group of twenty firms having thrown away nearly $2,000,000 of profits during the last twelve months."

"I did that because this stuff is so new I wanted to be conservative. Yours is a highly organized plant, where the costs of shifting labor run higher than in the rough trades employing few skilled workers. Nevertheless, I wanted to strike a fair average for all concerned.

"You men think these figures too startling only because it's a new slant on old problems that you've accepted much as you accept the law of gravitation. Their financial menace lies in the fact that they can be duplicated at random in any manufacturing center of the country. Of course I'm simply talking business now, and giving you what—from my point of view—is the less costly dollars-and-cents end of the Turnover."

"Does that mean you think there's something bigger involved than even the direct loss to the employer?"

"Something so big, Mr. Gray, that the calculations of simple arithmetic can't cover it. Look here. I don't mean to get senti-

mental over the worker. These days he's out for something more substantial than sympathy. But I've been in this Turnover game at first-hand, and I know pretty well how it hits the decent chaps who get their walking papers.

"I'm not fool enough to think that all foremen are 'petty tyrants,' or that all of the men they fire are suffering angels. The average foreman is what generations of the man higher up have made him. He's the product of the system he's been trained in, and that gives him a power he hasn't been educated to wield. But there isn't a factor to-day that constributes more to unemployment, and the so-called 'unrest' of labor, or that spreads more of bitterness, and the belief in the duty of antagonism toward the authority of the employer, than the existence of the unregulated Turnover. And as long as you let it remain unchecked, you'll find the inevitable by-products of your factories are idleness, discouragement, intemperance, and poverty.

"I don't need to ask if any one of you men has ever given a thought to what probably went on in the minds of those two thousand-odd workers you wasted last year; men who, for no legitimate reason, walked out of your factory gates for the last time on the say-so of Tom This, or Mike That. I tell you frankly that it's no wonder men come out of some of these plants ready to go in for any form of organization that will help them to get back at the system they realize no man is strong enough to break down alone.

"I could show you two hundred skilled workers, whom I've talked with—decent men, every one of them—who were thrown out without cause or warning from one plant last year. To-day they're doing more to breed class bitterness, and to foment labor disaffection in this locality, than all the I. W. W.'s the police are ever likely to round up.

"You'll never again convince any one of those two hundred men that there can be such a thing as a square deal between capital and labor. And this instance isn't exceptional. It's what goes on all over the country. It's the logical outcome of a rotten system. But it hits back not only at the industry that fosters it, but eventually at the whole social fabric."

Employment Managers' Association

One of the most hopeful signs of the change in the relations which may some day develop between capital and labor, has

been the formation, in a dozen states, of Employment Managers' Associations to discuss those errors in shop-organization that lie back of the unregulated Turnover.

The records of the companies represented (who during the past five years have proved their ability to conquer employment problems by a readjustment of values which placed equipment before men) speak for themselves upon their balance-sheets. Not only have they demonstrated the commonsense basis of wage, hour, and working conditions essential for keeping the Turnover within its normal limits, but they are doing pioneer work in establishing equilibrium in the seasonal trades and in developing that spirit of common fellowship which we are beginning to understand is vital to industrial efficiency.

How Some Companies Have Increased Profits

As a typical example may be quoted the experience of a member of a certain firm (handicapped by a seasonal output) who took over the administration of the employment office, and set himself to investigate the causes that lay back of a costly Turnover of 150 per cent.

As a result he raised the standards of equipment and of tools, and developed a scientific employment and service division, extending the functions of the employment office so as to include the training and hygienic supervision of new employees. *He forbade the discharge of employees except through the authorized channels of the employment and welfare division.* He raised the average weekly wage by thirty-seven per cent. and reduced the weekly working hours from fifty-four to forty-eight.

He made provision for special instruction of foreign employees; for periodic physical examination, with special care of teeth and eyes; for sanitary standards in workrooms, dressing-rooms, toilets, lavatories, lunch-rooms, and rest and recreation rooms. He organized a systematic follow-up system for absentees.

He reduced seasonal fluctuations in production by means of better methods of advertising, purchasing, and order-placing; and also by a uniform reduction of fifteen per cent. of the weekly working hours throughout the plant, during the weeks when trade conditions did not warrant a full-time schedule.

Nor did he rest there. *He substituted the transfer for the discharge of employees who fell below the standard.* He systematized advancement as a reward for efficiency; eliminated accidents; reduced tardiness to one-third of one per cent. of the working force, and he reduced the number of absentees to one and one-quarter per cent. (of which only one-half of one per cent. were without excuse).

He established a rate of pay for advance notice of quitting, adding a day's pay for each week of notice, not to exceed four weeks.

Finally, he assured daily contact with the employment and service division to at least one-fifth of the force, with the opportunity to all for complaint or suggestions.

That this was an experiment in good business, rather than social philanthropy, is proved by the fact that *he reduced the Turnover from* 150 *per cent. to* 33.5 *per cent.; and that owing to increased efficiency, manufacturing costs were reduced by* 10 per cent., and production was increased by 42 per cent.

PROBLEMS OF LABOR MAINTENANCE

THE HANDLING OF MEN[1]

In considering the subject of handling men, I take it that it should be discussed from the standpoint of that larger relationship which is the very foundation of industrial felicity.

No two of us may have the same idea as to the methods to be employed in handling men successfully. We may disagree as to means; but we believe we can all get together when it comes to matters of principle; and we are sure that all of us are seeking the same result—the greatest good for all concerned.

Before looking into the ways and means of successfully handling men, let us note for a moment what should be the attitude of the employer to his men.

In the first place (and it may sound platitudinous and academic to say it, but it is none the less true) it should be distinctly understood that there can be no successful policy of dealing with men where the spirit of confidence is lacking. Confidence is the foundation upon which harmonious relationship must be erected, and efficiency—the result we are all seeking—is nothing more than a by-product of harmony.

Every employer is in business to make money—so is every employee. Both are selfish—and both should be—for without that spirit of selfishness, which is the very basis of progress, the world would stand still. Assuming this statement to be true, the question is how can this confidence between employer and employee be secured? I have my opinion but it may not agree with yours. But that does not matter much. What I believe and what you believe are only incidents—mere opinions—unless we can back up our belief with something practical—something that has been tried and something that has worked —that has secured results.

Before taking up some of the methods of handling men

[1]By W. A. Grieves, Welfare Supervisor of the Jeffrey Manufacturing Co. Bulletin. Efficiency Society, Inc., N. Y. Vol. I, No. 4. April 30, 1915.

successfully, I want to discuss a certain phase of this industrial relationship in which every man here is vitally interested. If you are an employer employing an average of 2200 men and are shown that it is costing you on an average of about $88,000.00 more each year than it should cost you to maintain this force, you are at once interested. You will at least listen to some figures which you will agree are reasonably correct.

Knowing the methods we have adopted at our plant and through which we believe very favorable results have been secured, we were satisfied that these principles could be applied to other concerns.

Thinking that perhaps our experience was abnormal and would not be at all fair to take as one sufficiently accurate upon which to base reliable conclusions, we sent out letters to forty different concerns, covering a broad field of metal trade manufacturing throughout the middle western states. This letter gave a brief statement of our experience. How we had been able in five years, through the adoption of different methods to reduce the cost of maintaining our force on an average of $24,000.00 per year.

Fifty per cent. or twenty of these firms replied to our letter and gave us their experience for the past year. Others wrote us stating that while they would like very much to give us their experience, it had been so deplorably bad they felt diffident in putting it upon paper; but added that if we would visit them they would be glad to tell us the whole story. The replies of these twenty firms revealed the fact that to keep an average force of 44,000 men employed during the past year, they were compelled to employ a total of 69,000 men.

Now, gentlemen, let us analyze these figures for a few minutes and see what they reveal, for I believe if more care and thought were exerted to find out why men quit their jobs so frequently, this condition could be improved, and there would be more cash to our credit at the end of the year.

But there will always be a certain percentage of any force of men that will change. This percentage will be composed of those who will die, or about one per cent; those who are compelled to leave their employment on account of sickness and are discharged, will perhaps amount to five per cent; those who because of domestic troubles and conditions of climate will move and constitute another, say ten per cent; and lastly,

there will always be mistakes made in selecting the right man for the right place, and this may amount to say twenty-five per cent.

To maintain this average working force of 44,000 men in these twenty different plants, taking the above percentages there should only have been hired 27,600. Instead the figures show that 69,000 were hired, or a total of 41,400 more than can be accounted for.

To arrive at the financial loss of this evidently unjustifiable condition, I have grouped these employees into the following classes:

1. Highly skilled mechanics.
2. Semi-skilled mechanics.
3. Helpers and handy men.
4. Laborers.
5. Clerks.

To get more clearly before our minds the economic loss involved, let us distribute the cost as follows:

1. Expense incident to employing.
2. New employees, no matter how competent, require instruction from the foreman or department head.
3. Breakage of tools and machinery occasioned by new men.
4. Spoiled work.
5. Decreased production.

Taking these five divisions of distributions and analyzing them we can find what they represent in dollars.

Undoubtedly the clerical work in hiring is the least expensive. It includes the interview of the applicant at the employment office; the cost of sending men, in good times at least, into other fields to secure new men, and the cost of advertising. Added to this is the expense of clerical help in getting the man's references, if such are required, getting his record entered at the employment office and the time department. Then when he leaves the employ there is additional clerical expense in discharge papers, pay-offs, etc. I think this cost can very conservatively be placed at fifty cents per man.

Second, comes instruction expense. This may be said to depend largely upon the nature of the work and the skill and experience of the new employee.

Class four, the unskilled production laborer, will cost one or two dollars each, while experiments made in our own machine shops show that ten dollars is not too high to place upon the average skilled mechanic. If the skilled man's instruction expense is ten dollars, it is reasonable to suppose that the expense for semi-skilled men will be at least one and a half this amount. Class three, the helpers and handy men, will require at least five dollars worth of instruction; while training of new clerks will add a few more dollars. Let us place the average cost of instruction, to be conservative, at $20.00 per man.

To figure the cost of increased wear and tear and damage done to tools and machinery is difficult, but as nearly as we have been able to arrive at it, the figures have been about one dollar for the highly skilled mechanic and seven to ten dollars for the helpers and handy men. We will place this at $7.00.

The loss due to reduced production is undoubtedly the largest item of all. Our own experience has been that mechanics who have been in our employ for a period of six months or more will gain on an average of three to five hours time per day; while it takes the average new mechanic from one month to three months to be able to meet the time limits. At the average wage of 35 cents per hour the old men will gain say four hours per day. At 50 per cent of their day rate they will gain 70 cents per day over the man who can merely make the limits. Since the man who makes a gain of 70 cents per day has also saved the same amount for the company, you can readily figure that in one month of 24 working days, from this source alone the company is losing $16.80; and if we put the average time lost at two months, the loss will total up to $33.60 per man for decreased production, in classes one and two.

Like the cost of wear and breakage of tools and machinery, the expense incident to spoiled work is hard to get at; but from experience secured from other concerns as well as our own we believe we are conservative when we place this loss at fifteen dollars for skilled and semi-skilled mechanics and five dollars for handy men and helpers.

These losses total up to $81.10 per man. But to be conservative we will reduce this amount to $40.00 per man average. This will represent to each one of these twenty firms, averaging their employees at 2200 men each, a total of $88,000

more each year than it should cost them. Or, $1,760,000.00 for the combined concerns. And we have not counted the increased overhead.

You may say that much of this hiring and shifting of men has been due to business conditions, and that because a plant will be busy one month and slack the next and running full force the third, this great changing is the result. This is not the case, however. We took particular care to address our letter to such firms whose business is steady the year round, and with the exception of two plants they had been running steady during the time covered by these figures.

I bring this rather lengthy but important list of figures before you for the purpose of showing the need of something being done that will create more stability in the ranks of those who work in our industrial institutions.

Heretofore the relationship between employer and employed has been founded upon somebody's guess or opinion, and in most cases they have been wrong, for no one man's experience is sufficiently broad and varied to permit him to lay down rules for all the rest of us. There must be a body—a mass—of experience and opinions, which may collectively become the basis of what shall be the rules that are to govern us. And these rules, whatever they are to be, must chiefly take into consideration the element of human nature.

But, you answer, "There must be some solution; some road must be open through which employer and employee may walk together in better understanding of each other's interests," and you have a right to believe this is true. The great question is how shall it be done? I don't know. You may not have a solution either. But one thing we can easily learn, and that is that it can only be brought about through a higher intelligence —a better understanding of the motives of both.

The figures which we have given you must command your consideration and investigation. Your good sense will not permit you, if you employ two thousand men, to ignore the leak of $88,000.00 per year through a source which may be prevented. If some one points out to you that through some change of plan in your purchasing department, you can save $10,000.00 per year, you will at once adopt the plan. If you are convinced that by the adoption of different tactics in your sales organization your business can be increased another ten,

twenty, or fifty thousand dollars per year, you will at once get busy and make a change.

If some one calls your attention to the fact that through uneducated and untactful salesmen you are losing business to the amount of another twenty or thirty thousand dollars a year, you will make haste to educate the salesman.

The fact that in twenty different firms during the past year there were hired nearly 42,000 more men than should have been hired, says there is something wrong. It would indicate that our systems of hiring, or dealing with men after they are hired, are deplorably lacking.

But what you are specifically interested in after these facts have been brought to your attention, is, what is the remedy? As I said before, I don't know that I have any. I do know, however, and so do you, that there are some underlying principles which may be laid hold of and from which may be developed a partial solution at least.

Industry today is composed of two major distinctions—one is production, the other is selling. Labor, skilled and unskilled, is employed in production. Skilled and perhaps less skilled have been engaged in selling.

But what has been your attitude toward the inefficient salesman? In some cases you have discharged him. But you discovered that when you discharged a man for not measuring up to the standard, generally speaking, you were not better off. You found out that in replacing him you took just the same chances of getting as inefficient a one in his place. So you reasoned that the best solution to your difficulty was to educate the salesman.

Why not use exactly the same means, and perhaps in the same way, to the same end in the manufacturing departments of your organization? I feel safe in saying that there is not a manufacturer here tonight, who has a business of any considerable dimension who does not maintain some kind of an advertising department. Your advertising, as applied to your selling department, has become more or less of a science. If you bring out a new article for the market—an article which you believe has a place in the economic order of things—what is your first step? To get it before the people, of course. But people are not always ready to grasp what you have created—

the trade does not see the benefit of your device, and what is your plan of attack? Publicity without a doubt.

You engage experts—men skilled in the science of publicity—to get out letters, catalogues, booklets, etc., buy space in the newspapers and trade journals and by every means at your command you would get at the man behind the order with the reason why, the merit, the economy of what you have for sale.

Your efforts at first may not succeed, but you are not discouraged. You believe in your product—you are convinced that it will make good if it can be given a trial.

You believe still that publicity has merit—it is only some of the details of the plan that have been overlooked, and you are again hammering away at the indifferent public. If this plan of attack fails, you immediately take up another, and another until the walls of indifference and prejudice are battered down and you find your product doing all that you have claimed it would do.

From our point of view, we cannot see any reason why these same tactics of education cannot be applied to problems of manufacturing. But, before we advertise or educate, we should be pretty sure that it is the right way, the honest way—the intention, the spirit of honesty must be there even if it has unintentional defects, and as fast as these defects are discovered they must be made right, just as in the case when we put on the market a new product that we believe will fill an economic need.

These are days of honest dealings. Men who expect to remain in business know that misrepresentations re-act, that chickens come home to roost. And men in business today do not recognize this necessarily for any particular moral reason, but for the scientific reason that it is good business.

This same principle, therefore, must prevail in handling or dealing with men. In our selling we have learned that a policy of getting all we can, and giving as little as possible in return, does not pay. The way to get more, is to give more, and the way to ultimately get nothing is to give nothing.

The mutually profitable business therefore, is the only one that will exist, and the mutually profitable plan of dealing with men is the only one that will endure.

As we have already noted, the first plan of attack is through the medium of education. The better educated a man is the

more ground there is for believing that he can be reasoned with. It is the uneducated who are hard to bring into a status of desirable relationship.

If the men in your employ do not understand you—will not understand you—put it down to lack of high ideals. The absence of high ideals is the result of ignorance, and ignorance is nothing more than the lack of education, and the very best method—in fact the only method—of getting higher educational ideals is through the medium of publicity.

An example of this lack of knowledge on the part of the workmen was brought to my notice the other day while in conversation with one of our best paid and highly skilled mechanics. We had been discussing the business outlook, and had occasion to refer to the price we received for a certain product. He remarked that the company must make an enormous profit on this article, stating the amount. We asked him how he figured the company made such a profit. Well, he said, the stock in that machine, I have figured, only cost blank dollars; I have counted the hours it takes to mould, machine and assemble the parts, and I find they make blank profit. This amount he claimed was too much. Of course it had not occurred to him that the factors of material and labor cost were only two of the elements entering into the ultimate cost. The factors of immense overhead burden, such as sales expense, supervision, up-keep, insurance, interest on investment, advertising, etc., he was entirely ignorant of, and yet he could be and in fact is classed as one of our intelligent workmen.

Is it any wonder that such men as these fall easy victims to the sordid and misleading arguments of the selfish and unprincipled labor agitator?

The trouble is, gentlemen, we are to blame. We have sat back and allowed ourselves to be advertised by those who do not know—allowed ourselves to be shown wrong side up as it were.

Do our men know that if we have made money this year that the chances are it will go into new machinery and equipments next year? Do they know that through some change in the manufacture and design that this new machinery you purchased this year will be good for nothing but the scrap heap next year? Do they know that during certain periods of de-

pressed business you are compelled to take work at a price far below what you should simply to give them work and hold your organization together? Do your men know that while you are eager to pay higher wages, to provide better equipment and to have more ideal working conditions, you are restrained because of the fact of competition? You may be willing to pay five dollars per day to your mechanics, but you find yourself bidding against others who pay $3.00 per day. Do your employees know this?

Different concerns have adopted different methods of education. Some have been successful, many have failed. As you are well aware, some employers have entered upon elaborate schemes for the betterment of working conditions and the welfare of their men, only to find that their efforts were not appreciated but even ignored and misinterpreted. Where these results have obtained, I believe you will find, upon investigation, that there was something lacking in the fundamental plan.

When George M. Pullman built the model town which even today bears his name, the paternalistic enterprise that he established was regarded by many as a possible solution of the so-called labor problem. But Pullman, Illinois, is known throughout the world today not as a model industrial city free from the spirit of strife, but as the seat of one of the bloodiest battles in the history of labor in this country.

The social welfare plans inaugurated by Mr. Pullman have since been adopted by other employers, with many modifications, and sometimes upon an almost equally elaborate scale, but never yet have these plans fulfilled the hope of their promoters. In many instances they have been keenly disappointed, because it was believed that the workers did not appreciate the features which had been furnished at such great expense.

We have tried to profit by the unfortunate experience of these concerns whose policies have been retroactive.

We have avoided as far as we could all evidence or suggestions that we might have paternalistic motives. Our work has been from the men to the company and not from the company to the men. And this is an important factor. The average man is at once more or less suspicious of any attempt to hand him something for which he was not looking. He assumes the attitude of one who has to be shown—shown that

you are dead in earnest—and this requires time and patient effort on the part of the employer.

Perhaps many of us are familiar with the early experiences of those employers who introduced new methods of payment in their factories, such as the premium and gain sharing plans. We know how they were misunderstood. Some of us made the mistake of pushing the plans too hard—forcing it upon the men before they understood its real purpose. Others of us were wiser and adopted the plan of getting hold of those men in our employ who were most intelligent and so instructing them that their influence and proper understanding made it easy to reach the more cautious and prejudiced.

And, this, in our mind, is one of the most important factors to keep before us in handling men. If anything new is to be introduced, get hold of the leaders—those fellows whose intelligence is most developed. Having gained their favor, the less thoughtful will fall in line.

In our own organization we have paid particular attention to the selection of foremen, for as the foreman is, so will be his men. You cannot have an unintelligent head of a department and expect the men in that department to be up to the standard. Like begets like. We create as we think. If we think disorderly thoughts we have disorderly people and things around us. If you have a mean foreman, the chances are that he has a good percentage of mean men under him. Big, broadminded workmen will not be content to work for a department head whom they cannot respect. And of course this same argument applies to the real boss himself, his general manager and his superintendent. Men unconsciously gather about them men of their own view point and disposition.

The policy of most concerns in the past has been that of hiring and firing. It never occurred to them to educate.

There is a certain organization in this country, employing thousands of men, and its policy is never to discharge an employee except as a last resort. If the employee does not measure up to the requirements of the position he is holding, he is reduced to a less responsible one. If he still fails to meet the standard, he is again reduced; the argument being that it has already cost the firm money to carry this man as long as they have, and if there is any job in the organization that he can fill, he should be given it. All of this of course on the basis of

good business. If they discharge him and hire another, what guarantee have they that the same experience will not be repeated?

The figures on employment quoted you in the early part of this discussion show us that a policy of this kind is tremendously unprofitable. If a department head or foreman cannot get along with his help, put it down there is something wrong with him. A foreman should not be selected for his knowledge of the work alone. In fact a thorough knowledge of the details of any work may not be a necessity to a successful handling of that work. It is the man who can grasp the broad aspects of the subject and so co-ordinate his work and organize his department who gets the results that really count.

A very concrete example of this was recently brought to my notice in one of our departments. We had a man in charge of a department where about fifty or sixty men were employed. He understood the details of the work better than any other man in the organization, but he couldn't handle men. We placed another man in charge—a man much younger and with practically no knowledge of the details of the work—but a man who possessed tact, organization ability, and the willingness to co-operate with the men who did know the details, and the results he has obtained have been remarkable.

Perhaps one of the greatest factors overlooked in the handling of men is that of confidence in their ability to do. While there is danger in over-rating men, there is also danger in under-rating their ability. Men develop in proportion to the degree of responsibilities placed upon them.

And this brings us to the question of selecting employees. Some establishments claim that this is the function of the employment office exclusively. With this opinion we cannot concur. While too great care cannot be exercised in selecting men, no person, matters not his experience, can tell the qualifications of a prospective applicant by external appearance. We know there are people who claim to be able to do this—those who assert they can tell by the slant of an eye, the size of the ears, the depth of the forehead, or the shape of the nose, whether a man is suited to a particular job or not; but our ten years experience in hiring men will not permit us to believe that it can be done.

No system of studies in physiological psychology can re-

veal the real qualities and abilities of men; for as the proof of the pudding is in the eating, so is the test of a man's ability to do, in the doing. And the man in the employment office is not in the best position to find this out. It is a question for the foreman under whom the man has been assigned to work. If the foreman is not capable of discerning this, he is just that much inefficient. It is one of the principal functions of a foreman to develop his men—and the ability of the department head who lacks this quality may be seriously questioned.

In the hiring of men there should be a well defined policy adopted. This policy should be known to the heads of departments and thoroughly understood by the management and the employment officials. This policy should require certain standards to be maintained in the employment office, and that no men be sent to a department that do not fill these requirements. This being duly recognized, the rest should lie with the foreman. Inasmuch as the foreman is expected to get results from the men who work under his supervision, he should be given at least reasonable choice in the selection of his men.

Every employer is anxious to have men about him who can grow—men who are not content with staying at the same job longer than he can, with profit to the employer, be advanced to something higher. This can only be secured through education of the man. There should be a constant movement toward the top where ability is proportionately in greater demand. There is much in increasing mental efficiency as well as increasing the ability to turn out much of a certain product in a certain time.

The trouble has been we have not been teaching our men to think, and therefore we have no way of knowing to what extent a man is capable of thinking. We only know that he is performing work which requires a minimum of mentality, but we don't know what his real value might be if given the proper instruction.

Those of us who have sought to develop the latent powers of workmen know that results of a remarkable standard have been secured. One of the greatest hindrances, as we have already noted, has been in the working from the employer to the employee instead of from the employee to the employer.

But are we to conclude that because many attempts at bettering conditions have failed that the employer and employee

cannot get together on a basis of mutuality? We believe they can get together, that it is only a question of method, and we can, if we try, find means through which we can prove to each other that we are in dead earnest.

Now, in addition to raising the ideal of men through the means of publicity, there is still another very important method or plan through which we may be convinced of each other's sincerity. I refer to the plan of encouraging employees to help work out their own problems, or in other words, to have them largely instrumental in developing the conditions under which they work. And if you will permit me to refer to some of the things we have developed in our own plant, I can better illustrate the point I wish to make.

We have gone on the theory that no permanent system of welfare work can be established that does not partake of the principle of mutuality. In other words the men whom the work is intended to benefit must have a part in its creation. If conditions are such as will permit of its being largely the work of their own doing, so much the better.

But there must be a beginning and this should be done by the employer selecting someone to work with the men—someone who by nature and training is fitted to lead men and help them help themselves. This has been our plan of operation. Whether it has been worth while must be determined by results, and these are what you are possibly interested in. Not that we have done so very much; but we do believe we have a splendid start in a number of lines of welfare work that make for the benefit of our men and ourselves. And that these have been tremendous factors in holding our men and reducing the number hired there is no doubt.

An example of how men will shoulder responsibility when it has been put up to them, is well illustrated in the management of our Mutual Aid Association. This Association was organized over twenty years ago; but for the first fifteen years it was not a success. It was largely officered by Company officials and the men did not seem to be interested. Most every year there was more or less of a deficit and the Company was called upon every little while to help meet this to the amount of a thousand dollars or more per year. Even the promise to pay half the dues did not seem to be much incentive for the men to join.

A plan of reorganization was suggested in which was included the provision that the whole responsibility for the success or failure was up to the men themselves. They could make it a go or allow it to fail. The Company has done all they thought wise to do. A meeting was called of all the men and the proposition presented. Committees were appointed to revise the constitution and by-laws to meet the new conditions, and the new management was elected. The men at once realized the responsibility. They went to it, and at the end of the first year they had increased the membership over three hundred per cent, had over two thousand dollars in the treasury, and had two less assessments than they ever had in any one year previous. This was six years ago and the record has been maintained each year since.

The next feature of our work started and worked out successfully by our employees was our restaurant. Many of our men about five years ago believed that we ought to have a restaurant. A meeting was held and committees appointed. The result was a small inexpensive lunch counter in one of our shops. It was well patronized and in a few months was moved to larger quarters. We have now moved three different times to larger quarters and have a thoroughly equipped restaurant where we serve on an average of six hundred daily, and we are planning to double this capacity in the very near future.

While we sell everything at three cents with the exception of meat, which is four cents, we have been able to save sufficient to pay for our equipment, valued at $8,000.00, the money for which was advanced, without interest by the Company. The food is the very highest in quality and wholesomeness, and for fifteen to twenty cents a splendid lunch, yes even a good-sized meal, can be secured. So popular has this restaurant become, we could have tripled the number of employees using it if they could be accommodated.

But we believe in a conservative and substantial growth—one that pays its way and only increases as its financial status will permit.

Believing there were possibilities in co-operative buying, we started to sell such articles as sugar, coffee, flour, tobacco, etc., in a small way in our restaurant. This was about three years ago. During this period the plan has grown into a good-

sized co-operative store in which we are doing ten to twelve thousand dollars of business each month. We handle all kinds of groceries, meats, boots, shoes, rough clothing, etc. We have handled this year through the store about thirty-five car loads of coal, twenty car loads of potatoes and five car loads of apples, all at a large saving in money to employees. We have our own coal wagons, auto delivery trucks and wagons. Two years ago we started our own bakery in a small way, but now have an oven capacity of three thousand loaves of bread per day with a thorough pastry and bread mixing equipment. Everything used in our restaurant is baked in our bakery. We have a lard rendering plant in which we make all our own lard which is absolutely pure and free from so many of the undesirable elements entering into the average slaughter house lard. This lard is sold at from five to six cents per pound less than it can be secured at other stores.

We have our own ice cream factory and during the summer months sell a large size dish of ice cream—made of cream from our own dairy farm—for three cents per dish. The bread baked in our bakery is sold for four cents for a loaf two ounces larger than the usual size. This bread is made of absolutely pure materials and contains no dope of any kind. And I almost forgot to add that we have established our own dairy farm, from which we have fresh morning milk for lunch each day.

Another feature of our stores that saves money is our shoe department. $3.50 and $4.50 shoes are sold for $2.50 and 3.00.

Employees will save each month all the way from 3.00 to $12.00 per month per family on the goods purchased, depending on the size of the family.

Acting on the theory that a community is the most prosperous whose working people have the most and best home life, and that the most and best home life conduces to the highest wages, the best education and training and the greatest prosperity of a community, three years ago our employees organized a building and loan association. During this period a total business of over two hundred thousand dollars has been done; we have assets of over one hundred thousand dollars and seventy-three employees have bought and built homes with the money. We have paid a dividend of five per cent each year, have loaned the money for five and one-half per cent, and have

over seven hundred stocks and savings accounts with employees.

All this work is fostered and encouraged by the Company, but the management and organization is carried on entirely by committees of shop men. The Company have advanced us the money to get started, but we have paid almost all of it back.

I do not refer to these things for the purpose of drawing attention to anything particularly we have done ourselves, but rather to illustrate the profitableness of encouraging and helping men help themselves. In other words to have our men believe in themselves and in their ability to do things other than the mere routine of the daily work for which they are paid in money.

It is to be regretted that in handling men the chief element has been overlooked—the element of human nature. Men refuse, and they have a right, to be regarded either as objects of charity or as parts of a great producing machine. Important as are different systems of present day production, and with all consideration for their industrial value and necessity, all must be built upon well defined principles—or in other words—the science of human relationships; and any system that disregards this, must fail.

The great trouble with employer and employee in the past has been that both have been guilty of doing most everything to keep from getting together. We spend hundreds of thousands of dollars in fighting each other, but we seem to have little to spend to find out why we cannot understand each other better.

We may appoint commissions without number to study why these conditions exist, and their investigations may be good; but the real solution will be brought about by the individual employer and employee themselves.

It will be brought about only when there is an honest desire to be absolutely fair. When both have realized that their individual success is as much the result of right mental attitude as it is of any system of economic production, a start will have been made toward the goal of mutuality.

And the means of securing this proper mental attitude are simple, direct, inexpensive and right within every organization where men work together. The best workmen go to the

places where best working conditions prevail, and therefore, it is important that these places where men work are clean and wholesome. The average workman is mightily appreciative of consideration in his behalf. He may not show it at the time, but it is in his heart just the same.

Humanity does not differ to any great extent on the average. Men do not want to be paternalized; but they are responsible to kindly consideration. They may not manifest much enthusiasm at the mention of the company for whom they work; but if the leading personality of that company has shown itself to be human—to be interested in the troubles, joys and incidents that go to make up the life of the men who constitute the basis of its existence, there is a response that is really manifest.

An encouraging word from the real boss may mean more —in fact does mean more to some men—than a raise in wages. Highest pay and perfect physical conditions are not necessarily a guarantee against discontent.

Anything that is for the welfare of the employee must be conceived and understood as such. Its purpose must not be disguised, for men do not care to be advertised under the head of improved conditions. The home life of the employee should not be interfered with in any scheme of general betterment unless it is done with the greatest care and only after it has been shown that such action is the only remedy and there has been a desire expressed by the employees to have it done.

There is no reason why any business concern cannot put the question of handling men and their welfare on a business basis and frankly state the business reason for such undertaking.

This is a point we have emphasized in all our welfare plans. In fact, our employees distinctly understand that anything the company fosters for their benefit, is based upon the belief that it will bring returns in dollars to both.

Our employees have learned that capital and labor are independent—that both must prosper on the same basis. They are learning that demagogues and agitators do not fill pay envelopes, and never will. They are learning that co-operation and not disintegration is the evident need. Men with red blood in their veins only want an opportunity to help themselves, and

any system that overlooks this fact, must pay the price of over-sight.

There are many details that enter into the handling of men successfully, a number of which we would like to mention, but our time will not permit. It is the general underlying principles which we must get hold of and the details will adjust themselves. If some of the things I have said will make us think a little more, even though we may not agree with the plans suggested, our getting together will not have been wholly a loss.

LABOR TURNOVER[1]

In discussing the question of labor turnover I find there are two methods that are almost invariably adopted—one is the purely practical, the other the terribly theoretical. I am going to adopt the first because I believe it is the one method of treatment at the present time. There really should be nothing to prevent a discussion of the problem from a combination of these two viewpoints, but apparently there is.

Labor turnover today is in exactly the same position where the discussion of efficiency was 15 years ago. We all realize the tremendous harm that has been done real efficiency because of its being absolutely misunderstood by the average man. That misunderstanding may have been produced in the beginning by those who being interested in discussing efficiency did not emphasize the fact that it is simply codified common sense. I trust that turnover will never have the many trimmings tacked to it which has resulted in so many cases of applied efficiency being simply form instead of substance.

The attitude of the average executive toward turnover reminds me of the attitude of the average Mexican toward smallpox. The Mexican believes that unless you have had smallpox you are considered to have missed one of the experiences of life, and it is presumed there is something radically wrong with you. I hope in the next ten or fifteen years that executives as a class will appreciate that a turnover of from 50 to 200 per cent. is not any more necessary than having smallpox.

[1] From article by Philip Brasher, Employment Manager of the Braden Copper Co. American Machinist. 48:693-6. April 25, 1918.

Defining Labor Turnover

The definition of labor turnover as adopted by one association is: "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 cannot be given these conditions without knowledge of the 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 percentage of exits, but it is of more value to know the causes of those exits; therefore a detailed analysis of reason underlying termination of employment becomes valuable."

This definition should make it clear that those who are discussing this subject have at least arrived at a common ground and know the problem which they have to face.

A large number of attempts have been made to estimate the cost of turnover. Mr. Loree of the Delaware & Hudson R.R. figured that every time a railroad changes one of its chief executives it costs them $1,000,000. On the other hand Magnus Alexander has estimated that it costs about $8.50 to replace an unskilled laborer and about $73 to replace a skilled worker. I notice recent estimates that shipyards figure that it costs them today about $40 to replace an ordinary workman.

In 1906 and 1907 I was chief engineer of a company doing work that required a great deal of Italian labor—simply plain shovel men. Roughly we were employing about 1000 of them, and a conservative estimate of the labor turnover in that case would have been about 1200 per cent. However, it did not particularly bother me at that time. Nevertheless, in that particular case Mr Magnus' estimate of $8.50 would have been very high.

Times change. At present practically every man I hire represents an average investment of about $2500 in cash with-

out estimating other losses; labor turnover is very real to me now. Therefore the cost of turnover is one of those intangible things impossible to prove definitely one way or the other. All we can do is to use our common sense and imagination—attempt to visualize the consequences involved in the change of a big man in an organization. The change of a small man can be figured in dollars and cents, but changing a big man costs money, time and loss of product.

I may be wrong, but I firmly believe that a large percentage of concerns that employ more than 100 men would average about 200 per cent. a year turnover if they kept records. There is a munition plant somewhere in this country not over 3000 miles from New York employing about 3700 men, whose turnover has been running about 6700, or almost 200 per cent. a month. This has practically been cut in half recently by introducing a large number of girls on cutting machines, providing them with Victrolas for dancing, a jazz band three times a week, a restaurant supplying good food, and many other features. Instead of a foreman indiscriminately firing a worker, as was done formerly, no man can now be discharged before being sent to the employment bureau and given a choice of work in some other department unless he has been convicted of a very serious offense, in which case the employment bureau then discharges him outright.

How To Reduce Labor Turnover

I believe that labor turnover can be reduced to the irreducible minimum—say anywhere between 3 per cent. and 25 per cent. a year by

1. **Hiring the best employment manager that can be had.**
2. **Doing exactly what he wants when he wants it If he is not the biggest and best man you can get do not hire him. If he has not your entire confidence after six months fire him; for rightly or wrongly he will never be able to accomplish what he ought to for you without it.**

If he is on to his job his first effort will be to keep the good men he already has by considering

a. **Wages, bonuses, pensions, delayed premiums and all other methods of compensation.**
b. **Eliminating indiscriminate firing by the foreman.**
c. **Hours of labor.**
d. **Working conditions, safety, health and comfort.**
e. **Proper food at the proper time (poor food in my opinion is at the bottom of more labor trouble than almost any other one cause).**
f. **Living conditions, housing, transportation, amusements, etc.**
g. **Education, both in and out of the plant.**
h. **Other things involved too numerous to specify.**

He will consider these not necessarily to change any one of them, but to see that everything is being done that can be done in fairness to the company and to his employees. All that either of them wants in most cases is a "square deal," but they both do not always know it.

He will try to get more good men by

a. Proper selective methods.
b. Judicious advertising (I mean real press-agent stuff, not merely "men-wanted" column ads.) favorable notice in trade papers of the conditions cited, and running an organization sheet weekly or monthly (if it is well done) are very effective, but the most effective of all is the man-to-man talks by satisfied employees with their friends outside. The secret is in making good men want to get into your organization not onto your pay roll.
c. Getting the proper records, references and available history of all applicants.

The Human Relation

As I said before, the human relation is a potential cause of labor turnover, and the best thing to overcome deficiencies in this respect is to analyze the causes by departments and so find out where the worst conditions exist. One of the most expensive and far-reaching causes is the ineffective and improper method of selection and employment. In the last few years, which have been strenuous ones from the labor-turnover standpoint, the organizations which have come through in the best shape have been those that have had one man in charge of employment work. This man should be the biggest, best educated, most broadminded and most courteous one you can afford to employ. If you cannot afford such a man for your own business a cooperative agreement with neighboring firms can be made to work very satisfactorily. The right man in the right place here will count for more than any other one position in your organization. If he knows his work he will consent to be responsible only to one of the highest officers in your company and he will insist upon the right to consider the conditions I have outlined above and get action upon his decisions within a reasonable time.

In selecting men honesty, industry, intelligence and health are fundamental, yet consideration of them is often neglected. Health is, of course, something that a man should have when he starts the job, and care should be taken to see that it is conserved. Intelligence, like dynamite, should be carefully handled. Never use a razor where a knife will do. I know

of a man who for 37 years has pasted little pieces of paper on little pieces of felt. I maintain you could not find a better man for that particular job, for he has just the right combination of health, industry and intelligence. More attention should be paid to dishonesty than is done at present. Like so many other causes of labor turnover, it seems to be considered a necessary evil. I stopped a man coming out of a shipyard once because of the peculiar manner in which he walked, and I found 80-odd pounds of copper sheeting wound about him under his clothes. Another employe used to bring his umbrella rain or shine. One day it rained and he thoughtlessly opened it as he went out of the gate, and a rifle barrel came clanging down in the street—he did not come back. Rifles are carried out a few parts at a time and assembled and sold outside. A dishonorable employe will spread distrust throughout a whole organization.

The next question is that of wages. I believe it is economical to hire and hold the highest priced man you can afford. I know of a town lying between two other industrial towns and I know that mechanics frequently after leaving A will not even get off the train at B, but will pay the carfare in the longer journey to C. Reason is B has the reputation for paying low wages, so the best mechanics avoid it and go where they can get what they consider their due. In other words, water runs downhill and the best men will naturally gravitate toward the organization, town or city having the most satisfactory general conditions.

Mental Conditions Must Be Considered

When you speak of conditions you must consider the mental as well as the physical; the personal and pleasant talk between superior and subordinate; the absence of nagging; the presence of occasional encouragement and feeling of man toward man rather than company loyalty. It has been my experience that men want something personal to be loyal to. The foreman typifies the company to the average workman, and the president is the company to the average executive.

As a distinguished speaker at an employment managers' conference not so long ago said: "No matter how fine the company's policy; no matter how good the company's inten-

tions, look to your foreman, for he is your representative in the eyes of the men. Men worked and fought for Jim Hill, not the Northern Pacific Railroad Co, and for Charlie Schwab not the Bethlehem Steel Co.

Another great cause of turnover is the power of indiscriminate discharge by the foreman. This is practically suicidal in almost every case. Once in a while we find a foreman big enough to exercise this power with proper discretion, but usually they are few and far between and it does not pay to rely upon it.

Good Food A Big Factor

It has been my experience that one of the biggest factors in keeping employees satisfied in army camps, lumber camps, mining camps and regular industrial plants is in keeping the employees well fed at a reasonable rate. There is no way in which an industrial organization can spend money to greater advantage than to spend it on the employees' table. Even if it amounts to a financial loss, even if the operation of the proper eating facilities requires a certain outlay beyond the receipts it will be repaid hundreds, possibly thousands, of times in the amount of money saved by retaining contented, well-fed and happy employees. I have in mind a large mail-order business in Buffalo, which feeds all its employees in its own building, and I know of no concern that operates on a more efficient basis and that has a better looking or more healthy lot of employees, and judging from their talk, a more satisfied one.

One of the biggest corporations in the world furnishes daily its executives with a luncheon served in a most democratic manner, but the food is as good as can be obtained at any restaurant in New York.

THE PROBLEM OF LABOR TURNOVER[1]

The typical handicraftsman of the Middle Ages pursued the same trade all his life, with the exception of the wanderjahr, in the same town. The Industrial Revolution has increased the mobility of labor in at least four different ways: (1) In the movement between countries. Individual migration as opposed

[1] By Paul H. Douglas. American Economic Review. 7:306-16. June, 1918.

to group migration has been the characteristic since the Industrial Revolution. The growth of America, Canada, and Australia during the nineteenth century was made possible largely by the development of steam power. (2) In the movement between different sections of the same country. The American of today does not stay predominantly in the place of his birth. He moves about from place to place. The Russell Sage Foundation found that of 22,000 men investigated in 79 cities, only 16 per cent had been born in the city in which they were then living. Of native-born Americans, only one quarter were living in the city of their birth. (3) In the rapid change of residence in any given locality. The modern worker, while in a town, rarely lives long in any one apartment or house. He moves almost unceasingly. (4) In the frequent changing of positions. The workman may leave one plant to enter either another plant in the same industry or one in a totally different industry. Recent studies have shown how transitory the modern wage relation is and how temporary is the occupancy of any particular position.

It is the purpose of this article to consider solely this rapid flux from position to position, and to examine its nature, extent, its cost, and its causes and remedies.

What is "Labor Turnover"?

The term "labor turnover" has been given to this rapid change from position to position. The size of the labor turnover depends upon the proportion that the total number of employees hired during a year bears to the size of the labor force that must be maintained. To illustrate: a plant which employs 1,000 men at the beginning and end of a given year hires during that year another thousand. That means that as many men have been newly hired as were employed at the beginning of the year and that 2,000 men have been employed during the year to fill 1,000 jobs. This is an excess of 1,000 men over what would have been needed had the original force stayed through the year, and is reckoned as a 100 per cent labor turnover. Had only 500 new men been hired during the year, the turnover would have been 50 per cent; had 2,000 men been hired it would have been 200 per cent.

In computing the labor turnover, however, allowance must

be made for the growth or decay of an industry during the year. Suppose that the given plant, which employed 1,000 men at the beginning of the year, had increased its labor force to 1,200 by the end of the year; then 200 of the 1,000 men newly hired would not represent replacements but net additions to the working force, and 800 would constitute the actual replacements. The labor turnover in this case can be reckoned on either of two bases: (1) the number of workers employed at the end of the year, which was 1,200; (2) the average number employed during the year, which would have been 1,100 if the additions had been evenly distributed throughout the year. The labor turnover, by the first method, would be 67 per cent; by the second, it would be 73 per cent. Had only 500 men been newly employed during the year, the turnover would have been one of 25 per cent or 27 per cent; had 2,000 men been engaged, it would have been 166 per cent or 182 per cent. Had the total working force declined to 800 by the end of the year, the labor turnover would have been respectively 125 per cent or 111 per cent; 63 per cent or 56 per cent; 250 per cent or 222 per cent. Because of the confusion in computing the turnover in percentages, perhaps a better way to measure it is to state the average length of a job. If three months, it would be the equivalent of a 400 per cent turnover. Few investigations have measured the turnover in this latter way, however.

It is quite clear that some labor turnover is inevitable. Men who die or fall sick or are injured must be replaced. Since the men and women in industry are predominantly in those age groups where mortality is lowest, it is extremely probable that the death rate does not greatly exceed 10 per 1,000, or 1 per cent. Sydenstricker and Warren estimate that the American wage-earner loses on an average about nine days a year because of sickness alone. On a basis of 300 working days during the year, this would be an average loss of 3 per cent of the working time. But a corresponding 3 per cent labor turnover does not necessarily follow, because illness that is only of short duration does not occasion replacement. Industrial accidents furnish another small source of the labor turnover. Non-fatal accidents may necessitate a replacement of from 1 per cent to 2 per cent. However, taken all together, these causes would not be responsible for a turnover of more than 5 or 6 per cent.

The Amount of the Labor Turnover

No complete survey of the amount of labor turnover in plants throughout the country is as yet forthcoming. The Bureau of Labor Statistics has been investigating this problem for over two years, but the results of their research have not yet been made public. Several studies of typical plants in different sections of the country, however, afford a birdseye view of the actual situation.

Mr. W. A. Grieves, of the Jeffery Manufacturing Company, in December, 1914, made the first detailed analysis of the extent of the labor turnover. Mr. Grieves obtained the employment figures of 20 metal plants in the Middle West and found that to maintain an average of 44,000 hands during the year, they were compelled to hire a total of 69,000. The labor turnover for these plants was consequently 157 per cent for the year.

Mr. Magnus Alexander, of the General Electric Company, published a study on this subject in 1915. After an investigation of the employment records for 1912 of twelve metal manufacturing plants in six states, he found that this group, which employed 37,274 workmen at the beginning and 43,971 at the end of the year, had hired during that year 42,571 new employees. Deducting the net increase of 6,697 in the working force, there were 35,874 replacements during that year. Using the number employed at the end of the year as a base, this would be a labor turnover of 82 per cent. Supposing that the increase had been evenly distributed throughout the year and using 40,623 as a base, the turnover for these plants would be 88 per cent.

Mr. Boyd Fisher, after analyzing the employment figures for the last year in 57 Detroit plants, found that the average turnover for the group was 252 per cent. The Ford Company from October, 1912, to October, 1913, hired 54,000 men to maintain an average working force of 13,000. This was a labor turnover of 416 per cent for the year. The figures from other plants are almost equally striking. A large Philadelphia concern had a labor turnover of 100 per cent in 1911. The turnover of the Plimpton Press was 186 per cent. in 1912. The Pacific Telephone and Telegraph Company, of Portland, Oregon, hired 202 new girls in three months to maintain an average force of 700. If this is typical of the year, the turnover was 115 per cent. Mr.

Gregg has stated that the turnover of the carding department of a certain cotton mill was over 500 per cent for one year. Representatives of the Goodrich Tire Company have declared that their turnover in former years was nearly 200 per cent and that for the last year it has been even higher!

The turnover for juvenile labor is especially high. The Board of Education of Rochester, New York, found that boys between the ages of fourteen and sixteen changed their jobs on the average every seventeen weeks. This is a turnover for juvenile labor of over 300 per cent. The employment records of Swift and Company of Chicago show that the average term of employment for a boy in their service was only three and a half months. This means that nearly three boys and a half are employed every year for each position or, to be accurate, that there is a labor turnover of 342 per cent. Figures from Indianapolis, Indiana, show that of 6,710 jobs held by children leaving school, 7 per cent were for less than two weeks; 15 per cent for less than a month; 30 per. cent less than two months; and 48 per cent, or practically one half, for less than three months.

The figures for manufacturing indicate, therefore, that the turnover for this branch of industry is extremely high. Mr. Ernest M. Hopkins, who has had a great deal of experience as an employment manager for several large industrial concerns, has said that a conservative estimate for many industries would be 100 per cent. Mr. Ethelbert Stewart, who was in charge of the field work for the Bureau of Labor Statistics, has stated that some firms have as high a turnover as 400 per cent.

The turnover in many branches of agricultural and construction work is even greater. Professor Carleton Parker, in a most interesting study of casual labor on the Pacific coast, cites a dried fruit farm in California that had a monthly turnover of 176 per cent; a construction job in the Sierras, with a normal force of 950 men, which had a monthly turnover of 158 per cent; and a ranch with a nine weeks' fruit season which had a monthly turnover of 245 per cent. After a careful investigation, he concluded that the average duration of a job in certain kinds of work was as follows:

	Days
Lumber camps	15-30
Construction work	10
Harvesting	7
Mining	60
Canning	30
Orchard work	7-10

The Cost of the Labor Turnover

A high labor turnover is not always an economic waste to the employer. A plant with many rush orders paying high wages may find it to its economic interest to drive its workmen at such a pace that they will be exhausted at the end of a few months. The old group of workmen can then be discharged and a new group employed. Many munition factories in the United States followed such a policy during the year 1915 and 1916. Though this is of course poor economy from the standpoint of social efficiency, and has been so recognized in both England and America under the stress of war, yet it may well have been a paying policy for many firms.

As a rule, however, the employer suffers a very real economic loss from a high turnover. Although it is impossible to obtain exact figures on the cost of the excessive hiring and firing, careful estimates are fortunately available. The principal items that enter into the cost of employing new men are:

1. The clerical cost of hiring and firing. This includes the time of the official (generally the overseer) who discharges the old worker and employs the new, plus the time spent on the additional pay-roll and other records.

2. The cost of the instruction given the new employees by the foremen and the assistants. Even if the workmen is experienced, considerable time must be spent in explaining the details peculiar to that particular plant. The cost of training a worker for a skilled or semiskilled position is much larger still.

3. Decreased production by the new worker before coming up to full working capacity. It takes time to "warm up" to one's work and reach the maximum of efficiency. Rapid shifting of men perpetuates this period of novitiation with its greatly diminished productivity.

4. Breakage and damage caused by the new man. This includes: (a) the actual breakage of a machine or tool; (b) the stoppage of a machine, or the delay of work; (c) accidents to the workers, for which the employer is liable under workmen's compensation laws; (d) the wasting or destruction of material upon which the new worker is employed.

5. The cost of idle machinery and equipment where the old position is not immediately filled.

The cost per man naturally varies with the type of worker. Alexander classifies the employees under five heads:

A. Highly skilled mechanics who have spent years in attaining their present proficiency.

B. Mechanics of lesser skill who secured their training in a year or two.

C. Operatives who, without previous experience, can acquire a fair degree of efficiency within a few months.

D. Unskilled laborers needing practically no training.

E. The clerical force.

His careful estimate of the expense per man for the various groups is as follows:

A	$48.00
B	58.50
C	73.50
D	8.50
E	29.00

This is of course only an estimate, although a very careful one. Mr. Grieves estimated that the per capita cost averaged at least $40. Mr. John M. Williams, of the Plumb Company of Philadelphia, a tool-making concern, states that "the final cost per experienced man is over $100."

Mr. Alexander estimated that the annual unnecessary expense for the twelve factories that he covered was between $830,000 and $1,000,000. If Mr. Grieves' estimate of an average cost of $40 is used, the total yearly loss for the twenty firms which he investigated was $1,760,000 or an average of $88,000 per firm. The yearly cost to the Ford Company for its 416 per cent turnover was over $2,000,000. Since these are figures for only a few plants, the annual cost for the country as a whole must be tremendous. A most conservative estimate would be between one and two hundred millions.

Causes and Remedies of the Labor Turnover

This excessive shifting from position to position clearly demonstrates that something is wrong with industry. In diagnosing its causes, we are at the same time enabled to suggest certain remedies that may lessen it.

Some of the more prominent causes are:

1. Poor methods of employment and discharge. Men are generally hired *en masse* with little regard to their qualifications

and fired summarily if they do not make good on the jobs upon which they are tried out. The power of employment and discharge is generally vested in the foreman of each department. These men are rarely skilled in the tactful handling and judging of men.

2. Poor methods of promotion within the factory. Work in one position rarely leads to a higher position. The workman, in any particular plant, relies therefore upon a change to some other plant to better his status.

3. The seasonal nature of many industries. The turnover is necessarily large where the volume of output is not evenly distributed over the year. After the "peak" has been passed, many workmen must be laid off. If the peak reoccurs within a few months, a new force must be employed. Positions of short duration spelling a high turnover are the inevitable concomitants of seasonal industry.

4. Juvenile labor. Children rarely stay long in one position. The 14-16 year-old child is restless and wants to move about. A regular, settled employment rarely satisfies him.

5. The monotony of modern factory labor. This is rarely mentioned as a cause of labor turnover, but on a *priori* grounds we must infer that it exercises tremendous influence. Specialization and routine labor have rendered industry so dull that it is no wonder the modern artizan frequently throws up his job and seeks another plant from sheer weariness.

6. Low wages. A plant that pays low wages cannot hold men long. They regard the job as a makeshift and will leave it as soon as they can find another.

Thus some of the causes of this newly discovered phenomenon are long-recognized evils while some have been but newly brought to light. The remedy most frequently proposed by students of the situation is the installation of a specialized employment department to have complete charge of the hiring, handling, and firing of men. In most factories the task of employment and the discharge of men is confided to the foremen of the various departments. Hands are both hired and fired in a hit or miss fashion. Many firms keep no employment records at all and most of those that do keep such records have only scanty material. They seldom ask the reasons for the workman's leaving; nor do they measure the turnover department by department. The centralization of employment and discharge and

the concentration of responsibility would permit the use of scientific methods.

Such a department could lessen the turnover in the following ways:

1. By the use of a better method of selecting employees. Physical tests would eliminate a considerable number that are now employed only to be shortly discharged. Though mental tests have not developed as yet so far as to make it possible to assign men to the particular jobs for which they are best adapted, at least those mentally incompetent for industry could be eliminated. The various jobs in the plant could, moreover, be analyzed in respect to the amount of skill and intelligence required of the operative. The workers could then be divided into rough groups according to their previous training and innate mental ability and then assigned to the corresponding grade of work. A centralized personnel department could follow up and verify work references and thereby classify workers on the basis of past experience. And it could maintain a waiting list, so that when new men were needed, they could be chosen largely from men about whom something was known instead of, as now, being picked up off the streets.

2. By a system of follow-up work for the new employees. This would include taking them to their place of work and indicating a friendly interest towards them. The training should be given preferably by special instructors and not confided to the foremen. In many cases it is best to give the new men preliminary training before they are actually placed in any department. Moreover, the working conditions should be closely watched by the personnel department in order to ensure proper ventilation, lighting, the prevention of dust, and the lessening of fire and accident risks. To keep a record of absences classified by individuals and by causes would also be a legitimate task for such a department.

3. By an investigation of the reasons for the successes and failures of individual workmen. The method commonly employed is to discharge a workman if he fails to make good on a particular job. This involves a great waste. A workman may fail on a specific job and yet be a valuable man for the concern. It may be that the antagonistic attitude of the foreman or the men is such that he cannot do himself justice. It may be that he is ill-adapted to that particular position but would be per-

fectly competent in a position in some other department. The worker embodies a considerable investment of capital by the employer and is worthy of at least another trial before he is discharged. The personnel department can find out the reasons for his lack of success and act accordingly.

Should the worker succeed in a given position, he should be commended and assured promotion. A well defined promotion policy would indeed save many a plant a great deal of dissatisfaction and lessened efficiency. The efficiency of the plant and the loyalty of the workers may be further heightened by the institution of discussion groups at which plant problems can be explained and workmen's ideas solicited. This will also serve to bring to light hidden talent which could be utilized in executive work.

The creation of such a personnel department, charged with these functions, is but the logical extension to the human side of industry of the scientific principles that have hitherto been employed on the mechanical side. It merely strips the department foreman of his employment functions and enables him to concentrate his attention upon the actual production of goods. With this splitting of the task, greater specialization and efficiency can result. The centralized employment department has been tried in many plants, and on the whole has been very successful. Some illustrations of its success are: (1) the reduction by the Dennison Manufacturing Company of its turnover from 68 per cent to 37 per cent a year; (2) the reduction of the turnover by the Joseph & Feiss Company of Cleveland, Ohio, to one third its former amount; (3) the lowering of the Plimpton Press turnover till it is now only 10 per cent a year. Other factors besides that of the creation of such a department contribute to the marked decrease in three of these plants. Forms of profit-sharing were introduced into the Dennison and Ford companies, while the Dennison and Feiss plants also succeeded in regularizing their output; (4) the decrease in the Ford turnover from 416 per cent to less than 80 per cent.

Small concerns would probably not find it profitable to create a special personnel department. Consequently this is one of the advantages of large-scale production. Whether there is a greater turnover in the larger plants which will offset this advantage is a question that cannot be answered at present.

Profit-sharing is another method of ensuring greater perma-

nence of labor. Mr Boris Emmet, who investigated profit-sharing schemes for the Bureau of Labor Statistics, says, "All of the informants, without exception, were also of the opinion that the establishment of the plans have a tendency to reduce the percentage turnover of their working organization."

In so far as the labor turnover is caused by the seasonal nature of industry, the creation of a specialized employment department would offer no remedy. Once the cost of labor turnover is recognized, the employers will see that the regularization of industry and the smoothing of the peaks of production will be economically beneficial to them. The efforts of the Clothcraft Shops of Cleveland and the Dennison Manufacturing Company have been turned especially in this direction.

The large turnover of children between fourteen and sixteen is merely another proof of the economic and social wastefulness of this class of labor. Industry and society would be much better off were the age of entrance into industry raised generally from fourteen to sixteen years. In so far as the labor turnover is due to the monotony of machine labor, few remedies within the plant can be devised. The men, to be sure, can be transferred from one machine to another. But this is about all. The balking of man's innate tendency towards contrivance seems to be an inevitable consequence of the machine era. New avenues must be opened, outside of industry, for its legitimate expression.

Whatever may be the final steps taken to solve this problem, its recognition signalizes a marked advance in the development of human engineering.

THE PROBLEM OF LABOR TURNOVER[1]

Recently manufacturers have been directing their attention to the money loss caused by the large number of employees who leave their employment. We believe that the first step toward eliminating this loss is to obtain the coöperation of foremen, and to this end the subject of labor turnover and its cost was presented at a recent executives' meeting of our company by the employment manager as follows:

You foremen are continually hearing from the production department and from the shop superintendent about getting work

[1] By M. C. Hobart. American Machinist. 48:821-2. May 16, 1918.

out on time, and from these same people and from the inspection department about cutting down spoiled work. Now you can't do these things by yourselves; you have to accomplish them through the men who are working under you. Maybe you say to yourselves that it is all very well to be calling for more production and less spoiled work, but look at the incompetent help that the employment department is getting for us. But why is it necessary to hire so much new help? The reason that last new man was hired for you is because someone had quit. And he not only quit working for the company but he quit working for you. And if he had not quit your department he would still be working for us and it would not have been necessary to hire a new man who probably was not nearly so good a workman.

Men Not Discharged

Most of the men who leave our employ are not discharged; they go of their own account. Two years ago 40 per cent. of the men employed were hired to replace men who were discharged, while last year only 20 per cent. of the new men were necessitated because of discharging old employees. In many cases discharge was due to the incompetence of the new men who had to be engaged because of the scarcity of competent workmen.

Last year we employed 1130 men to maintain an average working force of 373 men. Of these 1130 men 170 never reported for work. There were 1045 men who were removed from our payroll last year, which is nearly three times the number of men we had working here on the average throughout the year. To be exact it is 280 per cent. of the average working force, and this is what we mean by a labor turnover of 280 per cent. It is the ratio of the number of removals from the payroll to the average number on the payroll for a given period.

There is not one of you who at the end of the week would tear up his salary check and throw it away. Not even after thinking about it a good many times would you do so. Yet every time a man walks out of the factory, either by quitting or being discharged, it means a loss of at least $40 to the company. Probably it is not quite that much in the case of a boy or of an unskilled laborer, but it is much more in the case of a skilled workman. Forty dollars is the average figure for the

men on our payroll. That meant a loss of $40,000 to us last year on account of quitting and discharges. When you begin to realize that you foremen are the ones who are in direct contact all the time with the men and who are responsible for giving them the right start when they enter our employ, and seeing that all get a square deal, that they understand the company's attitude toward them; when you begin to realize that you are the ones who must interpret to them this attitude and that their staying with us depends in a large measure upon your success in accomplishing this, the question will look considerably more important to you, especially when its value can be reduced to a dollars-and-cents basis.

But perhaps you do not agree with me that it means a loss of from thirty to fifty dollars every time we lose a man. Let us spend a few moments looking at the figures in the case.

The New-Man Expense

Our help-wanted advertisements last year cost us 50c. for each new man. The time of the employment department and the payroll clerk in hiring the man and entering his name on our records amounted to 75c. for each man. The foreman's time spent with the new man in getting him properly started on his work and familiar with our methods takes, or should take if it is properly done, at the very least 10 minutes a day for a month, which means $4.50, plus the time of some older workman who should be set to keep an eye on the new man and help him along, which means an additional dollar.

Next is the wear and tear on the machinery—an important item. As is shown by our machinery and tool repair account each month, a man does not have to smash many gears in the change gear box of a lathe, or break many sixty-dollar hobs or thirty-dollar cutters or do any of the other thousand-and-one things that a green man does to make the cost of this wear and tear on machinery amount to an average of $12 for each new man.

Then we have the loss of production owing to the new man not reaching the normal production rate in from three to six weeks. Deficiency reports show that this loss is a large one. For the first two or three days a new man is not likely to do more than half the usual amount of work; from this on he im-

proves until at the end of a month he should reach the standard. If he loses many hours during the first few days he does not have to lose many such in the following weeks to have lost 30 hours' time in production while he has been breaking in. And 30 hours means, with his wages and overhead, $25.50.

But we are not through yet. The cost of work spoiled in the shop during the month of December was over $600 and the cost of correcting mistakes was $1300, making a total of $1900 for the month.

Forty men were taken off the payroll and replaced by others during that month, and about the same number for November. This $1900 means $48 apiece for each new man hired during December, and I think you will admit that much of the spoilage and mistakes are due to new men, although not entirely so. Suppose then that we divide this given figure by four and call it $12.

Now we come to the accidents and injuries, which are greater in number with new men than with older employees and for which $3 is a conservative figure.

Poor Equipment

Somewhat related to the item of decreased production is the loss caused by maintaining more equipment than would be necessary were it not for this loss. On a basis of 10 per cent. loss in production on each new man for the first month of his work, and an average of 80 new men a month for last year, this means that 22 per cent. of our equipment is working only 90 per cent. efficient, so far as time consumed on the work done by new men is concerned. The interest on this equipment at 10 per cent. a year amounts to 50c. for each new man hired. Let us now see what we have:

For advertising	$0.50
For hiring and clerical work	.75
For instruction	5.50
For wear and tear on machinery and tools	12.00
For loss of production	25.50
For spoiled work and mistakes	12.00
For accidents	3.00
For interest on extra equipment	.50

making a total of $59.75 as the cost to place a new man at work, and this is a very conservative estimate in the light of studies that have been made in industrial plants throughout the country.

Therefore I say we have a real problem to face when desirable men leave our employ.

What are some of the reasons for a man quitting his position and what goes on in his mind at the time of making the change?

Dissatisfaction With Wages Not Always the Cause

In the first place the man may be dissatisfied with his wages. But dissatisfaction with wages will not alone induce a man to give up his job. A man has to feel that he is going to be benefited all around before he will change, and some of the things that contribute to his decision to leave are unsatisfactory surroundings, long hours, lack of a consistent policy of advancement, lack of instruction and faulty machinery or tools.

Now there are several characteristics of workmen which may lead to giving one or more of the above conditions undue prominence in his mind and cause him to leave.

First is his lack of specialized training. Most of our men cannot even do one thing and do it better than anyone else, so that he has no reason for remaining in one particular trade or place.

Then there is so much seasonal employment, so much careless hiring and discharging of men, and it is so easy to move from one flat to another or from one town to another that the man does not throw himself fully into his work and identify himself with the company.

In addition to the foregoing, there comes a time when things begin to go wrong either at home or in the shop; the man becomes discouraged or nervous or even physically ill, and almost any other job looks better to him than the one he has.

You may be interested in knowing that there is a definite physiological and psychological basis for such a mental condition as this, and it is one of the duties of the employment department to avoid hiring men in whom such characteristics are developed to any great extent. Dr. Herman M. Adler, formerly of the Harvard Medical School and the Boston Psychopathic Hospital and now of Chicago, made a study of the cases of a number of unemployed men and their personality as related to their unemployment. And in just a short part of his report I want you to see how well he describes some of the men who have worked or are now working under you.

Their reaction to the world is entirely egocentric. No matter what they experience, what they desire, their own ego is the center of the plot and dominates everything. They are always ready to undertake new schemes; they are usually working for the betterment of the rest of the world and claim all sorts of altruistic motives, and even may be altruistic to some extent, seeking merely the satisfaction of being in the limelight. Or the emotion may be a depressed one and the individuals are contentious, surly, suspicious, claim abuse, recognize no kindness that is done them, appreciate no favors, etc.

This is by far the largest group in our table, comprising 43 cases out of 100, or almost half.

The Lack of Ability

Emotional instability was the cause of the failure of the remaining twenty-two individuals. (One-third failed through lack of actual ability.) Under this heading Dr. Adler included all the cases that showed "sufficient mental ability and judgment to satisfy the ordinary demands of life, and who showed no marked tendency to the egocentric attitude or to enlarge on their own significance, accomplishments or jealousies of others. These include the individuals who show excessive emotional reactions, who are at times buoyant beyond all reason. . . . Their minds are very active, they have many new ideas, they have a marvelous imagination, they undertake a dozen different obligations, none of which they can carry out. They tire of one thing before it is half begun and go rapidly to another. In another mood they may show an interference with thought, a lack of initiative, a tendency to be unhappy, a brooding disposition. They are extremely irascible, usually on account of some external provocation. The latter may be very slight. Impulsiveness amounting often to an obsession is frequently found.

Here is an astonishing and highly suggestive finding. Among a hundred persons for whom unemployment was a serious problem, two failed for temperamental faults for one who was found inadequate to his work.

Knowing these things, what can we do to improve conditions? Our executive meetings are by no means devoted only to the subject of employment, but we can well devote some of our time to a further consideration of that subject. We can well broaden our present methods as to promotion and transfer, providing rest periods during the day and giving our new men the proper start and instruction in their work. And betterment in this direction is impossible without the earnest coöperation of all our foremen.

HANDLING MEN[1]

Everyone will admit that good management calls for a knowledge of the technique of the business as well as for a thoro appreciation of system and its uses; but more important still is the ability to select the right men for the work, to shape the assignment of work to fit the men available, and to obtain their co-operation. It may be stated at once that if you have at the head of an organization, a man who combines the

[1] By G. S. Radford. Independent. 92:340. November 17, 1917.

necessary technical knowledge with the qualities of real leadership, and if that man is surrounded by capable department heads, foremen, and sub-foremen, then practically all questions of handling are solved. This statement might seem to be begging the question, but it is made to indicate the all important part played by the human factor in management.

If you will consider a large organization as a machine for doing a certain kind of work, you will note that the various departments, divisions, and subordinate groups of workers can be compared to the different parts of the machine. The work of the separate groups must be so interlocked, articulated and correlated, that all will work together smoothly in doing their share toward the orderly accomplishment of the main objective. System plays its part in assisting in this co-ordination. That part of system which relates to cost-keeping measures the output of the various parts. The act of organizing, or distributing the work among the men available, is comparable to designing. It is for this reason, just as design is all important in engineering, that a definite and proper distribution of duties is a most important step in handling a large number of men.

Probably you are more interested in actual practice than you are in theory; so I shall now read the introduction to a written organization prepared for several departments of a large plant. This introduction embodies the things that the writer's experience has shown to be desirable to impress on a number of men who are going to work together.

1. The purpose of publishing this outline of organization is to definitely establish the division of duties and to secure co-ordination by providing a "chain of command," or flow of authority. The duties of each executive are assigned so as to insure undivided authority and individual responsibility within his own department. It is a cardinal principle of the management of this plant, that business must be conducted smoothly and harmoniously. There must be no waste of effort on account of friction. The efforts of all must be directed effectively toward securing efficiency in the work of the plant as a whole. This is a union of individuals for a common purpose.

2. Observation of the following simple rules will secure the above mentioned result:

(a) Deal frankly and courteously with your associates. When opportunity offers, help the other fellow to get results in his work.

(b) Differences of opinion and clashes in authority should be referred at once to your immediate superior for decision. When such a decision is rendered, it should be adhered to without further discussion. In special cases appeal to higher authority may be resorted to thru your immediate superior.

(c) Carry out the instructions of your chief promptly, cheerfully, and as efficiently as it is in you to do.

3. It will be noted from what follows:
(a) That the work to be done is distributed among the following main offices. (Then follows a list of such offices, which is not pertinent to this discussion.)
(b) That the work of each office is distributed among several departments or their equivalent; and these departments are separated further into sections and groups.
(c) That a chain of command for effectively controlling the operation of the plant is established thru the fact that all principal orders and instructions emanate from the manager. These orders and instructions are then transmitted, interpreted and carried out by his assistants (the department heads, section chiefs, etc.) in accordance with the outline of duties that follows.

As stated above, this serves as an introduction to the detailed written organization; and written assignments of work are always desirable when practicable.

It is well to issue such an outline in a convenient loose leaf binder. It can then be supplemented by a series of written instruction notices, to be filed therein as they are issued from time to time. Such instruction notices can be used for many purposes, not the least important of which is to make available in readily accessible form, all the information about the company's system and methods that a new man just entering the organization will need to know.

The use of committees is an excellent way to bring men together and thus to secure co-ordination and co-operation. Committee meetings should be carefully prepared for beforehand, and strongly handled, or they are apt to degenerate into mere arguments about trivial subjects, and thus become time wasters. There always should be standing committees on certain important subjects, preferably with definite meeting places at specified time, within *working hours*. Everyone realizes the desirability of having the men who are going to put into effect a new plan believe that it is their own scheme. Careful work in committee will secure this; as men who have themselves voted for a new scheme are pretty certain to try to make it succeed.

Early this year one of the largest shipbuilding concerns in the country sent out a committee to investigate employment, safety and welfare work in some twenty companies, employing from 600 to 42,000 men each. The committee report is interesting, particularly as it probably will not be published. It states, among other things, that the five reasons given by these companies for a reduction in their labor turnover are, in the order of their importance:

1 **Wages**
2 **Fair treatment**

3 Promotion
4 Good working conditions
5 Welfare work

This arrangement of headings may be taken as a fair statement of general experience in handling men. The subject of wages calls for little discussion, as it has been written up too much, if anything. Being the basis of the economic relationship between employer and employee, it is naturally the first thing that men consider in choosing a place to work. I once asked a most successful manager (who had reduced his labor cost 40 per cent in five years) to what he principally attributed his success in handling men. He replied: "I endeavor to pay them for what they do. That is all there is to it, isn't it?"

Fair treatment is naturally the next thing to be considered after wages, for it implies so many things of vital interest to the individual, and so deeply affects his peace of mind. The report just referred to contains a statement of special interest in this connection. A company employing 10,000 men informed the committee that the establishment of a court of appeal for their workmen cut down discharges by a most unexpected amount. This bears out the experience of many concerns, that one of the best aids to contentment is the knowledge that the company means to see that its employees shall be treated honestly.

Nearly all men will answer to fair treatment.

I recall a case where even a misunderstanding was turned to secure co-operation by the way in which the men were handled. The case occurred in a plant, and in a shop in that plant, where labor had been restless for some time. The plant was one of a chain of similar works. Several years before, the central office sent out a new set of standard forms, time cards and the like, with orders to put them into use. In the shop in question the time was ill chosen, and the next morning about 500 men declined to go to work until they knew more about the new "card system", as they called it. The superintendent was sent for. He came down with a big dog at his heels. Just as he stepped up to address the men, the dog got in his way. He said, "Down, Sir! I'm master here." Then he talked for some minutes, and the men struck.

That experience, followed by various changes in system

work, was the preparation, if it can be called that, which preceded a reorganization some years later. You will readily understand that the sample of bad management just related, made the managing of the plant, and of that shop in particular, a ticklish proposition. Within a month after the new management took hold, an accident happened. A clerk was told to make up a new directory of the men. He chose the easiest way, and without the management's knowledge, sent the foreman a set of forms for the men to fill out, and there were a good many personal questions on those forms. The next morning the shop superintendent of the plant received a letter from the men, thru the foreman, that gave him something to think about all day. He took advantage of the opportunity to gain the goodwill and confidence of the men by sending for their committee and telling them that he was delighted, for once in his life, to find a shop where the men took an interest in the system work. He explained how forms are needed in a big plant to control the work, and how the men could help him by making the system work a success; also that he'd be glad to tell them at any time what he was trying to do in the way of such work and why. Then, when they were quieted down, he told them how the particular form that had caused the disturbance was a scheme gotten up by a clerk to save himself trouble, and they could help out the clerk, or not, as they chose. The men held a meeting that night, and sent the superintendent a letter thanking him for his courtesy, and promising their co-operation. The men who struck four years before under somewhat similar circumstances were willing to meet him more than halfway. They answered to fair treatment; and barring accidents, they always will.

Promotion for merit is really a part of fair treatment and is the part of common sense in management. The best men will go where they are given a chance to advance themselves.

There is a certain technical bureau in the Navy department that can always have the pick of the civil service employees. Men try to get the vacancies there. Why? Because they know that if they prove their worth they will be promoted, or else have a chance to take an advanced position in some outside concern.

Promotion from the company's force to fill vacancies, rather than bringing in outsiders, is an accepted policy in more

and more concerns. Such a policy requires that men be in training for jobs higher up. Sound organization calls for understudies for all positions of responsibility anyway. Further, good management has in it an element of *teaching* such men to fit them for their work. The spirit of helping men to help themselves is one that should be cultivated thruout the plant. Encourage men to be ambitious. They are an asset.

Another good and growing practice that we may well consider at this point, is that of giving the man who has failed on one job, a chance to make good in some other part of the plant. It is a fact that nearly every man is good for some particular kind of work. Of course you must except the habitual drunkard, the dishonest, the trifler, and the trouble maker; but even among these there is sometimes a chance if you can *interest* the man, and develop the pride of personal achievement and the pleasure and interest of good craftsmanship.

It is only good business sense for the management to provide a clean and comfortable place to work. So much depends on systematic and orderly arrangement of the working space that there is no excuse for not keeping a shop unencumbered. One of the first things, if not the first thing, to do with a run down shop, is to clean it out. Tell the foreman to clear out everything not used in the business. When he says he has done so, go thru the shop yourself and have all the unnecessary furniture, signs, locker doors, drawers, and shelves removed. It is a curious fact that just as sure as a stow hole is available it will be filled, usually with junk. A plant consisting of several detached shops cleared $5,000 on such a clean-up, over and above the cost of putting the place in order. The principal gain, however, is thru the influence on the personnel.

We hear a good deal nowadays about the importance of the arrangement of machinery, so that there will be a direct flow of material thru the shops. It is equally important that the machines and working places be arranged with an eye to the convenience and comfort of the men. There is no general rule for this, and there is room for considerable thought in working out each case. A sensitive drill whose table is fed up by a foot treadle, calls for a stool for the operator. A man who is using a file should stand up. He will do so naturally if he is paid on piece work, but will sit down just as naturally if paid by the day.

Environment plays a very large part in influencing the spirit and attitude of men, as all of us have found out while trying to work in the old-fashioned, dark, stuffy or cold office. A good general lighting system is a splendid cure for a "blue" Monday morning. Even if it is light enough to work without artificial light on a chilly, rainy day, switch on the light and watch everyone cheer up and "get busier".

When it comes to the question of beautifying factory grounds, we begin to enter the domain of welfare work, which I understand is reserved for later discussion. It bears a certain relation to the matter of pleasant working conditions, however; and it may not be amiss to give an example here of the influence of surroundings. There is a shipyard here in the East employing several thousand men, and strikes have not been infrequent. A short time ago it changed hands. The new management began by cleaning up the yard, and just inside the gates where the men entered, they replaced a mud hole with a beautiful bed of flowers. Now there are all sorts of men employed in a shipbuilding plant, on account of the great variety of trades. Many of them are used to specially severe work with not very high wages. It takes hard men to work out of doors on steel in the winter. There is an element of pathos in the fact that the day this flower bed was put in, the men congregated about it on their way out, and *cheered.*

Among the many things that must be considered in connection with handling men, is one that is unusually difficult to discuss—probably because it involves much that is personal and intimate. I refer to the personal relations of the executive with his workers. If you read the lives of Grant and Lee, you will be struck again and again with the fact that they took a deep and kindly interest in the welfare of their men. Their leadership did not depend only on the respect that their professional ability and the power of their rank demanded.

Many of us have been impressed by the spirit that seems to pervade the 150,000 workers of the American Telephone and Telegraph service. The reason is plain to see in any recent annual report of that company, bearing at the end, the signature of Theodore N. Vail.

Not long ago Mr. Schwab bought a large plant, and soon afterwards made a personal inspection of the shops to meet and shake hands with the foremen. That alone showed that

he understood handling men. The story is told that on this trip he went thru a shop whose foreman was a little Irishman. The foreman was efficient and his shop showed it. As Mr. Schwab went out he said, "This is fine, it's good! I tell you, Mike, we Pennsylvania Dutch are *all right,* aren't we?

It is not given to every executive to have that personal magnetism that borders on genius in handling men; but certainly everyone can have the friendship and respect of his men, if he studies them and their interests with real and genuine sincerity. When you have a new scheme to put into effect, consider it from the workman's standpoint. He may be part of a machine in one sense, but he nevertheless is a man, with all the perfectly natural limitations and variable feelings of a human being. I venture to say that there is nothing in the entire field of management that will yield so large a return, both in actual accomplishment and in personal satisfaction, as the study of the men themselves.

THE EMPLOYMENT MANAGER

A NEW PROFESSION IN AMERICAN INDUSTRY[1]

Within a little more than half a dozen years a new movement and a new profession have been definitely recognised in the management of America's industries. The movement has come to be generally known as the employment management movement; the profession as that of the employment or personnel manager.

The principles and the technique underlying this work are not new. What is new is the emphasis and the recognition of what has always been accepted as desirable in the building up and the supervision of a working force, and the establishment by the leading universities of courses for training men and women to do this work effectively.

The value of this work is signalised by the setting up in the leading industries of special employment and personnel departments, by the interest manifested in trade union circles, Secretary Wilson, the Labour member of President Wilson's Cabinet, having been the guest of honour at the last annual convention of employment managers, held in Rochester, New York, and attended by nine hundred men and women, and by the National Government's promotion of this work as a war measure intended to help organize the war industries on the most efficient production basis possible. The Ordnance branch of the War Department itself required the appointment and the training of six hundred employment managers for its factories.

Filling a Job

A few simple and universally accepted ideas underlie the work of employment management. The hiring of workers is an important function, and should be in the hands of trained

[1] By Meyer Bloomfield, Consultant on Problems of Industrial Relations. London Daily News. January 16, 1919.

men and women, who are given a responsible place in the scheme of management. Such work and all that it implies calls for brains and insight. It is not work for a weak or untrained subordinate. Employment is, at bottom, a venture in co-operation. Irresponsible hiring and discharge in the hands of many little executives is a costly and wasteful thing, viewed from the standpoint of good management; and from the side of the men it goes contrary to their instinct as to how human beings should be dealt with in the employment relation.

The traditional way in building up a working force or filling job vacancies is to make a vague and wholesale demand for labour, and then pick at random from the crowds at the gate. The men, once chosen, are then placed on probation, with a certain amount of random supervision. If by chance they make good they remain; if, for reasons often unknown to them, they do not, out they go without recompence or explanation. All sorts of little bosses are kings in their own domain, with unchecked authority over that most vital interest in a worker's life—his livelihood. Taken at its lowest, this is bad business, demonstrated by the wasteful coming and going of men in and out of the jobs. There can be no real organization or spirit on a foundation of quicksands.

Managers in Conference

Eight years ago in the city of Boston 50 men were invited to come together and discuss the problems of building up a working force. These men were in charge of the hiring of employees in Boston's leading industries. It was probably the first time that these men, or men representing such work as they were doing, had ever been called together to consider the common problems of their work. And the problems, as it soon appeared, were many. The importance of the work they were engaged in had never been properly realised, not even by themselves. Literally, they were responsible for pumping the life-blood into their respective establishments, for this is what hiring men means, but their place in management was obscure.

As the significance of this work unfolded the Boston Employment Managers' Association grew in number until it reached a membership of two hundred. Employers, managers,

employment men, educators and social workers came from various parts of the country to listen to the discussions. The idea of right employment methods developed, and presently other cities followed the example of Boston in starting associations of employment managers, notably New York, Philadelphia, Rochester, Chicago, Detroit, Cleveland, Cincinnati and San Francisco. Soon a national association was founded, and its annual meetings attract large numbers. The papers which are read show most interesting experiments under way, and form notable contributions to the literature of modern industrial management.

Right Men for the Right Place

Early in the career of the Boston association the need for providing special training of those who were to conduct employment work in commercial and industrial plants became apparent. To meet this need Dartmouth College, the University of Pennsylvania, and later Harvard University, the University of Rochester, Columbia University and other institutions started through their schools of business special employment management courses. Men and women from all parts of the United States came, some were sent by their employers, others, alive to the birth of a new vocation with a large field for constructive service in industry, sought preparation.

Meanwhile leading industries in the country signified their interest by organizing central employment departments within their plant, and abolishing haphazard methods of employing and dismissing men. The International Harvester Company, for example, brought together six hundred foremen, and announced that in future they would have to plan their requisitions for help on a six months' basis, carefully studied as to detail of the actual needs and qualifications of the workers required; that all interviews would be conducted by the staff of the central employment office, which could give the necessary time and care to the work, something a busy foreman could not; and that all dismissals would be investigated and passed upon by the same central office. Other companies reorganized their employment system, if they had any, appointed the best man or woman that could be found for the purpose, and furnished requisite authority to the new appointee for

keeping in close touch with all employees, watching their progress, making such transfers as were desirable as between departments, and ensuring a fair scheme of promotion.

For the first time many large establishments began to keep adequate records of their employees. Instead of registering "hands," they were registering human beings with certain ambitions, skill, and experience, often far above that for which they were specially engaged. It was the business of the employment department to know enough about the workers in the plant to give them the first call on any new or superior employment which opened up, and for which they were fitted. One of the first and most telling effects in the starting of these central employment departments was a sudden drop in the number of leavings and discharges. Employees had a place to go with their grievances or suggestions, an office where they were certain that what they had to say would be intelligently understood. And they did go in large numbers, and found a real desire and power to co-operate with them in the problem of making the best adjustment that could be made of their skill and ambition to the organisation.

Labour Recruiting

The question may be asked what effect such an employment department has on other industrial arrangements, as, for example, shop committees, collective bargaining, yard delegates, shop stewards, and the like. The reply is that none of these is affected, except as improved management in the handling of the labour force is always helpful. There can be no doubt that an enlightened system of recruiting labour, careful and fair selection of workers, systematic provision for their advancement, encouragement in their progress, and protection against abuse of authority, is a distinct contribution to sound relations. This is true, and holds, whether the employer is a State or a private individual. The chief point to remember is that in employment management industry takes a constructive attitude. It seeks not merely to minimize friction spots; it is mainly interested in opening up clogged channels, and widening the scope of opportunity during employment.

When the United States entered the war the Government took over the shipyards and started a large number of muni-

tion works. Every department head supported the idea of a well-conducted employment department in connection with the war work. One of the first steps was to invite a number of universities to give short, intensive courses in order to equip those who were to be in charge of manning the factories and other places with the workers required. All the shipyards, for instance, were invited to send one or more of their staff to a six weeks' course in the nearest training centre. The Government paid all expenses. The Department of Labour sent a number of its agents to these courses, as an essential part of the training consisted in laying down plans for close co-operation between the labour exchanges and the various establishments. Nothing helped so much to organize the munitions personnel in record time as the intelligent work of the men and women who had been through the employment management courses. Instructed as they were, among other things, as to the best methods of canvassing for employees, the starting up of new shops and shipyards was effected with the least possible disturbance to the labour market or waste of time and energy on the part of the prospective employee.

Scientific Industry

One shipyard which had 4,000 workers on its pay roll had to enlarge, because of a new contract for sixty destroyers, to 15,000 men. Instead of making a wild scramble for men, flooding the country with advertisements and with scouts, something, of course, which every other concern could duplicate, this particular yard began by enlarging its employment department. Men were sent to take the course in employment management, and when they had finished they were placed, by arrangement with the Federal Department of Labour, in the offices of the various exchanges or public employment bureaus. All advertisements were printed in the name of the Government, and not that of the employer. Work conditions, wages, hours, and the like were carefully specified. A housing staff was on duty to help locate the new workers and their families. Transportation facilities were looked after. Surveys were made of rentals, cost of living, and schooling in the vicinity of this shipyard and the oncoming workers were assisted by the employment staff to settle down without those cares that

touch the very souls of the men. As a result of this care and intelligence the shipyard in question secured its 15,000 men without a ripple in the labour market.

Obviously work such as employment management embraces is a benefit to the men and to industry as a whole. Its effect on foremen and other minor officials in a works has been wholesome. For the first time a new measure of the foreman's usefulness, other than his ability to get a certain output, has been applied in a large way. This measure is his ability to hold his men and to appeal to their sense of self-respect. The employment manager keeps close watch on these things.

Comparisons are made in black and white. The records show just what is going on. One result has been an awakening of interest in the human assets represented by even the humblest worker.

There is still much to be done, and much to be learned. This new profession is still in the making. Its technique is far from complete. But it is a long step forward to accept as a definite motive in management the idea that the directing of a working force needs brains and vision—that those who are given this great responsibility must be equal to its demands on character and industrial insight.

EMPLOYMENT MANAGEMENT[1]

The New Labor Problem

A great deal of thought is now being given, by American business men, to the subject of employment management. At one time the labor problem seemed to be solely a matter of the policies of organized labor and the methods of industrial warfare. It now shows itself to be chiefly a question of the intelligent handling of the human relations which result from the normal course of business, day by day. It has to do with a study of the requirements of each occupation, the careful selection of men for their work, their adequate training, the fixing of just wages, the maintenance of proper working conditions, and the

[1] By Edward D. Jones, Professor of Industry and Commerce, University of Michigan. Opportunity Monograph. Vocational Rehabilitation Series No. 12. Federal Board for Vocational Education. Washington. December, 1918.

protection of man against undue fatigue, accidents, disease, and the demoralizing influences of a narrow and inadequate life, and the opening of a channel through which employees may reach the ear of the management for the expression of any dissatisfaction with its labor policies.

A Departure in Business Practice

Hitherto, executive control in business has been exercised through three main divisions of administration:

(1) Finance—in charge of a treasurer or president.

(2) Manufacturing—in charge of a general manager or general superintendent.

(3) Sales—in charge of a sales manager.

To these general divisions industrial enterprise is now adding a fourth, i. e., employment management or, as it is sometimes called, supervision of personnel. In the employment department of a business are gathered all those activities which have to do with the human relations—hiring, education, promotion, discipline, discharge, wage setting, pensions, sick benefits, housing, etc. To bring all these matters together under one head, and provide each subsection with specialists, is a great step toward scientific industrialism.

Industrial experience has proved the advantage of a separate department equipped to deal with questions of personnel by themselves. The prompt discovery and analysis of unfavorable working conditions can be made only by a central bureau. Most of the approved methods of dealing equitably with the working force have been devised or brought to notice by the new type of industrial specialist.

Where employment departments have been established under competent executives, the waste of turnover has been uniformly reduced, and employees have been rendered more efficient through proper selection, assignment, training, and supervision. In no case of which there is record has an establishment which once tested the benefits of employment work of this character ever returned to the old methods of permitting employment functions to be handled by a variety of minor executives.

Functions of the Employment Manager

The primary functions of an employment manager are to hire shop employees (and often office employees also), to superintend transfers and discharges, to assist in determining rates of pay, to study the causes of labor turnover and absenteeism and strive to reduce them, to adjust grievances, and to recommend changes in working conditions which will eliminate fatigue and accidents, or will improve the health and spirit of the force.

In performing these functions the employment manager will need to organize a staff and provide himself with proper office aids. He will require a set of labor records, which will reveal for each department of the business the degree of efficiency being attained in the utilization of labor. He will analyze the sources of labor supply and make studies upon which job specifications, which set forth the qualifications required for each task, can be based. He will install such methods of physical and mental examination as will safeguard the force against the hazards of the occupation and the hazard of coemployment with men unfitted for their work.

To the employment manager often falls the function of supervising the training of employees by apprenticeship, in vestibule or shop schools, or by Americanization programs.

The employment manager should be the chief agency of his corporation in forming and executing the policies which may be adopted for keeping the worker up to the standard. These efforts may take any one of a variety of forms. In one case a restaurant may be opened; in another housing may be provided. In one plant a mutual benefit organization may be a success; elsewhere local transportation may be a serious problem, or a recreational or thrift campaign may occupy the most attention. Each industrial situation requires particular study. The prescription of economic and social remedies should rest as strictly upon diagnosis as does prescription in medical practice. This means that the employment manager should know how to make industrial and labor surveys.

Finally, in connection with the government of the shop, the employment manager will have a hand in drawing up shop rules, and will, by means of suggestion systems and control sheets, deduce the significance of complaints and the causes of dis-

charge. He will be in contact with shop committees, should such be formed. And he will be a harmonizer and mutual interpreter in all collective bargaining negotiations with organizations of employees, striving ever sincerely to reach a fair and permanent basis for loyal cooperation.

It will be observed that most of these functions are not new in industry. They are now being gathered together under one authority so that they may be handled in a more expert manner, that they may be harmonized into a consistent policy, and may be made the definite responsibility of competent officers.

In such a summary of possible activities as the foregoing, the range of duties indicated is wider than would be actually undertaken in most individual cases. Nevertheless, the employment manager has need of a firm grasp on the technique of his art, and an acquaintance with the successful policies of other employers.

He is called upon to practice human engineering, and he has a leading part in transforming the relation of employer and employee from a mere "cash nexus" into a satisfying human relationship. Before the employment manager there opens one of the finest opportunities American business life has to offer. In proper ratio to these opportunities should be the dominating purpose and the training of the candidate.

The Employment Manager and the General Officers

The employment officer comes into a business organization as a staff man, to relieve the general executives. The general executive is a correlator. He is a balancer of claim against claim. His business is to define the general aims and to harmonize all lesser activities with them. To do this work well, he must be supplemented by specialists who do not have a wide range of functions, and so can concentrate upon some special phase and, upon demand, can furnish him with detailed knowledge and standardized special agencies.

The line executive in war determines where a battery shall go and what it shall do, but he depends upon staff men to breed a reliable artillery horse, to design convenient gun carriages, and to prepare service tables for sighting guns. In industry, the function of staff departments is already understood with reference to mechanical equipments. The general executive decides to construct a factory or a warehouse; but he depends upon an

architect to design a building which will resist the probable stresses. He desires a product; but he organizes a designing department and an inspection department to control the dimensions of parts. He would not pretend to a mastery of all the sciences involved. The analogy between the function of the purchasing agent in a modern organization and that of the employment manager is close. Formerly, factory foremen thought they knew best how to purchase raw materials. The development of the purchasing agent proved the fallacy of this, since his testing laboratory and specialized knowledge made the results far superior to those obtained by the individual foremen. This principle of staff service is now being carried over into the field of human administration. General executives demand well-chosen men, men who are physically examined and pronounced safe for the work they are to do, men who are properly paid, and men who are so handled that they become permanent, contented, and loyal cooperators in the general plans of the enterprise. Of all the standardized agencies which a service department can put at the disposal of a general executive, the supreme one is a first-class man.

When it is recalled that the general superintendent of a modern factory is responsible for general supervision of the purchase, repair, and use of equipment; for the purchase, testing, storage, and accounting of materials; for shop schedules, promises of delivery, and measurement of output; for cost estimates, inspection of product, tool accounting, and all production orders, it can readily be seen that he has little time or energy to consider the interests of the workers in other than a very general way. There is some excuse for his looking upon men as merely the tools of production. With such an administrative blockade already existing, even in small businesses, there has intervened in recent decades the enormous growth of American corporations. This growth has so overwhelmed executives with functions, and so regimented each class in industry by itself, that officers and wage earners have been swept apart, and the friendly elbow-touch of the earlier day of small shops entirely destroyed. The effort is now being made to build a bridge between employer and employed—the chief span in this bridge is the employment department.

The Employment Manager and the Foreman

From the shoulders of the overloaded superintendent there have slipped down upon the foreman of the shops a mass of heterogenous functions. In establishments where the modern plan of functionalizing the foreman is unknown, each foreman is for his own shop a Jack-of-all-trades, endeavoring to deal directly with the details of a great variety of duties. The inefficiency of such methods has been amply revealed by the analyses of the exponents of scientific management.

The remedy is specialization. This means that groups of related duties are put in the charge of special foremen or service departments, such as the stock clerk, the engineer in charge of repairs, the planning room, and the tool room. From the foreman's point of view the employment manager is such another functionalized foreman.

In this way the general shop foreman is relieved of hiring friends of employees in his own department who importune him for selected jobs merely on the basis of friendship and not fitness. He is no longer a "bouncer." He no longer can sell jobs, or hold his pets in soft assignments. He has not the easy device of covering his own incompetence by firing a man. He can ask for the transfer of unsatisfactory employees, but if enough of these transfers show that discarded persons are able to make good in another shop where the formanizing is different, he prepares a prima facie case against himself. The foreman gets a more even and dependable run of workmen from the employment department than he can provide for himself. And he is freed from many distractions to become an expert in shop manufacturing processes. The employment manager must find a way to secure the enthusiastic cooperation of the foremen with whom he works, and to enlist their sympathy with the policies of the management, and of his own department, as if those policies were their own.

A Permanent Demand

We have spoken of the underlying forces which are creating a demand for specialists to deal with the human factor in industry. It would be difficult to point to an industrial reform which is more clearly the converging point of a number of pro-

gressive movements. Employment management is a result of the evolution of cost accounting, of the idea of supplementing line executives by competent staff departments, and of the movement to specialize the work of foremen. It is an opportunity to apply vocational guidance and industrial training. It provides the expert required for setting wages by investigation rather than by dispute. It gives the needed supervisory agency for safety first, industrial hygiene, and medical aid. And it provides an officer able to deal intelligently with shop committees and collective bargaining.

The personnel officer, as an accountant, applies the methods of cost analysis to the factors which influence labor efficiency. As a hiring officer he has an opportunity to make vocational guidance more definite than it has yet been, because he can supplement the analysis of the individual with a parallel analysis of jobs. He has a powerful motive for competence in industrial training work, for he graduates his pupils in rather than out. His students benefit from the psychology of doing real work for pay in a real shop.

The employment manager is related to recent movements in psychology. He has an opportunity to apply appropriate performance tests and general intelligence tests, for the purpose of sorting out those persons who, although adult in physical development, have still the minds of children. These classes he identifies, not to reject from employment but to place at appropriate work; not to browbeat and terrorize, but to protect and guide by patient and educative foremanizing to insure their becoming happy and permanent members of the productive community

The evolution of wage systems demands a specialist. The ideal form of reward is that of the man who is in business for himself, whose remuneration rises or falls according to his talent and effort. In the complexity of the modern corporation it is difficult to devise such a wage. In general, it may be said that to take a step toward greater fairness in wage setting, it is necessary to achieve greater definiteness in measuring the basic factors involved in wages. Such are the worker's talent, the nature of the task, the character of the working conditions; the chances of permanency and promotion, and the local cost of living. There is need of some agency to supervise the prolonged process by which each craft or skill in an establishment is placed at its proper point in the wage scale, with reference to the others.

"Safety first" has exerted a great influence toward personal supervision. Workmen's compensation laws have enforced responsibility upon employers. Students of accidents maintain that a greater number of disabilities result from the carelessness or ignorance of the working force than from faults of equipment and processes. This puts the matter as much in the domain of the personnel officer as of the engineer.

A great advance has been made in medical science in recent decades. This advance has laid bare the intimate relation between good water, ventilation, digestible food, a reasonable work schedule, and home conditions, on the one side, and accident rates, fatigue, absenteeism, antagonism of mind, and strikes, on the other. The interlacing of these factors accounts for the profitableness of the health work which has been undertaken by progressive employers.

Employment supervision represents a movement in the direction of the democratic shop, in which a voice is given to labor in determining working conditions. It may be said to be a method of applying to the relations of employer and employed those conceptions of "Truth" and "Service" which have revolutionized salesmanship and advertising. As the customer is "sold" a finished product—that is to say, is convinced and satisfied by square and generous dealing—so the workman is to be "sold" his job. The latter must be satisfied as to the task, the working conditions, the wages, the foremanizing, and the general policies, before he becomes a genuine employee.

All of these movements, which have so rapidly shaped the new art of employment management, are functions of a rising level of intelligence, of an increasing power to produce wealth, and of growing interest in ideals of social welfare, as contrasted with ideals of personal luxury or arbitrary power. We may look upon them, therefore, as enduring forces and destined to work a progressive change in business management. Upon them the future of employment management rests. That future is secure.

Necessary Qualifications

The employment manager, who measures up to the new standards now being set, is a first-class executive, standing on a parity with the sales manager or the production engineer. He has the more need of talent because of the newness of his posi-

tion; a circumstance which emphasizes flexibility of ideas, the ability to conduct investigations, the courage to be a pioneer, and the power of commanding the confidence of others in his pioneering. Again, his position is difficult, because he stands between parties which have been traditionally opposed to each other, namely, capital and management on the one side, and labor and craftsmanship on the other. He must always perform the functions of a mutual interpreter and often those of a peacemaker.

In considering a proposed occupation it is wise to present a sober view of its conditions, so that persons who lack a sufficient persistency and depth of conviction for success may be early dissuaded. Wherever there is authority there is responsibility; wherever there is reward there is struggle. If the general significance of employment management lies in its accord with the progressive tendencies of the age, the greater part of the energies of the individual employment manager is absorbed by the practical problems of finding enough workmen, of supervising records, and of hearing and adjusting complaints. It may be the lot of an employment officer to deal with a hard-headed proprietor, who is habituated to take the defensive against new plans. He may encounter the open or concealed opposition of foremen who, for the sake of prestige, cling to functions they can not properly perform. He may find organized labor cold to benefits which the unions have not won, and which look toward the substitution of a vertical bond, uniting employer and employed, for the horizontal union of employees of different establishments.

All of this means that the successful employment manager must be a person exceptionally fitted for leadership. He needs good native ability, made serviceable by adequate general and special training. He should possess a well-balanced and absolutely impartial judgment. It is a powerful aid if he possess humanitarian instincts and a sympathetic disposition. These must, however, be real attributes, and not a mere pose or policy, for no deception will long blind those with whom he is associated.

The person who measures himself for this profession should be able to find indubitable testimony as to the strength of his own character, in the quality and amount of his achievements,

and in the regard he has been able to earn from responsible persons with whom he has been associated. He should find in himself, also the ability to understand human nature, not through the absurd practice of some quackery of phrenology and physiognomy, but by having analyzed his own nature, and having found therein the instincts and emotions which illuminate for him the motives and passion of others.

With these endowments the employment manager should couple sufficient education to avoid embarrassment in the oral or written use of his mother tongue. His education should enable him to understand the use of general principles, avoiding the pitfalls into which the so-called "practical" man has usually fallen when he complains of "theories." And this education should have had a wide enough scope to enable him to meet the minds of others, and cement friendships, in a world of ideas larger than the details of his work.

Finally, the employment manager is perfected for the practice of his art by general industrial experience and (if the position in view be in a manufacturing establishment) by actual contact with shop problems. This shop experience is useful to make the candidate familiar with factory tools, machinery, equipment, materials, and processes. It will instruct him, as no form of systematic training can do, in the meaning of factory life, the significance of its discipline, the meaning of its schedule of hours in terms of fatigue, and in the attitude of the worker to his job, his boss, his fellow worker, and to life in general. Any general social experience which the candidate may have had, which has taught him how to deal with people, not as individuals only but in the various forms of voluntary organization, will have value.

It is not to be expected that every candidate will be ideal in all particulars. Special merits may offset deficiencies, within reasonable limits, bearing in mind always that defects of native endowment are less remediable than those of education and experience. If the employment clerk and the labor scout of the past are to give way and personnel relations in industry be placed upon a new footing by an executive officer who is able to formulate adequate policies and bear large responsibilities a high standard of ability must be maintained for the new profession.

To summarize the matter of qualifications we give the relative weights which a number of successful employment managers have agreed upon for five principal factors:

	Per cent.
Personality	35
General industrial experience	25
Executive experience	20
Shop experience (for employment managers in manufacturing establishments)	15
Experience with organized social movements	5
Total	100

Remuneration

The employment manager's remuneration is salary and not wages. This signifies that its amount is fixed rather by an estimate of the standard of living of the class of persons with whom the employment manager should associate on terms of equality in the business world than by an effort to measure his exact contribution to the income of the company. At present the salaries of employment managers—the great majority of which probably fall between $2,000 and $5,000—are not equal to those commanded by sales managers and production engineers of equal ability. This discrepancy is due partly to the recentness of the function and to its more subtle and indirect relations to the profit-making process. It is due further to the fact that the work of the employment manager is a form of social service which is deeply satisfying to many natures, and which in itself provides a reward able to compensate for some inadequacy of salary.

UNIVERSITY SCHOOLS OF BUSINESS AND THE TRAINING OF EMPLOYMENT EXECUTIVES[1]

The expression, "University schools of business and the training of employment executives" involves three elements, each of which should be clearly understood as a condition precedent to fruitful discussion. Of the concept "university schools of business" we have a common understanding and no definition is necessary. The word "training" and the words

[1] By Harlow S. Person, formerly Director, Amos Tuck School of Administration and Finance. Dartmouth College Bulletin. U. S. Bureau of Labor Statistics. No. 196. May, 1916.

"employment executives," however, may not mean the same thing to all of us. Some understand training with respect to a given objective to consist merely of imparting in the classroom information concerning that objective. By training I mean the whole complex of educational processes, those in the classroom and those outside the classroom, but more or less under the control of educational authorities, whose purpose is, in addition to the imparting of information, the wise selection of those who shall be trained for the specific purpose; the development of natural temperamental and other personal characteristics; the development of capacity for independent investigation and thinking, for forming sound judgments, and for constructive imagination; and the development of a capacity for prompt adaptation to the environment in which is to be performed the service for which the training is designed. Training for the employment executive function is therefore something larger than the imparting of information concerning the work of the employment manager. Likewise with respect to the term "employment executive." There are employment managers and employment managers. At one end of the line we find the subordinate clerk who merely hires and fires; at the other end of the line we find the employment manager who is coordinate in rank and authority with the works, the sales, and the financial managers; who is responsible for all administrative and executive work pertaining to the personnel; whose relations are with workpeople as human beings rather than as a commodity; who is representative of the workpeople to the management, and of the management to the workpeople; who is the man of superior insight into the future of industrial human relations, and the leader and teacher who raises both parties to the industrial contract to higher conceptions of their mutual rights and obligations. It is the training of employment executives of this latter type that I propose to discuss.

The functions of an executive position determine the qualifications which may be demanded of him who is to fill it, and these qualifications determine the nature of the training for that position. Therefore our first inquiry is concerning the functions of the highest type of employment executive; our second inquiry is concerning the qualifications demanded by those functions; and our third inquiry is concerning the training necessary to develop those qualifications.

Functions of The Employment Executive

The functions of the highest type of employment executive have a wide range, from the interviewing of an applicant to administrative decisions involving the largest social problems. For our purpose I classify them as follows:

1. Those functions pertaining directly to the technical productive efficiency of the individual employee. Illustrative of these are: The selection of the right kind of employee for any of the classified "jobs" of the business; the analysis and classification of the "jobs" making up the business; the training of employees within the plant or in cooperation with educational institutions; the establishment of records, involving the determination of what they shall contain; the routing or transfer or interchange of employees; the discipline of employees; the determination and maintenance of proper working conditions; the establishment of wage rates which create "incentive," etc. The performance of these functions is accomplished, in some instances, through personal contact of the employment executive with the individual employee, but on the whole through an organized machinery of minor executives, and there is involved, therefore, the function of organizing and operating such machinery.

2. Those functions pertaining indirectly to the productive efficiency of the individual employee or pertaining to the rights of the employee as an economic, even though not a legal, partner in the business. Illustrative of these are: Consultations—made possible by confidence, and on the initiative of the employee—concerning the personal problems of the employees; the maintenance of hospitals, nurses, physicians, dentists, etc.; the maintenance of lunch rooms, rest rooms, recreation grounds and equipment, etc.; inspiration and assistance in the organization of an employees' cooperative association for various mutual benefit activities, such as the establishment of a cooperative store, a cooperative bank, etc. The performance of these functions is accomplished, in some instances, through personal contact with the individual, but usually through contact with officers and committees of employees' organizations.

3. Those functions pertaining to the largest administrative policies and problems of the business. The best type of employment executive is of as high rank as the works, sales, and

financial executives, has as complete and independent access to the office of the president, and has as fully his confidence with regard to problems of the relation between the management and the personnel as they have with regard to the problems pertinent to their respective functions. If there is an executive board made up of the various functional managers, he is the peer of any man on that board. On that board he sits in a dual capacity: He represents on the one hand the desires and the rights of the working force, and on the other hand the desires and the rights of the management. He is harmonizer and adjuster. He is the specialist who studies the problems of industrial democracy, organized labor, collective bargaining, employees' consent, and so on, and reports his investigations and conclusions, with recommendations, to that board. The performance of these functions brings him into contact with leaders of the working people, with students of social affairs, and with the highest executives in the management.

Qualifications of The Employment Executive

The necessary qualifications of this high but perfectly practicable type of employment executive are determined by the functions which I have enumerated. The functions are wide in range, and the abilities necessary for their successful performance are equally so. The big employment manager must be able on the one hand to meet on equal terms of understanding and sympathy the humblest working boy or girl; he must be able, on the other hand, by weight of knowledge, of logic, and of personal force, to convince the hard-headed manager or president of the desirability of fundamental and sometimes radical changes in administrative policy. The evolution of the business conscience lags behind that of the social conscience, especially with respect to the human problem, and now and then nothing short of radical change in the business conscience is able to bring it into alignment with the social conscience. I suggest the following classification of the essential qualifications of the employment executive who is strong in every phrase of his work.

1. *Personality.*—He must be courteous and even tempered, and never "grouchy"; he must be sympathetic with the circumstances and ideas and prejudices of the working people; he

must never depart from fairness and justice; he must be intuitive, for he must sense facts which are not told to him; he must be able to read human nature and judge character; he must be quick and sure in his decisions; he must be firm, of the motor type, for he is an executive, and out of motor characteristics arises executive energy.

2. *Mental characteristics.*—He must be able to search for and ascertain facts pertaining to his problems, give them proper relative valuation, and make sound conclusions. For years he will be pioneer in a field which has been but little investigated and the principles of which have not been formulated. He must be able, with respect to one problem, to pursue the methods of the inductive scientists and, with respect to the next problem, those of the scientist who reasons deductively. He must have a capacity for the analysis and subsequent classification of facts, for in such capacity does organizing ability have its roots. And to perform its highest functions, he must have constructive imagination, be an independent and original source of ideas, see things which are desirable and possible in the light of present tendencies, but in proof of which all the necessary data are not yet available. It is possession of constructive imagination which makes the great administrator.

3. *Information and experience, and a knowledge of pertinent facts derived from contact with people and situations and records.*—As an employer of working people he must be informed concerning the sources of supply; the various types of public and private educational institutions—general and specialized, vocational guidance agencies, employment agencies, and the degree of efficiency with which each accomplishes its aims. As the organizer of a training school within his plant, he must have judgment based on a knowledge of facts concerning educational policies and methods, and concerning instruction in specific subjects. In his contact with working people, foremen, superintendents, and higher executives, he must have possession of that mass of facts which we sum up in the expression "a knowledge of human nature." He must be informed in the science of psychology and concerning the possibilities of, and limitations to, the utilization of the psychological laboratory in selecting and classifying employees. To enable him to analyze into their elements the processes of his busi-

ness and to classify them into well-defined "jobs," he must have an accurate knowledge of the details of the technical processes of his business. As an organizer of men and equipment he must be well informed concerning the principles of efficient organization and management. As an administrator, inspiring the highest executive officers toward a wise policy of human relationships, he must be master of the history of the facts and ideas of industrial relationships.

These abilities, demanded of the best type of employment executive—abilities of personality, intellect, and knowledge, present a combination which is extraordinary. I may be accused of picturing an ideal employment executive. That I admit, for the educator who aspires to train a young man to be anything less is unworthy of his responsibilities. I may be accused of picturing an impossible paragon. That I deny. I will admit that the employment managers whom I know to be strong in all or nearly all of these qualities can be counted on less than the fingers of one hand, but I know many executives who possess part of these qualifications to the highest degree, and each is possessed to the highest degree somewhere by someone. This analysis of functions and qualifications did not originate at my desk. At my desk I have simply classified the aggregate of functions and qualifications I have seen in many places. Training for the employment executive function should aim to develop each student with respect to each of these qualifications to the highest degree possible, in accordance with his capacity for development. Considering the various degrees of each of these qualifications which men may possess, their permutations and combinations are infinite, and consequently we shall develop in experience an infinite variety of executives. The greatest employment managers will be those who possess all of these abilities, each of the highest degree. Such men can be attracted into executive work of this kind if directors and presidents will value the function highly enough, and will offer the necessary attracting force of rank and remuneration. It is men of this highest type that education should prepare to train. Not all those they train will achieve the highest rank, for there are human limitations to the selection of men for training, and there are unforseen varieties of reaction of men for training. But some employment executives of genius and many of great talent can be produced,

and a high general average of quality of product can be maintained.

The Training

It is perfectly obvious that, considering the type of employment executive we aspire to develop, the machinery of training can not consist merely of one or two courses of three hours each for one semester, entitled "The Functions of Employment Management" or "The Problems of Employment Management." The machinery of training must consist of the entire educational machinery, supplemented by such educational assistance as can be afforded by business firms, employment executives' association, and vocation bureaus. We must conceive of training as afforded, not by one or two specialized courses, but by the aggregate of courses and processes of an integrated educational industry. The one or two specialized courses serve merely to give the final bit of specialized information, to coordinate and relate to the objective the larger amount of information acquired in other courses and in experience, and to effect a final comprehension of the specific problems of the employment management function. The instructor in these specialized courses is like the assembler in the typewriter or cash-register plant who brings together into a whole, suitable for a particular service, numerous parts which have been through many preparatory, selective, and fashioning processes. Behind the assembling of the parts of the cash register is the stamping, the turning, the casting of parts; behind that the selection of the raw stock and the specifications of the metallurgist; behind that the work of the bessemer or open-hearth or crucible plant; behind that the blast furnace and the selection of magnetite or hematite ores, or a scientifically determined mixture of both; and, interwoven throughout the entire series of processes, the analysis of the metallurgist, the rejection of defective and the selection of suitable materials. Likewise with respect to the machinery for training the best type of specialized executive; back of the one or two specialized professional courses is a series of selecting, preparing, and conditioning courses and experiences. The specialized employment-management courses—finishing processes—should have a definite relation to the entire preceding series of educational processes.

Let us turn for a moment to the classification of requirements for successful employment managership.

1. *Personal characteristics.*—These are inborn, not made by educational processes. An educational process may discover for an individual that which he has but does not know he has, or it may take that which he has and give it opportunity for exercise and development. But it can not make a motor temperament of a sensory temperament, and vice versa. Therefore our system of training must involve at an early stage and at later stages mechanism for selecting and rejecting, or at least labeling, candidates for the training. This selecting or guidance mechanism must be located, part at the educational institution, part at a highly developed vocational guidance bureau, and part at a cooperating business plant. An essential part of the system of retaining is the analysis and selection of material possessing the right temperamental characteristics.

2. *Mental characteristics.*—The development of abilities to observe, to relate and value facts, to analyze and to classify, to think logically and to form sound judgments is the particular objective of the educational processes. These abilities are, however, the result of a gradual building-up process. It takes time. It is determined by the nature of the human mind, and is as deliberate as the growth of a tree. Therefore, with respect to the development of these abilities in our selected material, we must not think in terms of one year, or one course, or one stratum of our educational system. These abilities in our material are developed throughout the primary school, the secondary school, and the college, by influence in the classroom and without the classroom, cumulative in their effect with respect to mental development. They are developed by discipline in a great variety of subjects. Furthermore, while the educational system is our great instrument for developing these mental abilities, we should not fail to realize that supplementary business experience can offer much in support of the processes of the school and college, and we should enlist business firms in our work.

3. *Information.*—Those parts of the system of training necessary to give the prospective employment executive the necessary equipment of information are four:

(*a*) The series of educational processes of the primary school, the secondary school, and the college, cumulative in their effect with respect to the imparting of information. I am not thinking merely of the three R's and similar fundamental information, but of the more complex information acquired in the study of such subjects as history, political science, sociology, theoretical and applied economics, philosophy and psychology. All such information becomes of practical use, in forming judgments, to the employment executive as I have defined his functions.

(*b*) A group of specialized courses in business administration, of a general nature, concerned with all phases and functions of business, and not specialized with respect to the employment executive function. The employment executive does not perform an unrelated function; he must form judgments concerning the relations of his operations to other functions, of the influence of his recommendations on other department policies. He must have accurate knowledge of business functions other than his own. At meetings of the executive board his recommendations will carry weight in proportion to the confidence he has created in other executives' minds by repeated evidence of his understanding of their duties and problems.

(*c*) One or two highly specialized courses, relating specifically to the functions and problems of the employment executive, imparting information about the organization and operations of employment departments in business to-day, analyzing and discussing their problems, and gathering all information acquired in more general courses of the entire educational system, and reinterpreting it with respect to the new and particular point of view. All preliminary courses have served to fashion the arrow and prepare the necessary parts; these particular courses attach the feather and sharpen the point.

(*d*) In connection with the work of the university and of the university school of business administration, there must be organized relationship for apprenticeship opportunities with the employment department of business firms. I emphasize the word "organized." The course of supplementary instruction in the plant must be as carefully worked out and as complete as is that in the university. The student must be taken through every phase of the department's work, and must have

an experience among the working people. This supplementary apprenticeship experience will give information not to be secured in the classroom, will give information about the workability of principles formulated in the classroom, and will give a new meaning to all information acquired in the university.

The individual thus trained for employment executive work will not be a complete and experienced employment manager, ready to assume full responsibility, but he will be high grade material, ready for final training in actual service under an experienced manager.

INDUSTRIAL WELFARE WORK AS A NEW PROFESSION FOR WOMEN[1]

Everybody now knows vaguely what Welfare Work is, but few know the character and details of the work, and the broader industrial problem which it is raising.

The discovery by the Ministry of Munitions that such a field of activity exists, and its action in creating a government department for its encouragement, has suddenly made a sporadic experiment of employers into a matter of grave importance to the industrial world, and raised problems of which the issues are doubtful.

The very recent growth of organized welfare work in England is illustrated by the fact that only two conferences on welfare work have been held in England; the first, in 1909, at Birmingham, when 17 firms were represented; the second, in York, in 1913, when 27 firms sent representatives.

In America, welfare work was found especially under the keenest and most highly specialised management. Almost the whole of the literature on scientific management is American. In England the initial movement has been more indefinite, philanthropic, and sporadic.

But there have been, from the first, the two elements that good morale, good conditions, good health, form an economic asset (that welfare work pays as a business concern), and secondly, that it is a part of our duty to our neighbor, a recognition that master and men are of the same flesh and blood; that it is right.

[1] Paper read at Barnet House, Oxford, England, November 26, 1916, by Hilda Cashmore.

I have called the underlying English motive "philanthropic," but I am, probably, scarcely doing it justice. To the best modern employers has come a consciousness that the young persons whom he is employing, and the mothers and young women who are in his factories have other functions beside the industrial, that this labour is not simply a commodity, but is part of potential power of the nation, and that he who uses it has responsibilities both to the individual worker and to the nation. This attempt to express the claims of citizenship in the business organization of great industries is a most hopeful sign of the times, and is not likely to disappear now that its rapid extension to meet the emergency of industrial development in the war has brought it with so much prominence before the minds of employers.

Where a firm, rather than an individual director, is responsible for the welfare work in the factory, one director is still generally found to be giving his attention especially to it, and in nearly all cases the director is both sensitive in a peculiar degree to the conditions under which his fellow citizens live, and alive to the newer methods of factory organization. But, as a rule, employers have not been sufficiently aware of the class of person required, and the kind of training demanded of the man or woman who is to undertake this work for them. Miss Proud gives an amusing list of those she found acting as welfare workers. Clergymen, teachers, organists, doctors, gymnasts, overlookers, cooks, and ex-constables, are some of those who are found engaged on the work; and this is not altered yet.

An analysis of the duties undertaken by a welfare worker shows a variety as great as her qualifications and as the personal idiosyncrasies of her employer. In one factory the welfare worker engages and dismisses girls, has complete control of all matters of health, studies the wage sheets, reports on the safety of the girls in the machinery, and their capacity in their particular jobs, is responsible for the general cleanliness and sanitation of the factory, is referred to in all matters of discipline, and controls the arrangements for dining rooms, rest rooms, and cloak rooms. In another, she is a kind of district visitor, attending the faint, visiting the sick, and arranging social gatherings in the dinner hour. For a third, she is really a club worker, with recreational and social work in the evenings, with no voice at all in the practical business affairs of every-day life in the

factory. In some she is the trained nurse, dealing with accidents and bad health, and she has her office altogether apart from the main body of the works. In a fifth, she is a skilled caterer, who supervises the dining arrangements, and there her duties end.

As her work so are her powers. In some factories she works all day, and every evening: largely, I think, by her own fault, for this weakness is still characteristic of women workers, that they tend to make their work their life. In some she arrives with the senior staff at 10 a. m., and leaves at 4 p. m. or 5 p. m. In some, she is there at 6 a. m., and is expected to be up at night at intervals.

As to position it is the same story. I know two first-rate works in the same town, in each of which a welfare worker was appointed. In the first she was appointed to work under the general manager. A notice was sent round to the heads of every department, announcing that she had been appointed, that all matters of discipline and health, of the engagement of the girls were in her hands, and that every consideration was to be shown her. In the other, her position was not defined, she was put in with no explanation and with no definition of duty. She was told that the idea of a welfare worker was a new one, and would naturally be unpopular, and that she must make her way as she could.

The extraordinary anomalies here are, of course, due to the present organization of industrial work. The directors, the managing director, the manager (or "works" manager), the foreman and forewoman, have their assured position, and their allotted work, which is as little disputed as that of the various officers in an army. Into this rigid system a new officer has been introduced, and it is still a matter of experiment merely, as to which order she belongs, and which duties should be filched from each and allotted to her.

Into this chaotic condition of things the exigencies of the war entered. About a quarter of a million extra women have entered industry. Many have come to "dilute" skilled labour, entering men's workshops, fitted for men's use only, to work the maximum hours at the maximum amount of inconvenience. Some have gone into entirely new shops, perfectly fitted, and organized for them. Some are here, there, and everywhere taking men's places in all kinds of trade. It was in the midst of the most difficult problems of this period of displacement that

the Ministry of Munitions entered the field as the greatest employer of labour in the country, and with that new state department came its welfare department, which has deliberately taken this inchoate idea of welfare work, and given it the prestige and the authority of the government.

The matter of first importance was the question as to the appropriate body to appoint these welfare workers—the government or the management, and to whom they were to be responsible. It was decided that the management was to appoint them from a panel supplied by the Ministry, but the panel was to be regarded as a recommendation only.

To those who look on, two most interesting problems presented themselves. Welfare work, a sporadic growth, due to individual philanthropy, or individual grasp of the new significance of scientific management, which was, at the best, at the experimental stage, suddenly appears from a new angle, as a new form of government demand, as an integral part of that slow development of state control covered by the history of factory legislation, as a new claim by the state on the employer of labour. Its anomalous position is greater than ever when one finds it imposed not by the Home Office, but by a new government department.

The interesting problem is its probable line of development after the war. It had bid fair to be one of the master keys of the new organization of capital, but there are indications now that, instead, it may become one of the links in the great chain of factory acts. But, if so, it is well worth while to examine carefully all that can be said against it. To many of us the position of the Government, as arbiter rather than partisan in industrial disputes, is of supreme importance. An examination of the objections of Labour are worth studying, and are a little difficult to gauge because they have never been formulated. The first lies in the very initiation of the movement. It is employers' welfare work, and therefore as their work, it shares the general suspicion of organized labour. Where there is open war there can be no terms with the enemy.

But there are subtler objections. There is a consciousness on the part of labour of the extreme difficulty of making unskilled labour and all women's labour agree to combine. The lever in the past has been the indignation at the abuses in the industrial system. The fear is that to remove them from above, without

any exertion on the part of the worker is to increase the apathy and want of initiative inherent in monotonous paid work.

This, of course, couched in other language, is frankly used by some employers as an argument in favour of establishing welfare work.

Thirdly, there is the deep suspicion of philanthropy which is inherent in the modern view of life. It is a fascinating subject to analyze out, but it would take too long. In the industrial world it is, I think, the direct product of the growth of the *entrepreneur* class, founded on the *"laissez faire"* economics of the early nineteenth century, as it was ameliorated by an ever-increasing out-pouring of philanthropy, prompted by an individualistic religion. It shows itself in a suspicion of the motive of capitalist philanthropy. Added to this is the irritation of workpeople of the better and more independent kind at the fussy interference of the welfare worker. The story of welfare work is full of such incidents as that of the lady who objected to girls wearing "openwork stockings," and of the man who was controlling a hostel, and made a rule that all must be in at 9.30, "clean and sober." There is the lady who thinks her room in the factory should be as like as possible to a boudoir, in order to keep up the sense of respect between herself and (presumably) the domestic servant class whom she is graciously pleased to control.

The attitude of the welfare worker, as "social conscience," for her employer, appeals as I have said, to a certain type of mind to which philanthropy is the natural door of communication between class and class.

It would be interesting to be able to analyse how far this philanthropic motive has influenced the women who have gone into the profession this year. But to the social student who looks ahead, this path appears to lead only to a blind alley. The age for this beneficence of a charity extended from one class to another beneath it has gone. The cry for justice and not charity is the natural reaction from much kindly but unsound reasoning. The simple fact is that the "factory girl," who is the object of these benefits, does not consider herself "poor" at all, in this sense of the word, nor does she conceive of her employer as a benefactor who kindly allows her to work. She looks upon herself as a human being, full of charm and interest, much as those of us who are young imagine ourselves to be, and she actively

resents "the lady," who appears in her working surroundings and pursues her with unasked-for benefits. This appears inevitable.

Again, there is a growing fear on the part of labour as to the share the welfare worker, "the paid spy of the management," as I have heard it put by those who are hostile to it, will have in foisting the "speeding up" process, inherent in scientific management, on unwilling workers. I will revert to this later.

But there is another class of objections which can be urged from quite another side.

We all probably agree—those who know most about the difficulties which employers had to face are least doubtful—that the Ministry of Munitions was justified in starting a welfare department when it did. But it is another matter, about which some must feel very doubtful, whether the action of the Government will be equally beneficient if it tries to give the present experiment the support of Government pressure after this crisis is over. Now this is a very difficult question, and while we have been training welfare workers with an eye to the present emergency, we have been puzzled by this further question. I am going to digress in order to state it fully.

The gravity of the situation at home to-day lies in the divergence between the interests of labour and capital, the slow organization of two hostile forces, skilled, trained, gaining experience as they go along, biding their time, each with immense funds, and armed with British obstinacy.

The awful results of war have burnt themselves into this generation, and the idealism of the best leaders on either side points to a searching after the consciousness of an eventual community of interest between masters and men, with a wise government as arbitrator.

In the midst of much that is black in the industrial future, some facts emerge already: the willingness of labour to give up its dearest rights in the face of national peril; the slow accumulation by government departments, especially through the development of the Board of Trade, of the knowledge of a thousand minute details of our complicated industrial system, without which it could hardly have acted as arbiter in the future; the greatly increased voice of labour in the administration of the country, and a growing feeling on the part of the public that the very men that they suspected as Trades Unionists, are the men whom they are honouring and feting as soldiers,

wounded from the trenches; last, but not least, the more intimate connection with the self-governing Dominions.

There is already a faint hope that the rapprochement may come slowly upon typically British lines, and that the present representatives of the management and of the workpeople will work together with greater unity of aim in the direction and development of their industry as a whole.

Then the function of the Government will still be to keep the balance true by hedging the road of industrial betterment by the use of its authority, to embody in the form of regulations the experiments that have proved themselves of advantage to the forward spirits in the different classes in the particular industries.

Now in this Welfare Department, the state, driven by emergency, has really taken up an experiment still in the period of confusion. I have examined the nebulous character of the functions of the welfare worker. What really is being asked of her? She is being asked to undertake the functions of a school mistress in the fashioning of manners and morals, of the hospital nurse in tending the sick, of the trades union official in controlling an adult community, of the manageress or matron in responsibility for the efficiency of certain departments of the factory. She is asked to undertake all these duties simultaneously both to young persons and adult women. It is no wonder that the one qualification insisted on is tact.

Turn for one minute to the engineering trade, and put the question how far the employers or the employees will welcome a man welfare worker of the same type, or the Ministry press for one to be appointed. The idea appears at once as absurd.

The situation, to my mind, needs a much more careful analysis. There is, no doubt, a great function for the state in the development of the schoolmaster type of welfare worker in every factory which employs young persons.

This function has been grasped by the most advanced of British employers, and remarkable experiments are being made in Birmingham, York, and other places. It is full of hope, but this is quite another matter, ruled out from the present Welfare Department of the Ministry of Munitions by the necessities of the case. It is at present undertaken by employers in conjunction with the Board of Education, and it would seem that a welfare department under that Board, composed of representatives of employers, trade union officials, and educationalists

would be the fitting means of extending this work. It would take it at once out of the region of industrial dispute. The work could then include definite educational work, all kinds of club and recreational work, general supervision of "manners and morals," down, it may be, to the reform of such matters as the open work stockings, if such are proved unhygienic.

Such functions as those of a trained nurse, of a caterer and general supervisor of dining and rest arrangements, might be grafted on to the requirements of the factory department, and cause no more dispute than in the past. They are, indeed, already allocated to that Department by the recent Police Miscellaneous Provisions Act.

So the "official" welfare worker would disappear as an experiment warranted by the exigencies of a time of crisis and of transition, and so she would not perpetuate herself in a new government department.

There may be "welfare" functions left, which a prosperous and highly skilled industry as the textile or engineering industry might wish to carry on, such as a work's library, or playing fields for adult workers. The ideal method of the appointment of such a person would be by a committee, representing the management and workpeople together, both finding the salary and deciding on the duties.

Such a welfare worker might be of the employer or of the employee class; his qualifications for the post would be his personality and his education. He would be one of the new army of trained social workers whose general education has been assured before his entrance upon a course of social training. That social training would have been so constructed as to give him insight into the methods and ideals of such work, and to bring him into touch with men and women on both sides of industry. It would be a course such as the new Universities are trying to evolve to meet the need.

So the entry of women into men's trades and into industry generally would not bring with it a further inroad of those old bugbears of labour "dependence," "management from above," "philanthropy," which make men so fearful of the effect of women's labour as tending to lower their whole standard of life, and women would be encouraged to be responsible and self-governing citizens to the great benefit of the whole state.

But to return to the narrower field, the possibilities of wel-

fare work as a new profession for University women. The experience of the munition factories alone proves that there is a place for it, and that it is important to find the right type of women. In this warning I have tried only to clear the ground for you from some inevitable disappointments. It is for the moment exceedingly practical work of a useful and necessary kind, in a narrow but important sphere, undertaken now by a trained and capable woman in one of the great munition areas, it is national work of first importance. But there are more permanent advantages. A young woman, with the heart of a philanthropist and the head of a student, would find it an admirable exercise, for a year or so after her year at theoretical social study, as a preliminary to work as a factory inspector, or a Board of Trade official. Again, it may be an invaluable business training. Indeed, I say may be, because business, like everything else in England, is immensely individual, and a good business woman entering a factory may feel more inclined to be a reformer than a learner. It is well to have studied the matter before entrance into a factory, and not to assume the method will be infallible.

Or, again, insight can be gained into the relation of certain sides of factory life in the development of the character of the wage-earning citizen, and into these problems of speed, of monotony, of length of hours, of the relative value of individuality in mechanical work.

It is valuable for the study of certain aspects of labour organization. I think there is less scope for study of this problem than one would expect on the face of it, for the reason that I have shown. The welfare worker enters on the employer's side, and discipline impels a detached and impersonal attitude.

In two other directions, neither of which have as yet been developed, I think it does hold very great possibilities for University women of the first group.

For the University woman who would like to become an employer of labour it might be an admirable first step.

Business has always been considered not quite suitable for English women, who differ entirely from their French sisters in this respect. Frequently in families where the men have left the Universities and gone into their father's works, the daughters have prided themselves on knowing nothing at all of business or of business conditions. It has not been the best thing

for the English middle classes that this has been so. It has fostered that false sense of so-called philanthropy, in which the brothers, untaught in social problems, have produced conditions of squalor, by the conditions under which their employees worked, while their sisters at home, equally ignorant, have spent the money so made, in doing charity in those very neighbourhoods, which are the result of such conditions, and which are further depraved by the addition of charitable work.

The humane and home instinct which most Englishwomen possess, their more concrete minds, their interest in the details of domestic life would be of utmost value in the economy of the factory. A young woman who wants to make a beginning cannot do better than to take one of these business posts thus opened to her and get the training it offers. While women crowd into industry on the side of the employe, it is quite a matter worthy of consideration if the solution of some problems which they raise will not best be made by women entering it on the employer's side. A woman director, in concerns which employ many hundreds of women would probably be a most welcome addition to the management. Anyway, I commend the idea to the young.

Or again to the University woman with a mathematical or scientific bent of mind, such a profession may be the first step in a new and fascinating field of research. This new organization of business which we call American, which is known as "Scientific Management," offers a field of research of most vital interest for the future well-being of our people.

It is research of an intricacy and delicacy of observation which demands highly trained and intelligent students. It is already on the way, and is looked at by all thoughtful workpeople with deepest suspicions and foreboding. I, personally, do not think that there is any exaggeration in the statement so often made, that scientific management will produce as great a revolution in the twentieth century in the industrial world, as the introduction of machinery in the eighteenth and nineteenth centuries.

That this new organization should be accepted and controlled by the workpeople is the necessary condition of their prosperity. If they resist it, machinery will conquer them. If they master it and have won a share in the management while it is yet in its infancy, much evil will be spared us.

There are five essentials for the work:

1.—An intimate knowledge and sympathy with women and girls. This can best be acquired by such methods as teaching in a primary school, life in a settlement, work in a women's trade union office, living at the same time in a poor neighbourhood. Without this fundamental experience no one should take up welfare work.

2.—A careful study of industrial problems which affect women's labour:—such problems as the displacement of men by women, married women's work, the educational needs of "young persons," the home life of women and girls, the working of such acts as the Insurance Acts and the Workmen's Compensation Act.

3.—A knowledge, both theoretical and practical, of the health of women and girls, and how it is affected by speed of output, the kind of commissiariat provided, the questions of ventilation and heating, and questions of housing accommodation.

4.—A knowledge of the technical side of the work, indexing, filing, account keeping, domestic arrangements in rest rooms, cloak rooms, the organization of a factory, and the relations between general managers, managers, foremen and forewomen.

5.—A conception of the right relation between the life of the factory with all its agencies for good, and the life of the community, the inter-action of each upon the other. This involves a serious study of the social structure of the community.

THE EMPLOYMENT DEPARTMENT

A FUNCTIONALIZED EMPLOYMENT DEPARTMENT AS A FACTOR IN INDUSTRIAL EFFICIENCY[1]

The most significant fact pertaining to industrial management today is the attention which is being given to the problems of personnel. Recognition is being given to the truth that new sources of power and evolution of mechanical processes have but changed the points, in methods of production, at which the human factor is essential, without changing to any degree the ultimate dependence upon it.

The impressive thing is not that some men recognize the importance of the individual worker, for this has always been true of some; it is that such recognition is so rapidly becoming general, since it has been so long delayed. Yet the causes are obvious. Power can be produced for A and Z with little variation in cost to either. Plant design has been standardized until one can gain small advantage over another herein. The same mechanical equipment can be secured by one as by the other. There is no longer marked advantage possible to the thoroughly progressive house over another, equally progressive and intelligent, in the securing of raw materials, in the mechanical processes of manufacture, or in the methods of promotion and distribution. Wherein lies possible advantage of A over Z in the competition between them? Or the question may read for Z, how may he retain his prosperity in competition with A? This is one phase of the compelling logic which is leading to the study of problems of employment.

It becomes increasingly evident that the statement frequently made is universally true, if interpreted broadly, that the interests of employer and employe are inextricably bound together.

[1] By Ernest M. Hopkins, President Dartmouth College; former Manager of the Employment Department, Curtis Publishing Co. Annals of the American Academy. 65:67-76. May, 1916.

The social significance of questions relating to the mutual interests of employers and employes is so great that these could not have been much longer kept subordinate under any circumstances; but the utilitarian advantage to employers, individually and collectively, of scientific study of these problems has become so plain that the present general interest in them among industrial leaders can most positively be ascribed to the fact that, whatever else they are, they are a vital concern of good business.

It was logical, when industrial management reached the stage that its practices could be defined, and the preliminary studies made to separate the good and the bad, in course of reducing such management to a science, that attention should have been focussed first on processes, machines and buildings. These things needed to be right before the worker could realize his possibilities. It is to be recognized, however, that though the word "efficiency" came into wide use during this stage of dealing with inanimate factors, the word is entitled to the far broader significance which carries an import of all-around effectiveness. Industrial efficiency, under proper definition, does mean and must be understood to mean right workers and right conditions for them as distinctly as right machines and conditions designed for their best operation.

This is the broad principle on which the functionalized employment department has been established. It is simply the application of the same reasoning to finding and maintaining the labor supply that has already been applied in industry to problems of building, equipment, mechanical supervision, and the methods by which business is despatched.

There is this greater difficulty in establishing a functionalized department for employment and correlated responsibilities than in establishing a department for almost anything else, that however frankly men will acknowledge limitations on some sides, few will admit or believe that they are not particularly perspicacious in their judgments of men. This is particularly true of those of circumscribed vision, whose advantages have been few and whose opportunities for developing breadth in their mental processes have been limited, as is the case with many minor executives or subforemen. Such an one feels, perhaps not unnaturally, that his prestige with the new employe is impaired if employment is secured

through some department outside his own. Moreover, he is likely to ascribe to the employment department no other basis of appraisal than he himself has used, and with this as a premise, he argues that his own intuition is better than that of one who lacks his own intimate knowledge of the work for which he is responsible. Almost invariably, too, he fails to value to reasonable extent the loss to his own work which comes from the waste of time involved in interviewing and employing, even if he undertakes to do this with such care as that of which he may be capable.

Too much emphasis may not be placed, however, on the difficulties incident to establishing the employment department, for the foremost concerns have so definitely accepted the principle that it is bound to be accepted generally. It should simply be recognized that such a department cannot fulfill its function to become a large contributor to the success of the business unless it be given recognition and endorsement sufficient to gain for it cooperation from the departments with whose problems of personnel it must be in contact. A large responsibility rests upon the employment department to work carefully and considerately, with open mind and appreciation of the problems of others; but even so, occasional support in the way of instructions from above will be needed to give the department access to some parts of the field wherein its work should be done.

This raises the question as to the place of the department in the organization. There can be only one answer, if the installation of the work is made in good faith—it must be in direct contact with the topmost management, where its problems can be passed upon promptly and decisively by ultimate authority, if issues arise. More important than this, the creation and establishment of such a department in a business should mean that the avenues of communication between those in the ranks and those at the top, which too often have become closed as a business has grown large, are to be re-opened. If this does not become true, the potentiality for good in such work can never be more than partially realized.

It is a duty that distinctly belongs to the employment office, to cultivate sympathetic knowledge of the opinions of workers and to bespeak these to the management. All industry is so set up that the word of the management can be quickly

and easily transmitted down. It is no less of consequence to those above than to those below that some agency exists for facilitating the reverse process.

Industrial efficiency could not have been so definitely advanced as it has been without gigantic accomplishment in gathering data, codifying them, and the establishment of systems to realize benefits from the lessons learned. It is useless to expect that great businesses can be conducted without a great mass of prescribed routines designed for the greatest good in the majority of cases. But it is true that the necessary struggle for uniformity and system has involved the limitation of individualism to standardized types to an extent that raises some serious questions.

It is impossible to set limits to the advantages which may accrue to a business from such attributes of personality among its men as loyalty and enthusiasm, and yet personality cannot well be standardized. Herein the employment department needs particularly to be on guard in its own work. It must steer between the danger of following the foreman's method of picking men because he likes their looks or their manners, and a method so systematized and impersonal as to have eliminated all individualism.

It is for this reason that great caution is needed to avoid blind acceptance of methods from among the various systems evolved by the less careful industrial psychologists or advocates of character analysis. Much along these lines has been established which ought to be known and utilized to reasonable extent in the employment office. It is surely true that certain physical types are particularly adapted to certain forms of manual labor; it is as true that certain mental types have especial aptitudes which ought to be recognized in assigning them to work. Experimental psychology has taught us how to determine the mental defective and the moron, and is capable of doing far more for us. But there is a refinement of system proposed by some that is neither commercially profitable nor ethically sound, in that on the one hand, at large expense, it attempts the standardization of personality, and on the other, it accepts unduly a theory of predestination which would largely limit the opportunities for proving individual worth.

There are, however, no differences of opinion concerning

the desirability of standardization of jobs. This is not properly a responsibility of the employment office, but knowledge of what the respective standards are is one of its vital needs. If the data have not been gathered and made available, one of the most essential moves for the employment office in the establishment of its own work is to undertake such a survey of requirements of the work and opportunities for the workers in the respective departments and sub-departments as brought together will give a composite of the whole plant. Such a survey need not be made obtrusively nor need it become a nuisance to department executives. It will necessarily involve the expenditure of considerable time. But it is worth while doing, even if it has to be done very quietly and very slowly, for while it offers the most fundamental data for employment work, it likewise often shows such inconsistencies in practice that a company can markedly raise its average of efficiency, if only it brings the departments of lax or faulty standards somewhat up towards the grades of those which are being well administered.

Such a survey in its elementary form should show at least such facts concerning the respective departments as preferred sources of supply for new employes, education or special training required, any special attributes desired, initial wages paid, opportunities for advancement in position and possible wage increases, working conditions and working hours, and labour turnover.

The term "labor turnover," which has recently come into general use, even now is not fully understood by some, and is perhaps best described by the more brutal phase in general use, "hiring and firing." The annual "hiring and firing" figures represent the percentage of labor turnover. For instance, if a company maintains a normal labor force of a thousand people, and is obliged to employ annually a thousand to compensate for those who leave or are dismissed, the labor turnover is 100 per cent.

Probably no greater argument for the establishment of a functionalized employment department in many companies could be made than to induce a study of the labor turnover figures. It is not an unusual experience to find employers who estimate the figures of their own concerns at less than 50 per cent, when it actually runs to several times that figure.

It is to be noted that such figures, though illuminating in themselves, need further analysis to be of major use. For instance, seasonal demands may be such in the specified shop normally enrolling a thousand hands that two hundred must be employed periodically for a few weeks and then dismissed, their places again to be filled in a few more weeks. If this happens five times a year, the turnover figures will be 100 per cent. The other extreme would be a concern with such lack of knowledge of the money loss involved in change that practically every job was vacated and filled at least annually, when likewise the labor turnover would be 100 per cent. Such figures are much too high, but they are not infrequent. They likewise are expensive, but while in the latter case the concern in question would bear much of the expense, in the former it is more largely imposed upon the community. Working men or working women who, through no fault of their own, are deprived successively, time on time, of the opportunities to realize their earning capacities, inevitably suffer impairment of courage, self-respect, and even moral fibre, the loss of which falls first upon the community, but eventually upon industry, in the depreciation in quality and spirit of the labor supply.

It is extremely difficult to know what can be done to remove the seasonal element in employment needs in the majority of cases. On the other hand, much would be gained if, by analysis and comparison, foremen and sub-managers could be shown the futility and financial loss of the lack of comprehension which allows them to discharge carelessly on caprice, or for the maintenance of that perverted sense of discipline which they phrase as "keeping the fear of God in the hearts of their people."

There is so much advantage in having employes who know the ways and routines of a concern that it would seem that, except where dismissals are for sufficient cause, those suffering them would be preferred applicants for positions elsewhere in the company calling for like grade of ability. It is not often so, nevertheless, except where a well-established employment office or its equivalent exists. All too frequently, a reduction of work in one department of a large manufacturing plant will send workers out under dismissal, while some other department of the same plant is seeking additional help.

A rule which has been established in some large plants, and which has worked advantageously, is that no department can discharge an individual from the company's employ; it can only dismiss from its own work. In effect, this subjects the case to review of some higher official who holds the power of final discharge, gives the employment office a chance to utilize the experienced employe elsewhere, if of proved capacity, and acts as a healthy check on the impulsive high-handedness of certain types of foremen and submanagers. Another rule which works to somewhat the same effect is to require advance notices to be filed with the employment office concerning projected dismissals, together with the reasons therefor.

Other statistics which will interest the progressive employer may be compiled, showing the degree of permanency of the labor force—thus, the percentages showing what proportion of the total enrollment has been employed less than a year, what proportion for between one and two years, and so on. Not infrequently it will be found that these figures reveal employment conditions quite apart from the theories of the head of the house and contrary to his belief as to how his business is being run. A manufacturer employing about four thousand men told me recently that he had genuinely believed that a large proportion of his men had been with him from ten to twenty years, only to find from such a statistical table that 50 per cent had been there less than two and a half years.

Incidentally, it may be suggested that some of the easy generalizations which have been made from time to time in regard to the lack of stability of workingmen as groups, because of the presence therein of so-called "floaters," would be materially altered if it could be known to what extent it had been beyond the volition of workmen of unquestioned skill to remain permanently placed. In general, the handling of dismissals has been dictated by the intelligence of subexecutives rather than by the intelligence of the management, and there has been no supervision from above.

The functionalized employment department is dependent, for successful accomplishment, in particularly specific ways upon the smoothness with which its work can be made to articulate with other functionalized departments, such, for instance, as the accounting department, the schedule or routing

department, and other like ones. It must rely on these for the data to prove much of its own work, and in turn it may find within its perspective facts highly important to them. Through the large number of its interviews, it should come to have an unusually comprehensive knowledge of current rates of wages for established grades of work. It ought, furthermore, to come into position to know to what extent the law of increasing returns will apply to additional rates of pay established to secure superior ability.

It is probably due to the fact that the attention of industrial leaders has been fixed in the past so intently on problems of power, plants, and machines that so little practical recognition has been given to the fact that the most efficient worker, even at considerably increased cost, is far and away the most profitable. The most obvious demonstration of this exists perhaps in the case of a shop filled with expensive machinery working to full capacity, yet with its production falling behind its orders. Would there be any hesitancy if its management could have an option offered between added efficiency and enthusiasm among its employes that would increase its potentiality a half through the enrollment of its labor force on the basis of capability to earn a largely increased wage, and the alternative of the necessity of adding 50 per cent to its plant and mechanical equipment? The truth is that seemingly there is not yet any general understanding among employers that a high gross payroll does not necessarily result from a high individual wage, or expressed in slightly different terms, that the cost per unit of production may be larger the lower the rate of pay to the individual worker.

A somewhat analagous principle is involved in the matter of working hours per day. The old-time practice indicated a theory that if so much work could be accomplished by a working-week of sixty hours, 20 per cent more could be accomplished in a working week of seventy-two hours. Reduce these figures to fifty hours a week as compared to sixty, and the theory does not seem to have been so completely discarded even now. Yet the facts are available from modern investigations of the physical and nervous reactions from fatigue, lack of variety incident to refinement of methods in specialization, and want of time for recuperative processes, to show that up to some definite limit actual gross production may in-

crease under reduction of hours; or that up to some other limit a much larger proportionate production per hour of work may be secured. Moreover, these arguments have been proved again and again in the actual operations of progressive companies.

It is not to be understood that the employment department does have or should have final authority to govern these policies But the department is in a position to study and compile data regarding these problems as very few other departments can; and either in initiating or contributing to investigations of all such matters affecting the human relations, it has opportunity for rendering the most valuable kind of staff service to the general administration and to departments associated with itself.

Industrial efficiency, with all its vital importance, is yet a means to an end, and not the end itself. It is the quality or manner by which a highly desirable result is to be accomplished, but it is not the result. It has too often happened that an earnest advocate of efficient methods has become so engrossed in the technique of his profession as to ignore its purpose, to the consequent detriment of the general cause.

So it may be too easily with functionalized employment work. An office may be set up under the direction of a master of system, which in its operation shall be a model of method. Interviewing of applicants, filling out of skillfully devised application blanks and filing them, and creation of numberless card records may be so conducted as to show these things to have been reduced to an exact science, and yet the value of the department remain problematical.

Of course, no effort must be spared to have the ways devised by which the best possible candidates shall be offered and chosen for the respective kinds of work. But the work is incomplete if it stops here. The good of the business is the criterion by which all accomplishment must be judged. If a high grade of labor has been secured, the company's interests demand that the environment, the conditions and the opportunities shall be made such as to hold it. The employment department cannot omit any legitimate effort to influence policies to this end. It must work helpfully and understandingly with other departments, without pride or arrogance. But it must work unceasingly with clear vision toward the goal of

making its distinct contribution to the company's prosperity through the improved human relationships which it may help to develop.

THE FUNCTION OF THE EMPLOYMENT DEPARTMENT[1]

Introduction

If you take any two business concerns engaged in the same industry and allow to both the same mechanical advantages and the same proficiency of method and system, the larger measure of success will come to that concern which had advanced further toward the intelligent development of its working force. It is perhaps natural that industry, in studying out ways and means to expand and increase its powers, should first bring into existence machines which make possible the multiplication and refinement of its product. It is natural, perhaps, that the next step should be the perfecting of methods of production and distribution to the end of eliminating as far as possible all waste and lost motion. In the same way it is natural that industry, having solved these two problems in a large degree, should devote its attention to the development of the workers who operate these machines and systems, and on whose efficiency, then, the efficiency of these machines and systems depend. It is with this in mind that we have come together at this conference to exchange ideas.

Field of the Department

The phrase "employment department" is a misnomer if it is permitted to convey the idea of a department maintained merely to keep in touch with the labor market and to engage employees. Its function is infinitely broader. Summed up in one sentence, the employment department is the department whose purpose is to develop the efficiency of the workers, directly or indirectly, and to bring about a condition in which the individual employee will render as nearly as possible 100 per cent service to his employer. The word "employ," then, should signify "continuous employment" rather than the act of engaging a worker and placing him on the pay roll.

[1] By R. C. Clothier, Vice-President, The Scott Co., Phila. U. S. Bureau of Labor Statistics. Bul. 192. p. 7-14. May, 1916.

Four Divisions

How, then, is the employment department to proceed? Into what subordinate functions is its main function of the development of personnel divided? There are four. Allow me to touch briefly upon these subordinate functions.

Selection

Of course, the first is that of selection. When we go to construct a machine, our first care is as to the material we put into it; similarly when we go to build up an efficient working force, we must exercise the greatest care as to the character and quality of the units which are to comprise it. The employment department must naturally keep a classified record of applicants, so that when vacancies occur, to be filled, the executive in charge of engaging employees may be able to get in touch with proper material. It must examine applicants carefully, not only with respect to their fitness for the particular tasks they are to perform, but with respect to their constitutional ability to harmonize with the ideals and underlying principles of the company they are to serve; they must be capable of loyalty as well as efficiency. The incoming employee, too, must be physically capable of performing the duties about to be delegated to him. Not only must he be muscularly strong enough for his tasks, but he must be constitutionally in good health, and he must of course be free from any impairment which might be communicated to his fellow workers. For the medical examination of new employees, a company physician should be in attendance under the direction of the employment department.

Instruction

The second subordinate function of the employment department is, in most concerns, that of instruction. Instruction is the process of developing a new employee capable of delivering, perhaps, 10 per cent service into a trained worker capable of delivering 90 per cent service or better. Methods of training differ with different concerns. Different kinds of work, different kinds of organization, demand different ways of conducting instruction work. Some concerns find it best to maintain schools

under salaried teachers for this purpose; such schools should, of course, be under the direction of the employment department. Other concerns have their instruction work done departmentally by persons designated to that task, or even by foremen and fellow employees. Where the instruction work is done in this way, the employment department should be a very interested party. It should either exercise direct control or a strong advisory influence.

Welfare

The third subordinate function of the employment department is that which has direct reference to the state of mind of the employee. This division of the work is founded on the certainty that an employee who is happy and satisfied and free from anxiety, and who works under favorable physical conditions, will do better work and more of it than an employee who is dissatisfied and fearful of the future, and who does his work in an unfavorable physical environment. For want of a better name, this division of the work is called "Welfare work," a phrase which has fallen into some disrepute because those in charge of welfare in many establishments have let their hearts lead them astray, and because through lack of tact and judgment, welfare work in certain quarters has been permitted to be interpreted by the employees themselves as touching on altruism and charity.

Welfare work is not altruism; it is not charity. Industry now regards personnel as one of the big factors to be considered in every undertaking, and if this is so, then the work of the welfare department is an economic necessity. But this work must be conducted along economic lines, as every other department is conducted; every dollar spent on it must yield 100 cents in return. It must be thoroughly leavened with good, hard, common sense.

The employment department, through its welfare division, should give constant attention to such things as light, air, sanitary arrangements, and elevator service. It is not reasonable to expect an employee to reach his or her place of work in the establishment in the right frame of mind to tackle the day's work with eagerness, if he has to pass through the gamut of damp, dark, and congested locker rooms, and either climb several flights of stairs or wait his turn to get on the elevator together with a crowd of fellow workers, all as vexed as he. It is not

reasonable to expect him to display interest in the company as a whole if his employers fail to regard him in measure as a partner—as he really is—and to provide for his physical comfort and convenience accordingly. To bring the individual employee to the frame of mind where he is able to deliver efficient service, it is axiomatic that the employer, through the employment department, should arrange for those physical surroundings which will breed self-respect as well as a spirit of satisfaction.

Under the welfare division of the employment department, restaurants should be maintained for the use of the employees, where good food can be procured at minimum prices. If this is not feasible, encouragement should at least be given to some reputable caterer to maintain a good, low-price restaurant in the immediate vicinity. The former plan, however, is infinitely the better. Good food makes for good health, especially when served under agreeable conditions—a combination that is infrequently found in low-price restaurants. Then again, at the lunch hour the employees meet as men and talk as men; it is the time when opinions are formed, friendships made, and esprit de corps developed.

After these fundamental and immediate welfare needs are satisfied, the employment department should devote its energies to the development of an adequate beneficial association for the protection of those employees who are taken sick. A staff of woman visitors should regularly call at the homes of employees who are absent owing to illness, for the sole purpose of assisting them in any reasonable way and expressing the company's interest in them. This work requires tact and judgment, for any careless phrase interpreted by the sick employee as savoring of charity will be resented, and any possible suggestion that the visit is really a pretext for detective work in the home will arouse suspicion of the sincerity of the company's motives and alienate the worker's loyalty and enthusiasm.

And in addition the welfare division should provide for a sound pension system for the benefit of the superannuated employees who have given their lives to the company and have grown old in its service.

And when these matters, which are fundamental but not necessarily immediate, have been adjusted, then the employment department is at liberty, through its welfare division, to promote other but less requisite enterprises for the benefit of the workers,

such as employees' clubs, savings funds and social meetings, all of which contribute to a favorable attitude of mind on the part of the employees.

Medical

The fourth subdivision of the work of the employment department is one I have already touched on in discussing the examination of applicants; that is, the medical work. Every large company should have the services of a physician, either all-time or part-time, which should be supplemented by adequate, if not elaborate, hospital facilities. In addition to examining new employees, the physician should periodically examine all employees on the pay roll, say every six months, as a preventive measure. A timely examination may frequently free an employee from the necessity of later giving up his position, and may save his employer the cost and loss of getting a new employee in his place. Two hospitals should be maintained, even if very small—one for men employees and one for women employees. At least one orderly and nurse should be in constant attendance, to give attention to employees who are taken sick and to treat emergency cases.

Summary of Functions

I have skeletonized thus the direct functions of the employment department by classifying them as first, selective (the function of engaging employees), instruction (the function of developing their efficiency for their particular tasks), welfare (the function of creating a favorable mental background for their work), and medical (the function of protecting their physical health).

Industry is coming to recognize the need for such a department to supervise its personnel, yet individual executives, even within the concerns which are most farseeing, fail to appreciate the full need for and opportunity of the employment department. For this reason the employment department should occupy an unique position in the business organization; the manager of the employment department should be in touch with the supreme authority in the organization, in order that the department policies may receive first-hand and final corroboration in case it is needed. But because its value is not as yet convincingly

impressed upon the average department executives, whom it is intended to serve, such final support from the powers that be should be invoked only when absolutely necessary. In short, the employment department should win cooperation of the executives with whom it works, not through arbitrary legislation from above, but through actual service rendered to those executives. To render such actual service to these executives the manager of the employment department (and his assistants) should be capable of seeing all sides of every question that arises; he should get the other man's point of view; he should get down to a basis of departmental and personal friendliness with him and work out the solution to his satisfaction. Interdepartmental antagonism must be done away with. Personal dislike must be forgotten. When, by such a policy, the employment department wins the esteem and friendship of the operating departments, its position in the organization will be ten times as strong as if it attempts to force recognition for itself through edict from the general manager's office.

So much for the organization of the employment department, its place in the company, and its relations with the operating departments. What policies should it pursue?

Labor Turnover

Immediately there presents itself for consideration the problem of the labor turnover, a source of loss and inefficiency and industrial hardship which business, until comparatively recently, has completely overlooked. Labor turnover is, briefly, the proportion of the number of employees engaged in a year to the total number of employees on the pay roll. If a concern has 500 persons on its pay roll and in a certain year 500 persons must be engaged to maintain that pay roll at 500, the labor turnover is 100 per cent; if it is necessary to engage only 250 to maintain the pay roll, the labor turnover is 50 per cent. The formula is complicated slightly if the size of the pay roll increases or decreases during the year and again if the necessary hirings are differentiated from the unnecessary hirings. But, broadly speaking, turnover is the proportion of employees hired to the total pay roll.

It should be the duty of the employment department to reduce unwholesome labor turnover by every means at its command. In

fact, the ultimate efficiency of the employment department can largely be gauged by the trend in the turnover figures. In addition to the contributing effect a high labor turnover has upon general industrial conditions, which in turn react upon the company, there is a very immediate significance in a high labor turnover which can be measured in dollars and cents. The cost of hiring and firing an ordinary clerk or workman is variously estimated in different concerns at from $25 to $200. This represents the cost of hiring, the cost of the breaking-in process, the cost of material wasted and spoiled, the disorganizing effect upon the immediate department, and the cost of reduced output during the early days of the new employee's service. If the average cost is $100 per employee, it requires no genius to ascertain the cost per year to a concern with 1,000 employees which has a labor turnover of 100 per cent.

Methods of Reduction

What are the methods by which the employment department can reduce the labor turnover? First, of course, by intelligent selection. Second, by intelligent instruction work so that the employee will not fail to make good through inadequate preparation for his tasks. Third, by creating in him a satisfied spirit as far as welfare work, properly conducted, can do it. Fourth, by developing the policy throughout the organization of filling vacancies from within and giving the employees the opportunity to advance to positions of greater responsibility and compensation as fast as their ability warrants it. Fifth, by reducing as far as possible the number of arbitrary dismissals. Sixth, by working with the administrative officials of the company to standardize the rate of production, either by manufacturing for stock when possible instead of on order, or in rearranging the schedule of production in such a way that the average output (and consequently, the working force) will remain uniform. Seventh, by acting as a clearing house for labor between the various operating departments, in order to prevent one department from discharging help because of slack work, while another department is adding to its force. In its capacity as clearing house, too, the employment department can place elsewhere in the organization employees who fail to make good where first assigned; there are such things as square pegs and round holes.

and many an employee who fails miserably at one task may succeed markedly at another.

Personal Relations

Now for another function of the employment department. The strictly military form of organization is coming under the microscope and flaws are being discovered. Industry is coming to see that the executive who says, "do this," to his subordinates, and who fails to help them by advice and personal assistance is not as valuable as the executive who regards it as his first duty to aid his workmen. The executive is not to command, but to assist. And the business organization which is permeated with this spirit of cooperation between boss and worker is certain to possess a higher degree of human efficiency than the business which is built along the old-time military lines.

The employment department should aid and foster the development of this spirit, both through the personal efforts of its manager and his assistants and in the adoption of departmental policies which work to that end.

Centralized Discharge

This touches closely the question of discharge. The fear of peremptory discharge is often the cause of vitiated efficiency on the part of the employee. Fear and enthusiasm can not reside side by side in the same individual's mind. The theory of the old military system is, too frequently, to fire a number of workers occasionally for the avowed purpose of keeping the fear of God in the hearts of the others; it fails entirely to take into consideration the fact that such a policy, while doubtless compelling sullen obedience on the part of the individual, lowers the efficiency of the force as a whole and increases directly the labor turnover.

Ultimate discharge from the company should take place only through the employment department, which should analyze the reasons for discharge in each case and give the discharged employee a chance to state his side of the case. Too often, under the military system of organization, workers are discharged for some superficial reason or through the whim of their superiors. Too frequently we condemn, unheard. This tendency can be

curbed and the problem of the square pegs and round holes solved through the centralizing of the function of discharge in the employment department. It will doubtless prove illuminating in most companies to classify the cases of discharged employees by causes and departments. Such a comparative classification would be certain to have a wholesome effect upon the minds of the executives who habitually discharge without good reason, and tend to demonstrate that a large departmental labor turnover reflects seriously upon their individual abilities.

A Service Department

In closing, let me point out that by the very nature of its field the employment department must be a service department. It is not an operating department, but it should work hand in glove with the operating departments, helping them in a genuinely sincere way to increase their own efficiency through increasing the efficiency of their employees. It should not seek credit for what it does, only results—on which in the end it must stand or fall. The means should always be sacrificed to the end; many of its achievements for the improvement of the working force must be accomplished indirectly by counsel and advice, and the credit, oftentimes, must go elsewhere. But that, of course, is of minor significance. If, by its activity, either direct or indirect, there results permanent economic advantage to the company through the improvement of its human relationships, the employment department will take its place in the organization as one of the productive departments.

THE ORGANIZATION AND SCOPE OF THE EMPLOYMENT DEPARTMENT[1]

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 Febru-

[1] By N. D. Hubbell. Employment Manager, General Railway Signal Co., Rochester, N. Y. U. S. Bureau of Labor Statistics. Bul. 227, p. 97-111. October, 1917.

ary 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 listen carefully to any idea 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 satisfactory 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 then 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) check-

ing 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. 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 doctor's exam-

inations are a good proposition. They are so common now that very few applicants object to them. A comprehensive employment 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, exists, 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 "dead-wood," 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 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 the 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 depart-

ment. 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 ex-employees: 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 depart-

ment 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 someone 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 everyone 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.

ORGANIZING THE EMPLOYMENT DEPARTMENT[1]

Co-ordination of effort under one head in selecting and placing the workers is as necessary among the various departments within the plant as it is among the outside agencies recruiting them. *The man-power problem in each individual yard demands as uniform and consistent a policy as the technical problem of production.* The most economical and effective means of handling this problem is through the establishment of a centralized employment department.

The functions of a properly constituted employment department may be broadly and briefly defined as follows: *to develop sources of labor supply that will provide a sufficient number of competent employees; to select and place employees in the jobs to which they are best fitted; to control questions of transfer, promotion, discharge, and other adjustments affecting the employee relationships in the plant; and to develop within the organization plans for mutual helpfulness that will promote a spirit of genuine co-operation and understanding between the management and the employee.* By these and similar means the employment department serves to make it worth the employees' while to stick to the jobs they have and put forth their best efforts.

Briefly, the employment department stands as the appraiser of the standard of personal relationship by assisting the department heads in keeping and training their employees so that they may be not only of the greatest use to the company, but to themselves and the community as well. Moreover, the department insures that the standards set are in accord with the best industrial practice, and at the same time are based upon the interests of both company and workers.

[1] Bulletin I. Handbook on Employment Management. U. S. Shipping Board. Emergency Fleet Corporation. Philadelphia, 1918.

Steps in Organizing the Department

In proceeding to organize an efficient employment department there are four principal points which must be borne in mind. They are:

1. *The management should really feel the need for such a department and fully appreciate the advantages to be gained by it.*
2. *The proper employment manager must be selected.*
3. *The policy and plan of the employment department must be clearly defined to foremen, superintendents and all employees by the general manager and on all occasions be supported by him.*
4. *The department must be properly housed, equipped and manned to perform its functions.*

Company's Policy

The progress and ultimate success that the employment department will have in the organization will depend largely upon the policy of the company and its attitude toward its workers. The management should not only at heart desire that fair treatment, good working conditions and adequate wages prevail, but it should appreciate that, together with the proper selection and placement of employees, these things definitely increase production. The management that really feels this appreciates its need of an employment department and will be ready and willing to devote the time, patience and expense necessary to its development.

The head of the employment department should hold a position of equal rank with the executives in charge of the other major departments and be responsible only to the general manager. As the official in charge of the man-power problems, he must be in a position to act with the same degree of authority as those in charge of the technical problems of production and be supported by the general manager accordingly.

One of the most fundamental policies that the general management can establish is the maintenance of an executive council or cabinet to discuss the interrelated problems of labor and production. This cabinet should be composed of the execu-

tives who are in charge of the technical problems of production, the employment manager, who is the executive in charge of the labor problems, and the executive who is in charge of the problems of general control.

The Employment Manager

Special attention must be given to the type of man chosen as employment manager. He should be a capable executive, broad-minded, fair and square, and of a sympathetic temperament, in order that he may be easily approached by any man in the organization—ready at all times to listen to their complaints, troubles or suggestions, and big enough to solve their problems and keep them happy and satisfied with their work.

He should possess sufficient familiarity with all the operations performed in the plant to enable him to see that men qualified to perform the work called for in each position are hired.

A man in this position needs to possess courtesy, even temper, patience, and ability to be a good mixer. Furthermore, he should have sufficient poise and dignity to sit at the council table with other executives and heads of departments and discuss intelligently current plant problems.

In short, *it is necessary that he be a man in whom the manager may have implicit faith and to whom he can intrust the personnel of the plant with the same degree of confidence that he intrusts production to the production manager.* The modern employment manager is a specialist in human nature, an analyst of work requirements, and an interpreter of human relationships. He is the connecting link between the management and the employees, possessing the confidence of both without betraying the confidence of either.

Men who measure up to these requirements are difficult to find, as such a rare combination of talents and experience is not readily available. It is best to select a man who possesses the broader requirements with the expectation that he will develop the more technical qualifications. It is much better and requires less time and expense to teach an experienced, well-trained employment manager the necessary details of shipbuilding to qualify him sufficiently to handle his work, than it does to take a man who knows all about ships and try to teach him

the principles of modern employment management, and to develop within him the personal qualifications necessary to handle men.

To attract a properly qualified man to the position of employment manager, the salary must be substantial, with opportunities for further advancement as merited.

Employment Department's Relationship

When the employment manager is chosen, his policy and plan must be properly introduced and explained to the foremen and superintendents, and his relationship to the entire organization be clearly established. At the outset, the general manager should make it clearly understood to everyone that the employment department is a separate and distinct department, possessing full authority to deal with all matters pertaining to the hiring, transferring, following up, adjusting, and discharge of employees, and to the problems arising in connection with employees' relationships. The employment manager must have the unqualified suport of the general manager. The general manager should give him the same backing and support he gives other executives, and see that he is not interfered with in the performance of his work by other department heads.

Probably the best way to make the foreman and superintendents understand the help that the employment manager can give them is to get them together in a body—preferably at a luncheon or dinner, as this promotes a spirit of genuine fellowship. The general manager should preside at this meeting, not send a "personal representative." In addressing them, he should make the foremen realize that the new department is in no way an effort arbitrarily to force a new scheme of things upon them. The greatest danger to the employment department's success arises out of disturbing the foremen's long established privilege of hiring and firing. If a foreman feels that the employment department is designed to rob him of his long cherished privilege he will immediately be hostile. It is, therefore, essential that the general manager should demonstrate the necessity for the new department.

He can do this effectively by showing the effect of labor turn-over. He can show what it means to the company to hire and break in a worker under the old scheme, with the lessened

production, accidents, cost of instruction, spoiled work, and other factors involved, and what an expensive mistake it is to lose this man when frequently he has just become a real producer. He can mention the cost to the individual workers who lose time and money in passing from job to job and in moving their homes from place to place, and he can show how this shifting about leads to industrial unrest and decreased production. The general manager should show how, out of this situation, the need has clearly arisen for some department to devote its exclusive attention to finding means for improving these conditions.

The general manager should then define the scope and functions of the employment department, and make clear the method for co-ordinating the work with other departments of the shipyard, especially the departments of time and pay-roll. The whole matter should be put clearly and squarely before the foremen and superintendents with a frank, open discussion of every angle of the proposition.

This is the time to introduce the prospective employment manager, in order that he may get acquainted with the men, express his views, outline the general method of procedure to be adopted, and answer the questions of the foremen. The employment manager who knows his work realizes that his success is dependent largely upon his ability to establish friendly personal relations with those with whom he comes in contact. He will make it clear that he wants to know the foremen's viewpoints and that it is his first intention to be helpful to them. He may begin by first pointing out to the foremen just how much work they already have to do. They are responsible for the general supervision of production in their departments, maintenance of discipline, proper care of machines, arrangements of operations, instruction of employees, reduction of waste, and sometimes have had the added responsibility of hiring and keeping help.

The employment manager should show the foremen the benefit they may derive from the use of the employment department in view of these many duties. He should impress upon them the fact that the first and last steps in hiring are still to be the foreman's: the first in his act of making the requisition and the last in accepting or rejecting the man the employment department has chosen. The employment depart-

ment's task in supplying the foreman's department is to base its choice of a man upon a careful analysis of the particular job to be filled, and then assign an applicant only after thorough interviews have indicated his peculiar fitness for the work. The foreman, the employment manager should point out, can then count on a better body of workmen who will directly increase his department's production.

The employment department further will save the foreman the time of interviewing applicants at hours when the foreman's chief concern is the progress of the work in his department, and when he would be seeing that the new employees are satisfactorily taking hold of their work.

The employment manager should explain that in cases of dismissal the foreman need merely send the man to the employment department and thus be helped in maintaining discipline by avoiding among the employees any loud disturbance by the discharged employee. The handling of dismissals through the employment department helps the foreman to avoid hasty action due to press of work and other duties which he might regret later.

On the other hand, the workers, when they realize that an employee is dismissed by the employment department only after the employee's side has been fairly heard and his case carefully considered, will be relieved of the fear of being made the victims of whims and naturally will become a better working force.

The employment manager should show, furthermore, that the employment department, by satisfactorily adjusting grievances and dissatisfaction, can save many valuable employees to the yard and can discover causes of dissatisfaction within the yard itself and eliminate them.

When the employment manager has outlined his policy and plans, there may still be a number of points at issue that must be explained, but experience has proved that once the foremen and superintendents thoroughly understand the reasons for the existence of such a department and the benefits it offers, they are heartily in favor of it. It is simply a question of mutual understanding.

Subsequent to this meeting, *a general order bearing the general manager's signature should announce the appointment of the employment manager to his position.* This announcement

definitely establishes the work in such a way that the employment manager will be met with co-operation on the part of the foremen and superintendents.

Following this *the procedure and practice of the employment department should be put in writing and a copy bearing the general manager's signature should be placed in the hands of each foreman and superintendent.* This may well be called the foreman's manual, since it definitely explains every detail of the operations in which they are concerned, telling them just how to proceed when desiring to call upon the employment department for any service it may render. The proper preparation of this manual will be covered by a subsequent bulletin.

In spite of such careful preparation and their willingness, the foremen and superintendents do not always clearly understand just how they can best co-operate. From time to time dissatisfaction will appear and complaints will be made, each one of which, however, should be looked upon as an opportunity for securing the support of the complainant. Co-operation and good will are bound to come if the employment manager demonstrates his absolute fairness and impartiality in all matters.

The general manager, upon such occasions, must be careful not to depreciate the position of the employment department, even if it may have erred. Frequent constructive criticism will be necessary, but it should always be given privately and directly to the employment manager himself.

It will require time and diplomacy, ceaseless energy and patience on the part of the employment manager to gain the confidence and co-operation he desires. He will do this most readily by demonstrating his spirit of helpfulness *by providing department heads with capable employees; by assisting them in matters of development and promotion; by advising them concerning their labor difficulties and problems; and by furnishing them with information on general labor conditions.*

In order to assist the employment department in securing the further co-operation of the various executives, informal meetings of the department heads should be held for the discussion of employment problems. Regular group conferences of this kind are excellent for threshing out and adjusting differences of opinion. They afford everyone the opportunity of getting better acquainted and give the employment manager an insight into the difficulties that other branches of the plant are

having. If the employment department is having difficulty in securing workers, these meetings are the place to discuss the question, instead of waiting until the day the men are needed, and then saying they cannot be obtained. Experience has always proved that once the department heads actually appreciate the work of the employment department, they are generous in their attitude and entirely willing to co-operate with it.

The general manager should keep as closely in touch with the work as possible. This can best be done by regular reports and meetings with the employment manager regarding:

1. *Policies, plans and methods on which the employment department wishes his approval.*
2. *Periodic reports giving labor turn-over and its causes by departments and trades as well as for the plant as a whole.*
3. *Labor requirements for succeeding periods of time, including estimates of the number of additional workers by occupations and a statement of sources and methods through which they are to be obtained.*
4. *Other matters that are vital to the operation and improvement of the department.*

No matter how sympathetic the company may be with the employment plan, how well chosen the employment manager, or how satisfactory the employment department's relationships within the company, the department itself cannot function properly until its organization has been thoroughly planned and established. It must be appreciated at the outset that partially arranged plans will not secure the desired results. It will take time and patience to effect a complete organization and put it into smooth-running order. No reasonable expense should be spared to so organize the department that it may render continuously efficient service.

Since subsequent bulletins will present details for the proper equipment and housing of the employment department, for the procedure involved in the selection and placement of the workers, and for handling other problems of employee relations it is sufficient, in this bulletin, merely to outline broadly the work of the employment department as follows:

1. Developing sources of labor supply.
2. Selection and placement of new employees.

a. Interviewing applicants.
b. Fitting the man to the particular job on the basis of qualifications and experience.
c. Ascertaining, by physician's examination, applicant's physical fitness for the work contemplated.
d. Completing the necessary records for entering the new employee's name on the pay-roll. This includes photographing the employee and issuing him a pass.
e. Introducing the new employee to his job.

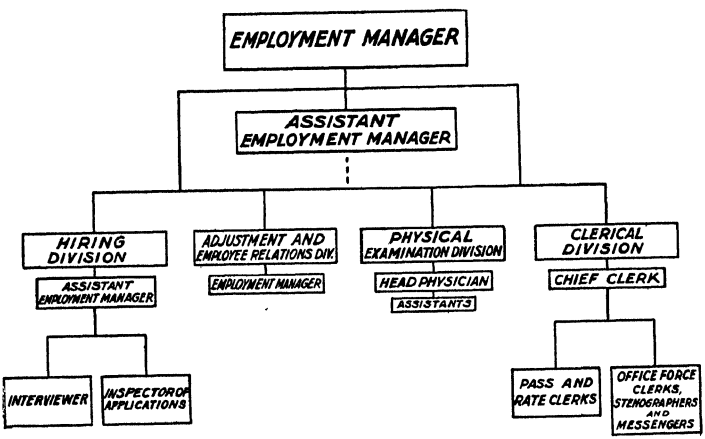
3. Follow-up and adjustments.
   a. Rating employee's efficiency.
   b. Determining promotions.
   c. Handling transfers, discharges, grievances, and other employees' adjustments.
4. Related activities.
   This includes the department's attention to questions of safety, health, sanitation, training, recreation, and other general service for employees.

The staff of workers in the employment department should at all times be sufficient to adequately, but economically, handle the work as outlined above. The exact number will be determined by the size of the yard and the type of work. The duties of each individual should be clearly set forth in writing in order that duplication of effort and consequent confusion may be avoided. A department organization chart, such as the one illustrated on page 192, posted in various parts of the office, showing the organization in more detail where necessary and kept up-to-date, should be made the means of acquainting the employees in the department with their individual relationships.

One of the most essential positions in the department is that of *interviewer*. It is with him that the applicant makes his first contact with his prospective employer. The impressions here established may materially affect the reputation of the company in the labor market. Furthermore, it is the interviewer's responsibilty to select and assign the applicant. These duties are so important that in the selection of an interviewer his ability and previous training are to be considered as second only to those of the employment manager. Skilled interviewers can save many thousands of dollars for their companies. The salaries paid them must be sufficient to attract and hold men of

a high order of intelligence who are familiar with shipyard occupations.

Problems of such importance constantly will arise that they will have to be passed on by the interviewer to the employment manager himself. In this situation the employment manager must be careful that attention to detail does not destroy his usefulness in devcloping the larger aspects of his work. At the same time he must not fall into the habit of too loosely supervising the work of those under him.



ORGANIZATION CHART
EMPLOYMENT DEPARTMENT
FOR A PLANT WITH 2000 TO 4000 MALE EMPLOYEES

The employment manager should make it a point to get out into the plant a great deal, in order that he may know as much about actual operating problems as possible. He should be constantly in touch with all sources of information that will help to build up and maintain his department.

Visits to employment departments in other shipyards and industrial plants are of great value. It is most helpful occasionally to get away from one's own work and observe what is being done elsewhere. New ideas are developed and new points of view discovered.

If an employment managers' association exists in the vicinity, the employment manager should, by all means, ally himself with it. These associations make possible an exchange of ideas and

fellowship that is not available in any other way. They afford opportunity for members to get together and discuss questions and obtain advice on practical problems.

A MODERN INDUSTRIAL RELATIONS DEPARTMENT[1]

That the problems of handling the relations between company and employees in a large organization requires a specially trained and organized staff is now universally conceded, but inasmuch as very few employers have taken up this subject and developed it in any well-planned or scientific way, one looking to find a correct criterion to follow will be disappointed, for there seem to be no two organizations developed along uniform methods. For the guidance of those who are interested in practical research as to the best methods of organization and the apportioning of specific functions to highly developed subdivisions of a general plan, the following outline has been prepared. It is not claimed that this outline is ideal, but it has been drawn up after extensive study of the most successful employment and welfare organizations of the present day.

The handling of employee relation problems should be the function of a special department which should come directly under the president or general head of the company, and this department should be managed by a special official who reports directly to the president. The functions of a modern industrial relations department are: 1—To engage, place, transfer and remove workmen, 2—To provide for the safety of employees, 3—To provide for the good health of employees, 4—To provide for the mental, physical and social welfare of employees, and, 5—To provide health, accident, death and old-age insurance.

Each of these five divisions requires the supervision of an experienced executive who has the technical educational and practical experience coupled with a pleasing personality to put it across. These five division heads should meet regularly in joint conference with the director of the department, and should also meet in regular conference at the meetings of the heads of all the other departments of the plant in order that thorough understanding and co-operation may be had from all sides.

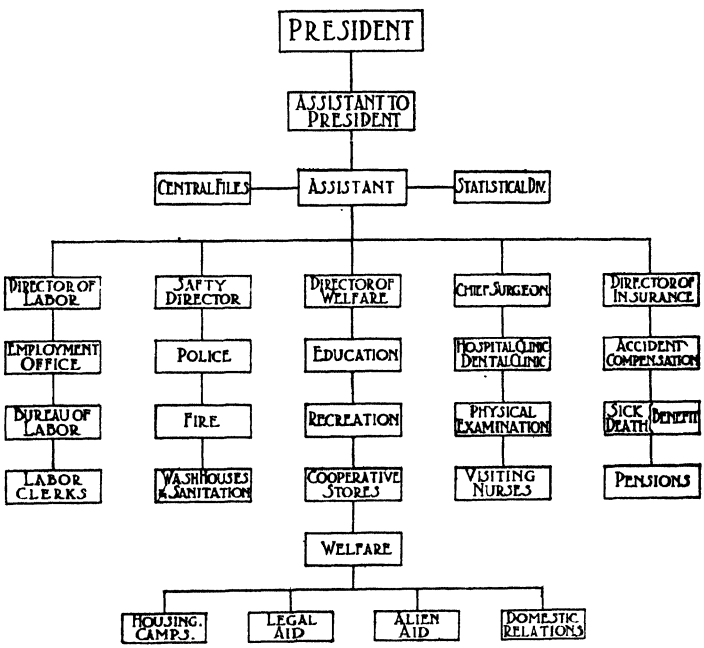
[1] By E. C. Gould. Manager, Industrial Relations, Youngstown Sheet & Tube Co. Iron Age. 102:832-3. October 3, 1918.

Each of the five main divisions should be again divided into clearly defined units in order that no phase of the work will be neglected or favored. A tentative outline of the subdivision follows:

I—LABOR SUPERVISION DEPARTMENT

A—Employment

1—Employment Office.
Engages new employees.
Rehires and transfers old employees.
Studies the jobs in the plant and working conditions so as to place employees intelligently.



PLAN OF A FUNCTIONAL DEPARTMENT OF INDUSTRIAL RELATIONS.

2—Registration Office.
Makes up the employment records of all employees engaged.
Assigns check numbers and clock cards to new employees.

B—Bureau of Labor

1—Labor clerks to keep daily records of the work and progress of employees in the various departments.
2—Investigation of absentees at their homes to find out the reason for absence, and to offer help in case of sickness or death.
3—Interviewing of all quitters and other employees who may be disgruntled or have labor troubles or complaints and to adjust same whenever possible, and to pass on all discharges with final authority.

II—SAFETY DEPARTMENT

1—To provide safe working conditions.
2—To teach and train men to follow safe methods of work.
3—To investigate accidents and remove the causes whenever possible.
4—To provide for policing the plant.
5—To provide fire protection for the plant.
6—To provide wash and change houses, lockers, etc., and care for their upkeep.

III—MEDICAL DEPARTMENT

1—First aid equipment and care of injured and sick.
2—Physical examination of new employees.
3—Follow-up of sick and injured employees.
4—Visiting nurses to give aid in the homes of the sick and injured.
5—Dental clinic service for employees.
6—To see that pure water is provided, and that good sanitation is maintained in the shop and plant.
7—To instruct employees in personal hygiene.

IV—WELFARE DEPARTMENT

A—Education

1—To provide schooling for aliens.
2—To provide technical courses of instruction to train employees for better positions.
3—To provide a library for employees.
4—To publish a factory newspaper the aim of which is to develop an esprit de corps and to stimulate employees to develop themselves along the right lines.
5—Suggestion committee to stimulate the giving of suggestions by employees and reward for same.

B—Recreation

1—To organize sports and athletics for recreational purposes and to develop a factory spirit.
2—To provide and maintain playgrounds where employees live in large neighborhoods.
3—To organize and develop social amusements such as dances, corn roasts, picnics, field days, etc., for the benefit of the employees and their friends.

C—Welfare

1—To help the employee solve his domestic and other personal troubles.
2—To teach housekeeping and home hygiene in the homes of employees.
3—To follow up the work of community agencies in order to protect the health, welfare and other interests of employees and their families.
4—To give free legal aid and advice to employees and to help employees to get out of debt by securing the co-operation of creditors in preventing attachments and the pooling of payments, etc.
5—To aid aliens in raising their standards and methods of living, to advise and help them in securing citizenship papers and to aid in their Americanization.
6—To operate a housing bureau to secure houses and rooms for employees, and where company has houses to rent to supervise their renting, to work for civic improvement and betterment of housing conditions, where company has labor camps to supervise and look after same.

D—Co-operative Stores

To organize and operate a co-operative store for the benefit of employees.

V—INSURANCE DEPARTMENT

A—Accident Insurance

Claim department to handle accident cases and take care of State compensation for same.

B—Insurance Benefits

Sickness and death benefits organized under one of the three following plans:

1—Supported entirely by the company.
2—Supported jointly by the company and employee.
3—Supported entirely by employee.

C—Old Age and Service Pensions

Provide retirement pensions to employees for long and faithful service.

The work of all the departments should be made a matter of complete record and to facilitate doing this a statistical department should be operated as a binder. This department would take care of all the reports and statistical records of all the departments, and a central filing system should be used for keeping records of employees. A tabulating machine could be used to great advantage in preparing detailed reports of the work and progress of the various branches of the work. Without adequate analytical records of the work done and results obtained, much time and money could easily be wasted on useless enterprises. Unless the services rendered to employees develop a loyal, contented working force and furnish proper incentives to stimulate wholehearted co-operation from the employee, they are wasted.

Some of the known results from the adoption of the foregoing plan either in part or entirely have been a reduction in working time lost, a reduction in labor turnover, the elimination of serious labor disputes, the development of esprit de corps, greater production, betterment of physical and social conditions of employees, a reduction of sickness and accidents, and the Americanization of aliens.

PLAYING FAIR WITH THE WORKERS[1]

The Personnel Department

Broad minded leaders in the commercial world have inaugurated in their establishments personnel departments. These divisions, supervised by men and women who are specialists in dealing with human nature, have brought about a new era for business. First of all, they reflect in a true light the policies of the houses they represent and give the personal touch to deal-

[1] By B. J. Forman. Employment Manager, Hart, Shaffner and Marx. 100%. 12:72-6. February, 1919.

ings with employees and applicants that great firms today so often lack because of their very greatness.

Second, centralized in the personnel bureau is not only the engaging of all help, but the rate fixing, salary increasing, etc., which releases department managers from duties which very often hindered them in the exercise of their work of supervision. Arbitrary discharge of an employee is a thing almost unknown, a personal prejudice on the part of a department head no longer means that an otherwise good worker must be sacrificed to satisfy a whim.

Further, if a new employee does not do well on the work to which he is originally assigned he does not automatically let himself out, for big business has come to realize that every person actually engaged represents an investment and every possible means to realize on that investment should be exhausted before the person is thrown into discard.

What open sesame does a personnel department possess that enables it to accomplish the good which it has undeniably brought about wherever it exists? The answer is simple. Those who have gone in for this most fascinating of occupations have made an exhaustive study of their fellow men and have made the remarkable discovery that employees are subject to exactly the same emotions as their employers, that they laugh at the same things, cry over the same things, and, all in all, are made of pretty much the same stuff. They proceeded on the hypothesis that if employees were treated in the same manner in which the employers would like to be treated if positions were reversed, they could not go wrong. Acting on this discovery has brought about a fine freemasonry between the bosses and workers, which has manifested itself in a larger and better output wherever the seed has been sown.

It has come about that the new employee in one of these modern establishments is now turned over to the most capable person in his section for instruction, not to the least competent, as before; his induction into the work is gradual, and patience and kindness are the watchwords; criticism, if deserved, is given in a quiet, constructive way, not as in the old driving days in the hearing of co-workers, a practice which always defeated the desired end; work well accomplished earns recognition, whether by the spoken word or in the shape of an increase.

The Workers' Discoveries

The worker has discovered, too, that if his immediate superior does him what seems to be an injustice, he has access to some one higher up for redress, for no firm which practices goodwill ever permits a person to leave with the feeling that he has not been treated squarely if it can be prevented.

In analyzing those who work alongside of him, he is struck by the appalling lack of interest that most men exhibit in their work, and he has found that always the man who does the least, who "wasn't hired to do this," is the loudest in his denunciation of his employers, is always the moving factor in an attempted strike, and is invariably the author of anonymous letters to the newspapers about how the capitalists grind down the working man and how little opportunity there is to get ahead without a pull.

He has had his eyes opened to the fact that while pull may get a man a job it cannot hold it for him, and that continuity of faithful service, not frequent jumping from place to place, means more money and better position, for to his eternal regret he has come upon more mirages than oases in his goings here and there.

And, happiest of all, he has discovered that a great big business has a heart that beats for the people who make possible its greatness and its bigness. Both he and the employer have been sadly disillusioned in their belief that the one could get along without the other. It CAN'T be done!

THE SUPPLY OF WORKERS

SOURCES OF SUPPLY AND MEANS OF GETTING IN TOUCH WITH THEM [1]

We have been employing people, discharging them, and training them, with rather a selfish motive. Now, it so happens that we are to-day perhaps at the beginning of a new epoch in the history of the work. We have been for many years perfecting machinery. We have perfected machinery to such an extent that, if we do not do something to curtail and control it, we will lose or be run over by that machine.

The problem of educating the human element or human machine is one which is now before us, and one which I believe it is strictly up to the manufacturing establishments, all establishments, to consider. In other words, they must do their share. It should not be necessary for the state to say: "You must do so-and-so." It must be purely the function of the state to tell us what is advisable for us to do.

I know a case where a prominent man spent hundreds of thousands of dollars in the development of a machine. And yet with that perfect machine they had to discharge thirty men for incompetent operation. I asked him what the machine cost him, and he said it was impossible to tell, but that it was thousands of dollars, and it cost $1,800 to discharge thirty men. In their work it costs an average of $60 a man to train even the humblest employee (in other words, until he has been there six or seven weeks); and this applies to the smallest detail around the plant. The man deliberately threw away $1,800 in developing and teaching men what they had to do to run that machine. Their first step, therefore, was to run the machine themselves.

In addressing you on the subject of sources of labor supply and the means of getting in touch with them, it seems to me that before proceeding with the purely mechanical methods of handling the labor department, a few minutes may very profit-

[1] By H. B. Coho. Director of Efficiency, United States Cartridge Co. U. S. Bureau of Labor Statistics. Bul. 202. p. 15-21. September, 1916.

ably be given to the consideration of the employment manager as an individual, and the type of individual he necessarily has to be.

In the first place, when a man is made an employment manager for a corporation he should have a distinct understanding with his superior officers as to just what his responsibilities are to be and just how far he is expected to be held responsible for the character of the people whom he employs. It is manifestly impossible for an employment manager to get the best results unless the responsibility for his results is to be up to him, and the responsibility left with him. If he must employ friends of the overseers or friends and relatives of higher officials, his work is necessarily circumscribed, and he should not be held responsible for the results obtained. On the other hand, he necessarily can not be given all of the authority for obtaining people until he knows thoroughly all of the departments and the class of help which they require. Under these circumstances he should be a man of broad experience and in a technical industry a man of technical education. He should also be a man who has, to a large extent, had a good deal of practical experience, so that the plans which he develops will be based on good common sense and obtain the results which he is looking for.

Probably the best method for any employment manager in large industrial plants employing people is the conference plan —an association of overseers should be formed, and they should meet at least once a week in industries where the flow of help is large and should frankly criticize the employment manager for the class of help that he has procured for them. This method is employed by a great many large industrial corporations and is working out very satisfactorily. At these meetings the record of the people who have been employed should be taken, and the overseers should report their satisfaction or dissatisfaction with the people obtained, pointing out wherein people thus obtained had failed.

In other words, to my mind, no one individual about a plant should endeavor to run the entire place without consulting freely with all his associates.

A thing which should always be done at these conferences is to keep minutes, which should be written out and handed to the members of the committee, so that they may come prepared to

take part in the discussion and to say definitely whether the remarks attributed to them were made or not.

To my mind the most important thing about any labor bureau or employment manager is that he outlines his policy; that he prepares a very definite type of application blank and that he has always in mind the fact that he is clearing house for all the labor throughout the plant; that he must therefore be untrammeled by rules and regulations or favorites.

An employment manager's department is rather a new thing in some of our industries, although it has been used abroad and has been used here among the larger industries. It would seem to me that eventually the smaller concerns can unite and form a mutual employment bureau, thus dividing up the expense in obtaining those records of their people which are absolutely essential if they wish to obtain the best results.

Returning now to the subject assigned to me—that is, the source of supply—would say that, of course, naturally you all wish to obtain as much of your labor from your immediate community as you possibly can. This means that if there are three or four of the same lines of industry in a town that there is more or less competition for the help, and that the home market soon becomes exhausted. It would seem, therefore, that a better plan is rather to set your standard at a scale of wages so as to attract people to you. Probably the best method of attracting people to a plant is to have a consistent management. You will usually find that concerns whose overseers do not change and who have a steady, consistent management, without rules or regulations changing very often, have far less trouble than some of our modern concerns, who endeavor to work out a great many theories on their employees.

Personally I feel that the extremely definite policy as to the wages paid and what would be expected from the employees should be decided upon and published in some factory organ, and that very great care should be taken not to change overseers or change rules and regulations without a definite period for the change to go into effect.

Employees are human, and probably one of the most prized theories is consistency, which, unfortunately, many of us are absolutely void of; but in handling bodies of men and women there seems to be nothing which gets their loyalty and their support so much as absolutely consistent plans. This can readily

be understood when you find so many people who prefer to take a set salary, even though it be small, rather than run any risk. Probably the feminine side of the family is somewhat responsible for this, as most of the ladies prefer to know exactly what their income is and to live within it rather than to take a chance of uncertain returns.

Where your plant is the only one of its kind in your community your problem is not so great, but even then the most successful concern will be the one which changes its rules and regulations the least often and builds up a reputation for standard methods, both among its executive staff and among its employees.

Another source of supply which is rather important is that of the friends of your workers. It becomes necessary at times to ask your people to bring in their friends, and naturally they will bring them to those places where the character of the employees is of the best. The best plan for this sort of thing is the plan of a great many different societies and clubs in the organizations, so that your employees talk about their work at home and are proud of it. Baseball clubs, bowling clubs, fire departments, weekly dances, and all that goes with social activity appeals to me strongly, whether the organizations be in a large or small town, for the reason that advertising naturally pays, and when you find the people in a plant playing together as well as working together you find that they will attract to you a very much better class of people, providing, of course, that the original foundation is right. Right here let me say that I do not believe too much stress can be placed upon the character of your employees. I believe that it is essential that every employment manager be a man of very high ideals, a man of very noble motives, and one utterly devoid of the money-making instinct, because it follows that he must become, if he does his work at all well, the "father confessor" of the entire plant, and therefore he must be a man of entirely unselffish ideas.

Where a plant is in an outlying community and the employees are dependent upon themselves for their amusements, the problem then simply becomes one of proper guidance.

Right here let me touch upon a very great responsibility which comes to employment managers and those attracting people from outlying towns and communities. When you go

away from your home town for employees, it is essential that you make only such promises as to work and methods of leaving as can be absolutely fulfilled, and every employment manager should see that he does not attract people to his plant by misrepresentation or by over-representing the attractions offered. He will win out in this once, but never the second time. If he only requires a certain amount of help for a given time, let him state it frankly, because, to my mind, nothing will so much interfere with the reputation of a plant as an employment manager who will get people to leave one job to go to him and after a week or two allow them to go. If this is done more than once, his reputation and that of his plant will suffer, and in times of stress his results will be most unsatisfactory.

Another most important matter is that of taking people away from competitors. Here, I think, the employment manager has a tremendous opportunity, and your association particularly can serve the community and the public, at the same time being fair to the employees. It is manifestly unfair to say to a man because he works for a competitor that he can not be employed by you. A fair proposition, to my mind, would be for the employment managers of two competing concerns to arrive at a definite understanding between themselves as to the requisite notice which an employee should give before leaving to go with the competitor. Manifestly, there are many times when a man can learn his work in one concern and then sell his services to a competitor at a higher price, and it seems only fair that he should be allowed to do this, providing it is done openly on a fair basis. To my mind, the most unwholesome thing that can creep into these organizations is the taking of employees away from each other under purely a wage basis, as usually the man who will leave one concern to go with another for a purely money consideration will be just as dissatisfied in his new place as he was in the old, whereas if he leaves them on a friendly basis, giving his old concern as a reference, and feeling that he can go back there if he is not entirely happy in his new environment, it will make for contentment, which is the secret of successful work.

The schools as a source of supply are always the fundamental sources to be considered. Many of our young people can go through only the public school, and it should be the work of the employment manager to advertise his place as a place where

pupils of this character can be given work and an opportunity to progress.

We are starting at our plant a series of classes so that when a young man or a young woman with a grammar-school education comes to us, he or she must, as a part of his or her work, take a half hour's course each day in the fundamental rudiments of education. This is done on the company's time, but the employees must consider it part of their work. This, to my mind, is probably a little drastic for some organizations, but I believe it will be made a requirement by the state before many generations have passed, and is therefore a matter which can be considered by you men at this time, as it must come eventually.

The very complexity of our social organizations makes it essential that eventually all of our people must be taught to think in order to maintain our form of Government. Therefore the responsibility of the manufacturing plant to the community must not be overlooked.

What you do for the grammar-school people must also be done for the high school and the college graduates. They must be given an opportunity to learn and to keep their minds pliable. While some are quite interested in progressing along educational lines, others will become dilatory and drop back unless this work is more or less compulsory.

It is manifestly certain that our type of Government must continue, and if our type of Government is to continue, it is equally certain that our voters must be able to decide for themselves on the plan of government. Therefore it is essential that manufacturing establishments employing thousands of people must constantly bring before their minds their responsibility to the state, to themselves, and to their associates. This can only be done along stated lines by means of factory publications and the employment of high-class men.

A source of supply which is used very largely is the employment agency. This, of course, is only of as much value as the character of the man running it is equal to his responsibility. These agencies often serve a very good purpose, but great care must be taken in the character of your employment agents.

Charitable institutions which make a business of finding employment for the more or less unfortunate are another source of supply. Usually help obtained from these institu-

tions are people who have made failures in very nearly everything, and naturally their work should be carefully supervised until such a time as they reach a point where they may be credited. This applies also to probationers. Care should be taken to see that these people are given work which will interest them. Very many of our probationers, particularly men and boys, have gone bad simply because their energies were not sufficiently employed and their imaginations became diseased. Many of these people can be interested and become very good, useful citizens if they are kept active and not held down to class rules and regulations. Therefore an employment manager must provide some outlet for these activities. Usually baseball and bowling clubs and things of this nature can be used to good advantage.

The last source of supply which I was asked to talk about is that of previous employees, people that have already been employed by you. This is a big problem which we all have before us. Let people feel that, having been employed by you, and having left in good standing, there is a place for them. I am a great believer in the Sabbatical year. I do not think it is a good thing to say that John has worked for you 30 years, because John may have been asleep for 25 years. Their work must have been so good that we are glad to have them back. For an organization to say that they have a waiting list of old employees is one of the biggest recommendations a concern can have, a waiting list of old employees who are satisfied with the policy of the concern and are anxious to work for that concern again.

On the question of rehiring old employees, I feel that any man who leaves in good standing should have the privilege of returning and going to work if his record is satisfactory; in fact, we are starting a waiting list along these lines. Often men leave, thinking that they will better themselves or attracted by a small increase in pay, and find that there are other things which are not so satisfactory. Now if these men have worked out their notice, which, by the way, should be definitely stated when they are hired, I see no reason why they should not constitute your waiting list. You have trained them and with the added experience they have had outside they should be of far more value.

Personally, I think that a list should always be kept of eli-

gible employees to whom the job should first be given. Above all, I am convinced that it is a mistake to take in from the outside any men, when you have on the inside people who can fill the positions.

I believe that a hard and fast civil-service school should be maintained. I believe that the better positions should be a matter of competitive examination, and that a man who feels that he is capable of taking a higher position should submit his record and his abilities to the test. I believe that this can be accomplished by having a works board, who will hold these particular examinations.

If it is manifestly impossible to obtain a man for a certain job, it should be advertised around the plant that such a place is open and what the requirements are, and that if no man from the plant can convince the factory board as to his eligibility, then at a given time the position will be filled. This follows out my original remarks as to character and reputation of the plant.

The employment manager should be one of the main men in any organization. He should be selected for his experience and for his character. He should not be too young a man. If you desire to build up a plant for a great many years' time, a young hustling man may succeed in drawing a great many people around him, but I question whether he will have the balance and the poise to hold them and get the best results.

Once again I say that an employment manager must be extremely careful of his personal habits, as his example will be noted just as is that of a schoolmaster.

He should visit many other plants and he should talk with his fellow employment managers, through his association or otherwise, constantly. He must be in close touch and sympathy with all the employees' activities, and will have a job which will keep him busy all his waking hours, but he will get his return in the gratitude of the community which he serves and be properly recompensed by the company who employs him.

THE MAKING OF A TRADE TEST (U. S. ARMY)[1]

[NOTE: Out of every hundred soldiers an average of twenty-five must be specialists, skilled in a particular trade. The trades range from automobile driver and barber to typist and wireman. The old way to get these specialists was to make them to order; almost any intelligent man was acceptable raw material. This method is impossible for an army whose divisions are molded and sent overseas in a few months. The specialists must be found ready made, and found quickly. They must be good at their trades, and it must be known just how good they are. Hence it becomes vitally necessary that the trade tests that measure the skill of men at their trades should be devised with painstaking care and should be thoroughly proved to be both practical and practicable.]

Many persons have viewed with some skepticism the idea that a workman's degree of skill at his trade can be determined by tests that require but a few minutes. A month, they argue, is little enough for an expert foreman to classify justly the men under him after observing their skill with his own eyes. When it is proposed that those who apply the tests for any trade need not be skilled in it themselves and may in fact know nothing whatever about it, it is no wonder that they doubt its practicability.

It may be agreed that it would be well if the Army could let a man show his skill by actual work at his trade under expert supervision for several weeks. This process is too long and too costly to be even considered for Army use. The Personnel office must handle and classify a constant stream of newly-enlisted men—sometimes over a thousand a day. Unless this office is willing to take a man's word or the record of his experience as sufficient evidence of his skill—and it has been repeatedly shown that these are not to be depended upon with certainty—then some form of trade test is a necessity.

Right here it may be stated that the trade tests at present in use are successful. Officers in charge of units almost invariably say that the soldiers picked by the tests and assigned to them as skilled specialists actually have the degree of skill required and that their later performance is giving satisfaction. Why this seemingly miraculous result is only natural can easily be understood by anyone who has had the opportunity to see how the trade tests are devised and how they are thoroughly proved in actual practice before being adopted for general use in Personnel offices.

[1] From Personnel (War Department). Washington. October 2, 1918.

Requirements of a Trade Test

When the problem of formulating tests was analyzed, it was seen that certain requirements were fundamental. The trade tests, to be absolutely satisfactory.

1. Must differentiate between the various grades of skill:

2. Must produce uniform results in various places and in the hands of individuals of widely different characteristics:

3. Must consume the least amount of time and energy consistent with the best results.

Now it must be recognized that trades useful in the Army are of many kinds and of widely differing requirements. Trade ability in any one of them, however, means about the same thing. It means that the workman is not simply the possessor of a single item of information, nor simply able to execute one particular movement required by the trade, but that he has many items of information more or less systematized together with the ability to execute various movements not only singly but in combinations.

While there are all degrees of trade ability among the members of any trade, it is convenient to classify them in a few main groups. Ordinarily the terms Novice, Apprentice, Journeyman and Journeyman Expert (or Expert) are employed. The Novice is a man who has no trade ability whatever, or at least none that could not be paralleled by practically any intelligent man. The Apprentice has acquired some of the elements of the trade but is not sufficiently skilled to be entrusted with any important task. The Journeyman is qualified to perform almost any work done by members of the trade. The Expert can perform quickly and with superior skill any work done by men in the trade.

It is sometimes desirable that the trade test should differentiate between the skill of different members of the same group; for instance, the journeyman group. It is essential that it should differentiate between the journeyman and the apprentice, and the apprentice and the novice. Trade tests devised to make this classification are of three kinds: oral, picture and performance.

The oral tests are most generally used because they are of low cost and they may be applied to a large number of men in a

comparatively short time and without much equipment. They are satisfactory in determining the presence or absence of trade ability and in many instances determine the degree of ability with such accuracy that no other tests are required.

An oral trade test is developed by passage through 12 stages: 1 Priority; 2 Assignment; 3 Inquiry; 4 Collection; 5 Compilation; 6 Preliminary sampling; 7 Revision; 8 Formulation; 9 Final sampling; 10 Evaluation; 11 Calibration; 12 Editing.

Collecting the Trade Information

From time to time the Personnel Organization of the Army submits to the Central Trade Test Office (Newark, N.J.) a list of trades which are required in Army use and for which tests are urgently needed. Upon the basis of this list, assignments are made to the field staff.

The field staff then makes thorough inquiry into the conditions of the trade. Their purpose is three-fold:

1. To determine the feasibility of a test in this field. Does the trade actually exist as a recognized trade? It was found, for example, that the trade of gunsmith was not a recognized trade, though there were gun repairers.

2. To determine the elements which require and permit of testing. In other words, can men be graded in it according to degrees of skill? In some trades it was found that the trade required simply the performance of a single set of operations and there were no gradations among the members of the trade.

3. To determine the kinds of tests that can be used. Some trades, such as truck driving and typewriting, are mainly matters of skill and for them performance tests are better than oral tests. Other trades, such as interior wiring and power plant operation, are mainly matters of knowledge. For these trades oral and picture tests are best.

After having discovered by inquiry that the trade is a recognized trade and can be tested, the field staff proceeds to collect all the information necessary from all available sources; for example, experts of the trade, trade union officials, literature of the trade, trade school authorities, employers and the like. They discover by this means what are the elements of the trade and what constitutes proficiency in it.

Compiling the Questions

As a result of this collection of information they are able to compile a number of questions, usually forty to sixty, each of which calls for an answer that shows knowledge of the trade. Experience in the formulation of such questions has shown that a good question meets the following requirements:

1. It must be in the language of the trade;

2. It must be a unit, complete in itself and requiring no explanation;

3. It must not be a chance question which could be answered by a good guess. The extreme example would be a question calling for the answer "yes" or "no";

4. It must be as short as possible and must be capable of being answered by a very short answer;

5. It must not be ambiguous; the meaning must be unmistakable.

After the large number of questions originally formulated has been sifted down by application of the requirements stated above and others of less importance they are used in a preliminary sampling on a number of tradesmen, usually nine to twelve, whose answers indicate the merits of the different questions and their grades from easy to difficult. In this sampling, tradesmen from different shops or plants are tried, in order to guard against specialized methods or modes of expression confined to a single locality. At least two examiners work on each set of questions at this stage to get the benefit of more than one point of view for revision.

This preliminary sampling affords a means of checking on the following points:

1. Is the test applicable to trade conditions?

2. Does the test represent good trade practice?

3. In what way can parts be profitably modified, supplemented or eliminated?

4. Does the test represent the whole range of the trade from the novice to the expert?

5. Is it a representative sampling of the whole range of trade processes?

In the light of the answers to these questions, the test is revised during this sampling process and is then ready to be formulated. This formulation consists of limiting the questions to a small enough number to be handled in a short space of time and to a wide enough range to represent every possible degree of trade skill. The questions are tabulated and are then ready to be used in the final sampling process.

Final Sampling

Final sampling is made by testing twenty men who are known to be typical representatives of each group (novice, apprentice, journeyman, expert). Among the novices tested are some highly intelligent and mature men of good general knowledge but no trade ability. Three testing stations are used: one in Cleveland, one in Newark, and one in Pittsburgh, in order to get the benefit of wide geographical distribution. Examinations are given to men whose record in the trade is already known and who are tested as nearly as possible in the same manner as men in the camps.

The results of this final sampling are now turned over to the Statistical Department of the Central Trade Test Office. The experts in this department make a careful study of the results and of the answers to each question. This enables them to determine the relative value of each individual question and the selection that makes a proper balance.

Evaluating the Test

If a Trade Test is good, a known expert, when tested, is able to answer all, or nearly all, the questions correctly; a journeyman is able to answer the majority; an apprentice a smaller part, and a novice practically none. This does not mean that each question should be answered correctly by all the experts, a majority of the journeyman, some apprentices but no novices. There are a few questions which show this general result. A graphic curve when plotted for such a question is almost a straight line.

Other types of questions, however, are more common. Some show a distinct line of cleavage between the novice and the apprentice. Novices fail, but apprentices, journeymen and experts alike answer correctly. There are likewise questions that are an-

swered correctly by nearly all journeymen and experts but only a few apprentices, and questions that only an expert can answer correctly.

Each type of question has its value in a good test. The main requirement is that the tendency of the curve should be upward; a question which is answered correctly by more journeymen than experts or more apprentices than journeymen is undesirable and is at once discarded. A proper balance is made of the others.

Calibrating the Test

One task still remains; namely, that of calibrating the test. As each question is allowed four points, it becomes necessary to determine how many points should indicate an expert, how many a journeyman, etc. Obviously the way to do this is to note how many points were scored by the known experts and the known journeymen when they were tested. Ordinarily the expert scores higher than the journeyman and the journeyman higher than the apprentice. It frequently happens that a few journeymen score as high as the lowest of the experts and a few apprentices as high as the lowest of the journeymen. There are consequently certain overlappings between the classes. In calibrating, the object is to draw the dividing line between classes so that the overlapping shall be as small as possible.

When these dividing lines, or *critical scores* as they are usually called, are established, the test is ready for editing, printing and distribution to camps.

Picture and Performance Tests

Picture tests are made in practically the same way as oral tests. The peculiar characteristic of picture tests is that the questions making up the tests relate to illustrations of trade tools and appliances.

The performance tests are now being used in many trades for those who make a satisfactory showing in the oral or picture tests. These performance tests are devised by conference with experts in the trade. They consist of some apparently simple tasks that can be performed quickly and with a small amount of apparatus but that nevertheless indicate clearly the degree of skill of the performer. As a result of experience the following

have been drawn up as the requirements for a good performance test:

1. It should require the smallest possible quantity of tools and materials and these should be capable of standardization;

2. A journeyman should not require more than 45 minutes to perform it;

3. It should be typical of the work required;

4. The operations should be exact so that a standard correct form of product is always obtainable.

Performance tests undergo much the same processes of sampling as do the oral and picture tests and they are calibrated in the same way. The principle followed here, as elsewhere, is that the value of a test lies not in its theoretical exactness but in its proved ability to pick out and classify correctly men of all degree of skill within the trade. If the test does classify men in the groups in which they are known to belong, then it can be relied upon to classify correctly men about whom nothing is known in advance.

THE RATING SCALE: INSTRUCTIONS[1]

I. The Rating Scale

The rating scale is a practical system by means of which an officer's capacity and fitness for promotion can be gauged quickly, accurately and with uniformity and justice.

The rating itself is a numerical expression of the degree in which an officer possesses the military qualifications deemed most essential: Physical fitness, intelligence, leadership, personal qualities, general value to the service.

The degree to which he meets these qualifications is determined by comparison with officers of the next higher rank. Every officer is measured in terms of the actual ability and performance of other officers.

Where instructions are followed closely the results show a high degree of accuracy and uniformity. The total average ratings of widely separated camps have shown a variation of less than one point in a hundred. The rating scale is a constant and reliable gauge of an officer's merit.

No system has yet been devised which so completely elimi-

[1] War Department. Commissioned Personnel Branch. Operations Division. General Staff.

nates the personal equation or so justly determines merit. Because the rating scale calls attention separately to each of the several essential qualifications for an officer, it lessens the danger that judgments may be based on minor defects, with a corresponding disregard of important virtues.

It takes approximately twenty minutes to create a working scale and sixty seconds to make a rating.

Every officer will be rated by his immediate superior.

II. Importance of Rating

General Orders No. 78 directs that promotion in the Army shall be by selection. General Orders No. 85 directs that the selection shall be made on the basis of the rating scale. Ratings determine also probations and discharges, and are important factors in assignments and promotions. The efficiency of the entire commissioned personnel is thus directly connected with accurate ratings. A carelessly rated officer not only suffers personal injustice, but he is almost sure, sooner or later, to be misplaced, and be either a good man wasted, or an incompetent man so advanced that he becomes a source of weakness and danger.

The responsibility for accurate ratings is, therefore, one of the most serious duties of an officer, and it is of utmost importance that each officer follow the instructions precisely.

III. Instructions for Preparing the Rating Scale

1. Make a list of *a dozen* or more officers well known to you, of your own rank and, if possible, not *above the average age of your rank*. This list must include all grades of merit from the highest to the lowest. It serves merely as a convenient reminder of names to be used for making the scale.

2. Disregarding all other characteristics, select from this list the man who in regard to his physical qualities more strongly impresses his men than any of the others on your list. Write his name or initials on the line marked Highest (See accompanying Rating Scale Form below). On the line marked Lowest put the name of the man who is most deficient in this respect. Put the middle or average man on the third line and the men who in physical qualities rank half way between the middle and the extremes on the other two lines. (The highest man will

be represented by a numerical value of 15, the high man 12, the middle 9, the low 6 and the lowest 3).

Proceed similarly in constructing scales for the other four qualities. Do not use the same set of names for all qualities.

3. The name selected for the highest and lowest places on the scale must represent extreme cases, the best and the worst of your own rank that you have ever known. Be sure also that the middle, high and low men are evenly distributed. The scale is a measuring rod for human capacity and the points by which it measures must be at equal distances.

4. It is essential that any officer whose name appears upon the scale be a man who exhibits clearly and distinctly the quality and the degree of quality for which you are using him. The points on a measuring rod must be clearly marked as well as evenly spaced.

If you find difficulty in comparing the officers being rated with any particular officers on your scale substitute the name of some other who will make the comparison easier. In this way with a little experience the scale can be refined and perfected until it can be used easily, rapidly and confidently.

5. Officers who are called upon to rate subordinates of more than one grade will make separate scales for each grade, using always the names of officers one grade higher than that of the subordinates to be rated.

IV. Instructions for Rating

6. In rating, compare the officer to be rated specifically and directly with the officers whose names appear on the scale. Try to have as clear and vivid an idea of both as possible. Assign to the officer being rated the number opposite the name of the officer on the scale whom he most nearly equals in the qualification. If he is a little higher or a little lower than the nearest officer on the scale, adjust his number accordingly. For example, if an officer, in physical qualities, seems to fall just below the middle point but above low give him 7 or 8 points. An officer may receive any number between zero and the highest in any group of qualities.

7. Each one must be rated by actual comparison with the officers whose names appear on the scale, never in terms of numbers directly. The latter way practically short-circuits the

scale and inevitably yields inaccurate and unjust ratings. Always disregard the numerical equivalent until you have first made man-to-man comparisons.

8. In rating for III (leadership) and V (general value) consider which one of the officers on your scale your subordinate will most nearly equal *after equivalent experience.*

9. The sum of the ratings given under each of the five general qualities is the officer's final rating.

10. The scale is in no sense a percentage system. The average rating, if directions are followed carefully, will be about 60 points. Stated in another way, 60 points mean, in the case of a captain, for example, that a major has compared him with the majors he knows and certifies that, after equivalent experience, he will be equal to an average major. But this does not mean that all officers are 60-point men. Officers of the same grade vary greatly in capacity and careful ratings show these differences. A group of ten correctly rated officers commonly shows differences of twenty-five points or more.

11. Each officer is rated by comparison with officers of the grade just above and the ratings are relative to that grade only. There is no reason why a captain should not receive as high a rating as a colonel. The rating of each represents the relation to officers of the next higher grade.

12. If you are using the scale for the first time, make a few experimental ratings before actually rating your subordinate.

13. When rating several subordinates, rate all of them on each qualification before adding the totals for any one.

14. You may be called upon to rate an officer you have known only a short time. While longer acquaintance is desirable the Rating Scale will enable you to use what knowledge you have to the best advantage.

15. Ratings shall be revised or approved by the immediate superior of the officer making the rating. Each revising officer is expected to take an active interest and responsibility for the ratings made by his subordinates. He should assure himself that his subordinate officers understand the scale and use it conscientiously and intelligently. He will from time to time examine the rating scale which they are using and question them about it.

16. Where rating instructions are not followed, re-ratings

will be called for. Cards with ratings or revisions improperly recorded or with defective signatures will be returned.

In order to understand these instructions quickly and easily make up a trial scale.

WAR DEPARTMENT

THE ADJUTANT GENERAL'S OFFICE

INSTRUCTIONS FOR RATING COMMISSIONED OFFICERS

1. *The Rating Scale.*

The rating scale herein described is to be used in filling out the blanks provided for rating on the reverse side of Officers' Qualification Card. Each officer will fill out this Qualification Card as directed on the card itself and deliver it to his immediate superior. This officer should see that it is correctly made out and then enter upon it his own rating of the subordinate. This Rating Officer will forward the cards he has rated to his immediate superior for approval or revision (any changes to be entered in red ink). Each superior officer is expected to exercise an active supervision of his subordinates, especially in securing uniformity of standards and methods. Cards are to be sent through military channels to Division Headquarters or to the corresponding headquarters having charge of assigning, transferring and promoting the officers.

2. *Preparing and Using the Rating Scales.*

(a) Each Rating Officer will make his own scale, according to the directions given below, for each of the five essential qualities for an officer, namely, physical qualities, intelligence, leadership, personal qualities, and general value to the service.

(b) Write on a slip of paper the names of ten or more officers of your own rank (preferably of about the same age as the subordinates to be rated) with whom you have served or with whom you are well acquainted. Include as many whose qualifications are poor or indifferent as you do of those who are highly efficient. This list serves merely as a convenient reservoir of names although the names written on the scale may include several others.

(c) On the second page instructions for preparing the rating scale for *Physical Qualities* are given in detail, each of the other four rating scales should be prepared in a corresponding manner. For your convenience, a blank rating scale for each of the five qualities is provided: Above each scale are printed the particular qualities to be considered when making it.

(d) Make experimental ratings of several of your subordinates in terms of a tentative scale before actually rating them. If you have trouble in comparing your subordinates with any particular officer on your scale, substitute the name of some other officer. Proceed in this way until you have a scale which you can use readily and confidently as the basis of your estimates.

(e) If a subordinate seems to fall between two officers whom you have listed on the scale, give him credit for a number of points between that for the one above him and that for the one below him. For example, if a candidate, in physical qualities, seems to fall below the officer listed as "middle," but above the officer listed as "low," give him credit for 7 or 8 points.

(f) The significant feature of this system is the comparison of each candidate with known officers, thus supplying a concrete standard for judgment. Form the habit of comparing each candidate with the officers listed on your rating scale under each of the five qualities. Avoid the tendency to assign numerical ratings—e. g., 12, 9, 6—without first making the concrete comparisons.

(g) Because the rating scale calls attention separately and consecutively to each of these several essential qualifications for an officer, it lessens the danger that judgments may be based on minor defects, with a corresponding disregard of important virtues. Make the judgment on each characteristic as independent as possible of the judgment on every other characteristic. Avoid the error of rating low in all characteristics the subordinate whom for any reason you disapprove; and of rating high in all characteristics the subordinate whom you admire.

(h)To obtain the total rating for a subordinate, add up his ratings in the five separate qualities above. A subordinate who equals the "highest" officer on the rating scale in all of the five characteristics receives a total of 100 points; one who equals the "lowest" receives 20 points; one who equals the "middle" receives 60 points. *The average total rating, if directions are followed carefully, will be about 60 points.* Stated in another way, 60 points means, in the case of a lieutenant for example, that a captain has compared him with the captains he knows and certifies that, after equivalent experience, he will be equal to an average captain.

I. *Physical Qualities.* Disregard every characteristic of each of the ten officers except the way in which he impresses his men by his *physique, bearing, neatness, voice, energy and endurance.* First, select that one of the ten who ranks highest in physical qualities and enter his name on the first blank line below. Second, select that one who ranks lowest in physical qualities and enter his name on the fifth line below. If these officers are not equal to "highest" and "lowest" in physical qualities among all the officers you know, add to your original list the names of the two officers who are "highest" and "lowest" in this characteristic. Third, half way between "highest" and "lowest" select another officer and enter his name on the third line. Fourth, select the officer who ranks half way between "middle" and "highest" and enter his name on the second line. And fifth, select the one who ranks half way between "middle" and "lowest" and enter his name on the fourth line.

Highest	15
High	12
Middle	9
Low	6
Lowest	3

II. *Intelligence.* Consider his *accuracy, ease in learning, and ability to grasp new points of view and to overcome difficulties,* disregarding all other qualities.

Highest	15
High	12
Middle	9
Low	6
Lowest	3

III. *Leadership.* Consider his *force, self-reliance, initiative, decisiveness, tact; and ability to command obedience, loyalty and cooperation of men.*

Highest	15
High	12
Middle	9
Low	6
Lowest	3

IV. *Personal Qualities.* Consider his *industry, dependability, loyalty, personal habits, and readiness to shoulder responsibility for his own acts.*

Highest	15
High	12
Middle	9
Low	6
Lowest	3

V. *General Value to the Service.* Consider his value as an *administrator,* as an *instructor,* as a *drill master,* as a *leader in action;* and *whether he can arrive quickly at a sensible decision in a crisis.*

Highest	40
High	32
Middle	24
Low	16
Lowest	8

3. *Instructions for Applying the Rating Scales.*

Having prepared the five rating scales, the officer is then ready to rate his subordinates.

The method to be followed in rating each subordinate for *Physical Qualities* is herewith given in detail.

Rating for Physical Qualities. Consider how the subordinate impresses his men by his physique, bearing, neatness, voice, energy and endurance. Compare him with each of the five officers under number 1 on the rating scale, and give him the number of points following the name of the officer whom he most nearly equals in physical qualities. Enter that number (maximum 15, minimum 3) on the Officers' Qualification Card, under Rating in the column headed Physical (Form CCP 1101).

Continue to rate each subordinate in a corresponding manner for each of the other four essential qualities, except that under III and V consider which officer he will most nearly equal *after equivalent experience.* Be sure, in each case, to consider only those qualities which were used in preparing the rating scale.

RATING SCALE

INSTRUCTIONS

WHAT IS THE RATING SCALE?

1. The Rating Scale is a practical method of gauging a foreman's capacity and fitness for promotion quickly, accurately and with uniformity and justice.
2. The rating itself is a numerical expression of the degree in which a foreman possesses the industrial qualifications deemed most essential; such as Trade Ability, Planning and Supervision, Leadership, Teaching, and General Value to the Company.
3. The degree to which a foreman meets these qualifications is determined by a man-to-man comparison with other foremen.
4. Because the Rating Scale calls attention separately to each of the several essential qualifications for a foreman, it lessens the danger that judgments may be based on minor defects, with disregard of important virtues.
5. It takes about twenty minutes to make a working scale and sixty seconds to make a rating.
6. All ratings are confidential. Department heads will discuss a foreman's rating with him on his request.

HOW TO MAKE THE SCALE

1. Write on a slip of paper the names of about a dozen foremen you know well.
2. If you do not have enough foremen in your own department to make a full list, use the names of assistant foremen, department heads, or foremen in other departments.
3. Include all grades of ability from the highest to the lowest.
4. This list helps you to remember the names to be used in making the scale.
5. Disregard every characteristic of each of the foremen except TRADE ABILITY. Select from your list the foreman who stands highest in TRADE ABILITY (disregarding all other qualities). Write his name or initials on the line marked Highest. On the line marked Lowest put the name of the foreman who is poorest in this respect. Put the middle or average foreman on the third line and the foremen who rank half way between the middle and the extremes on the other two lines. If you have two men in mind, equally good, put down either one.
6. Proceed similarly in constructing scales for the other four qualities.
7. Do not use the same set of foremen for all qualities. Try to use at least ten foremen.
8. The names for the highest and lowest on each section of the scale must represent extreme cases, the best and poorest you have ever known. The name for the Middle should be that of an average foreman, half way between the extremes. High and Low should be half way between the Middle and the extremes.
9. Each foreman whose name appears on the scale should be one who shows clearly and distinctly the qualification and the degree of the qualification for which he has been chosen.
10. If you find difficulty in comparing the foremen being rated with any particular foreman on your scale, substitute the name of some who will make the comparison easier. In this way with a little experience the scale can be used easily, rapidly and confidently.
11. In order to understand these instructions quickly and easily make up a trial scale. This trial scale bears the same relation to the finished scale that a first crude sketch bears to a finished drawing. After a few substitutions of names, the trial scale becomes a satisfactory scale.
12. If you are using the scale for the first time, make a few experimental ratings before actually rating one of your foremen.

HOW TO USE THE SCALE

1. Rate your foreman for TRADE ABILITY first. Consider kind and amount of trade (or department) experience; manual skill in his work and knowledge of machines, tools, materials, and trade methods. Compare the foremen you are rating with each of the five foremen in Section 1 of the Rating Scale and give him the number of points following the name of the foreman he most nearly equals.
2. If he is a little higher or a little lower than the nearest foreman on the scale, adjust his number accordingly. For example, if a foreman, in TRADE ABILITY, seems to fall below the Middle point but above Low give him 7 or 8.
3. Rate the foreman in a corresponding manner for each of the other four essential qualifications.
4. Make a man-to-man comparison of the foreman you are rating with the foremen whose names appear on your scale.
5. When rating several foremen, rate all of them on each qualification before adding the total for any one foreman.
6. The total rating for a foreman is the sum of the rating you give him in the five separate qualities. If directions are followed carefully the average of any considerable group of foremen rated is about sixty points.

[1] The above form is being tried out by a certain manufacturing

FOR FOREMEN [1]

RATING SCALE

I. TRADE ABILITY Consider kind and amount of trade (or department) experience; knowledge of, and resourcefulness in using machines, tools, materials, and trade methods.	Highest .....15 High .....12 Middle ..... 9 Low ..... 6 Lowest 3
II. ABILITY TO PLAN AND SUPERVISE Consider ability to maintain standard quality work; to place help where they can do the best work; to plan ahead so as to have materials, men and tools ready to get out orders on schedule time with minimum production costs, and to keep a steady flow of work through the department.	Highest .....25 High .....20 Middle .....15 Low .....10 Lowest 5
III. ABILITY TO HANDLE MEN Consider initiative, decisiveness, resourcefulness, energy, self-control; and ability to deal fairly with his help; to earn their respect, good-will and confidence; to maintain just discipline and a stable working force.	Highest .....15 High .....12 Middle ..... 9 Low ..... 6 Lowest 3
IV. ABILITY TO TEACH Consider his ability to explain his work clearly and thoroughly to a beginner, to gain the beginner's confidence and make him interested in the work; his success in developing all-around men, bettering men of lower grades, and increasing generally the knowledge and skill of the help under him.	Highest .....15 High .....12 Middle ..... 9 Low ..... 6 Lowest 3
V. GENERAL VALUE TO THE COMPANY Consider his years of service, his loyalty, his ability to understand and carry out the Company's policies; orderliness of his department; his readiness and ability to co-operate with other departments and the management in giving new ideas and methods a fair trial.	Highest .....30 High .....24 Middle .....18 Low .....12 Lowest 6

[1] concern as an experiment with the army system of personnel classification.

THE SCIENTIFIC SELECTION OF SALESMEN[1]

In any business organization the two great items of expense are material and service. The purchasing and the employment departments, whether fully segregated from the other departments or not, spend the money for the entire organization.

The purchasing departments have so systematized their practices that, in the main, purchases are made upon the basis of perfectly definite and scientific specifications. In the purchase of fuel the coal is specified as to the number of heat units per pound of coal, the heat unit being based on the amount of heat necessary to raise one pound of water one degree Fahrenheit. In the purchase of steel there may be specifications as to the chemical constituents of the product, the tensile strength, the stress a beam will carry before breaking, elasticity, or the degree of hardness required.

Systematize the Employment Department

In the purchase of cloth there may be specifications as to the quality of threads used in the construction, the number of each kind of thread per inch, the actual weight, and also the chemical constituents of the dyes used. In the purchase of any device requiring electricity there may be specifications as to the amount of light, the number of revolutions or the horse power per kilowatt, etc. In many instances the specifications are so definite that an entire change of the personnel of the purchasing department would make no serious change in the quality of the goods secured.

In some organizations the expense account for goods is greater than that for service and in such instances attention may have been wisely focused upon placing the purchasing department on a scientific basis. In many organizations the expense for service is greater than the expense for goods. In no organization is the employment department on a scientific basis comparable to our good purchasing departments.

The one basis for purchasing goods is specification, but there is no one method of selecting employees. The head of one em-

[1] By Walter Dill Scott, President, The Scott Co. Consulting Engineer in Industrial Personnel. Advertising and Selling Magazine. 25:5-6, 94-6; 11, 55; 11, 69-70. October-December, 1915.

ployment department in selecting employees is said to depend upon intuition, another on common sense, another on practical judgment, another on native wit, another on Yankee shrewdness, another on phrenology, another on chance, and one on suspicion.

Inadequacy of Former Methods

Most men using such methods discover their inadequacy, but occasionally a man is found who is entirely satisfied with results. One gentleman affirmed in all seriousness that his method had never failed to select the right man. His faith in his method of selection was as unshaken as the faith of the old-time farmer in his patent medicine, or the savage in lucky stones, or of the ancients in the optimistic prophecies of the soothsayer. One employment expert asserted in public that in placing many thousand employees according to her method, she had never misplaced a single man. As soon as records are kept such systems are found to be entirely unsatisfactory and but little better than mere chance. There is occasionally a man who does seem to have slightly unusual skill in sizing up men, but such a man is likely to be equally good for many things, and hence is frequently called away for other duties.

Practice within the employment department is not standardized, and with a change in the personnel of the department a very great change results in the quality of employees selected. If there are several men selecting employees for the same organization, the standards of these men will differ amazingly.

A tobacco house, having over a thousand salesmen scattered over the United States, subdivided the whole country into districts over which managers are placed. These district managers in the past selected their salesmen more or less independently. There was no way to tell whether the different managers would have agreed as to which of all the applicants to reject and which ones to select. The following experiment makes clear the amount of agreement and disagreement between the selections of six of these district managers.

Scientifically Choosing Among Thirty-six Applicants

Thirty-six applicants for a selling position for this company assembled at Evanston, Illinois. Each of the six managers occupied a room in Northwestern University Psychologi-

cal Laboratory where he interviewed each of the thirty-six applicants. Each manager was instructed to assume that he alone stood between the applicant and the pay roll of the company. This was a responsibility that every manager was familiar with. Following the interview each manager made a report on each of the thirty-six applicants and indicated which was the most likely candidate, the second best, the third best, etc. The applicants are indicated in Table I (see Table I, next page), by Roman numerals, and the managers are indicated by letters at the top of the column. Thus Applicant I was thought to be the fifth best by Manager A; the eleventh best by Manager B; the second best by Manager C; as tied for first place by Manager D; as third by Manager E; and as second best by Manager F.

It was the intention of the company to select about one-half of the applicants. It might have been assumed that these six district managers would have agreed pretty closely as to whether a particular applicant was in the upper half of the group or in the lower half. As a matter of fact, in the case of 28 of the applicants these six manager disagreed as to whether the individual should be placed in the upper or the lower half of the group. All agreed that Applicants I, II, IV, VI and XVI should be in the upper half, and that applicants XXXIV, XXV and XXXVI should be in the lower half. An inspection of the table shows much agreement among the six managers, but the disagreements are striking. Thus applicant XVII was thought to be the third best of the group of thirty-six by Manager C; but was placed thirtieth by Manager B. Applicant XVIII was thought to be the best in the group by Manager E; but was ranked as tied for the thirty-second place by Manager D. Yet there is reason to believe that these six gentlemen agreed even more closely than is the case with employment agents in general.

The ordinary method of selecting employees is by means of inspection, interviews and recommendations. These are not worthless and they secure results much better than would be done by flipping a coin or by drawing the names by chance out of a hat. Such methods are, however, unscientific, unsatisfactory and should be supplemented by four methods now to be discussed.

The Standard of the Medical Examination

Perhaps the most difficult thing to predict about a man is the date at which he will die. Until the time of the modern life insurance companies no scientific attempt was made to fix the most probable date of death. These companies have standardized their practice by means of carefully classified data. They know the most probable date of death for a man of a given age, physical condition, ancestry, habit, and occupation. The standard set by the medical examinations has been an inestimable benefit to the life insurance companies. It is not strange, therefore, that the same standard or a modification of it has been adopted by scores of industrial organizations during the last few years. This examination, having to do primarily with the death, sickness or disability of the person, may be regarded as the first step in placing the selection of employees on a scientific basis.

The Standard of the Educational Minimum

The minimum educational standard is not new, but it is being applied in new ways. In certain times and places mechanics were not able to secure employment till they had completed the full apprenticeship. School teachers are not eligible to positions till they have received a certificate based on an examination supposed to test educational attainment.

The civil service is based primarily upon this simple basis. For certain positions only those are selected who hold a diploma from a technical school. Colleges accept only those who have graduated from a secondary school. Several commercial organizations will consider for certain positions only those applicants who have had the equivalent of a secondary or college education. Some organizations will consider for typists only those who have acquired the ability to write thirty-five words a minute. They consider as stenographers only those who can take in shorthand one hundred words a minute. These standards of a minimum education are definite, determinable, subject to indefinite extension, and in every way to be recommended.

Table 1—Combined report of 6 district managers as to ability of 36 applicants.

		Mngr. A	Mngr. B	Mngr. C	Mngr. D	Mngr. E	Mngr. F
Applicant	I	5	11	2	1.5	3	2
Applicant	II	8.5	11	13	3	7.5	5.5
Applicant	III	6.5	18.5	25	21	15	22
Applicant	IV	2	2	1	1.5	1	5.5
Applicant	V	15	3	4	28	3	14.5
Applicant	VI	1	11	5	9	15	3
Applicant	VII	17.5	18.5	19	12	23	26
Applicant	VIII	14	18.5	27	6	15	23
Applicant	IX	28	11	22	11	3	9
Applicant	X	19	11	16	18	15	10.5
Applicant	XI	10.5	23	18	17	30	4
Applicant	XII	12	30	22	35	30	14.5
Applicant	XIII	3	23	12	5	15	19
Applicant	XIV	4	11	6	24	23	18
Applicant	XV	31	5	8	4	7.5	25
Applicant	XVI	6.5	1	7	7	7.5	7
Applicant	XVII	28	30	3	29	23	8
Applicant	XVIII	23.5	4	9.5	32.5	23	1
Applicant	XIX	16	6	20	26.5	34.5	10.5
Applicant	XX	8.5	11	15	14.5	30	21
Applicant	XXI	21.5	11	17	8	23	17
Applicant	XXII	13	30	30	30	30	24
Applicant	XXIII	35	11	14	25	15	16
Applicant	XXIV	26.5	16	9.5	23	23	27
Applicant	XXV	34	23	26	14.5	7.5	13
Applicant	XXVI	30	23	11	10	15	12
Applicant	XXVII	21.5	34	34	16	30	32
Applicant	XXVIII	10.5	30	23	19	7.5	28.5
Applicant	XXIX	25	18.5	21	20	15	20
Applicant	XXX	23	23	29	34	7.5	28.5
Applicant	XXXI	23.5	30	33	13	30	30
Applicant	XXXII	17.5	30	31	22	23	31
Applicant	XXXIII	33	34.5	36	32.5	15	33
Applicant	XXXIV	32	26	23	26.5	34.5	36
Applicant	XXXV	26.5	30	24	31	36	34
Applicant	XXXVI	36	36	35	36	30	35

The Standard of Native Ability

Automatically all men are much alike, but there are differences of height, weight and general appearance. In native ability men are very different. The difference between the giant and the dwarf is much less than the difference between the genius and the imbecile. Children of ten years of age may differ much as to height and weight, but they differ more in native ability. Occasionally a boy of ten may have the physique of a boy of twelve or of eight. But many boys of ten have the intelligence of boys of twelve or boys of eight.

The two French scientists, Binet and Simon, rendered a great service to mankind when they invented the method of determining the "mental age" of children and of unintelligent adults. They devised a series of tasks for children of each age such

that children of a younger age could not successfuly perform them. Thus the tasks devised for "mental age, ten" could be successfully performed by a majority of children ten years of age, but could not be performed by the average child nine years old. The tests were devised primarily for children of the lower classes of Paris and hence can not be used directly for American children and certainly not for testing American adults. To meet this need the following test is one of a series of tests that have been devised to determine the native ability of American adult applicants for commercial and industrial positions.

TEST I

Read the General Directions Before You Do Anything Else.

General Directions:

Do what the printed instructions tell you to do.

Do not ask the examiner any questions about the examination.

Do not ask any other person who is taking the examination any questions or watch any one to see what he or she does.

Work as rapidly as you can *without making any mistakes.*

If you do make a mistake, correct it neatly.

Do 1 first, then 2, then 3, and so on.

1. Write your name and permanent address here.

.....

.....

Instructions for 2, 3 and 4:

After each word printed below you are to write some word, according to the further directions. Write plainly, but as quickly as you can. If you cannot think of the right word in about 3 seconds, *go ahead to the next.*

3. Write the *opposites* of the words in this column, as shown in the first three.

good—*bad*	up—
day—*night*	smooth—
up—*down*	early—
long—	dead—
soft—	hot—
white—	asleep—
far—	

3. Write words that fit the words in this column, in the way shown in the first three.

drink—*water*	scold—
ask—*questions*	win—
subtract—*numbers*	answer—
sing—	weave—
build—	wink—
wear—	mend—
shoot—	

4. Write words that tell what sort of a thing each thing named is, as shown in the first three.

lily—*flower*	quinine—
blue—*color*	beef—
diamond—*jewel*	canoe—
oak—	banana—
measles—	Atlantic—
July—	Alps—
shark—	

5. Add 17 to each of these numbers. Write the answers as shown in the first three.

29	*46*	74	38
18	*35*	53	28
60	*77*	67	65
64		25	41
49		10	50
62		61	42
57		71	58
68		33	

6. Get the answers to these problems as quickly as you can.

1. What number minus 16 equals 20.
2. A man spent 2/3 of his money and had $8 left. How much had he at first?
3. At 15 cents a yard, how much will 7 feet of cloth cost?
4. A man bought land for $100. He sold it for $120, gaining $5 an acre. How many acres were there?
5. If ¾ of a gallon of oil costs 9 cents, what will 7 gallons cost?

7. Write opposites for this column, as shown in the first three. If you cannot think of the right word in about 10 seconds, go ahead to the next.

bravery—*cowardice*	forcible—
friend—*enemy*	straight—
true—*false*	to hold—
serious—	after
grand—	to float—
to win—	rough—
to respect—	to bless—
frequently—	to take—
to lack—	exciting—
apart—	clumsy—
stormy—	unless—
motion—	

8. Write in each line a fourth word that fits the third word in that line in the way that the second word fits the first, as shown in the first three lines. If you cannot think of the right word in about 10 seconds, go ahead.

color—red; name *John*	dog—puppy; cat—
page—book; handle—*knife*	little—less; much—
fire—burns; soldiers—*fight*	wash—face; sweep—
eye—see; ear—	house—room; book—
Monday—Tuesday; April—	sky—blue; grass—
do—did; see—	swim—water; fly—
bird—sings; dog—	once—one; twice—
hour—minute; minute—	cat—fur; bird—
straw—hat; leather—	pan—tin; table—
cloud—rain; sun—	buy—sell; come—
hammer—tool; dictionary—	oyster—shell; banana—
uncle—aunt; brother—	

9. Do what it says to do as quickly as you can, but be careful to notice just what it does say.

With your pencil make a dot over any one of these letters *F G H I J*, and a comma after the longest of these three words: *boy mother girl*. Then, if Christmas comes in March, make a cross right here....., but if not, pass along to the next question and tell where the sun rises..... If you believe that Edison discovered America, cross out what you just wrote, but if it was some one else, put in a number to complete this sentence: "A horse has.....feet." Write *yes*, no matter whether China is in Africa or not.....; and then give a wrong answer to this question: "How many days are there in the week?"..... Write any letter except *g* just after this comma,.....and then write *no* if 2 times 5 are 10. ..... Now, if Tuesday came after Monday, make two crosses here.

.....; but if not, make a circle here.....or else a square here..... Be sure to make three crosses between these two names of boys: George .....Henry. Notice these two numbers: 3, 5. If iron is heavier than water, write the larger number here..... But if iron is lighter write the smaller number here..... Show by a cross when the nights are longer: in summer?..... in winter?..... Give the correct answer to this question: "Does water run uphill?" .....and repeat your answer here..... Do nothing here (5 + 7 = ...), unless you skipped the preceding question; but write the first letter of your first name and the last letter of your last name at the ends of this line:.....

10. Place in the bracket preceding each English proverb the number of the African proverb to which the English proverb corresponds in meaning.

ENGLISH PROVERBS

( ) Married in haste, we repent at leisure.
( ) Answer a fool according to his folly.
( ) One swallow does not make a summer.
( ) First catch your hare.
( ) Adding insult to injury.
( ) Curses come home to roost.
( ) Distance lends enchantment to the view.
( ) We can all endure the misfortunes of others.

AFRICAN PROVERBS

1. One tree does not make a forest.
2. "I nearly killed the bird." No one can eat "nearly" in a stew.
3. Full-belly child says to hungry-belly child, "Keep good cheer."
4. Distant firewood is good firewood.
5. Ashes fly in the face of him who throws them.
6. If the boy says he wants to tie the water with a string, ask him whether he means the water in the pot or the water in the lagoon.
7. The ground-pig said: "I do not feel so angry with the man who killed me as with the man who dashed me on the ground afterward."
8. Quick loving a woman means quick not loving a woman.

Just as soon as you finish, give your paper to the examiner so as to get credit for having completed the work before time was called.

The most brilliant adult applicants complete the ten parts of this Test I in about fourteen minutes. An intelligence that enables the possessor to complete the ten parts in thirty-three minutes with a total of eighteen errors is assumed to be sufficient for the applicants for selling positions for one organization. The applicants for another organization must attain a much higher standard, which is a limit of twenty minutes and not more than eight errors. In these two organizations the applicants who fail to attain the standard accomplishment in Test I, are rejected unless in some of the other intelligence tests the minimum standards of accomplishments are surpassed. No person of a low degree of intelligence can complete Test I accurately in thirty minutes. Occasionally a person of good native ability and with a common school education or better fails to complete some one of the intelligence tests accurately and quickly. By the use of several different kinds of tests for native ability there is but little danger of rejecting a worthy applicant.

Standard of Relative Rank and Relative Position

There are instances in which an individual's characteristics may be expressed in either an absolute or a relative standard. In such instances the relative standard is frequently the more significant. To say that a man can grip 200 pounds with his right hand is not so significant as to say that he can grip with his right hand harder than any other man in the state. To state that Mr. Smith can perceive fourteen letters at a glance is not so significant as to say that Mr. Smith can read more letters at a glance than any other of the one hundred persons who tried the experiment. When we attempt to measure the most important human characteristics we find that there are no absolute standards and that we are compelled to resort entirely to relative standards or to relative positions in a group. There are no absolute standards for measuring loyalty, industry, wastefulness, punctuality, inventiveness, etc., but of ten men working together we may judge that Jones is the most loyal of the group; that Brown is second only to Newton in industry; that Williams is fourth in time of service; that Davis is about fifth in the amount of supervision required; that Johnson is seventh in wastefulness; that Bush is ninth in punctuality; and that Thomas is tenth in inventiveness, etc.

The attempt to refer a single individual to a relative rank or a relative position within his group is not an easy task and is liable to be inaccurate, but in actual practice it works out surprisingly well.

Recently an experiment was made in a silk manufacturing and distributing company to determine the accuracy of the managers, superintendents—bosses—in estimating the value of employees for the company. Twenty-six employees who were well known by at least three of the bosses were selected and the relative value of each for the firm expressed in terms of Relative Bank. The result of the experiment is presented in Table III.

In this table the reader will be impressed by the agreement of the bosses in the case of certain employees and the lack of agreement in the case of others. The bosses agree that Employee A is more valuable for the firm than any other employee in the group. Concerning Employee F there is much diversity

of opinion. Thus Boss C judges him to be the second best of the group; Boss B, places him fourth; Boss D, places him sixth; Boss E, places him seventh; but according to the judgment of Boss A, he ties for the seventeenth place.

According to the combined judgment of the four bosses who ranked Employee J, he is about tenth in the group of twenty-six. It would be much more valuable to know where he would stand in a group of a hundred or even of a thousand individuals performing the same general line of work and with whom he would be fairly compared. This ideal system is called the Percentile Rank system and has been fairly well developed in certain particulars. Thus in Chicago of all normal boys of twelve years of age the weakest ten per cent of them can grip with the right hand not more than 28 pounds; the strongest 10 per cent can grip 64 pounds or more; the weakest 25 per cent can not grip more than 44 pounds; the weakest 75 per cent not more than 57 pounds. When such standards are established, an individual can be measured and classified immediately. Thus if a twelve year old boy in Chicago is tested and it is found that he can grip 64 pounds or more, he is at once classed as belonging to the strongest 10 per cent; if he grips less than 28 pounds, he is known to be of the weakest 10 per cent. If he grips 44 pounds or less he is known to be among the weakest 25 per cent of boys. If he grips 57 pounds or less, he is known to be excluded from the upper 25 per cent in strength of hand.

Some high schools are now classifying all their students as belonging to the upper 25 per cent; to the lowest 25 per cent, etc. The attempt is proving very satisfactory and is a system that could with profit be adopted for general use for most—perhaps for all—commercial and industrial organizations in classifying old employees as well as new applicants.

TABLE III

		Firm Rank	Test Rank	Boss A	Boss' Judgment Boss B	Boss C	Boss D	Boss E
Employee	A	1	2.5	1	1	1	1	..
"	B	2	6	3	3	4	2	..
"	C	3	4	8	2	3	3	3
"	D	4	2.5	5	5	6	5	1
"	E	5	5	6	7	5	12	5
"	F	6	7	7.5	4	2	6	7
"	G	7	1	2	6	10	8	11
"	H	8	15	12	8	9	..	..
"	I	9	9	10	16	8	9	..
"	J	10	19	9	10	7	18	..
"	K	11.5	14	7	14	14	17	..
"	L	11.5	10	4	19	15	14	..
"	M	13	13	13	12	12	21	9
"	N	14	8	11	13	17	..	..
"	O	15	12	19	9	11	15	21
"	P	16	11	14	11	..	11	25
"	Q	17	18	15	18	16	..	..
"	R	18	16	20	15	18	..	19
"	S	19	22	16	22	20	..	15
"	T	20	21	22	23	24	20	13
"	U	21	24	24	17	19	26	..
"	V	22	17	23	20	25	23	17
"	W	23	25	17.5	25	23	..	..
"	X	24	20	21	21	22	24	23
"	Y	25	23	26	24	21	..	..
"	Z	26	26	25	26	26	25	..
Correlation of Firm Rank and Test Rank		..	.884	..	..	..	..	..
Correlation with Test Rank		..	..	.804	.878	.814	.911	.571
Correlation with Boss D		..	.911	.777	.863	.877	..	.640
Correlation with Boss A		..	.804	..	.704	.754	..	..

Testing the Tests

We have so far treated of the medical examination, the minimum training or educational standard, the standard of native ability, and the standard of relative rank in the group. These standards can be applied to all applicants with relative ease and with resultant profit to all concerned.

No standard and no method of testing to secure the standard should be assumed to be valuable until it has been rigidly tested out in practice.

The medical examination has been thoroughly tried out by numerous organizations and has been proved a success. Some companies have found certain types of medical examinations better than others. One organization finds that the examinations must be given by the company physician; another finds that any reputable physician is satisfactory. The examination for those occupying sedentary positions differs from the examination of those engaged in physical labor. Some organiza-

tions secure best results with a physical examination like that given at West Point, others find the ordinary life insurance company examination best. It may be taken for granted that a medical examination of some sort should be given to all persons before they are placed on the pay roll of the company. The points to be investigated by each organization are the nature of the tests, the manner of applying them, and the system of checking results.

Checking up the Employment Department

Excepting the medical examination, there seems to be no scientific method in general use for checking up the efficiency of the employment department. The applicants selected may succeed or may fail, but there are no known standards according to which they have been selected and there is no checking back to discover how those failing and those succeeding were selected. When goods are found defective, means are taken to discover the cause. When employees who have been approved by the employment department do not make good, it is attributed to chance or to luck.

The employment department of the silk company previously referred to had to select men in large numbers to perform a very definite kind of work. The number of failures was so great that the situation became critical. Instead of crediting the failures to chance, the suspicion arose that the wrong kinds of men were being selected for the position. A study was made of the ability and personal characteristics necessary for success at the particular work. Tests were then devised to discover such aptitude in applicants. Before applying the tests to new applicants they were tried on the men at work at the task. Of all the men at work at the task it was desired to have tested about ten who were extremely efficient, about ten who were distinctly unfit for the task, and about ten who were intermediate between these extremes. All of the men were to be known well by more than two of the bosses. The group as tested actually consisted of 26 instead of 30. The tests were applied by persons who knew none of the 26 employees and who were not familiar with the achievements of any of them. The results of the experiment were shown in Table III.

First Method of Testing the Tests

The firm rank is the consensus of opinion of the bosses as to the value of the men to the company and the test rank is the way the men were ranked by the tests. For instance, employee A was judged by the bosses to be the best of the group, and tied for second place according to the tests. The Firm and the Tests agreed perfectly as to which men should occupy the first seven positions. That is to say, the seven which were thought to be best by the Firm were also found best by the Tests. There is also almost perfect agreement as to which ten are at the bottom and which nine are intermediate between the top group and the bottom group. In fact, there is greater agreement between the findings of the Tests and the Firm judgment than there is between any two of the bosses. In this particular instance the tests were applied in a few hours and the findings classified the employees as accurately as the members of the firm who had known and observed the men for years.

This method of testing tests is to be recommended. Any tests that are to be employed in selecting applicants for a particular class of work should be able to differentiate the good from poor workers already employed in that particular capacity.

A second method of testing out tests is to keep carefully written records of the tests, expressed in measurable terms. When the applicants have been accepted and put to work their achievements must be expressed in measurable terms. These two measurements should then be brought together and should show some appreciable degree of correlation. The standard set by the tests should be compared with other standards and the most successful standard in each case retained.

The tobacco company referred to in an earlier instalment attempted to put its selling organization on a scientific basis. The territory of each salesman was studied by an expert sales engineer and a definite task or quota for the salesman assigned. In a good territory the task was high, in a poor territory it was low. In each case the task was what a good man could accomplish with ordinary industry and ability. To exceed the task in the good territory, by 50 per cent, was assumed to be just as great a success as to exceed the task, by 50 per cent, in the poor territory. The records of the company showed that

of all the hundreds of salesmen, only about 60 per cent were selling as much as the assigned quota, and that only about 15 per cent of all the new salesmen added to the force remained on the company's books for as long a time as twelve months.

Raising the Standard of New Employees

Thereupon tests were devised to raise the standard of new employees. Among the first group of applicants tested, most of them were rejected as not possessing the required native ability, tact and selling ability. The ten selected and put to work in April, 1914, in one territory, made the record shown in Table IV. They were not placed on the task and bonus basis until September, 1914.

TABLE IV

		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Salesman	A	7	4	9	8	..	..	..	..	..	..
"	B	9	8	4	3	1	1	1	1	1	1
"	C	2	5	2.5	5	3	2	2	2	2	2
"	D	6	3	8	7	..	..	..	..	..	..
"	E	10	10	10	9	7	7	7	..	..	..
"	F	5	2	2.5	6	6	4.5	6	5	5	3
"	G	3	6	5	1	2	3	5	..	..	..
"	H	8	9	6	2	4	4.5	3	4	4	4
"	I	4	7	7	..	..	..	..	..	..	..
"	J	1	1	1	4	5	6	4	3	3	5

In the tests Salesman A stood highest, but in his sales record, for September, he stood seventh in his group. Salesman J barely came up to the high standard set and he was tenth in the approved group. It will be observed that he was the best in the group in September sales. By July 1st, 1915, only five of the original ten were in the employ of the company. This seems to be a very bad showing, but since the company's books show that only 15 per cent of the new men stay as long as twelve months this is relatively a good showing, since 50 per cent of these men have remained more than twelve months. When the work of each man is considered so long as he remained with the company, it is found that they made their quota 85 per cent of the months, as compared with the 60 per cent made by all the salesmen of the company. The rank order as determined by the tests is not verified for any month until June. The applicant who stood first in the tests showed in practice that he had great selling ability, but he was disqualified for another reason. The two who stood second and third in the tests gradually won their way to the head of the group and are prov-

ing themselves to be decided assets to the company. Because definite measurable reports are made on these men monthly the efficiency of the tests can be checked and unless they continue to produce results they will be modified or discarded.

Using Ringers or Decoys to Test Salesmen

A third method of testing tests is to make use of what may well be called ringers or decoys. One specialty company desired to add twenty-five salesmen in one city. Sixty applicants for the positions were to be tested out in a single day. Unknown to those conducting the tests, the company had one of its very successful salesmen appear as an applicant, also one salesman who had been in the employ of the company for a long time, but who had failed and was to be dismised the next day. If the tests were good the poor salesman would be rejected by them and the good salesman selected. In the try-out of the tests the successful salesman stood as the ninth in the group of sixty and was recommended for appointment; and the salesman who had failed stood as thirty-fourth in the list and was recommended for rejection.

The medical examination, the minimum educational requirement, the test for native abilty, and the tests for determining the relative rank or position have all been tried out and no serious difficulty is met in establishing the standard and applying the tests. The testing has been checked by trying out the tests on persons of known ability, by comparing the findings of the tests with the later accomplishments of those selected, and by many instances in which ringers or decoys were mixed in with the applicants. In dealing with these data, refined statistical methods have been used and where possible the coefficient of correlation has been derived.

To be scientific in the selection of employees it is not essential to have a perfected system of tests to begin with. It is essential that use should be made of a scientific method of checking results, for then the tests can be improved until satisfactory results are secured.

The applying of the tests and the checking of the results may require expert ability equal to that of the testing department of a manufacturing plant. But the widespread use of scientific methods and of expert ability in selecting the personnel of the

organization is certainly a thing of the near future. It is not reasonable to assume that of the two departments spending the money for the firm, the purchasing department should be on a scientific basis, but the employment department left to chance.

THE THREE POSITION PLAN OF PROMOTION

An adequate system of promotion is the solution not only of holding employees in an organization, but also of the employment problem.

There is much emphasis today upon the proper *selection* of employees, and many and elaborate systems have been undertaken for a scientific, or near-scientific, *placement.* These are not in any wise to be criticized, for the selection of the individuals comprising any organization is important, and any plan that will cause the employment manager to plan his duties carefully and to give each decision on the fortunes of others careful consideration is to be commended. It must be realized, however, that even more important is holding and helping these employees after they have been selected, and providing an adequate systematized plan of advancement for them. In the Three Position Plan of Promotion we have not only the true and proved answer to the problem of promotion, but also the means by which efficient placement becomes almost automatic, and a supply of desirable applicants for any vacant position is constantly available. No system of placement can hope to succeed unless such a supply of applicants is available.

We wish to emphasize then three points:

1. The necessity of attracting desirable applicants.
2. The necessity of holding, fitting, and promoting those already employed.
3. The interdependence of these two.

We have never known a better friend of the worker than Mr. James Mapes Dodge, and he was wont to emphasize and demonstrate the benefit not only to the employee, but also to the organization of holding the cooperating employee, and the great and needless loss to the organization, to the worker, and

[1] By Frank B. Gilbreth and Lillian M. Gilbreth. Consulting Engineers. Annals of the American Academy. 65:289-96. May, 1916.

to society in a constant change of the personnel of the organization. Now, no organization can hope to hold its members that does not consider not only the welfare of the organization as a whole, but also the welfare of the individuals composing that organization.

The Three Position Plan of Promotion considers each man as occupying three positions in the organization, and considers these three positions as constantly changing in an upward spiral, as the man is promoted from the lowest position that he occupies and into the position next higher than the highest position that he occupies. The three positions are as follows: first, and lowest, the position that the man has last occupied in the organization; second, the position that the man is occupying at present in the organization; third, and highest, the position that the man will next occupy. In the first position the worker occupies the place of the teacher, this position being at the same time occupied by two other men, that is, by the worker doing the work, who receives little or no instruction in the duties of that position except in an emergency, and by the worker below who is learning the work. In the second position the worker is actually in charge of the work, and is constantly also the teacher of the man next below him, who will next occupy the position. He is also, in emergencies, a learner of the duties of his present position from the man above him. In the third position the worker occupies the place of learner, and is being constantly instructed by the man in the duties of the position immediately above.

Naturally a plan like this demands a close coordination of all positions. This is provided for through the master promotion chart. This chart is in the hands of the man in charge of promotion. It is slightly different for each organization. It consists of a schematic arrangement of all positions in the organization, so arranged as to provide for lines of most rapid advancement, along the various functions and subfunctions, under which the measured functional management by which we operate, works. The great advantage of such a chart is that it makes possible visualizing the complete problem of the organization's needs in teaching and preparing its members. The direct product of this is that the man in charge of promotion sees clearly the needs and the means of filling them, the demand and the supply. The important by-product is the

gradual evolution of permanent, rapid, direct paths of promotion. This means the abolishment of the "blind alley" job, that is, a position into which some member of the organization drifts with no chance for advancement. Another by-product of this chart is the fact that the promotion head, the promotion manager, or chief of promotion, as he has been variously called, can arrange for shifting or transferring the worker easily, if he sees that he has been improperly placed, or, if he develops abilities along some unexpected line. This is often the case under this type of management where there is great opportunity for the development of latent, as well as apparent, abilities. This master promotion chart is the great educative force to the management as to the importance of proper promotion.

The interests of the individual worker and his education as to the importance of promotion are carried on through the individual promotion charts. Upon these the records of each and every member of the organization are separately kept. These sheets are often called "fortune sheets," and it is this aspect of them that is of peculiar interest to the psychologist. When a worker becomes a member of the organization he is called into the department in charge of advancement or promotion, and given one of these fortune sheets. Upon it is shown his present position, and he and the man in charge outline together his possible and probable line of advancement. The sheet then becomes his fortune map, or fortune schedule. The projected line of promotion is outlined in green, and upon it are placed the dates at which it is hoped he may reach the various stages of advancement. At set times the worker and the promotion chief, or one of his helpers, meet, and the line of actual progress of advancement of the worker is traced upon the map in red, with the dates of achieving the various positions. The two then consult as to existing conditions, the special reading and studying necessary for fitting for the new positions, possible changes, or betterments. The direct product of this is that the worker understands what he is doing, gets expert advice for greater progress, and realizes that there is, and must be, cooperation between him and the promotion department for the good of all concerned. The by-products are equally, or more, important. One is that the worker is glad to impart all information that would be of help to the organization as to his history and antecedents, his home and other social conditions outside the plant,

that help or hinder his plans of preparing, ambitions, etc. It is common practice in these days to present the applicant with blanks to be filled in with all this information. We have such blanks, and use them in selecting applicants, always with the proviso that, if the applicant shows any disinclination to fill out such parts of the blank as tell of his ambitions or other details, which he may consider confidential, he be not required to do so. This information has been invariably volunteered, when the fortune map, or schedule, is understood. Naturally the applicant must furnish such information as will show his ability and reliability; but, as we will see later, these are so supplemented by data obtained through other sources that it is not necessary to ask for information usually considered confidential before it is volunteered. The second by-product of these fortune sheets is directly connected with the solution of the problem of getting constantly a group of desirable applicants from which to select more wisely. Thus, when the worker looks at his fortune sheet, and understands the three position plan of employment, he recognizes that he must train some one to take his position before he can hope to be most rapidly advanced. Naturally he first looks around in the organization to see who is available, for it is always desired that those within the organization be advanced first. However, if no such person is available, he reviews his entire acquaintance, and all possible sources for new workers, in order that he may obtain the most desirable person easy to train into that position. It is not necessary to dwell long upon the advantages of this system for holding members already in the organization. No worker who is constitutionally able to become a permanent member of an organization will wish to change, if he is receiving adequate pay and has ample opportunity for advancement, especially, if, as here, he is a member of a group where it is to the advantage—more than that—actually to the selfish interest, of every member to push all higher members up, and to teach and fit others to advance from below. Inseparably associated with this is the fact that any worker will be ready and glad to enter an organization where such conditions exist, and a desirable applicant will automatically present himself, when needed, at the direct request of some one who knows his particular fitness for the job, and desires him to have it. This selecting of the worker by the worker is real

democracy. An organization built thus has proved to be the most satisfying to both management and workers.

Now there are various questions that may arise concerning this subject, that it is well to answer here.

1. *What becomes of the workers who find exactly the positions that suit them, and have no desire to advance?*

The answer to this is that, if a worker finds such a position, he is retained in it, and that others who go beyond it are trained by him in the work of that position until they know enough about it to advance to the next higher grade. This often happens, especially in the case of the workers who prefer positions entailing comparatively little responsibility, and who, arriving at some work that satisfies them, and that involves but slight responsibility, choose to make that particular work a life vocation. If, as is seldom the case, a second worker is found who desires to remain in the same position, it is sometimes advisable to place such a contented specialist in another organization, as trained and satisfied expert workers and teachers are all too rare.

2. *If promotion is constant, are not men constantly promoted or graduated out of the organization?*

The answer to this is "Yes, and always to waiting and far better positions."

3. *What becomes of such well known "blind alley" jobs as that of elevator or errand boy?*

These positions are transformed into training stations or schools. Through them the young worker is put in touch with various lines of activity in the organization and his possibilities, capabilities and tastes are noted. Tending jobs under this type of management are also so used as training stations. The new work for crippled soldiers, which is now occupying so much of our attention, is also furnishing a means of filling such "blind alley" jobs. A position that might be deadening for a young, ambitious boy, or for a progressive worker, might prove the salvation of a maimed, or crippled, worker who might otherwise become an idle, unproductive, and worst of all, a discouraged and unhappy member of the community.

4. *How can the close "human touch" essential to this system of promotion be maintained in a large organization?*

We maintain this spirit through what we call the "Godfather

Movement." This is especially successful where there are many young workers. Some older man in the organization, preferably in the same department, or interested in the same line of work, is made the godfather of several young, or inexperienced, workers, and keeps in touch constantly with their progress. We call this man "the Godfather" in all foreign countries, where the relation between godparent and godchild is an unusually close one, and is very similar to the sort of relation supposed to exist here between members of the same family. It resembles, perhaps, in this country more the "Big Brother" or "Big Sister" movement now so popular.

5. *What are the actual results of the workers already employed using this system of promotion.*

They are most satisfactory in every case. In organizations where we have installed this system as a part of our plan of management we have seen

a. Office and messenger boys pass through five positions in one year.
b. A messenger boy become head storekeeper in three years.
c. A mechanic become night superintendent in four years.
d. A foreman become superintendent in two years.
e. A receiving clerk become head production clerk in three years.
f. A stenographer pass through five positions to motion study assistant in one year.
g. A stenographer pass through five positions to assistant chief of the three position plan in one and one half years.
h. An office boy become assistant purchasing agent in three years.
i. A half time apprentice become foreman in three and one half years.
j. A stenographer become head of the department of graphical presentation of statistics.
k. A laborer become superintendent in nine years.

and other cases too numerous to mention, many advancing in spite of predicted dire failure of the plan of selection, placement and promotion. The greatest good is, perhaps, not the individual advancement, but the increased interest and zeal of all the workers under this plan.

6. *What are the practical results on supply of applicants and on better placement?*

In our experience we have never failed when using this plan of promotion to supply all needs of the organization almost immediately with most desirable and efficient workers. Every member of the organization working under this plan has become an active and successful "employment bureau man."

7. *What are the advantages of this whole plan to the man in charge of the function of employment?*

He benefits by this plan, perhaps, more than any one else. He comes in close touch with every member of the organization.

It is to the advantage of every member to tell him exactly which individuals he thinks had better follow him, whether these are inside or outside the organization. Imagine for a moment that you are such a chief. *A* comes in and says, "Mr. Blank, I should like *O* to follow me in my position." *B* comes in and says, "I should like *O* to follow me in my position." *C* comes in and says, "Mr. Blank, I should like *O* to follow me in my position." Naturally you would recognize the wisdom of getting better acquainted with *O*. Or, perhaps, you suggest to *A*, "I think that *M* would be a good man to follow you," and *A* says, "No, I think I had better have some one else." You suggest *M* also to *B* and *C*, who reply somewhat along similar lines. There may be nothing fundamentally wrong with *M*, but the line you have planned will probably not receive as much cooperation as it should, and, in any case, there is something there worth investigating. Again, a worker comes to you and says, "Mr. Blank, I know a man who is not in this organization who would be just the person to follow me. You know there is no one available just now, as the man below me is satisfied with his job." Here follow particulars as to the desired man's education, training, etc., which act as the supplementary data before mentioned. The recommender is given a blank form of "recommendation" to fill out for filing, whether or not the proposed man is hired. This naturally leads to the question

8. *Can any part of this plan of promotion be used without the other parts?*

The answer is "Yes" and "No." "No," if the desired results are to be obtained in full, since the entire system is interrelated and correlated with the complete plan of Measured Functional Management. "Yes," in that the fundamental ideas underlying this plan can undoubtedly be worked out in many ways. The immediate success of this plan is fostered by a carefully devised set of forms and charts and other devices for visualizing the possibilities of individual success that have stood the test of time and use. The ultimate success of this plan depends upon the principles[1] that underlie it, giving every man a square deal, a maximum chance for cooperation, advancement and prosperity, in other words, the opportunity for simultaneous individual and social development.

[1] See The Psychology of Management. Sturgis and Walton, N. Y.

APPOINTMENTS AND DISMISSALS[1]

The practise of industrial establishments in taking workmen into their service seems to vary enormously even in the same trade. At one end of the scale we see a foreman summarily picking out this man or that from a surging crowd at the factory gates. At the other end we have all the appointments, even of labourers, made after elaborate enquiries by a special "Employment Department", or by one of the partners in the firm, or by a manager in high position, specially deputed for this duty. In the one case (leaving out of account the brutality of the procedure, and the serious injury to the community that it causes, of which, usually, the manager is quite unaware)[2] the assumption seems to be that one man will do as well as another; that character and conduct are of no consequence in "mere" workmen; and that a staff which is a constantly shifting congeries of atoms will be as efficient in production as one which is an organic whole. I need not tell you that these assumptions are fundamentally erroneous. It may seem unimportant what sort of labourer is taken on for a simple job of loading or unloading, fetching and carrying. The whole staff is made up of individuals; and what the whole staff will be, and how it will work, depends, very largely, on how each person is selected.[3]

[1] From "The Works Manager of Today" by Sidney Webb. Copyright, 1917, by Longmans Green & Company, and reprinted here by permission of the publishers.

[2] Naturally, I am not oblivious of the difficulties presented by the varying amount of work to be done, or by seasonal trades; but the resort to casual labour must be recognized as always involving a loss of efficiency, and therefore as an expedient to be as far as possible minimised. So easy has it usually been to take on casual labour, that I do not feel assured that managers have hitherto given all the heed that they might have done to securing continuity of production, and therefore of employment.

See, on this point, Unemployment, by W. H. Beveridge, and The Prevention of Destitution, by S. and B. Webb (1911, Longmans).

[3] Workmen will sometimes urge objections to any elaborate enquiry before a man is taken on; and will occasionally claim that an employer has nothing to do with anything but their technical proficiency. But it is really a rise in the status of the manual worker to treat him, in this respect, exactly as we treat a clerk or a manager. He must cease to be engaged as a "hand," to be taken on and dropped at an hour's notice, just as it suits the employer's convenience, and must receive an appointment as a responsible member of an establishment, in which a durable relationship is contemplated.

On the other hand, the minute inquisition into the candidate's private life, his savings, his church-going, his recreations, and his family relationships—in which some British employers are beginning to copy American practice—constitutes an unjustifiable invasion of privacy; and is unwarranted whether the appointment to be filled be that of manager or labourer.

In the United States, where the methods of "hiring and firing" have often been much more summary and ruthless than those to which we are accustomed in Great Britain, the excessive "turnover" of labour thereby produced is becoming more and more recognized as a serious drawback to industrial efficiency. The building up of the right kind of staff, its retention in the service once it has been secured, and its skilful recruiting from year to year, constitute, in fact, one of the most important elements in management. It is hard to make a foreman understand that, though one demoralised workman may not make much difference to the net productivity (though every little tells), the difference between a whole staff of demoralised workmen may amount, in a year, to ever so much more than the salary even of the General Manager himself.

Now, any careful and systematic organization of the engaging of workmen necessarily involves the abandonment of "patronage" by foremen or managers. Most people like power, even in small matters, and the opportunity of doing favours and bestowing benefits, especially when not at their own cost! It is obvious that efficiency (and also justice) demands that for every vacancy, high or low, the best available man shall be selected, irrespective of whether or not he is related to a foreman, or is a friend of his, or a friend of his friend, or a public-house acquaintance. Anything else is jobbery; and it is worth remembering that, in the Great Britain of today, this is one of the ways in which private enterprise is still disgraced. It is a demonstrable fact that jobbery, in this sense, is, in Great Britain at any rate, more prevalent in private business than it is in municipal affairs, and more prevalent even in municipal affairs than in Government Departments. This is particularly the case with regard to the better paid and socially more desirable appointments, which, in private businesses, are still subjected to the claims of family relationship to an extent now unknown in public service. It is one of the first duties of the professional manager to put a stop to jobbery, even with regard to the humblest situations. Of course, there are lower depths than a simple favourtism. Unless all appointments are centralised and systematically scrutinized there may easily be bribery, and the levying by foremen of what is virtually blackmail, with all sorts of insidious degradation of the staff.

I cannot believe that what I may call the system of trial and

error is the best way of choosing workmen. To take on a man at the gate, who says he possesses such and such skill and then to put him to work under the foreman's eye—the foreman "firing" him after a few hours because he is not skilful enough, and then taking on another man in the same way—this does not seem a scientific or a civilised way of recruiting a staff. Even with respect to technical efficiency there must be better ways of choosing men then this, though it is beyond my competence to name them.

There is, I need hardly say, more to be considered in making an appointment than the mere technical proficiency of the candidate. If you are picking a man to form part of your staff, you need to consider what will be his personal influence on those with whom he comes in contact. It is plainly vital to consider whether his admission is likely to raise or to lower the total efficiency of the workshop; and this depends to no small extent on its "tone". It may seem a counsel of perfection, but I do not see how we can escape from the inference that if we are aiming at the perfect industrial efficiency, it is important to take the same sort of trouble in selecting artisans and labourers and in retaining them once they are selected and in keeping them in a cordial and satisfied state of mind, as we already do with regard to clerks and mangers. Moreover, there is a further consideration. It is not only what a man may do to the other workmen that is important, but also what the other workmen may do to him. The existing staff has some claim to have its feelings respected, as regards those who are set to work among them in close personal companionship. It may seriously interfere with efficiency if a man or a woman is brought in against whom there is, for any reason, a strong feeling of antagonism or disapproval, whether this feeling is based on religious or racial prejudice or jealousy, or on personal character or conduct. It is simply courting trouble to impose a notorious non-unionist on a strongly union shop. It is simply ruination to a female staff to introduce workers irrespective of their personal character. In the same way, it is necessary to keep a constant watch on foremen and sub-ordinate managers, in order promptly to detect the existence of any feelings of anger or hostility or unpopularity that they arouse among those who are subject to them. The perfect foreman or manager will know how to do his duty with all due

strictness, but with such obvious impartiality and fairness, and such genuine courtesy and kindliness—in short, with, in the best sense, such good manners—that he will be respected and liked by the workshop. We cannot all attain such perfection. But it remains true that a foreman or manager who is seriously disliked, from whatever cause, has a very lowering effect on efficiency; and he had better be moved and warned. Which large establishment will be the first to start a school for foremen? It would be, very largely, a school of manners.

Similar considerations apply, of course, to dismissals, What workmen nowadays resent more than anything else is the capricious tyranny to which they are still often subjected, very largely by foremen, but sometimes by managers and by employers themselves. I am afraid that most business enterprises of any magnitude are here sadly at fault. Lest I should be supposed to be merely imagining what goes on in many a great factory in the United Kingdom, or to be taking a biassed or an exaggerated view, I will quote here the recent testimony of an English engineering employer.

> In most works, in the engineering trade at least, the whole industrial life of a workman is in the hands of his foreman. The foreman chooses him from among the applicants at the works gate; often he settles what wages he shall get; no advance of wage or promotion is possible except on his initiative; he often sets the piece-price and has power to cut it when he wishes; and, lastly, he almost always has unrestricted power of discharge. These great powers are exercised by men chosen generally for their energy and driving power. They are usually promoted workmen, with no very marked superiority in education, outlook, or sympathy over those whom they command. It is not surprising, therefore that these powers are often abused; and a tyranny, both in matters of details and principle, established, which the higher management, even if it has the desire, has very little power to soften or control. The most glaring case of this is usually in connection with discharge. The workman may be told by the foreman at a moment's notice that he is no longer wanted. If the the department is obviously short of work, this is accepted generally with remarkably good grace, but the discharge may just as likely be the result of "words" with the foreman, and in that case will almost certainly be felt to be an act of spite or revenge, and be resented accordingly. The workman has no court of appeal against the edict; it is almost impossible for him to get past the foreman to see the manager or a director, and even if he should succeed, the management has practically no choice but to back up its agent. To support the workman against the decision of the foreman would generally lead to the resignation of the latter, whose value to the firm is considerably higher than that of any individual workman, and whose loss cannot be lightly faced.[1]

I hope that neither this candid employer nor I will be supposed to be bringing an indictment against all foremen, many of whom are recognised by the workmen themselves to be fair-minded men, striving to do justice in a very difficult situation.

[1] "Industrial Reconstruction and Employer's View." The Athenaeum: March, 1917.

Nor need we be supposed to be oblivious of the manifold faults and deficiencies of the workmen. Equally do we see many employers and managers striving constantly for justice and humanity. My object here is to ask every manager within my reach what organization there is in his works, what steps he has himself taken, to prevent the possibility of misuse by the foremen of the very great powers with which they are nearly always entrusted. It is, I venture to say, one of the imperative duties of a manager to contrive some system by which this power—which we know is always liable to misuse—is automatically prevented from developing into tyranny.

On the particular point of the power of dismissal, I cannot help doubting whether—apart, perhaps, from the summary termination of the first day's probation of a new workman—this should ever be exercised, at any rate so far as concerns what may be called an established member of the staff (however low may be his wage), by any one in less authority than one of the principals of the firm, or by the manager himself. So heavy a penalty as the dismissal of a workman (involving to him a serious dislocation of his life, the perils and demoralization attendant on looking for work, probably the uprooting of his home and the interruption of his children's schooling, possibly many weeks of penury or semi-starvation for his family and himself) ought to be regarded as a very serious matter. No man ought to be dismissed by reason of anything personal to himself, except after a formal enquiry, and for a definite cause, against which he must be allowed an opportunity for explanation or defence. No foreman or subordinate manager ought to be allowed to exercise the power of dismissal. There must, of course, be power of instant suspension and report, to be confirmed or not, after formal enquiry, by the manager or partner to whom this important duty is specially assigned.

In some establishments, where the owners attempt to be humane, it is sought to protect the workmen against injustice by letting it be known that they have full rights of appeal to the management, or to the individual partners, against any dismissal or disciplinary punishment by a foreman or assistant manager. This is kindly meant, but it is not effective, and it leads to difficulties. Discipline, and the foreman's authority, must be maintained. Once a foreman has pronounced sentence, even the most just and most human employer finds great diffi-

culty in throwing him over. The workman, by appealing may show that he was not himself to blame, and that the foreman was hasty or ill-tempered, or even prejudiced; but what is the employer to do? To let the man win his appeal, to pronounce to the whole workshop that the foreman was wrong—in short, to do justice—seems to involve the permanent weakening of the foreman's authority, the discouragement of his efforts to promote the interests of the concern, friction in the shop, and the destruction of discipline. What happens, I fear, is that, except in exceptionally glaring cases, the case is regarded as an inextricable tangle, the foreman is given the benefit of the doubt, and the sentence of dismissal is confirmed. If the workman is meritorious, and the employer is kind, an effort may be made to find him a place elsewhere; and the foreman is privately warned not to do it again. But the foreman's authority is almost invariably upheld.

This shows that subsequent appeal against the foreman's sentence is not the right device. What is required is something like the procedure adopted in some other enterprises, which we may call that of prior confirmation of any sentence of dismissal before it is promulgated. There ought, it is clear, to be a very definite code of procedure as to dismissals. A foreman may summarily suspend a workman, or he may warn him; but the foreman must not go beyond this under any circumstances whatsoever until he has submitted the case privately to the manager, who goes into it as he thinks fit, probably summoning the workman before him. The essential thing is that whatever decision is arrived at is announced by the foreman as his own. He is thus, in the eyes of the workshop, never overruled.

Even when workmen have to be put off from slackness of business (a slackness resulting from the failure, be it remembered, not of the workmen but of the management; it may be an unavoidable failure, but it is to be regarded nevertheless as a failure to secure the first requisite of maximum efficiency, namely continuity of running) the matter ought not to be lightly treated. Prior notice should be given to the Employment Exchange of any projected reduction of staff. The longest possible notice ought to be given to the workmen about to be put off; attempts should be made to find them employment in other departments; and if these fail, the very least consideration to

be shown is a clear week's notice (or a week's pay in lieu of notice.) Depend upon it, the manager who neglects this sort of consideration, perhaps thinks himself clever in turning off "hands" with as little expense or trouble to the firm as turning off the gas, does not know his business. He may think he does very well, but (such is the human nature which he has to handle) he will inevitably fail either to maximise output or to minimise cost. This is coming to be increasingly recognized in the United States.

HOW TO FIGURE THE LABOR TURNOVER

COMPUTING LABOR TURNOVER[1]

A Questionnaire

At the request of Mr. Daniel Bloomfield, and with his assistance, INDUSTRIAL MANAGEMENT prepared and sent to a number of employment managers in prominent industrial plants a questionnaire aimed to bring out helpful information in regard to labor turnover. The questions are as follows:

1. How do you define "labor turnover"?
2. How do you compute labor turnover
   (a) when trying to maintain a normal force?
   (b) when increasing your force?
   (c) when there is a loss of workers bringing the force below normal?
3. When computing the turnover for a particular month how much stress do you lay
   (a) on the daily average of persons at work?
   (b) on the monthly average?
   (c) How do you obtain your daily average and your monthy average?
4. Explain any other method or methods of computing turnover known to you, as the cumulative average.
5. State the formula best suited, in your opinion, to give an accurate diagnosis of the labor turnover condition.

By Daniel Bloomfield

1. *Definition.* Labor turnover is the condition in industry represented by the engagement, loss and replacement of workers. It represents the leakage or waste of man power and is a fair index of the efficiency of management methods and conditions of employment.

[1] From Industrial Management. 56:239-46. September, 1918.

2. *Method of Computation.*

Let T=turnover

A=average number employed for period computed

L=loss

M=transfers from department to department

U=unavoidable losses

Then $$\frac{L-(M+U)}{A}=T \qquad (1)$$

When increasing the force, subtract the increase from the number hired during the period. This will give the amount of loss or value of L. Then use formula (1).

When decreasing the force, add the number represented by the decrease to the number hired during the period to obtain the number leaving or value of L. Then use formula (1).

3. In computing the turnover for a particular month the greatest stress should be laid on the *daily* average. The most accurate method of obtaining this is to add the figures on the payroll for each day and divide the result by the number of working days. Where this is found to be a difficult matter the figures on the payroll at the end of each week should be added up and the result divided by 4.

4. Some employment managers do not consider unavoidable losses (death, illness, old age, etc.) as a part of their turnover and so deduct that from the number representing the loss. Their formula is the same as No 1:

$$\frac{L-(M+U)}{A}=T \qquad (2)$$

Still others use the following formula: They first obtain a monthly average by adding the number on the payroll at the beginning of the month and the number at the end of the month and dividing the result by 2. This average is then divided into the number replaced on the payroll.

5. The best formula, in my opinion, designed to diagnose the labor turnover situation of a plant accurately, is the following:

$$\frac{L-(M+U)}{A}=T \qquad (2)$$

This formula allows for the elimination of the unavoidable elements from the final figures. Transfers are also deducted

because they really do not represent a true loss of man power. Of course, one can go into fine hair splitting about transfers and separate promotions and shifting from one department to another but such attempts are only of academic value. What the employer desires to know is, "What is the preventable turnover?" Knowing this he can plan to remedy the condition.

The formula to be used in obtaining the percentage of turnover of a single department would be:

$$\frac{L-U}{A}=T \qquad (3)$$

A transfer from one department to another is really an exit from the former and an entrance to the latter, hence transfers here should not be deducted.

By E. H. Fish

The matter below was prepared for the Employment Managers' Association of Boston:

Labor turnover is the percentage of employees which it is necessary to replace over a period of one year's time. For example, a shop which maintains steadily 1000 employees throughout the year, but finds it necessary to hire 650 new men, losing an equal number, will have a labor turnover of 65 per cent. provided none of the losses were unavoidable.

Consider a shop which is growing in size; for example, one which at the beginning of the year has 1000 men, but at the end of the year has 1500, the increase having been steady throughout the year so that the average number of employees is 1250. If in order to increase from 1000 to 1500 it was necessary to employ 1000 new men, then only 500 men would have been replaced, the rest having gone to increase the force. In that case the labor turnover would be 500 divided by 1250 or 40 per cent.

If the shop is decreasing in size, that is, if the same shop begins with 1000 men and at the end of the year has only 800, but while losing 200 men hired a total of 100, then it would have replaced only 100 men. The average payroll is 900, so the percentage of labor turnover would be 100 divided by 900, or 11 1/9 per cent.

In each of these examples no account has been taken of the replacement of men who left through no fault of the company as, for example, death. It is also customary to leave out of

consideration in figuring labor turnover, women who leave when they are married, as we consider that also beyond the range of our influence. We also leave out of account all transfers from one department to another when we are figuring the labor turnover for the whole shop. In figuring the labor turnover for separate departments, of course, these transfers should be treated exactly as if they were discharges from one department and newly hired in the other.

It is the custom to use for the average number of employees the average of the number on the payroll at the beginning of each month or each week of the year. This is not accurate but it is probably as accurate as is necessary, the labor turnover in any shop being an indication of conditions rather than an exact measure.

When labor turnover is computed from week to week or from month to month it is customary to multiply the number of employees hired and those leaving by 52 or 12 as the case may be, so as to get the same result as if the whole year were taken into account.

It has been the custom to compute labor turnover on the basis of the number of employees on the payroll, although to be more strictly correct it should be figured on the average number working, reduced to a full working week's basis. For example, if the average employee works 50 hours per week when the shop time is 60, then only five-sixths as many men are effectively engaged in work as are shown on the payroll.

The following formula is used for computation of labor turnover:

Let T=labor turnover per year
L=losses, or number of men replaced per year
M=½ (number of men working at beginning of period + number working at end of the period).

Then $T=\frac{M}{L}$

The number of men replaced per year should not include those who die or who leave on account of marriage, nor should it take into account transfers between departments unless a departmental turnover is being considered.

Examples

Week ending February 16, 1918

Hired	29
Transferred in	10
Left on own accord	34
Discharged	5
Laid off (lack of work)	7
Died	1
Transferred out	10
Number on payroll February 9	2701
Number on payroll February 10	2683
To find turnover for shop as a whole:	
Total leaving less transfers and death	46
Total hired	29

Since only 29 men were hired only that number were replaced, therefore, the numerator of our fraction should be 29 times 52. The average number on the payroll is

$$\frac{2701 + 2683}{2}$$

$$\text{or } \frac{29 \times 52}{\frac{2701 + 2683}{2}} = \frac{1508}{2892} = 56 \text{ per cent.}$$

Another example is for the case when the force is increasing.

Week ending February 23, 1918

Hired	63
Transferred in	12
Left of own accord	22
Discharged	4
Laid off	3
Married (female)	2
Transferred out	12
Number on payroll February 16	2683
Number on payroll February 23	2715

In this case while 63 were hired, 32 of them were to in-

crease force and only 31 to replace others. Two left for unavoidable reasons, therefore, our fraction is:

$$\frac{(31-2)\,52}{\frac{2683+2715}{2}} = \frac{1508}{2749} = 54 \text{ per cent.}$$

Departmental turnover is computed as follows:

Week ending February 23, 1918	
Hired from Department No. 1.....	20
Transferred in from other departments..	3
	23
Left on own accord.....	6
Transferred out of department.....	2
Discharged	2
	10
Number in department February 23.....	402
Number in department February 16.....	389

In this case 23 came in, 13 to increase force, 10 to replace others, therefore, this is figured:

$$\frac{10 \times 52}{\frac{402+389}{2}} = 131 \text{ per cent.}$$

It should be borne in mind that an average of the labor turnover taken monthly or weekly is not a true average, as the turnover when the shop is growing if considered positive would make the turnover when the shop was decreasing in size negative.

STANDARD DEFINITION OF LABOR TURNOVER AND METHOD OF COMPUTING THE PERCENTAGE[1]

Labor turnover for any period consists of the number of separations from service during that period. Separations include all quits, discharges, and lay offs for any reason whatsoever.

The percentage of labor turnover for any period considered

[1] From U. S. Bureau of Labor Statistics. Mo. Rev. Vol 6, No. 6, p. 172-3. June, 1918.

is the ratio of the total number of separations during the period to the average number of employees on the force report during that period. The force report gives the number of men actually working each day as shown by attendance records.

It is recommended that the percentage turnover be computed for each week. All turnover percentages for a week or for any other period should always be reduced to a yearly basis and be reported in terms of percentages per annum.

To compute the percentage of labor turnover for any period, find the total separations for the period considered and divide by the average of the number actually working each day throughout the period. Then multiply by the proper factor to reduce to a yearly basis.

Example:

Method of Computing Percentage of Labor Turnover for One Week

Total number of separations during week..... 300

Daily force reports (workers actually on the job):

Monday	1,020	Wednesday	1,070	Friday	1,040
Tuesday	1,065	Thursday	1,035	Saturday	990

Average for week..... 1,037

$$\text{Percentage labor turnover, } \frac{300}{1{,}037} \times 52 = 1{,}504 \text{ per cent.}$$

Method of Computing Percentage of Labor Turnover for One Year

(Assuming that records of daily attendance are averaged for each month.)

Total number of separations during the year..... 5,020

Average for year..... 2,176

May	2,040	September	2,200	January	2,250
June	2,100	October	2,220	February	2,170
July	2,000	November	2,280	March	2,230
August	1,980	December	2,240	April	2,400

Average number working each month as determined from the force reports or daily attendance records:

$$\text{Percentage labor turnover, } \frac{5{,}020}{2{,}176} = 231 \text{ per cent.}$$

In case the number employed by a plant or a department of a plant decreases because it is the deliberate policy of the plant management to reduce permanently its working force, this fact should be explicitly stated and the reasons for the reduction in force given.

THE COST OF LABOR TURNOVER

THE COST OF LABOR TURNOVER[1]

"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

[1] By Magnus Alexander. U. S. Bureau of Labor Statistics. Bul. 227. p. 13-27. October, 1917.

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 indus-

trial 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 it is evident that 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 an 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.

	NEW EMPLOYEES							
Group.	Hiring.	Instruction.	Wear and tear.	Reduced production.	Spoiled work.	Accidents.	Total.	Rehired employees.
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 22,021 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 conditions 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 tomorrow 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 em-

ployer 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 steadying 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.

ELEMENTS IN THE COST OF LABOR TURNOVER[1]

A Symposium

With the assistance of Mr. Daniel Bloomfield, INDUSTRIAL MANAGEMENT prepared and sent out a questionnaire relating to the factors and methods used in determing the cost of labor turnover. The questions are:

1. In determining the cost of labor turnover what general elements would you consider?

[1] Industrial Management. 57:239-45. March, 1919.

2. What specific elements in the overhead charges of a concern would you consider in,
   (a) the hiring process?
   (b) the training process both direct and indirect?
   (c) transfers and readjustments of workers?
   (d) the process of termination?
3. What other charges, if any, would be factors?
4. By what mathematical or accounting method or methods can all the elements involved in the cost of labor turnover be accurately appraised?
5. Please name any plants where the cost of turnover has been figured and if possible state the method used?

A number of helpful replies have been received and from these the following have been selected:

By Wm. B. Purdy [1]

Following is the formula we have devised for the computing of the cost of labor turnover:

A. Number of men handled by the employment department:
   1. Number of men interviewed.
   2. Number of men whose records are looked up.
   3. Number of men examined by the doctor.
   4. Number of men photographed.

B. Number of men starting to work.

C. Salary of the hiring and firing force:
   1. Interviewers.
   2. Record searchers.
   3. Doctor.
   4. Statistical clerk.
   5. Photographers.
   6. Number clerk.
   7. Ten employees of time department.

D. Salary of executives and of minor employees of employment work:
   1. Manager.
   2. Assistant manager.
   3. Messenger boy.
   4. Stenographer.
   5. Guard.
   6. Janitor.

[1] Employment Manager, Atlantic Refining Co.

E. Cost of equipment and overhead expense of employment work:
   1. Rental of employment, time, and photo offices.
   2. Light and heat.
   3. Telephones.
   4. Stationery and supplies.
   5. Depreciation of equipment.

F. Cost of training and reduced production:
   1. Foreman's time.
   2. Loss of time in delivery of employees.
   3. Depreciation of machinery.
   4. Decreased output of men and machinery.

G. Cost of scout duty and advertising:
   1. Salary of scouts.
   2. Expense of scouts.
   3. Cost of advertising.

By Dr. William Alfred Sawyer[1]

We start with the conclusion that any figures set on the cost of labor turnover must be arbitrary and are the result of estimates, but in order to have such estimates as close to actual conditions as possible, and at the same time have them represent averages, we aim to divide our costs into four general groups as follows:

1. Help remaining for a period of less than three weeks.
2. Help remaining for a period between three weeks and three months.
3. Help remaining for a period over three months.
4. Help engaged but not reporting.

The first three classifications are for periods of time which we estimate mark periods where progress on an average takes place in the skill and productiveness of an employee. Of course, there are exceptions. Where an employee has been with us for several years and leaves, the cost of replacement may be largely in excess of replacement of the employee who has been with us but four months, but we figure that on an average three months is ample time in our business for the average man to reach full productiveness.

We next subdivide our employees into general groups cov-

[1] Director, Health and Employment, American Pulley Co.

ering the class of labor which we employ: Press operators, press laborers, assemblers, riveters, inspectors, others not including laborers working on assembling, machinists, maintenance, sash pulley operators, all help not including laborers, laborers.

The cost under each classification is then figured by the following formula:

1. HELP REMAINING FOR A PERIOD OF LESS THAN THREE WEEKS

During the first three *weeks* a new employee is figured to cost a proportion of the daily wage of one other employee through the necessary time spent in instructing the newcomer. This figure is arbitrarily set, based on the best estimate we can make of the earnings of such employee whose time is consumed. To this we add an estimated figure representing the reduced productiveness of the new employee over what is normal for the older employees in the department. The sum of these two figures we class as *lost productive labor* and to it we add our average overhead, the total representing our estimated cost per day of an employee who leaves within *three weeks* of starting.

Our figures show that the average employee leaving us within three weeks of starting works eight days, consequently we estimate our average total cost of employees leaving within a three-weeks period is eight times the daily estimate.

For example, press hands are estimated as follows:

(a)	During first three weeks the new man is figured to consume directly a proportion of one other man's time daily, which is estimated at	$ .75
(b)	A reduced speed of production for new man is as costing	.75
	Lost productive labor	1.50
(c)	Overhead on productive labor, estimated	1.50
	Total (daily)	$ 3.00
	Those classified as leaving within three weeks are estimated to average eight working days (8 x $3.00)	$24.00

2. HELP REMAINING FOR A PERIOD BETWEEN THREE WEEKS AND THREE MONTHS

After *three weeks* we find, on an average, that the pro-

ductiveness of an employee becomes better, the percentage of betterment varying with the particular group under which he is classed, consequently in ascertaining cost of replacement for those who have been with us from *three weeks to three months,* we average as follows:

Multiply the daily cost by 16½ (three weeks of 5½ days per week) to ascertain the cost at the end of three weeks and to this add a reduced daily cost, the employee having become skilled, for a period, which our records show as the average number of days over three weeks that employees remain who leave us within three months.

The total represents our estimated figure of cost for employees leaving between three weeks and three months.

For example take press hands:

After three weeks, conditions are estimated to better themselves about 80 per cent.; the cost would therefore be as follows:

16½ days at $3.00	$49.50
One-half of the balance of three months, 27½ days, at reduced daily cost of production of .60	16.50
Total	$66.00

3. Help Remaining for a Period of Over Three Months

In arriving at cost of those remaining over three months, we adopt the same plan as above, adding to the full cost for three months the estimated cost for the average additional period.

For example,

Those classified as leaving after three months would cost the previous amount ($66) plus 27½ days additional, the balance of the three-months period, which at .60 is	$16.50
	66.00
Total	$82.50

4 Help Engaged But Not Reporting

In figuring cost of those engaged but not reporting for work, we estimate the delay has cost us a figure represented by the overhead on the amount the operator would receive for one day's producing labor; or where other than productive labor, a figure represented by one day's wages of the individual.

In the press room other than press hands are estimated as follows:

Unfamiliarity with work	.50
Foreman's time directing	.25
Lost non-productive labor cost	.75

Calculations on same basis as provided for press hands, except improvement after three weeks, 90 per cent.

SUMMARY OF LABOR TURNOVER COSTS

	Not reporting.	Leaving prior to three weeks.	Leaving between three weeks and three months.	Leaving after three months.
Press room:				
Press hands	$6.00	$24.00	$66.00	$82.50
Other than press hands	3.00	6.00	14.43	16.49
Assembling room:				
Assemblers	6.00	44.96	138.93	185.13
Riveters	6.00	54.96	169.90	226.55
Inspectors	6.00	56.00	173.25	231.00
Other employees except laborers	4.50	24.96	68.53	85.58
Engineering	6.75	40.00	67.50	95.00
Maintenance	6.75	40.00	81.25	122.50
Sash pulley	3.75	16.00	44.00	55.00
Laborers	3.00	6.00	14.43	16.49

We feel there are a number of points in our method that are capable of improvement, but we are keeping records under this plan which we expect to alter from time to time as experience shows desirable.

This general plan of analysis was originally drawn up by Mr. Horace Sheble, assistant to the manager, and I am glad to give him credit therefor.

By Charles E. Fouhy[1]

During the war the abnormality of labor turnover was a very important factor in all industrial matters pertaining to production. Manufacturers all over the country instituted all kinds of bonus systems, rewarding the worker for clear records in attendance and production. They put into effect all manner of schemes that would bring the worker to work on time and keep him on the job every day. In doing this they established improvements in the shop, all for the purpose of making the

[1] Employment Manager, Curtis Aeroplane & Motor Corporation.

working conditions as satisfactory and congenial as possible in the hope that their employees would be satisfied and not seek new positions.

Notwithstanding all that was done for their comfort and convenience it did not prevent a great many from quitting and going to other concerns.

If the shop conditions were as ideal as possible and the management interested in the welfare and comfort of the workers, what caused this continual labor turnover?

To get at the real solution of this question one must visualize the labor conditions about 1914 or 1915. During this period there was more or less unemployment and the problem of labor turnover was not so much in evidence. Shortly before the United States entered the war the demand for workers was on the rise and with it came the bargaining back and forth among employers for experienced mechanics. Coincident with this came the gradual raise in rates and the alluring want advertisements for help which caused workmen to feel that there were so many opportunities for positions abroad paying more money that they were wasting their time staying in old positions.

During the time when our labor turnover was the highest over 60 per cent. of those leaving us left of their own accord, notwithstanding all we did to make our workers happy, contented and satisfied. Since the armistice was signed a great part of our contracts were cancelled and this necessitated laying off a large portion of our employees.

Now that the prospects of securing new positions are not very promising it is interesting to note the stability of labor.

It has been a predominating fact that the American is supposed to be a restless person who readily moves from one job to another without much thought or consideration of the part he plays in industry. An analysis of our removals of recent date shows that instead of 60 per cent. leaving of their own accord it is now only 7 per cent. of the total. This indicates that the supply and demand on the labor market is the barometer of labor turnover. When jobs are numerous and there is keen competition for labor then labor turnover is high; when the reverse is the order labor turnover is low.

Our experience proves that if you base your service and welfare work on the premise that this alone will reduce your turnover then you are laboring under a wrong impression.

It is necessary and right that everything possible should be done to make the working environment satisfactory in every respect. Not only should we do the material things, but we must put a soul into our work if we intend to get the lasting results we strive for.

In the abstract it is not how attractive you make the working conditions but rather have you done these things because you have the real interests of the workers at heart. If it has been based on selfish motives then all your efforts have been disappointing.

There is no getting around the fact that the principal cause for labor turnover is the inherent ambition of the masses to better their financial income, and with this thought in the minds of the workers during prosperous times most concerns have no idea of the relative cost of labor turnover.

For a six-months period, from January, 1918, to June, 1918, we found it cost an average of $2.72 for every person passing through the employment department as a new employee. In figuring the cost we took into consideration the following items based on the average number of persons hired: Indirect labor, treasurer's roll, expense material requisitioned, liability insurance, heat, light, telephone tolls, telegrams, telephone expense, employment advertising, traveling expenses, stationery and office supplies, rent of typewriters, fire insurance, fire and police, janitor service, overtime meals, and miscellaneous supplies.

In the majority of occupations in the aeroplane industry it is not possible to go into the open labor market and secure experienced aeroplane mechanics. Necessarily we must develop most of our men and in doing this the element of cost is more difficult to determine than would be the case in a well organized business of long standing.

We recently conducted an investigation by divisions in our industry and the following is a statement from Mr. C. G. Robinson, superintendent of our wood mill:

> The cost of replacing men in this division has been very expensive. For this reason we have always been very careful in the discharge of any employee, preferring to put up with a certain measure of inefficiency rather than incur the annoyance and consequent cost which inevitably followed the replacement of an employee.
>
> This excessive cost of labor turnover is due to the accuracy with which the work has to be performed and while we control to the minimum, the discharge of employees, we are unable to control the arbitrary lay-offs, due to changes of plans, cancellations, etc.

In our conversation I told you that for every man replaced it cost this division $100 before the man became efficient and capable of performing a dependable day's work. After further investigation I want to qualify this statement by explaining to you that I meant only that this cost of $100 represented machine operators and woodworkers, but did not cover the propeller situation, where the cost of replacing a man is $300. I cite for your information a few instances to substantiate the statement made to you.

As a general proposition when a man who is a reasonably good cabinet maker or woodworker comes into our propeller department it takes six months of solid training and driving for him to reach grade C.

Example A: Grade A man requiring an average time to make a propeller of 7½ hours has instructed approximately 50 men, only three of whom have turned out as real propeller makers. The others have failed and have been transferred to other departments or received their releases.

Example B: This man started five months ago. At that time he averaged 18 hours on a propeller. His time today is 9.3 hours on a similar propeller.

Example C: An experienced propeller maker hired at Grand Rapids. He started out by spoiling two propellers. Average time per propeller 13 hours.

Example D: Class A man, time to make propeller 7.5 hours. This he averages when alone. When breaking in a new man it takes him 13.8 hours on the job.

Example E: Transferred from the boat hull department recently. Started as an expert woodworker. He is averaging about 18.5 hours on a propeller.

Example F: Transferred from the boat hull department as an expert woodworker. He is averaging 15.9 hours on a propeller. The prescribed time on this propeller is 4 hours.

Regarding machine operations and woodworkers in general, it is my position that it costs us $100 for every replacement and this is fully confirmed by the following facts. Before a man can be proclaimed efficient he must reach the stage of an expert blue print reader. Approximately one man in four will qualify after a period of training varying from one to twelve months.

The following table shows the time it takes to break in a machine operator, working either on a shaper, sticker or automatic shaper, finish saw or tennoner. In the shaping of wood parts by hand it takes one to three months to train a man before he reaches a reasonable classification.

Months of training	1 to 12	1 to 6	1 to 3
Machines	(Sticker (Shaper (Auto shaper	Tennoner Finish Saw	Router Strut machine Rip saw Boring machine

Machine Shop Workers

It would appear to me that in the adjustment of costs this item would be one to be taken into consideration, as it certainly is a big element.

The following is the estimated time necessary to train unskilled workers in the metal division on various operations:

Department.	Time required to learn.	Lost time per cent.	Rate per hour cents.	Cost.
Punch press	1 week	50	45	$11.25
Chopper and metal saws	2 days	25	45	2.03
Hand screw machine	1 week	25	45	5.63
Production lathe	30 days	75	45	91.13
Production milling machine	1 week	25	45	5.63
Drill press	2 days	50	45	4.05
Sheet metal tube filing	4 weeks	50	45	45.00
Sheet metal bench hand	4 weeks	25	45	22.50
Furnace brazer	4 weeks	10	45	9.00
Torch welding	4 weeks	50	45	45.00
Heat treat	1 week	10	45	2.25
Sand blast	1 week	25	45	5.63
Polishing	2 weeks	25	45	11.25
Plating	1 hour	0	..	.....
		Average		$20.03

These figures do not take into consideration any of the elements of overhead such as are mentioned in the cost analysis of the employment department. This allows only for the actual time required to break in an unskilled operator in the different jobs.

In the case of a first class machinist the cost of replacing him is relatively small. He is given the blue prints and it matters little to a first class man whether he is working on aeroplane parts or on marine engines.

In the case of a machine set-up man the cost of replacing him is much greater than a machine operator. The set-up man must necessarily learn the location of the different tools and fixtures for the various classes of work he is called upon to handle. It should not take him over a day or two before he is performing real production work. We estimate the cost of breaking in a set-up man to be $50.

In the tool room we find the opinion is that a first class tool maker represents a very small cost in labor turnover. The work requires careful attention and the amount of work turned out does not measure in the same category as production work.

Flying Boat Hull Department

In our flying boat hull department we found it extremely difficult to estimate a cost due to the fact that every man in the department had to learn the operation and the usual practice was to start all of them in on the simple work and by easy stages develop them to the most important jobs. It will take about a month's time to turn out a first class man in this

department regardless of his previous experience as an expert woodworker on other operations. We grade our men in pay during the learning period and if we rate a man on an average of 50 cents per hour and allow that it takes a month to train him it is safe to say he has cost us $117.

In the panel or wing department the length of time required is from two weeks to a month and figuring the rate at 50 cents per hour would cost us from $58.50 to $117 to replace a man on this work.

Boat and Plane Assembly

In our final boat and plane assembly department we go through the same general line of operation to instruct a man as we do in our other departments. It takes from three to five days to develop a man to a point where he is able to handle this particular work without any considerable loss. In other words we do not put a "green" man on a class of work in our final assembly where there is any possibility of his spoiling work, and then again our supervision is so exact in this work and every man's work is checked so frequently that he would not be left long enough to spoil any work.

However, after a workman has become thoroughly experienced and capable of carrying on his own end of the work the cost of replacing him is considerable. The superintendent of this division estimates that it costs the company at least $100 every time one of his best men leaves him.

In figuring the actual cost of labor turnover for our plant it is imperative that we realize the extraordinary need of the shop and the method of training and instructing we have developed in our production work.

Unskilled Women Workers

We have maintained a training school for instructing unskilled female workers going into various production, inspection and clerical positions and we find that the average overhead cost for training these people for a three months' period is $34.27, allowing an average attendance of 278 girls under training.

In determining the cost of training the girls and women, the following items were considered: Indirect labor, treasurer's

roll, expense materials requisitioned, liability insurance, stationery and office supplies, heat, power and light, depreciation of factory building, fire and police service, janitor service, telephone expense, telephone tolls, telegrams, repair and maintenance buildings.

Estimating that 75 per cent. of this cost can be charged to the finished product turned out by the school and put into production, would make the actual cost of training the workers $8.47. In this particular case we have a definite fixed proposition. Here we have the unskilled, untrained female worker who must be instructed before she can be placed on production work. In order to accomplish this we placed her in the training department for an intensive training and we must of necessity maintain an organization of instructors and assistants to equip her properly for shop work.

When she is promoted she is better qualified for production work than a new employee coming directly into the shop without passing through the training department, and considering the same element of overhead that is already mentioned, it is safe to say that the cost of training her directly in production departments would be at least 100 per cent. greater, allowing for the extra time it would take foremen to instruct her, wear and tear of machinery and tools, loss of production, spoiled work and mistakes and general overhead expense.

By far the most economical way of reducing the cost of replacing workers in production work is to route them through a training department for intensive training where they will handle exactly the same product they would be expected to turn out on production work.

DETERMINING COST OF TURNOVER OF LABOR[1]

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.

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.

[1] By Boyd Fisher. Former Vice-President, Detroit Executives Club. U. S. Bureau of Labor Statistics. Bul. 227. p. 60-65. October, 1917.

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 analzed 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 exceed the quitters accounts for the increase.

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 instructions 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.

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.

[1] Cost of accidents incurred by new employees should be considered in each of the places in the outline where the following classification is used.

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.

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 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.

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 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 axiomatic.
   B. Find the present inventory.
   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.

MEDICAL EXAMINATION OF WORKERS

PHYSICAL EXAMINATION OF WORKERS[1]

The spirit of individualism is rapidly passing out of modern society, to be replaced by an increasing solicitude for methods which aim at greater cooperation between various social units, the better conservation of human life and health, and an increasing recognition of the importance of the individual to society at large.

We are gradually coming to a realization that continued industrial prosperity is not dependent, in the last analysis, upon the tons of raw material consumed nor the money value of the finished product, but upon the physical efficiency of the worker and the length of the period of his economic productivity.

There can be no question that the value of the individual to society is conditioned more by the length of this period than any other factor. The stage of growth and development from infancy to manhood is at a heavy, though rightful, cost to society, a cost which is becoming larger from year to year, because of the increased pains taken and skill exercised to insure the greater efficiency of the finished human product and the longer time devoted to this end. During his years of economic productivity the individual repays this debt to society.

It is evident that the returns from these human investments are variable. Some return manifold the cost, others increase greatly this debt. The most important factor determining the economic return the social unit shall make consists in the condition of his health. The maintenance of a continuous state of physical efficiency is the best guarantee that each social unit shall easily and abundantly discharge his debt to society.

Few of us have any accurate realization of the enormous losses caused each year in all industries by the ill health of workers, for the most part due to preventable causes. In a recent address by Dr. L. K. Frankel, it appears from the experi-

[1] By J. W. Schereschewsky. Surgeon, U. S. Public Health Service. Reprint. Public Health Reports. Vol. 29. No. 47. November 20, 1914.

ence of the local sick benefit societies of Leipsic and vicinity in Germany, that the annual loss from sickness per 100 male workers in 83 occupations was 910 days, varying from 395 days in barbers and personal attendants to 1,574 days in cardboard and paper-box factory workers. In female workers the loss was still higher, varying from 560 days in bookkeepers and office employees to 1,978 days in workers in skins, hides, and other animal refuse, the average being 1,138 days.

In 1910 the First National Conference on Industrial Diseases [1] addressed a memorial to the President of the United States, in which it was stated that there occurred annually in the United States 13,400,000 cases of illness among workers, involving an economic yearly loss of nearly three-fourths of a billion dollars.

As a large part of this huge loss is preventable, it is clear that society is not fostering foolish fads nor indulging in vague humanitarianism by displaying active interest in the physical condition of its units. It is only natural, therefore, that the question of the physical examination of workers (or medical supervision, as I prefer to term it) should have attracted increasing attention in recent years.

It is my intention to discuss briefly the purpose of such medical supervision, its value, and the results we may expect in the future from the practical application of the useful data it can be made to provide.

We are, of course, well aware of the specific reasons for the introduction of the physical examination of workers in this country. The enactment of legislation for the compensation of workmen for injuries has rendered such examination advisable for the purpose of determining the physical condition of workmen upon entering employment, so that unjust claims for accidental injuries might be avoided, and the hazard to fellow employees, arising from physical defects in workers, reduced.

Begun on this basis, we are rapidly coming to the realization of the great value of such medical supervision in a larger sense. The beneficent results of the widespread campaign for safety have focused the attention of the industrial world in a way, possible in no other manner, to the very great importance of health in the abstract. We are beginning fully to recognize the fact that the very principle which renders it expedient to safe-

[1] Dr. W. Gilman Thompson: The Occupational Diseases of Modern Life. Read before the annual meeting of the Cumberland County Medical Society, Portland, Me., December 8, 1911, p. 2.

guard health and limb, renders it equally expedient, by extension, to safeguard the health of the worker from all standpoints.

In accordance with this principle, large industrial plants everywhere are beginning voluntarily to study industrial sanitation and to extend measures, originally intended solely to reduce accidents, so that they also serve to diminish the incidence of disease. They are realizing that, as it is their duty to minimize the effects of ignorance and carelessness in producing accidents, so, in similar fashion, the operation of these causes in the production of sickness should be reduced, as a person who is ill through carelessness or lack of knowledge is just as much a dependent upon society as one in the same condition from injury.

Let us now proceed to a discussion of the aims of such medical supervision. The goal to which we are evidently tending is to render all industries "safe." While certain hazards inherent in industries must necessarily be encountered, our object is to minimize their detrimental influence. In other words, we are subscribing to the principle that, *per se,* an industry ought not to exercise an unhealthful influence upon the worker; that occupation in that industry ought not to curtail the average period of economic productivity.

Suppose that all precautions have been taken to prevent the operation of injurious factors in a given industry; suppose that due care has been given to the sanitation of workrooms; suppose that the occurrence of accidents has been reduced to a minimum by proper rules, the safeguarding of machinery, and the education of the workers, have we done all we can or ought to do in the way of guarding the industry from economic loss through disabilities? The answer is, "No." We will achieve results far in advance of anything accomplished by the methods above described if, in addition to this, a system of medical supervision with periodic physical examinations of all employees be introduced. There can be no question that such examinations constitute the most efficient means at our command for maintaining the individual in a continuous state of physical efficiency.

As a general proposition such medical supervision should have for its objects the following points:

1. The prevention of the introduction, and the control, of communicable diseases among workers.

2. The detection of physical defects and diseases in their incipiency among workers.

3. The adaptation of the work to the physical condition of the worker.

4. Advice to the worker as to his own physical condition.

5. A careful record of the actual physical condition of workers.

6. The education of workers.

7. The prevention of occupational diseases.

We will now take up each one of these points for discussion.

1. *The control of communicable diseases.*—It would seem a matter of simple justice that the worker should be protected from exposure to infection from coworkers suffering from communicable diseases.

As an example of this, the Public Health Service was recently called upon to investigate, in a large steel plant, an outbreak of trachoma, which, as you know, is a contagious disease of the eyes, frequently resulting in great impairment or loss of vision. The situation was found to be so acute that the company took immediate steps at large expense to eradicate the disorder, in view of the imminent spread of the disease throughout the factory personnel. A system of medical supervision, which, I am given to understand, this company has now adopted, would, in the first instance, have prevented this outbreak.

2. *The detection of incipient defects and diseases.*—Many individuals have their efficiency much impaired because they are suffering from some easily correctible defect the existence of which was unsuspected by them. Others are suffering from diseases, such as pulmonary tuberculosis, in an incipient condition which, if neglected, would make such advances as to preclude subsequent recovery. Medical supervision creates an opportunity for detecting such defects and diseases before the damage wrought is irreparable and of advising the worker of the steps which should be taken for their improvement or correction.

3. *Adaptation of the work to the physical condition of the worker.*—It is evident that some classes of work require certain physical qualifications or the absence of certain physical defects or diseases. It is obvious that persons suffering from hernia should not work at occupations which require the lifting of heavy objects, persons suffering from nephritis should not engage in occupations involving great fluctuations in temperature or exposure to cold and dampness, nor should persons suffering

from cardiac disease be placed in situations where physical exertion is required, or where a sudden vertigo may endanger the individual or his coworkers. Medical supervision gives the needed opportunity of adjusting the duties of the individual to his physical capacities, so that the productiveness of the individual remains at a maximum compatible with his physical condition, without his being endangered or causing injury to others by reason of his infirmities.

4. *Advice to the worker.*—The great opportunity which medical supervision affords to advise workers concerning their physical condition is an advantage which can not be overestimated. The helpful interest thus displayed on the part of the employer toward the physical condition of workers awakens that spirit of cooperation on their part which is necessary to the maintenance of "safe" industrial conditions. Such, at least, has been the experience of plants in which medical supervision has been put in operation. In addition to this, workers should be encouraged to visit the plant hospital whenever they feel sick, so that, on the one hand, if the symptoms are serious, the worker can be advised to stop work before further injury has occurred, or, on the other, if the ailment be trivial, a minimum of time will be lost from work.

5. *Record of the physical condition.*—For proper medical supervision it is essential that careful records of the physical condition of workers be kept. In the first place a record of the physical examination serves, on the one hand, to safeguard against unjust claims for compensation in the case of injuries, while, on the other, a record of physical fitness will help to substantiate just claims for such injuries. In the second, such records constitute most valuable data for studying the average physique and the condition of the health of workers in any industry.

6. *Education of the workers.*—We are familiar with the excellent work already accomplished in the prevention of accidents by means of the education of workers. A similar campaign in teaching them how to keep well should have like effects in reducing the number of cases of illness.

7. *The prevention of occupational diseases.*—Systematic medical supervision is a most excellent agent to prevent the occurrence of occupational diseases among workers. When such diseases are found in a plant the first cases will be detected by

the medical supervision, so that the sanitary defects responsible for them may be readily corrected. The supervision would serve also as a constant check upon the efficiency of the methods introduced to prevent the occurrence of occupational diseases.

Type of Physical Examination Contemplated

The importance of making physical examinations thorough can not be overemphasized. A reliable record of the physical condition can not be obtained by a hasty and superficial examination; the data so collected are of no especial value, nor can incipient disease be detected by such methods. What is especially needed is a standard form of physical examination, so that the data obtained in this manner for various industries may be comparable.

Workers found suffering from physical defects and diseases should be held under observation and requested to report back for reexamination, so that advice as to their condition may be given, as well as a watch kept upon their progress to recovery. It is also earnestly recommended that periodic reexaminations be made of all workers, as this is the best way of insuring a continuous state of health on their part.

It is evident from the foregoing that the scheme of medical supervision contemplated in this paper is extensive and would entail considerable expense to put in operation. The question which inevitably arises is: "Will it pay?" The answer must be unhesitatingly in the affirmative. The experience of all plants in which such systems have been put in operation is so satisfactory that no doubt has arisen in the minds of their officers that medical supervision does pay in increased efficiency of the working force, greater content of the workers, greater cooperation between employers and employed, and in greatly diminished loss of time and suffering from preventable disease.

There is another aspect of this question of medical supervision upon which I have not as yet dwelt. We are in need of more exact information in order to render our industries "safe" from a health standpoint. While it is manifestly wasteful to introduce superfluous precautions in industries, it is equally a part of social justice to see that such precautions be adequate. The physical examination of workers gives us information, which can be so well obtained in no other way, as to the diseases

and defects peculiar to workers and the specific influence of occupations upon the health of the individual.

Let me illustrate this point: At present the Federal Public Health Service is entering upon a study of diseases of occupation. The first and most important question in the consideration of this subject is, naturally, What is the effect of different occupations upon the health of workers? The service is just concluding an investigation, undertaken at the solicitation of the Joint Board of Sanitary Control of the Garment Trades, in New York, as to the influence of this industry upon the health of its workers. The most important line of study which the service pursued in this investigation consisted of careful physical examination of several thousand garment workers. As a result of these physical examinations the Public Health Service is now in possession of rather precise data, obtainable so well in no other way, as to the effects of this occupation upon the health of the individual, the average physical condition of garment workers, the types of diseases, and disabilities from which the workers suffer. The service is, therefore, in a position to formulate useful recommendations for the sanitary improvement of this industry. These studies the service hopes to extend to other industries as facilities permit.

We see from the foregoing the great value of physical examinations of workers in obtaining accurate data as to the effects of industries upon health. The general introduction of systems of medical supervision, with periodic physical examinations in various industries, will result in the collection of a body of similar data, which, when studied, will form a logical basis for practical recommendations to make all such industries safe from a health standpoint. In other words, the medical supervision of workers, if generally introduced, will point clearly the way to enable each industry to sanitate itself. When we have reached this point it will be found that the enormous economic loss caused in industries by preventable diseases and disabilities will have largely disappeared.

THE NEW FOREMANSHIP

RELATION OF FOREMEN TO THE WORKING FORCE[1]

It is a very impressive circumstance to witness the beginning of a larger scheme of co-operative management than has heretofore obtained. It is also good to reflect that this larger share, this broadening of the basis of management, comes not as a result of any friction or general disaffection, or unrest, or misunderstanding, but comes rather in the direction of natural, unforced progress.

You will hear more and more, especially if you read the literature of management, if you follow the technical magazines, indeed if you follow the newspapers and popular periodicals, you will hear more and more the expression, "human engineering."

Now, what is "human engineering?" Let me read a brief statement by that greatest genius in the history of the world, Mr. Thomas A. Edison, who wrote me a letter a few months ago and that letter has been printed on the cover of the January number of the Engineering Magazine, which is now called *"Industrial Management,"* a change of name, by the way, which is significant too of the fact that engineering, and production, are essentially problems of management, of the handling of human beings. Mr. Edison wrote:

"Problems in human engineering will receive during the coming years the same genius and attention which the nineteenth century gave to the more material forms of engineering.

"We have laid good foundations for industrial prosperity, now we want to assure the happiness and growth of the workers through vocational education, vocational guidance, and wisely managed employment departments. A great field for industrial experimentation and statesmanship is opening up."

[1] From article by Meyer Bloomfield, containing the substance of a talk to the foremen of the International Harvester Co., Chicago. Industrial Management. 53:340-9. June, 1917.

Mr. Edison not only believes in human engineering, but I have seen on his personal desk practically everything printed in this country for a year on the subject of handling help. Within a year Mr. Edison and his associates interested in his fourteen plants, have re-organized their labor departments, they have established a clearing house and are beginning to effect that same kind of team play to which Mr. Perkins invited your attention tonight.

What is happening at West Orange, what is happening here is being duplicated all over the country, not only in advanced establishments like this but in backward establishments like some of the textile mills of the South and of my own state of Massachusetts. Last month two hundred employers came to our monthly meeting in Boston, where we talked things over as we are doing tonight; I suppose fully twenty per cent of them came from the textile mills of Maine, New Hampshire, Rhode Island, Connecticut and New York. Many of them come every month to the monthly meeting of our executives who have to handle help or are in some way responsible for the working forces. That proves our chairman's remark that it is not mere sentimental enthusiasm we want to air on Washington's birthday, but that here is a very real problem in business management, here is something which we are forced by the spirit of the times to understand, to co-operate with and to build on.

Now the first great pressure on every executive, and I regard all you gentlemen as executives, even if you have only two or three people dependent upon you for instructions—the first great pressure and force we have to reckon with is the fact that no matter how backward, how crude, how ignorant, how illiterate are the workers and aliens and employes who come to your shops, yet there is something in the American life, something in the American environment which puts a certain civic intelligence and sense of independence among the workers which every executive must understand and co-operate with.

It is a great mistake and it is the beginning of the end in management not to respect the efforts of each fellow, however crude his outward appearance may be, what each fellow is when he is at his best. Men often show one side in one relation and another side in another relation. I have been for some fifteen years pretty busily engaged in all kinds of meditations and con-

ferences. Often I would hear some employer say: "Those people are just wild animals (referring to his partners in the business, his employes); they are just wild animals. You don't know them. I know them. I have to work with them every day. It is all right for you to say there is some good in them. They are only here for the dollars, why should I waste any time on them?" Then I would go to some place where the men gathered, in small knots, and those men who might be picked as the most stupid and backward men, were sometimes the orators of the occasion, the leaders. Men who have been pointed out as hopeless seemed to speak in a way which if they could talk to the management in the same way would have long ago brought them together for the common good of the business as a whole.

It is absolutely vital to judge men accurately. If you haven't had a chance to see what a fellow is capable of, give him the benefit of the doubt and make up your mind if you appeal to something good in him he will meet you on the level of your appeal. If we aim to meet men on a low level they will take us just on as low a level as we wish to take with them. It is worth while straining a point to make sure—availing yourself of the law of averages alone—that the more men see the best side of you the more likely they are to give you their best side.

It is a fact we have to deal with, that the workers in this country, whatever their inheritance, are being educated by influences of the street, the shop, by societies, newspapers, magazines, and many of them are doing a whole lot of thinking. Now it is up to us to keep up with all the forces that are educating, that are training and influencing the state of mind of the men who work with us. We should know something of what they read so we may read the same thing. We should know something of the subjects which interest them so we may be sure there is not too great a gap between us mentally and the men who work with us.

Now what has that to do with production? We have a pretty definite job; what more is there for us to do? The most intelligent executives in the country today believe that good output, good organization, establishment spirit, the spirit of give and take, depend on seeing a man is something more than a producing machine. Just as long as the men are only

"hands," and only machines, we are sure to build a granite wall between them and ourselves.

I have said there is a great deal of education going on among the workers. There are all sorts of institutions, libraries, philanthropies reaching the most backward of the masses, particularly in great industrial centers like Chicago. I beg all the foremen who have this great responsibilty of welding together this great organization, to respect the processes of training going on, unconsciously perhaps, but the education which is actually going on among the men, deal with that education, make it serve the welfare of the organization which you are pledged to make prosperous.

Therefore there is a new conception of management. The old idea was coercion, threats, bad temper, fear, punishment. Beware of the man who resorts to punishment as a cure for a human situations. That man needs treatment.

The foremost efficiency engineers in the country who began with a thoroughly mechanical idea of production, now agree with me when I say that one of the biggest factors in efficiency, let alone good organization, is good will. The good will of the men has as much to do with economy, with sound methods, with good work, with savings, with eliminating waste—good will has as much to do with those items as any mechanical device which your planning department may impose.

The greatest problem therefore for every executive in the room, for every executive in the United States, is how to get the good will of the fellows that work with you in your department. Now, how are you going to get this good will? I do not say you haven't it. I am very sure many of you have. Perhaps all of you have that good will. Very good, but if you have it let us face the question of how to keep it.

I wish it were possible to hear a discussion of why men in various shops leave their departments, a discussion between you foremen of why some of your men get their discharges; and the reason why one man fails under one executive and makes a pronounced success under another executive. These occurrences, the reasons for these occurrences, are facts and should be more and more recorded in a good record of management. It is poor business to have men come and go, it gives an institution a black eye when men do that, it gives it a bad reputation in the labor market. It is a great thing for an organiza-

tion to be known as giving a fellow every chance possible to make good, to be known as not permitting any man from the President down to be arbitrary with the worker, as being known that nobody is allowed to take an unfair advantage of the weakness or even the failures of any individual in the establishment.

It is a wonderful reputation to have and there is no force on earth which could stand up against an organization everyone of whose executives holds himself personally responsible that the spirit of protection for every individual shall be alive and exercised, particularly in situations which test the temper and try the patience. When things go right the virtues are a matter of course. It is in extreme situations when the real test of whether the right spirit is at work shows itself.

This seems to be the spirit. It is a wonderful thing to work with. But a state of mind will not accomplish what you are after—what you do may make a wonderful success of the common management here. Merely a desire that things shall be so, and forgetting the details, will not effect what you are after. A great many managers in different parts of the country are actually getting to work finding out how to build up good will among their men. Some have done it by a very liberal suggestion system. Well, that in itself does some good, but it does not go far enough. To say to every employe that those of you who give the best suggestions, those that see dangers and propose safety precautions, those of you who know of friction spots and tell us about them, will be rewarded, that does not bring very much.

One thing must be driven out of every organization and that is the poison of fear, the element of coercion. Men should come to you and give you their confidences because you deserve them, because they are your friends and look upon you as the right sort of a guide. I have been through some of the instructions personally given to Captains of Companies in the army. All the books of instruction describe the Captain as a father of the Company. The worst crime a Captain can commit as a father is to be unfair and abuse his authority in relation to the privates. The privates are supposed to come to him with all their hopes and ambitions, their woes. That is what he is Captain for. He is supposed to show those human qualities, he is the father of the Company.

The foreman is a sort of father of that Department. The

President and other executives cannot mix with all the men. You are the proxies of the men at the top. You are the men at the top so far as your own world in the shop is concerned.

But this hope, this plan, this spirit of the Harvester management will all go up like smoke unless there is a definite plan of communication between all the foremen at stated intervals on problems, difficulties, methods, ways of exchanging experiences on getting good will, on establishing the desired spirit, confidence, interest, steadiness, in the working forces. I say this not because I think you suffer seriously—I think you are better off than many establishments I know of—but you cannot stand idle, you want to come as nearly to a 100 per cent perfect organization as is possible.

I do not believe there is any man in this country wise enough to come here and say, "Gentlemen, here is something every foreman must do. Here are one hundred rules for you to follow." There is no patent medicine for you to take that will make you at once a wonderful executive. Combined, you know more of what ought to be done to make a 100 per cent perfect organization than any single human being in the world.

My excuse for being here at all and taking your time is to make you believe that you know more of what you can do to make a 100 per cent perfect organization than I or any other one individual man knows. You are close to the problem, you know whether you are getting the sort of men you ought to have, and if you do not get them is it the fault of the Labor Department, is it the fault of the labor market, is it the fault of conditions, is it bad conditions in the plant the reputation of which you have to live down, is there a pulling down process among the men because of errors in the management? You know whether you get the cream of the labor market. You know whether men leave you for trivial reasons, you know whether men leave you through misunderstandings and because of avoidable frictions. You know all these things, and I hope all or some of you will keep on digging at this proposition and build up the efficiency and your insight as to the reasons for the efficiency or inefficiency of this great Corporation; that you will learn as managers of men to put down in black and white for discussion and analysis and criticism your observations on these points, and thus build up a knowledge of the situation which can be analyzed and recorded and issued as the by-laws and

policies of the International Harvester Companies to guide and control future foremen, future managers, the superintendents as well as future employes.

These policies can best be built up by the combined effort and wisdom, experience and thought of you gentlemen who are in the most strategic positions to see what will help make a solidified organization.

Now to do that, I hope you will later on have some medium of communication, whether it be a Shop Organ, weekly or monthly meetings, a system of letters to be written by individual foremen to be read by other foremen, or some other system of communications from individuals to groups, so these matters may be thought out; and as they become crystallized, become adopted by your consent and that of the management as the planks in the new constitution of team play, of friendship, of modern Twentieth Century, enlightened personnel control.

One question that bothers every executive and it is almost the first question that suggests itself to his mind, is this: Give us authority enough and we will get the good will and the organization all right. If you cripple our authority, if you monkey with our prerogatives, if you weaken the sense of power we have established over the men, then good-bye to organization. Do not hold us responsible.

I ask you gentlemen to consider very carefully at your leisure, if you have any, consider very carefuly whether you can afford at the present day, at the present stage of industrial development in this country, whether you can afford to think of authority only as the key to control of working men.

I venture to say that the men who discover or have discovered that there is something infinitely more potent and magical and effective than brute force, than police authority; that the managers who know there is something infinitely more important and that is, the strength of their own fairness, of their own personality, of their own devotion to their men, of their own freedom from mean practices—men who have caught that idea in management I am willing to bet now are on record as successful upbuilders of men in their departments.

A foreman is not there merely to hold men down and keep their noses to the grindstone. That is a small part of management. A foreman is there to build up executives, to develop all a man has within him in the way of contribution to the firm he

is working for. I have seen some men you might not employ unless you had had a great deal of experience with human nature, and learned not to judge from appearances; I have seen men, most unpromising material, who have made the best managers of the country. I know one of the men at the head of one of Mr. Edison's plants, one of the most ungainly, awkward, disreputable, disheveled looking persons. I was in the plant long enough to find out that the men in his department would have laid down their lives for him. During that very time Mr. Edison's labor supervisor was investigating to learn why so many changes were taking place in two other departments, the managers of which were two fine, stalwart looking men, but they did not belong in this age at all as controllers of men.

There is something in one's view point, in your outlook, in what you think of men, which makes or spoils the possibility of being a successful up-builder of men. Isn't it your business to make your men earn more money, to make them more productive, so they can be better off? Aren't you really partners of the men? If you think you are anything else you are wasting a great opportunity. You are a partner of the men. That is why you are called foremen. You are not slave drivers; you are educators, you are doing work of instruction all the time. Make those instructions better analyzed, better recorded, and see what happens between you and your men.

Gentlemen, you are educators and I want to appeal to you on the ground that no man is a manager who is not at the same time a teacher and example.

Your chairman referred to the Americanization of the worker. Very often a foreman is the first example of Americanism a man gets a chance to see and be near to and imitate. In the Packard Company's automobile plants there is the greatest attention given to the making foremen help in the Americanization of the employes. They help them get naturalized. Often the foremen help them fill out their first papers. This same thing is true in plants in New York and Boston. The foremen are doing in the first instance many of the things that we used to think the Welfare Departments should do. I believe the foreman is a natural associate of the Welfare Department and the Labor Department, Educational Department, Service Department, and I hope it will be possible in this Company to have more and more foremen act as informal com-

mittees of assistants and advisors to all these specialized department, because in the final analysis you stand between the men and the management. The foremen are the interpreters of the Company to the men, and of the men to the Company.

That is a great responsibility. It deserves some thought. It deserves a good deal of your best interest and attention. It means credit to you, it means bringing to you that rarest thing in all organizations—you cannot weigh it or describe it—it is known as esprit de corps, the spirit of the organization.

You walk in one establishment and believe the least spark will set every particle flying apart. They are ready for an explosion. Go into another establishment and you know no human force can disturb the relationship between the men and the executive. These things come as a result of thought and conferences, between you men who have the say over the bread and butter of other men, have the say of what they shall do and when they shall be promoted and to what they shall be advanced.

It is a tremendous responsibility and power and should make a man pray that he may deserve so responsible a position, and make his department express by his conduct all this position involves.

I think all these things will come. I have seen enough of the men in this organization to believe that most interesting and important events will follow this broader phase of management in the Harvester Works. Give the men who work for you every chance to be good workers, to be good citizens, to regard employment under you as a training in citizenship as well as a training in industrious habits. The wage is very important, you cannot monkey with the wage question. Men have to live and know what they are entitled to. But beyond the wage proposition is the human proposition. More troubles, more irritations are caused by mismanagement than by wages, by slow promotions. More troubles are caused by favoritism, by insincerity, by hypocrisy, by bad temper, than by any other mistake. Economic adjustments can be made, such necessities can be seen, reported upon, investigated, under most present systems of management. These other things, however, escape our vigilance. They depend on every man playing the game squarely, they cannot be seen through X-rays, and in the past have been reported on only by accident. Every man must see to it.

A FOREMAN'S RESPONSIBILITY AND AUTHORITY[1]

The thesis of these comments is the relation between authority and responsibility—not the relation between authority and pay, nor the relation between authority and birth, nor any other of the various relations which, under certain circumstances, might be considered as giving certain people authority over others.

The best example I can think of to illustrate authority and responsibility is that of a mechanic and his helper. A workman who has a helper who runs a machine for him must see to it that the helper runs the machine properly; and so he is responsible. That is to say, he is responsible for seeing that the helper runs the machine properly. Therefore, we give him the authority to boss that helper, or else he could not discharge his responsibility. Suppose, for example, that a heavy forger had a hammer runner, and had no authority over him; the hammer runner would run the hammer to suit himself, and not the heavy forger; but, on the other hand, if the heavy forger be given the necessary authority to boss the hammer runner, he can order the hammer runner to run the hammer exactly as he (the forger) wants it done; and the forger cannot do his work properly unless he has that authority.

I doubt whether there is any authority in the industrial world more absolute than that of the mechanic over his helper; and as for arbitrariness in the use of authority, give me every time the manner of a mechanic in telling a helper to pass him a wrench, or shoulder a piece of pipe. If a foreman should speak in such manner to a mechanic, the mechanic would quit.

That is a particularly clear case of giving a man all the authority he needs to discharge his responsibility; and it is really a pity that this principle has not more general observance.

It would be well to define "responsibility." The Standard Dictionary defines it as—"The state of being responsible, answerable, accountable." That, of course, requires the definition of "responsible"; which means—"Answerable, legally or morally, for the discharge of a duty, trust, debt, service, or other obligation; accountable; subject to obligation." And since the word

[1] By F. G. Coburn. Industrial Management. 53:349-53. June, 1917.

"duty" has been mentioned, let it be defined as, "that which one is bound to pay or do; that which a particular person is required to do; a specified obligatory service or function."

There will be noted a difference between "duty" and "responsibility"—a difference that is not very generally understood. The helper is "responsible" to the mechanic for running his hammer; it is his "duty" to run the hammer. The workman is "responsible" to the foreman for doing his work properly and for seeing to it that the helper does his work. The "duty" of the workman is the performance of the work. The workman's load is nearly all duty, without much responsibility. In the case of a foreman there is found a greater preponderance of responsibility; he is responsible for seeing that the workmen discharge their duties; he is responsible for the plant, and for other things. The general executive's load consists altogether of responsibilities, usually; he generally has no duties. He discharges his responsibilities largely by giving decisions and by thinking of things for other people to do; to put one's finger on his duties or specific services rendered is an almost impossible thing.

Between these two cases—the case of the workman and the case of the general executive—there are various mixtures of duties and responsibilities and gradations of responsibility. A foreman, for example, has both responsibilities and duties. It may be that he is responsible for the maintenance of machinery, and plant, fire protection, etc.; and it may be his duty to inspect the machinery and plant, and to have fire drills.

The distinction between duty and responsibility is becoming clear more rapidly, I think, in military circles than in industrial circles. The older idea of military organization was one of central authority; all orders were issued by the general to his subordinates, who were allowed practically no latitude. The later idea is, to issue orders for those things which *must* be done; and to issue instructions for those things which it is desired to have done, leaving to the responsible officer on the spot the authority to deviate from those instructions as may be necessary. To the officer on the spot is delegated responsibility, and complete authority to discharge that responsibility. It was the lack of appreciation of this principle that made so much trouble for the British in the Boer War in South Africa.

Reverting to the case of the foreman, consider the policy that has been, and still is, very often expressed of "holding the

foreman responsible for results." "Here is the shop, and the forces, and the equipment, and I will hold you responsible for results; I cannot be bothered with what goes on inside the shop." In consequence, he must be given complete authority to hire and fire, to fix wages, to buy equipment and machinery and tools, to specify materials, to dictate shop rules, and to fix the conditions of employment.

The evils of that situation became evident to many minds several years ago; and gradually the foreman has been relieved of many of his former authorities. It is quite common, for example, for the foreman not to hire and fire, but to have that power vested in a labor bureau, which, therefore, is a potent factor in determining the grade of labor. In the engineering department is placed the authority to decide questions of design, and of material. All these things have to do with the quality and cost of the work.

If authority in these and similar things be taken from the foreman, he cannot logically be held responsible for them; yet frequently, the same man who will say—"I hold the foreman responsible"—will not, in many instances, grant the foreman the necessary authority to discharge fully that responsibility.

Whenever this principle is violated, and the responsibility for a matter placed on one person whilst the necessary authority is vested in another, there is developed a condition known in the vernacular as "passing the buck." For example if it be attempted to hold the foreman responsible "for the cost of work," and the authority to fix wages rests with the general executive, and for the specification of the material rests with the chief engineer, what happens when the foreman is taken to task for the high cost of work? He advances, as reasons, factors over which he has no control, and usually he is right.

Like that is the condition which arises out of divided responsibility. For example, it is possible to divide responsibility between the foreman and the inspector. Then, if a job is defective, the foreman says the inspector is at fault, and the inspector says the foreman is at fault. If, on the other hand, the foreman be held responsible for workmanship, and inspector for reporting defective work, each man's responsibility is clearly mapped out, and each may be held accountable for his part.

In the case of a very small plant, with but few workmen, it may be that one man can retain all the responsibility and all the

authority; he can look out for everything. But when the plant is large, the manager cannot be personally in contact with everything. Then, if he still retains the responsibility and authority, every matter must go to him for decision. If he is not immediately available, then delay results, until the decision is forth coming. This is a condition very often met. If the subordinate take a chance and make the decision himself, the odds are equally good that he will have to undo his work. Thus the job is delayed and its cost increased.

It is, therefore, evidently necessary to delegate authority and responsibility to those near the work; in other words, to authorize them to make decisions for that part of the work going on under their supervision; succinctly, those close to the work should direct it.

The delegation of responsibility is strongly opposed by certain managers of the old school, because they feel that theirs is finally the responsibility, and that they cannot trust anybody else. Were this true, it would constitute a great defect in the factory system; and a great many so consider it. But the delegation of responsibility is really a great advantage of the factory system, an advantage to society, because it enables a man of great entrepreneur ability to swing large enterprises, that he could not possibly swing singlehanded.

Now, whilst the supervisory force close to the work should have authority to make decisions and should be responsible for those decisions, yet in order to insure that they use their authority wisely, and to make them distinctly feel their responsibility, their orders should be subject to review; not, however, subject to *approval,* as is frequently the case.

That is to say, if a foreman or superintendent give an order to a subordinate, and if orders be subject to approval, then, if the subordinate does not want to carry out the order, he knows that the order is not good if he questions it. This condition results in dissension, and is subversive of good order and discipline; it delays the work and increases the cost.

The proper method is to make orders subject to review. Then, when the superintendent or foreman issues an order, it will be carried out, "if, as, and when issued." A subordinate who thinks he has received a wrong order, may, after carrying it out, take it up with the proper officer of the company.

Since those in subordinate positions are working their way

up, and are always doing a job that is in some respects, at least, new to them—perhaps in some respects just beyond their present capacity—it may be expected that those subordinates will take greater interest in the work than would the highest executive; because the man at the top has already worked his way up; and it is certainly a fact that after long years of doing certain things they lose their novelty, and the work of doing them becomes drudgery. This drudgery may not be apparent to the persons concerned, but it is there, nevertheless.

General Goethals understood the principle of delegation of authority, as evidenced by the success that he enjoyed at Panama. Orders were subject to review, not to approval. Every Sunday morning, at seven o'clock, the General's (then Colonel's) door was open to any employee, however low his station, who thought he had a grievance. The General investigated the grievance, and if an assistant, no matter what his station, had given an erroneous decision, it was revised. The assistants knew that their decisions were subject to this review, and were undoubtedly careful in making decisions; for the number of hearings and revisions of subordinates' decisions was extraordinarily small—almost inappreciable.

There is such a thing as personal responsibility which cannot be delegated to another; in the Navy, for example, we dock ships; and the docking officer is held personally responsible. Disbursing officers in the Navy are personally responsible for every payment made, not only by themselves, but by their assistants. They cannot delegate responsibility to their pay clerks, even for the petty cash.

Another condition is not infrequently found; a man is given a responsibility which it is impossible to discharge. Likewise a man is frequently assigned a duty to perform which is not within the bounds of human possibility to do. For example, in a large plant a subordinate might be made personally responsible for keeping visitors out of all the shops. This would be an impossible task. Whilst he may be called responsible, he cannot watch all the doors. Then, again, it might be the duty of the foreman of the shop to plan every job that comes in, which he cannot do; unless he ceases to be a foreman, and becomes a planner.

The committee form of organization is not without faults in these respects. When a committee is clothed with executive

authority, since all the members of the committee have equal authority, there is danger of issuing conflicting orders; and since the several members of the committee may delegate responsibility to different persons, and also possibly withhold authority, a badly mixed situation may develop. And then sometimes committees are clothed with deliberative responsibility, and one person—perhaps the chairman or other member of the committee,—is given the authority for carrying out the decision. There the responsibility for the decision rests with the committee, and for the execution thereof with the individual; the result of which may be an effort to shift responsibility back and forth, and to delay action. There is a way of making the committee system work. That is, by making one member, usually the chairman, responsible for the decision; the other members of the committee being there only to give advice or suggestions in the course of the conference.

Now, let us define "authority." It is "The right to command and to enforce obedience; the right to act by virtue of office, station, or relation; also, *the power derived from individual or moral superiority,* from reputation, or from whatever else commands influence, respect, or esteem."

If responsibility be carefully placed; if exact measure of authority be delegated with the responsibility; and if those who receive the responsibility are gifted with the power derived from individual or moral superiority, there need be little giving of orders.

FOREMEN—SUCH AS AMERICA NEEDS[1]

The qualifications which should characterize a shop foreman may readily be divided into two classes: external and internal. The former has reference to those qualities which make him a competent and skilled workman, an expert operator on a machine (if need be), an accurate judge of work processes and machines, a perfect appraiser of good work and equally perfect and impartial critic of imperfect product. In addition to these, he must have accumulated experience which will enable him to deal directly with every phase of the work which is to be under his personal direction. These are all important and essential

[1] From article by G. W. Bowie. Industrial Management. 53:702-13. August, 1917.

qualities and may be classed as external. A man, even a clever one with experience and skill, might possess all these good qualities, yet fail as a foreman. The perfect foreman possesses all these qualities, but it is even more important that he should be the possessor of other and interior qualities and elements of character.

The external qualification may fairly be described as physical the internal qualifications may, with equal justice, be termed psychological. These latter are the great *desideratum* in a foreman for handling men. It is to these latent, internal, mental and moral qualities I desire to call the special attention of the readers of this magazine.

This matter of handling men is not troublesome to write about, but under certain conditions it presents many difficulties in operation. In the first place, employers of labor are looking for men as administration captains and sub-captains of their labor force. The caliber of the men they are desirous to obtain is such that they must have a certain amount of general education—the more the man has the better for him. But many other considerations enter into the choosing and appointing of good foremen.

It is certain that employers are not going to put their interests in the hands of an ignorant man—there is too much at stake. In addition to some education—the amount regulated by the position to be filled—a foreman must first be a judge of human nature, and able to use judgment and skill in selecting the men who are best fitted for the most important and skillful work to be done; in other words, in placing suitable men on the classes of work that will keep production up to the maximum without impairing the quality.

A foreman without lessening his dignity or self-respect or making himself too familiar with his men, will find that he cannot handle all men along the same lines. He must, therefore, adapt himself to men and their methods. He may find it trying on his patience that some men see great and imaginary difficulties surrounding their jobs; that some men are fond of making complaints, either about their working conditions or their fellow workmen; that some are easy to offend, and some wish to make themselves too friendly and effusively familiar. With so many kinds of men and conditions confronting a fore-

man, it would take a "Daniel come to judgment" to know what is always best to do or how to proceed to do it.

It is the foreman's duty to listen to tales of troubles, make light of them, point out how small they seem, advise the workmen how to get around his difficulties, smooth down the high-tempered one, so that his or the other fellow's troubles get so small and inconsequential in appearance that the workman may even apologize for thinking he had any troubles at all.

The present day requirements of a foreman have become so numerous and his duties so onerous, that he has become an asset even more than a fine machine. To get the highest efficiency out of him, he has to have some protection and encouragement to identify himself with the management. In other words, he has to act as a buffer between the workmen and the company. On that account and to make his actions effective, he should have unrestrained opportunity in selecting workmen, at the same time, of course, cooperating with the employment bureau. But he should be more than a buffer between apparently conflicting interests. He should rather be a bond of union between interests which are or should be identical.

The foreman being responsible for the production of his department, must possess the right to dismiss a man from his department if he is dissatisfied with that man's competency to fill the situation. Care should be taken that the duties and rights of each individual foreman do not interfere or overlap with those of another, so as to avoid friction and have harmony prevail among the different department heads.

To be successful as a foreman, there are certain characteristics a man must possess. These I have tried to arrange in the order of their relation to each other. One is just as important as the other. "All are but parts of one essential whole," as Pope put its! These are: Tact, Sincerity, Loyalty, Education, Technical Training, Initiative and Executive Ability.

Tact

A tactful foreman is one who can handle and govern his men without being offensive in the use of his authority. If he wants a job in a hurry, he knows just the man who will do it in the proper spirit and without asking unnecessary questions. If he wants to get a time limit on a piece of work, he will probably give it to a broad-minded workman, not to one who

sees or imagines a curtailment of his rights and visionary privileges. The workman with acerbity of temper is too frequently in evidence, and the foreman must jolly him into good nature. Although he does not have to waste time on such men, they exist just the same and should be used to the best advantage. The good foreman will take men as he finds them in their various molds, and shift them around to advantage.

The probability is that if the foreman is good tempered and has will power to regulate his feelings, he can infect the men under him with a similar condition of mind. If he can control the many causes that are liable to upset his equanimity and hold himself under restraint (where he cannot control the conditions) he will probably go home at the end of the day with his spirit soothed. Some foremen leave their work in the same state as their mind—all mussed up, chaotic—go home worried and the next morning are in anything but a pleasant frame of mind and unable to be tactful under pressing duties. To the man who is tactful, his day's duties and difficulties become insignificant when quitting time comes.

I recall an instance of recent date in our own plant where one of our foremen was suddenly confronted with a difficult situation at the very busiest and most critical period in the history of the company. A skilled mechanic (who, by the way, was spoken of as a possible foreman) stirred up discontent. He drew up a paper and induced some thirty other mechanics to sign "demanding instantly" that impossible conditions be granted them. The foreman saw at a glance that even if it had been possible, or if it were judicious to grant their demands (neither of which propositions were true) to do so would not only disorganize those departments for which he was directly responsible, but practically all the other operating departments would be involved. Yet on the other hand we could not afford to lose or even antagonize those men. They were key men, so to speak, in the operation of the plant.

This foreman did not, however, have recourse to the managers to meet his difficulty for him. He solved his own problem by tact. He called the leader into his office and explained the situation to him clearly and how impossible it was to concede their unreasonable demands at a moment's notice. He requested the leader therefore to withdraw his name, return to his work and "forget it," promising that he would "forget it" also and

would not hold it against him. The leader would not consent to this arrangement, but wanted to return to the men for further consultation. The foreman told him that each of the men would be given the same opportunity to withdraw, and that if he could not accept the terms he would have to be dismissed. So he quit on the spot.

The foreman called in five others, repeated the case and the opportunity. Three withdrew and returned to work, the other two elected to be dismissed, though they returned the following day with a request to be reinstated, which was granted. Then the foremen played his best and most tactful part by making a little speech to all the others involved, conciliatory in tone, explaining why he could not be expected to comply with their demands. He also suggested that they too forget it, as he would do in their interest and return to their work.

All at once consented except three, who elected to be discharged, though they too returned the following day for their jobs and were reinstated. Tact had won. The foreman won, not by accepting the men's plans and granting their demands, but by tactfuly declining both. Some of the men confessed that they were practically coerced into signing the paper as they feared the gibes and jeers of their companions if they did not and were glad of an excuse to "forget it."

The actful foreman will "sense" situations like these, and by eliminating the originating cause, in this case a fractious man, leave himself free to meet the difficulty on more easy terms.

Sincerity

Sincerity is another powerful factor in handling men. Sincerity in this life is one of the most ennobling traits of the human race. But sincerity in the shop as well as in private life is a quality every one of us should develop. As applied to handling men, if you promise a man anything see that he gets it. Do not promise something you cannot give or have no right to promise. Treat all men alike and base all promises on that fact. Sincerity, I believe, can gain a foreman more respect than any other quality he may possess; more respect than the fact that he is the finest workmen in the shop, or a good manager, or anything in which he may be superior to the general run of men. His recognized sincerity will crown him king of his department.

A foreman with this characteristic is a dependable quantity with those with whom he comes in contact. If he has an opinion, he holds to it, knowing it to be right. If he needs or gets enlightenment he will very likely alter his opinion, but in matters of shop management, facilities or utilities let him be sincere. Do nothing merely to coincide with someone else's opinion; hold to your judgment and give all the reasons for your belief.

A man lacking in sincerity and singleness of purpose is a losing proposition to any firm. Fellows will talk of him to his disadvantage because he cannot be relied upon. But the man who can and will demand the respect of his men, based on his sincerity, truthfulness and single-mindedness is the possessor of one of the most efficient factors.

Loyalty

Loyalty to the company and its officers is also a necessary qualification in fully qualified foremen. A great deal of havoc can be wrought by foremen allowing advance information referring to the company's plans and work to leak out. In many instances labor troubles in the form of strikes may result from this breach of confidence, upsetting the morale of the workman and disorganizing and demoralizing the system under which a shop is run. Loyalty to a company calls for a man in many instances to sink his own personal opinions and carry out the policy of the company. If a foreman feels aggrieved at such a condition it is best for him to say nothing.

The suggestive attitude or the passive or non-receptive action of many foremen is the cause of much trouble to a company, and many indirectly lead to accidents. For example, a manager, superintendent or general foreman has decided to change from past methods of doing work, to introduce a more methodical, efficient and systematic handling of work and men, or desires to put into use a new line of tools to reduce costs and increase production. This is where the undesirable foreman gets in his offensive work. While it may be prejudice, ignorance or simply "cussedness" on his part, he can communicate plainly the position he will take on these matters to his men by an ironical smile, a shrug of the shoulders, lifting of the eyebrows and many other ways so suggestive that his men will take their

cue from him and oppose the use of facilities and methods which would ease their own labor and perhaps increase the value of their pay envelope. Men who desire to be foremen should remember that the suggestive attitude is just as powerful for good as for evil. Such is loyalty in its broadest aspect. Readiness to adopt any new suggestions help them along, show up their weak spots, if need be, but give them a trial, a square deal.

That is the least any man can do who respects himself. Many a man loses his opportunity right at this point to become a noticeable quantity in the shop management. It may be he has an opportunity to show his calibre, to demonstrate his thinking qualities, to give evidence that he has mental and technical abilities that were never suspected.

Education

The part that education plays in the equipment and qualifications of a foreman of high order is very important. It should be broad enough to give him a fair working knowledge of the leading principles of general science, chemistry, mechanics and probably electricity, as all of these enter more or less into the most ordinary operations in any modern plant, factory or machine shop. They form the basis, the A. B. C.'s of the successful working of most industries.

Present day demands require that a foreman should be more or less accomplished in these three qualifications. He should be familiar with many divergent matters relating to manufacturing processes, by reading as well as other methods. He should be able to express his views in fluent, explicit and descriptive speech, and also be able to put his views, orders and reports in accurate writing. He may be a good foreman and lack one or more of these qualities, but the possessor of these three will greatly increase its efficiency, reduce friction in management to a minimum, and economize his time and efforts.

One who possesses a varied store of knowledge on which he can draw in an emergency to fill a daily requirement, or a call for immediate purpose, is highly valuable and a useful man in any plant. His education, therefore, includes a training of the mental facilities which carries him along toward the higher planes of humanity, greatly broadens his views of men and

policies in all matters pertaining to perfect equipment as a foreman. It gives his reasoning powers the faculty of restraint and confers charity of judgment as to the opinions, conduct, work and temperament of other workmen. He conciliates them by consideration for their individual proclivities.

The all-around perfectly equipped and well-balanced foreman welds the negative, and even the opposing forces of other men into a homogeneous positive whole, thus making them ductile and pliant to his own educated will. He thus develops results which are a positive productive asset to his company. He induces men and molds methods to work smoothly toward a common end. His highest efficiency is not in the work he performs himself, but in the fine and fair work he receives from his own men.

The accomplishment of the work in hand by the application of system in all things, a clear conception of what is required, a mental capacity to apply his technical and scholastic education to the best advantage, are the qualities—attributes rather—which constitute the ideal foreman so far as educational qualities are concerned. But there is also an inner side to education, especially that of a clever foreman which is most desirable to train and develop. We term this quality or attribute insight.

Initiative

This is one of the rare qualities which is occasionally found among foremen. "Tis a quality which makes a man pre-eminent amongst his fellows in any age, in any clime, in any condition. Such men shape the destinies of nations, armies, governments!" They confer "light and leading," understanding and insight by their own possession of original thought—and more particularly, direct decisive action at the cataclysmic moment to avert danger, or save a situation fraught with possible perils and disasters.

The foreman who is endowed with this pre-eminent gift of leadership and initiative is, of course and unfortunately, rare. When such a man is compelled or allowed to act upon his own responsibility and resources—even if accountable to superior officers—and carries out his own plans to logical and sane conclusions, his employer immediately realizes that he is a man who is gifted by nature and fitted by experience, to become a cap-

tain of industry. He is henceforward a marked man who has proved himself capable of meeting emergencies, which may inadvertently be thrust upon him, with promptitude, skill and serene sagacity.

The unusual and sometimes irritating circumstances which discourage and defeat the average man only serve to call forth to their highest excellency and efficiency the superior endowments of the man of initiative and resourceful powers. Such a man was Andrew Carnegie who more than fifty years ago was an unnoticed telegraph operator on the Pennsylvania Road, and in that capacity also acted as secretary to the superintendent of a division.

One day, in the absence of his chief, there was a serious wreck on the road which utterly dislocated all traffic. The situation demanded that heroic measures be taken to reopen the road as quickly as possible, and in the meantime the traffic of two complete divisions be re-routed in various directions, "Andy" stepped into the breach with courage, decision, great good judgment and common sense. He proceeded to issue telegraphic orders in the name of his superintendent, and in a very brief period brought order out of the chaos and the traffic was presently resumed in normal routine.

There was no official with the requisite authority at hand to take immediate charge of a most critical situation, demanding initiative, courage and decision. He possessed—though unknown to himself until then—all three and proceeded to meet the difficulties and overcome them in harmony with the old Scotch adage:

If you gently stroke a nettle
It will sting you for your pains,
Grasp it like a man of metal
And it soft as silk remains.

That event—metaphorically speaking—placed Andrew Carnegie on the map. He was shortly afterward placed where his talent for action under extraordinary circumstances would be utilized to better advantage. His initiative thus became a vital factor in his future advancement in his spectacular career.

Initiative and self-reliance will do your work if directed by good judgment and calm courage. Nelson displayed both in magnificent fashion when on his own initiative he sailed his

ships with heroic courage past the "blazing batteries" into the roadstead of Copenhagen and captured the entire fleet of Denmark, exclaiming, "This means a court-martial or a monument in Westminster!"

Executive Ability

Executive ability is the *ne plus ultra* of a foreman of paramount ability. The embodiment of one who can assume the onus of the management, efficiently and systematically of an industry or any of its departments. Executive ability includes three fundamental qualifications, viz., administrative judgment, system and efficiency, and scientific technique. All are valuable and necessary in any particular industry. Each one of these qualifications would require a thesis in itself which is beyond my present purpose.

Administrative judgment demands that foremen should possess a calm and judicial view of the complex forms or conditions that may arise in the management of workmen, also the interruptions to production arising from accidents to machinery, labor difficulties, non-arrival or shortage of material, entailing a re-routing and distribution through other machines, and further in educating and breaking in new men to work effectively on an efficiency schedule.

Adaptation is needed also on the part of the foreman or a superintendent to combat those troubles arising daily and to grasp them with mental vigor; also to make physical changes as may be dictated by the surrounding circumstances.

Administrative judgment requires that this captain of industry should have at his command a broad mental attitude toward the workmen and other men in charge so as to create an unanimity of purpose throughout the establishment, which will animate all toward one common end—production at the lowest possible cost. When working under safe and sane management good workmen will yield the most intensive and satisfactory results.

Each foreman should know exactly what is required of him from a schedule of the day's work. If unable to make it from any unforeseen cause which might arise, then he should go to the fountain-head or source of the work schedule, for advice or revised information.

There is no time in a factory for indecision. Decision of

character when doubt arises is a powerful aid to a resourceful man. He is usually a man who has mentally stored away, either from much reading or previous experience, inherent ideas which will fit or be adaptable to almost any emergency.

Scientific technique or technical ability supports the above mentioned characteristic. To put a man into a position to direct the labor, production and interests of an industry of any description, one who is not provided with technical knowledge, would be similar to sending a ship well found and thoroughly equipped to sea without a navigator. Such a ship would inevitably get lost or wrecked and like misfortune will overtake any industry whose foreman or superintendent is deficient in the necessary technicalities of his trade.

Trade Education

To advise a foreman as to what extent his technical education necessarily should go would be difficult. But I do know that his education need not require him to master the abstruse principles of science and mathematics to any great extent. But, as has been remarked before, the more a man knows the more valuable he is in an emergency. If he is possessed of an average common school education he should also, during his apprenticeship, have become conversant with geometry, advanced arithmetic, mechanics, etc. The important part of these studies is that they create a development of the reasoning faculties that no other studies can give.

In expounding a theorem in geometry, or a rule in arithmetic or mechanics you are dealing with facts which cannot be disputed without making the whole principle wrong. Jurists, politicians, diplomats, logicians, etc., have all studied the rules of Euclid, because of the accurate, incisive method of thought which results. It is indeed a study for all men, especially for foremen.

But technical ability, for practical purposes in a factory will be nil, if a foreman is unable to instruct and impart to his men clearly and concisely what is expected of them. He should also be able to illustrate by action and example the impulse to the whole personnel that they are there for a specific purpose, to do things, do them accurately and quickly. He should combat the

listless, get-nowhere attitude which is assumed by many foremen, who are anaemic mentally and physically, but who know how to "pass the buck"—pass their responsibility to others.

"Safety First" and the Foreman

The new factor in industry, commerce and manufacturing, which is known as the safety-first movement, has passed through various stages of development in a very few years.

It is now universally recognized as an essential factor in the safe and economical operation of any plant, mill or factory. Its results thus far have fully justified the claims made for it, not only in protecting life, limb and property, but in promoting the very highest efficiency, accuracy and the truest economy and conservation not only of men, but of materials also.

It will yet accomplish much more, for much more remains to be done, but it cannot do this save through the earnest, intelligent, continuous cooperation of the foremen. They can undoubtedly either make or mar the movement in the shops and factories. With their assistance and endorsement further advances can be made; without this, much of the complete program of safety first will be nullified, neglected and futile.

This industrial necessity, therefore, has become a prime requisite in the education of every foreman, even more so than that of other officials of any manufacturing company. He is the key man to the position and should be well posted by reading the good, abundant and highly attractive literature of the science of safety first; because it has a scientific side even more important than its humanitarian side.

The good foreman can promote the best interests of his employers, as well as the best interests of his men, by constantly insisting that all the rules and regulations made and laid down for their protection and guidance be rigidly enforced and observed. He can even do more than that by setting a uniform, consistent daily example by closely observing all the safety-first rules himself.

In this case "example speaks louder than precepts." The foreman who sets the example by vigorously observing all the requirements of the safety-first rules will do more to advance the general well being of the men in his charge than any other

single influence, in many cases more than all other influences combined. He is or should be law and example combined in one personality for his men.

CREATING A CLASS OF SUPER-FOREMEN[1]

It might appear to the higher shop executive very simple to hire high-grade foremen who are competent to direct work by preliminary planning rather than to invite friction in the organization by adding an intermediary who would come between the executive superintendent and his departmental foreman. In fact the preliminary-planning organization which some organizers would create as a distinct body or department appears more in the light of a group organization of superintendents of each individual shop department. Each of these would be thoroughly familiar with all of the work, tools and equipment in his department, thoroughly capable of planning the work for his men, and qualified to administer discipline through his subforemen or straw bosses, as the shop foremen become when so subservient to a planning department.

Doubtless the idea of creating a planning department is to take intelligent or technical men and train them for this work in this department, but it is questionable whether it would not be far more satisfactory, with less probability for interorganization friction, to take promising candidates for the position of foreman and put them through an intensive training, each in the department for which he is qualified or experienced, to fit them for their work in general preliminary planning methods. The writer has been in some of our large modern shops where the shop foreman has on his own initiative taken this step, and with plenty of work and numbers of men to handle the foreman has trained one or more subforemen whose sole duty it was to do the preliminary work of planning the tools and operations for each piece of work.

Greater satisfaction would obtain among the younger men of a shop organization if they knew that due application would qualify them for advancement rather than to always see outsiders being trained for the task. A young man, shop trained, familiar with the parts of the various machines, and who had

[1] By J. V. Hunter. American Machinist. 48:865-6. May 23, 1918.

shown diligence in night-school classes, would probably require even a shorter period of training to qualify him to begin the preliminary planning of departmental work than would an outside man who had only a theoretical or technical education. Besides, the shop man, after being trained to hold a position, would be satisfied to do the work for a longer period.

The duty of training his foreman and department chiefs in these methods should develop upon the superintendent. However, he is usually too busy to accomplish this properly, and generally he feels that he has done his duty when he calls the offending foreman "on the carpet," points out the failings of his department, censures him, gives him a very few instructions as to what he wants accomplished and lets him go back to the shop probably as unenlightened as before, but spurred by a burning sense of indignation and a desire to correct conditions just enough to avoid getting into trouble again.

Methods of Training

Now if the average foreman was competent to solve all these troubles and do all the planning for his department he would indeed be a superman; but the only way to reach that state is by long and careful training—regular schooling, in fact. Such training should be given to a foreman as schooling, but never to make him feel that he is being censured. He should be trained so that when problems arise, when the necessity for planning new work occurs he, as the man on the job, will be the one to whom to go for information; not to someone in a distant office who determines feeds and speeds with a slide rule and not knowing whether the scale on a lot of castings is exceptionally hard or whether or not the tool steel will stand up for that particular cut. A particular box tool breaks—who is going to put into immediate service another of different general type but giving the same results? Why, the foreman on the job, of course, not the slide-rule man in an office.

For a large shop or department the ideal plan would be to start such a man on preliminary planning as an assistant to the foreman. During certain hours each day the general superintendent, or preferably an assistant trained for this work, or a supervisor of preliminary planning, could hold intensive-training classes for one or two hours two or three times a

week to instruct these qualified men and foremen, giving them only a general outline of the work and instructing them in the details of how to plan and carry it out successfully. In addition each man must receive individual training and instructions in planning and the methods to apply to his own department. For this a short period every day or two—it needs be no longer than the foreman usually spends in conferences—could be devoted to the training. The remainder of the man's time would be spent in the shop in order to familiarize himself by practice with the methods outlined.

Again, as assistant to the foreman, he would have the advantage of the older man's training and experience, and the plans made by their mutual consultations could be more readily put into effect. Should the older man be unable to improve and keep his department in trim the younger man could then be advanced without disturbing the organization; but should the older man always retain necessary executive ability to govern his shop he could use the younger man, or subforeman, to do the preliminary planning.

When an assistant foreman is made a foreman he should be required in the same way to train another to take his place in case of illness or other reason. One advantage in such shop-trained men is that they are not so likely to leave at a time when they begin to be of value.

The last alternative, that of going to outside organizations to do preliminary planning work, and briefly outlined by a previous writer, leaves the shop organization always relying for advice from an outsider, and it curtails the initiative spirit of its own men. While such a consulting business might in the beginning be developed by a few firms competent to advise, it would eventually lead to the formation of other consulting organizations, some of which would be no more competent to direct than the average shop foreman. Under such a system the manufacturer would be forced to carry the overhead and business-getting departments of an outside organization from his income which should be used to carry his own overhead; in other words, he would be paying outsiders for service, the cost of which should be devoted to the betterment of his necessary shop management.

CO-OPERATION IN MANAGEMENT

INDUSTRIAL COUNCILS[1]

1. *Letter Addressed by the Minister of Labour to the Leading Employers' Associations and Trade Unions*

Ministry of Labour,
Montagu House,
Whitehall, S. W. 1.
20th October, 1917.

Sir:

In July last a circular letter was addressed by the Ministry of Labour to all the principal Employers' associations and Trade Unions asking for their views on the proposals made in the Report of the Whitley Committee on Joint Standing Industrial Councils, a futher copy of which is enclosed. As a result of the replies which have been received from a large number of Employers' organizations and Trade Unions generally favouring the adoption of those proposals, the War Cabinet have decided to adopt the Report as part of the policy which they hope to see carried into effect in the field of industrial reconstruction.

In order that the precise effect of this decision may not be misunderstood, I desire to draw attention to one or two points which have been raised in the communications made to the Ministry on the subject, and on which some misapprehension appears to exist in some quarters.

In the first place, fears have been expressed that the proposal to set up Industrial Councils indicates an intention to introduce an element of State interference which has hitherto not existed in industry. This is not the case. The formation and constitution of the Councils must be principally the work of the industries themselves. Although, for reasons which will be explained later, the Government are very anxious that such Councils should be established in all the well-organized industries

[1] The Whitley Report, together with the Letter of Minister of Labour explaining the Government's view of its proposals. Published by the British Ministry of Labour, 1917.

with as little delay as possible, they fully realize that the success of the scheme must depend upon a general agreement among the various organizations within a given industry and a clearly expressed demand for the creation of a Council. Moreover, when formed, the Councils would be independent bodies electing their own officers and free to determine their own functions and procedure with reference to the peculiar needs of each trade. In fact, they would be autonomous bodies, and they would, in effect, make possible a larger degree of self-government in industry than exists to-day.

Secondly, the Report has been interpreted as meaning that the general constitution which it suggests should be applied without modification to each industry. This is entirely contrary to the view of the Government on the matter. To anyone with a knowledge of the diverse kinds of machinery already in operation, and the varying geographical and industrial conditions which affect different industries it will be obvious that no rigid scheme can be applied to all of them. Each industry must therefore adapt the proposals made in the Report as may seem most suitable to its own needs. In some industries, for instance, it may be considered by both employers and employed that a system of Works Committees is unnecessary owing to the perfection of the arrangements already in operation for dealing with the difficulties arising in particular works between the management and the trade union officials. In others Works Committees have done very valuable work where they have been introduced and their extension on agreed lines deserves every encouragement. Again, in industries which are largely based on district organizations it will probably be found desirable to assign more important functions to the District Councils than would be the case in trades which are more completely centralised in national bodies. All these questions will have to be threshed out by the industries themselves and settled in harmony with their particular needs.

Thirdly, it should be made clear that representation on the Industrial Councils is intended to be on the basis of existing organizations among employers and workmen concerned in each industry, although it will, of course, be open to the Councils, when formed, to grant representation to any new bodies which may come into existence and which may be entitled to representation. The authority, and consequently the usefulness

of the Councils will depend entirely on the extent to which they represent the different interests and enjoy the whole-hearted support of the existing organisations, and it is therefore desirable that representation should be determined on as broad a basis as possible.

Lastly, it has been suggested that the scheme is intended to promote compulsory arbitration. This is certainly not the case. Whatever agreements may be made for dealing with disputes must be left to the industry itself to frame, and their efficacy must depend upon the voluntary co-operation of the organizations concerned in carrying them out.

I should now like to explain some of the reasons which have made the government anxious to see Industrial Councils established as soon as possible in the organized trades. The experience of the war has shown the need for frequent consultation between the Government and the chosen representatives of both employers and workmen on vital questions concerning those industries which have been most affected by war conditions. In some instances different Government Departments have approached different organizations in the same industry, and in many cases the absence of joint representative bodies which can speak for their industries as a whole and voice the joint opinion of employers and workmen, has been found to render negotiations much more difficult than they would otherwise have been. The case of the cotton trade, where the industry is being regulated during a very difficult time by a Joint Board of Control, indicates how greatly the task of the State can be alleviated by a self-governing body capable of taking charge of the interests of the whole industry. The problems of the period of transition and reconstruction will not be less difficult than those which the war has created, and the Government accordingly feels that the task of rebuilding the social and economic fabric on a broader and surer foundation will be rendered much easier if in the organized trades there exist representative bodies to which the various questions of difficulty can be referred for consideration and advice as they arise. There are a number of such questions on which the Government will need the united and considered opinion of each large industry, such as the demobilisation of the forces, the re-settlement of munition workers in civil industries, apprenticeship (especially where interrupted by war service), the training and employment of disabled soldiers,

and the control of raw materials; and the more it is able to avail itself of such an opinion the more satisfactory and stable the solution of these questions is likely to be.

Further, it will be necessary in the national interest to ensure a settlement of the more permanent questions which have caused differences between employers and employed in the past, on such a basis as to prevent the occurrence of disputes and of serious stoppages in the difficult period during which the problems just referred to will have to be solved. It is felt that this object can only be secured by the existence of permanent bodies on the lines suggested by the Whitley Report, which will be capable not merely of dealing with disputes when they arise, but of settling the big questions at issue so far as possible on such a basis as to prevent serious conflicts arising at all.

The above statement of the functions of the Councils is not intended to be exhaustive, but only to indicate some of the more immediate questions which they will be called upon to deal with when set up. Their general objects are described in the words of the Report as being "to offer to workpeople the means of attaining improved conditions of employment and a higher standard of comfort generally, and involve the enlistment of their active and continuous co-operation in the promotion of industry." Some further specific questions, which the Councils might consider, were indicated by the committee in paragraph 16 of the Report, and it will be for the Councils themselves to determine what matters they shall deal with. Futher, such Councils would obviously be the suitable bodies to make representations to the Government as to legislation, which they think would be of advantage to their industry.

In order, therefore, that the Councils may be able to fulfil the duties which they will be asked to undertake, and that they may have the requisite status for doing so, the Government desires it to be understood that the Councils will be recognised as the official standing Consultative Committees to the Government on all future questions affecting the industries which they represent, and that they will be the normal channel through which the opinion and experience of an industry will be sought on all questions with which the industry is concerned. It will be seen, therefore, that it is intended that Industrial Councils should play a definite and permanent part in the economic life of the country, and the Government feels that it can rely on

both employers and workmen to co-operate in order to make that part a worthy one.

I hope, therefore, that you will take this letter as a formal request to your organization on the part of the Government to consider the question of carrying out the recommendations of the Report so far as they are applicable to your industry. The ministry of Labour will be willing to give every assistance in its power in the establishment of Industrial Councils, and will be glad to receive suggestions as to the way in which it can be given most effectively. In particular, it will be ready to assist in the convening of representative conferences to discuss the establishment of Councils, to provide secretarial assistance and to be represented, if desired in a consultative capacity at the preliminary meetings. The Ministry will be glad to be kept informed of any progress made in the direction of forming Councils. Although the scheme is only intended, and indeed can only be applied, in trades which are well organized on both sides, I would point out that it rests with those trades which do not at present possess a sufficient organization to bring it about if they desire to apply it to themselves.

In conclusion, I would again emphasise the pressing need for the representative organizations of employers and workpeople to come together in the organized trades and to prepare themselves for the problems of reconstruction by forming Councils competent to deal with them. The Government trusts that they will approach these problems not as two opposing forces each bent on getting as much and giving as little as can be contrived, but as forces having a common interest in working together for the welfare of their industry, not merely for the sake of those concerned in it, but also for the sake of the nation which depends so largely on its industries for its well-being. If the spirit which has enabled all classes to overcome by willing co-operation the innumerable dangers and difficulties which have beset us during the war is applied to the problems of Reconstruction, I am convinced that they can be solved in a way which will lay the foundation of the future prosperity of the country and of those engaged in its great industries.

I am, Sir,

Your obedient servant,

GEO. H. ROBERTS.

Industrial councils; report of the reconstruction committee on relations between employers and employed

The Committee consisted of the following members:

THE RIGHT HON. J. H. WHITLEY, M.P., *Chairman.* (Chairman of Committees, House of Commons.)
Mr. F. S. BUTTON (formerly Member of Executive Council, Amalgamated Society of Engineers).
Sir G. J. CARTER, K.B.E. (Chairman, Shipbuilding Employers' Federation).
Professor S. J. CHAPMAN, C.B.E. (Professor of Political Economy, University of Manchester.
Sir GILBERT CLAUGHTON, Bart. (Chairman, London and North Western Railway Company).
Mr. J. R. CLYNES, M.P. (President, National Union of General Workers).
Mr. J. A. HOBSON.
Miss SUSAN LAWRENCE (Member of London County Council and Member of the Executive Committee of the Women's Trade Union League).
Mr. J. J. MALLON (Secretary, National Anti-Sweating League).
Sir THOS. A. RATCLIFFE-ELLIS (Secretary, Mining Association of Great Britain).
Mr. ROBERT SMILLIE (President, Miners' Federation of Great Britain).
Mr. ALLAN M. SMITH (Chairman, Engineering Employers' Federation).
Miss MONA WILSON (National Health Insurance Commissioner).
Mr. H. J. WILSON, Ministry of Labour,
Mr. ARTHUR GREENWOOD,

To the Right Honourable D. Lloyd George, M.P., Prime Minister

Sir: We have the honour to submit the following Interim Report on Joint Standing Industrial Councils.

2. The terms of reference to the Sub-Committee are:

"(1)To make and consider suggestions for securing a permanent improvement in the relations between employers and workmen.
"(2) To recommend means for securing that industrial conditions affecting the relations between employers and workmen shall be systematically reviewed by those concerned, with a view to improving conditions in the future."

3. After a general consideration of our duties in relation to to the matters referred to us, we decided first to address ourselves to the problem of establishing permanently improved relations between employers and employed in the main industries of the country, in which there exist representative organizations on both sides. The present report accordingly deals more especially with these trades. We are proceeding with the consideration of the problems connected with the industries which are less well organized.

4. We appreciate that under the pressure of the war both employers and workpeople and their organizations are very much pre-occupied, but, notwithstanding, we believe it to be of

the highest importance that our proposals should be put before those concerned without delay, so that employers and employed may meet in the near future and discuss the problems before them.

5. The circumstances of the present time are admitted on all sides to offer a great opportunity for securing a permanent improvement in the relations between employers and employed, while failure to utilize the opportunity may involve the nation in grave industrial difficulties at the end of the war.

It is generally allowed that the war almost enforced some reconstruction of industry, and in considering the subjects referred to us we have kept in view the need for securing in the development of reconstruction the largest possible measure of co-operation between employers and employed.

In the interests of the community it is vital that after the war the co-operation of all classes, established during the war, should continue, and more especially with regard to the relations between employers and employed. For securing improvement in the latter, it is essential that any proposals put forward should offer the workpeople the means of attaining improved conditions of employment and a higher standard of comfort generally, and involve the enlistment of their active and continuous co-operation in the promotion of industry.

To this end, the establishment for each industry of an organization, representative of employers and workpeople, to have as its object the regular consideration of matters affecting the progress and well-being of the trade from the point of view of all those engaged in it, so far as this is consistent with the general interest of the community, appears to us necessary.

6. Many complicated problems have arisen during the war which have bearing both on employers and workpeople, and may affect relations between them. It is clear that industrial conditions will need careful handling if grave difficulties and strained relations are to be avoided after the war has ended. The precise nature of the problems to be faced naturally varies from industry to industry, and even from branch to branch within the same industry. Their treatment consequently will need an intimate knowledge of the facts and circumstances of each trade, and such knowledge is to be found only among those directly connected with the trade.

7. With a view to providing means for carrying out the policy outlined above, we recommend that His Majesty's Government should propose without delay to the various associations of employers and employed the formation of Joint Standing Industrial Councils in the several industries, where they do not already exist, composed of representatives of employers and employed, regard being paid to the various sections of the industry and the various classes of labour engaged.

8. The appointment of a chairman or chairmen should, we think, be left to the Councils who may decide that these should be—

(1) A Chairman for each side of the Council;
(2) A Chairman and Vice-Chairman selected from the members of the Council (one from each side of the Council);
(3) A Chairman chosen by the Council from independent persons outside the industry; or
(4) A Chairman nominated by such person or authority as the Council may determine or, failing agreement, by the Government.

9. The Councils should meet at regular and frequent intervals.

10. The objects to which the consideration of the Councils should be directed should be appropriate matters affecting the several industries and particularly the establishment of a closer co-operation between employers and employed. Questions connected with demobilisation will call for early attention.

11. One of the chief factors in the problem, as it at first presents itself, consists of the guarantees given by the Government, with Parliamentary sanction, and the various undertakings entered into by employers, to restore the Trade Union rules and customs suspended during the war. While this does not mean that all the lessons learnt during the war should be ignored, it does mean that the definite co-operation and acquiescence by both employers and employed must be a condition of any setting aside of these guarantees or undertakings, and that, if new arrangements are to be reached, in themselves more satisfactory to all parties but not in strict accordance with the guarantees, they must be the joint work of employers and employed.

12. The matters to be considered by the Councils must inevitably differ widely from industry to industry, as different circumstances and conditions call for different treatment, but we are of opinion that the suggestions set forth below ought to be taken into account, subject to such modification in each

case as may serve to adapt them to the needs of the various industries.

13. In the well-organized industries, one of the first questions to be considered should be the establishment of local and works organizations to supplement and make effective the work of the central bodies. It is not enough to secure co-operation at the centre between the national organizations; it is equally necessary to enlist the activity and support of employers and employed in the districts and in individual establishments. The National Industrial Council should not be regarded as complete in itself; what is needed is a triple organization—in the workshops, the districts, and nationality. Moreover, it is essential that the organization at each of these three stages should proceed on a common principle, and that the greatest measure of common action between them should be secured.

14. With this end in view, we are of opinion that the following proposals should be laid before the National Industrial Councils:—

(a) That District Councils, representative of the Trade Unions and of the Employers' Association in the industry, should be created, or developed out of the existing machinery for negotiation in the various trades.

(b) The Works Committees, representative of the management and of the workers employed, should be instituted in particular works to act in close co-operation with the district and national machinery.

As it is of the highest importance that the scheme making provision for these Committees should be such as to secure the support of the Trade Union and Employer's Associations concerned, its design should be a matter for agreement between these organizations.

Just as regular meetings and continuity of co-operation are essential in the case of the National Industrial Councils, so they seem to be necessary in the case of the district and works organizations. The object is to secure co-operation by granting to workpeople a greater share in the consideration of matters affecting their industry, and this can only be achieved by keeping employers and workpeople in constant touch.

15. The respective functions of Works Committees, District Councils, and National Councils will no doubt require to be determined separately in accordance with the varying conditions of different industries. Care will need to be taken in each case to delimit accurately their respective functions, in order to avoid overlapping and resulting friction. For instance, where

conditions of employment are determined by national agreements, the District Councils or Works Committees should not be allowed to contract out of conditions so laid down, nor, where conditions are determined by local agreements, should such power be allowed to Works Committees.

16. Among the questions with which it is suggested that the National Councils should deal or allocate to District Councils or Works Committees the following may be selected for special mention :—

(i) The better utilisation of the practical knowledge and experience of the workpeople.
(ii) Means for securing to the workpeople a greater share in and responsibility for the determination and observance of the conditions under which their work is carried on.
(iii) The settlement of the general principles governing the conditions of employment, including the methods of fixing, paying, and readjusting wages, having regard to the need for securing to the workpeople a share in the increased prosperity of the industry.
(iv) The establishment of regular methods of negotiation for issues arising between employers and workpeople, with a view both to the prevention of differences, and to their better adjustment when they appear.
(v) Means of ensuring to the workpeople the greatest possible security of earnings and employment, without undue restriction upon change of occupation or employer.
(vi) Methods of fixing and adjusting earnings, piecework prices, &c., and of dealing with the many difficulties which arise with regard to the method and amount of payment apart from the fixing of general standard rates, which are already covered by paragraph (iii).
(vii) Technical education and training.
(viii) Industrial research and the full utilisation of its results.
(ix) The provision of facilities for the full consideration and utilisation of inventions and improvement designed by workpeople, and for the adequate safeguarding of the rights of the designers of such improvements.
(x) Improvements of processes, machinery and organisation and appropriate questions relating to management and the examination of industrial experiments, with special reference to co-operation in carrying new ideas into effect and full consideration of the workpeople's point of view in relation to them.
(xi) Proposed legislation affecting the industry.

17. The methods by which the functions of the proposed Councils should be correlated to those of joint bodies in the different districts, and in the various works within the districts, must necessarily vary according to the trade. It may, therefore, be the best policy to leave it to the trades themselves to formulate schemes suitable to their special circumstances, it being understood that it is essential to secure in each industry the fullest measure of co-operation between employers and employed, both generally, through the National Councils, and specifically, through district Committees and workshop Committees:

18. It would seem advisable that the Government should put the proposals relating to National Industrial Councils before the employers' and workpeople's associations and request them to adopt such measures as are needful for their establishment

where they do not already exist. Suitable steps should also be taken, at the proper time, to put the matter before the general public.

19. In forwarding the proposals to the parties concerned, we think the Government should offer to be represented in an advisory capacity at the preliminary meetings of a Council, if the parties so desire. We are also of opinion that the Government should undertake to supply to the various Councils such information on industrial subjects as may be available and likely to prove of value.

20. It has been suggested that means must be devised to safeguard the interests of the community against possible action of an anti-social character on the part of the Councils. We have, however, here assumed that the Councils, in their work of promoting the interests of their own industries, will have regard for the national interest. If they fulfill their functions they will be the best builders of national prosperity. The State never parts with its inherent over-riding power, but such power may be least needed when least obtruded.

21. It appears to us that it may be desirable at some later stage for the State to give the sanction of law to agreements made by the Councils, but the initiative in this direction should come from the Councils themselves.

22. The plans sketched in the foregoing paragraphs are applicable in the form in which they are given only to industries in which there are responsible associations of employers and workpeople which can claim to be fairly representative. The case of the less well-organized trades or sections of a trade necessarily needs further consideration. We hope to be in a position shortly to put forward recommendations that will prepare the way for the active utilization in these trades of the same practical co-operation as is foreshadowed in the proposals made above for the more highly-organized trades.

23. It may be desirable to state here our considered opinion that an essential condition of securing a permanent improvement in the relation between employers and employed is that there should be adequate organization on the part of both employers and workpeople. The proposals outlined for joint co-operation throughout the several industries depend for their ultimate success upon there being such organization on both sides; and such organization is necessary also to provide means whereby the arrangements and agreements made for the industries may be effectively carried out.

24. We have thought it well to refrain from making suggestions or offering opinions with regard to such matters as profit-sharing, co-partnership, or particular systems of wages, etc. It would be impracticable for us to make any useful general recommendations on such matters, having regard to the varying conditions in different trades. We are convinced, moreover, that a permanent improvement in the relations between employers and employed must be founded upon somethng other than a cash basis. What is wanted is that the workpeople should have a greater opportunity of participating in the discussion about and adjustment of those parts of industry by which they are most affected.

25. The schemes recommended in this Report are intended not merely for the treatment of industrial problems when they have become acute, but also, and more especially, to prevent their becoming acute. We believe that regular meetings to discuss industrial questions, apart from and prior to any differences with regard to them that may have begun to cause friction, will materially reduce the number of occasions on which, in the view of either employers or employed, it is necessary to contemplate recourse to a stoppage of work.

26. We venture to hope that representative men in each industry, with pride in their calling and care for its place as a contributor to the national well-being, will come together in the manner here suggested, and apply themselves to promoting industrial harmony and efficiency and removing the obstacles that have hitherto stood in the way.

We have the honour to be, Sir,

Your obedient Servants,

J. H. WHITLEY, *Chairman*

F. S. BUTTON
GEO. J. CARTER
S. J. CHAPMAN
G. H. CLAUGHTON
J. R. CLYNES
J. A. HOBSON
A. SUSAN LAWRENCE
J. J. MALLON
THOS. R. RATCLIFFE-ELLIS
ROBT. SMILLIE
ALLAN M. SMITH
MONA WILSON

H. J. WILSON,
ARTHUR GREENWOOD,
Secretaries.

8th March, 1917.

Appendix

The following questions were addressed by the Reconstruction Committee to the Sub-Committee on the Relations between Employers and Employed in order to make clear certain points which appeared to call for further elucidation. The answers given are subjoined.

Q. 1. *In what classes of Industries does the Interim Report propose that Industrial Councils shall be established? What basis of classification has the Sub-Committee in view?*

A. 1. It has been suggested that, for the purpose of considering the establishment of Industrial Councils, or other bodies designed to assist in the improvement of relations between employers and employed, the various industries should be grouped into three classes—(*a*) industries in which organization on the part of employers and employed is sufficiently developed to render the Councils representative; (*b*) industries in which either as regards employers and employed, or both, the degree of organization, though considerable, is less marked than in (*a*) and is insufficient to be regarded as representative; and (*c*) industries in which organization is so imperfect, either as regards employers or employed, or both, that no Associations can be said adequately to represent those engaged in the trade.

It will be clear that an analysis of industries will show a number which are on the border lines between these groups, and special consideration will have to be given to such trades. So far as groups (*a*)and (*c*) are concerned, a fairly large number of trades can readily be assigned to them; group (*b*) is necessarily more indeterminate.

For trades in group (*a*) the Committee have proposed the establishment of Joint Standing Industrial Councils in the several trades. In dealing with the various industries it may be necessary to consider specially the case of parts of industries in group (*a*) where organization is not fully developed.

Q. 2. *Is the machinery proposed intended to be in addition to or in substitution for existing machinery? Is it proposed that existing machinery should be superseded? By "existing machinery" is meant Conciliation Boards and all other organizations for joint conference and discussion between employers and employed.*

A. 2. In most organized trades there already exist joint bodies for particular purposes. It is not proposed that the Industrial Councils should necessarily disturb these existing bodies. A council would be free, if it chose and if the bodies concerned approved, to merge existing Committees, etc., in the Council or to link them with the Council as Sub-Committees.

Q. 3. *Is it understood that membership in the Councils is to be confined to representatives elected by Employers' Associations and Trade Unions? What is the view of the Sub-Committee regarding the entry of new organizations established after the Councils have been set up?*

A. 3. It is intended that the Councils should be composed only of representatives of Trade Unions and Employers' Associations, and that new organizations should be admitted only with the approval of the particular side of the Council of which the organization would form a part.

Q. 4. (*a*)—*Is it intended that decisions reached by the Councils shall be binding upon the bodies comprising them? If so, is such binding effect to be conditional upon the consent of each Employers' Association or Trade Union affected?*

A. 4. (*a*) It is contemplated that agreements reached by Industrial Councils should (whilst not, of course, possessing the binding force of law) carry with them the same obligation of observance as exists in the case of other agreements between Employers' Associations and Trade Unions. A Council, being on its workmen's side based on the Trade Unions concerned in the industry, its power or authority could only be such as the constituent Trade Unions freely agreed to.

Q. 4. (*b*) *In particular, is it intended that all pledges given either by the Government or employers for the restoration of Trade Union rules and practices after the war shall be redeemed without qualification unless the particular Trade Union concerned agrees to alteration; or, on the contrary, that the Industrial Council shall have power to decide such questions by a majority vote of the workmen's representatives from all the Trade Unions in the industry?*

A. 4. (b) It is clearly intended that all pledges relating to the restoration of Trade Union rules shall be redeemed without qualification unless the particular Trade Union concerned

agrees to alteration; and it is not intended that the Council shall have power to decide such questions by a majority vote of the workmen's representatives from all the Trade Unions in the industry.

WORKS COMMITTEES[1]

Introduction

The extent of the existence of Works Committees before the war is largely a matter of definition. Our estimate of their scope will vary according as we give the term a wide interpretation, or confine it to committees representative of all the workpeople in an establishment. Works Committees in this latter sense of the term existed before the war in various industries, and in some instances they had been in existence for many years. If the term is interpreted in a wide sense, and taken to include various kinds of committees, such as those representative of individual trades or departments, or those which have come into existence at particular times and for limited purposes, the number in existence before the war is greatly increased. In certain industries, however, notably engineering, the conditions of war have produced such a change in both the form and function of workshop organization, that the discussion of the general idea of Works Committees may be said to have developed out of those conditions. Since, however, the Works Committee, on the whole, springs from the common methods of trade union organization inside the workshop, as they existed long before the beginning of the war, some reference to these methods is necessary as an introduction to this report upon some of the committees which are now in operation.

Before this works organization is considered, it may be noted that certain of the immediate causes which have led to the rise of works committees during the war—the methods of remuneration (piecework or profit-sharing or bonus on output), welfare, collections for charity, and, to some extent, dilution also—were already operative in the formation of earlier Works Committees.

[1] From Report of an Inquiry into Works Committees British Ministry of Labour. March, 1918.

Works Committees Before the War

The majority of Trade Unions have official shop stewards, though these officials may be known by some other name—such as "shop delegates," "works representatives," "collectors," "yard committee-men," or, in one case at least, "works directors." In certain cases also the name committee—Watch or Vigilant Committee—is attached to the body of shop stewards in an establishment. It may even be said that the Works Committee is older than trade unionism; the "chapel," for instance, (the ancient organization of the workmen in each printing office), goes back much farther than the end of the 17th century. Such shop clubs were not confined to any one industry. They were, however, quite different things from a works organization formed of representatives of permanent Trade Unions, and would now be represented by a committee of workers in a non-Union shop. To-day the duties of the "chapel," as laid down in the rules of various unions in the industry, include those discharged by shop stewards in many other trades. Apart from (1) functions obviously intended to sustain the fabric of the Trade Union—the collection of dues, the interrogation of defaulters and newcomers, and the like—the duties of shop stewards are stated in the rules of different Unions to include (2) the regular supply to the branch or district committee of information respecting any encroachment upon recognized Trade Union conditions, participation in deputations to the management in connection with grievances, the calling of shop meetings of the members to discuss grievances, etc. The stewards are in one case held "responsible for the conduct of the shop according to rules." The actual degree of organization of the shop stewards varies among the Trade Unions. In some cases all the shop stewards of a Union in a district hold regular meetings once a month with the district committee of the Union. Certain Unions supply their shop stewards with official cards. In other cases, however, there is no regular machinery for consultation between the shop stewards and the Union officials, and no certificates of official recognition are supplied to the shop stewards. There is variety also in regard to the election and the deposition of shop stewards; some hold office for a definite period, while others may be deposed at any time. Most commonly the election is made in the depart-

ment by the men of the Union, though there are cases in which appointment to the office is made by Trade Union branches.

(1) In regard to the first-mentioned duties of shop stewards —the collection of subscriptions and the examination of credentials of membership—two facts may be noted. The first is that such methods of organization are not confined to workers whose daily work is done in a fixed establishment, but are also used on certain forms of more or less migratory work, such as building construction. The "ticket" steward commonly examines new men taken into employment on a building job. The second fact to be noted is that in certain industries, in a number of areas, a regular system of Works Committees, linked together in district organizations, had developed several years before the war for the purpose of the more efficient achievement of these objects.

(2) But both in theory and in practice the work of shop stewards—or of committees of shop stewards—has generally extended beyond these functions. As an example of practice, the apparently unsuitable case of building work may first be taken. Committees—somewhat loosely organized it may be, but nevertheless committees, and so considered by those responsible for their formation—have been formed in the building trade; and the scope of these committees has embraced the second and wider class of duties mentioned above. It has for years been common in certain districts for the "ticket" stewards on a big building job to come together, and to elect a secretary, who in some cases (it may be noted) has been a representative of the labourers. Such a committee of stewards may make representations to, or be consulted by, the employer on questions such as the proper allocation of work in order that sufficient inside operations may be reserved for wet weather. Another question which such committees have been known to bring forward is that of extra payment in consequence of the inconvenient situation of some particular job. (This, perhaps, is strictly Trade Union business.) In demanding adequate provision for the heating of tea cans and for the enjoyment of meals such committees may be said to have anticipated in their own way the modern Welfare Committee. In many industries the same combination of shop stewards and the same practice of making united representations to the employer—a practice not necessarily "recognized"—have been attempted at different times and with varying degrees of success. In some cases in which such methods have been suc-

cessfully applied in engineering and shipbuilding the initiative has come from the side of the management. It remains true, of course, that the shop steward system up to the present has been in the main only a trade system, and that the committees formed under it can be classed under Works Committees only if the term is given the wide scope mentioned at the beginning of this report. If the term is used in this wider sense, committees will be found to have existed for many years in a number of industries where piecework is in operation. Some of these are dealt with in a later paragraph.

Another of the functions of shop stewards—the calling of shop meetings—appears to form the basis of a system of Works Committees in certain industries, which include, at any rate in some districts, the furnishing trades. The shop meeting, for which the rules of most Trade Unions make provision, is a meeting of the members of a Union; but the term has another meaning which has gained currency during the war—viz., a meeting of all the trades in a works—and it is interesting to note that, in part, at least, of the furnishing industry, this has long been the recognized meaning. Here the meetings are regular (monthly), and the stewards, not necessarily drawn from all the trades, make their report about membership and the like. The shop stewards in a furnishing works may in this way form a Works Committee with a secretary. At the same time it would appear that for the settlement of piece prices certain Unions in the furnishing trades, such as that of the upholsterers, work through their own stewards.

Committees for the arrangement of piece prices, which are found in a great variety of industries, are convenient examples of (*a*) trade or departmental organization as contrasted with works organization; and (*b*) the informal nature and composition of many committees. In regard to (*a*), the method of the upholsterers has already been mentioned. Usually there are only a small number of upholsterers in any one establishment; fifteen would mean a very considerable firm. In smaller establishments the shop steward or stewards of the Union usually carry through the negotiations for any new work not covered by the shop "log," or list of piece prices. If they are unsuccessful, the full-time Trade Union official comes into the bargaining operations. In one establishment, however, in which an exceptionally large number of upholsterers are employed in several

departments or "floors," the Departmental or Trade Committee has been in existence for many years. This is composed of all the stewards—three elected from each of the "floors"—and from this committee again three head stewards are chosen. For the particular work of any floor the appropriate stewards undertake the preliminary negotiations; but if these are unsuccessful, the question in dispute will come before the committee, and be dealt with by the head stewards in consultation with the management before it is—probably with the assent of a shop meeting—given into the hands of the Trade Union official. The pottery industry supplies examples of both (*a*) and (*b*). Pricing Committees are found in most sections of the trade; and there may be several committees in a single factory. In the sanitary trade a standing committee is usual. In many factories, however, the method employed is for the operative concerned to call in two or three mates to assist him in arranging the price of a new job. The men called in need not be the same on each occasion. The existence of several committees in one factory may be exemplified by an establishment in the Jet and Rockingham branch of the industry, in which there have been for many years Pricing Committees for jiggerers (makers), turners and handlers. In this case none but Trade Unionists can sit on the committee; but this is by no means a universal rule. In works, however, in which there are Trade Unionists the practice is to elect to the committee one (or more) of them, who is expected to serve as a connecting link between the committee and the District Committee of the Trade Union.

The position of the "chapel" in relation to the London compositors' scale is an old and well-established case of a works organization taking part among other functions in the regulation of piecework.

In other trades in which piecework is in operation, and where complete standardization of lists has been found impracticable, methods more or less similar to those mentioned above are found. In this connection the development of Works Committees in engineering establishments during the war is significant. The engineering trades have always resisted piecework; but, at the same time, they have generally bargained on an individual basis for any work done on this system. The extension of piecework and the growth of the method of collective bargaining in the shop—by Works Committees or stewards—have

gone on side by side; and it would appear that, to a considerable degree, the one is the immediate cause of the other. Even in industries in which price lists for piecework are used there are commonly occasions on which a particular job is not covered by the list, and in certain cases jobs cannot be listed at all. In this connection it may be noted that in mining the *method* of joint pit committees—as well as the Joint District Board—has been in operation in certain districts for a long time, and the method is embodied in the rules of various districts under the Coal Mines (Minimum Wage) Act of 1912. In several districts disputes as to whether a workman has forfeited his right to the minimum must be discussed by two officials of the mine and two representatives of the local lodge of the Union before they are taken to the district Joint Board committee, and in one district the representatives from each side are four in number.

The fact that in many mining districts the Trade Union branch—or lodge—is composed only of the men working in one pit makes the Lodge Committee in effect a Pit Committee. It is not a complete Works Committee—in the stricter sense of the term—except in those places in which the enginemen and certain other workers, who commonly belong to other Unions, are members of the local Miners' association. The tendency of certain other Unions— *e.g.*, those in the iron and steel industry—to organize on the basis of the works is interesting from the same standpoint.

It may be noted that in many cases Conciliation Boards are really Works Committees. This is so when the joint board is composed of representatives of the workpeople in one establishment and of members of the firm. Such boards—with varying degrees of connection between the workmen's side and the Trade Unions—have been formed in individual establishments belonging to a variety of industries.

Nomenclature

A distinction must be drawn between "Works Committees" and "Shop Committees." The former cover the whole of a works (or even, in some cases, the whole of two or three contiguous works); the latter cover a particular department or shop in a works. Among Works Committees it is possible to distinguish three varieties. The first and main variety may be called the "Industrial Committee." Such a committee, generally

constituted on a Trade Union basis, deals with particular questions affecting the conditions and remuneration of labour in a given works—questions of principle being reserved for the district or national organizations concerned. It is this variety which, being the most important, is often called by the general name of Works Committee. A second variety may be called the "Welfare Committee." Such a committee, representing as a rule all the workers in a given works, deals with what may be termed works amenities—ventilation, sanitation, and the like. A third variety, which may be merged with the second, or may be distinct, is the "Social Union," or, more exactly, the committee governing the Social Union, where one exists, of the workers employed in the same establishment. Such a committee is concerned with games, recreations, study-circles, picnics and the like.

Apart from these main types there are, of course, local varieties of all sorts. There may be, for instance, a separate "Mess-room Committee"; or, again, there may be a separate "Women's Committee." There may be a committee peculiar to a small section of workers (*e.g.*, tool-makers), which handles a large and important area of functions in regard to those workers. Finally, even though there is no regular or standing Works Committees, it may be the case that committees are created *ad hoc* whenever an important question arises in a works, and that these committees are consulted by the management with a view to settling such questions. This indeed is the procedure followed in some of the works where the relations of management and men are most amicable. In some cases the committee so formed consists of the shop stewards of the separate trades.

It may be added that some committees are "joint," and embrace representatives of both men and management, meeting together in regular session; while others (and this is the general rule) are committees of workmen only, but meet the management from time to time (sometimes regularly, and sometimes occasionally; sometimes directly, and sometimes through their chairman or secretary) to settle grievances and to give or receive information.

Various names have been applied to committees formed during the war, particularly to those formed to deal with such questions as timekeeping. Among the names are "Workers' Advisory Board," "Works' Tribunal," "Vigilant Committee," and "Works' Council."[1]

[1] "Works Committee," it may be noted, is sometimes taken to mean

Origins and Influence of War Developments

The causes which have brought Works Committees into existence during the war, and the circumstances attending their origin, are naturally very different. A classification of origins may, however, be attempted under the following heads:—

(1) Shops stewards.
(2) Dilution.
(3) Methods of remuneration.
(4) Timekeeping.
(5) Welfare.
(6) War charity.
(7) Other causes.

SHOP STEWARDS

To a very considerable extent the first three headings must be treated together. This is particularly true of engineering works. It has already been pointed out that shop stewards with a considerable range of duties were a normal feature of Trade Union organization before the war. It has also been seen that, though for the most part these stewards acted only for their own separate organizations, this was not their only method of operation. One effect of the war has been to enhance the position and prestige of the shop stewards. The loss of the right to strike has depressed the position of Trade Union officials, who were thus deprived of the chief weapon they controlled and, if they had organized strikes, would have been liable to prosecution. Under these conditions the shop stewards, more unknown and therefore less exposed, began to exercise more power. Nor was this all. In an industry such as engineering, questions of dilution and, again, of payment by results raised matters of detail which needed some shop machinery for their solution. Such questions often concerned the members of several Unions in the same establishment; and the common interest of men working side by side often led to concerted action. Though many Works Committees instituted during the war can be traced to one or

only a Joint Committee of management and employees. The name is not used in this narrow sense in this report. "Shop Committee" is sometimes used in the sense in which "Works Committee" is defined above, *i.e.* for a committee covering not merely a department but the whole of a works.

other of these sources, and though most of the committees thus called into existence may be said to have worked to the satisfaction of all grades of workpeople, it is true that in certain cases the question of dilution has produced committees of shop stewards with conflicting interests. In certain places two committees have been formed, one composed of the shop stewards of the skilled trades, and the other confined to the stewards of the Unions representing the unskilled and semi-skilled men.

It may be added that this tendency among workpeople to bring their organization more closely to bear upon workshop conditions is to be seen in industries which have been much less affected by the war than engineering. The tendency preceded, but has been strengthened by the war.

Dilution

To gain the consent of the National Unions was not in itself enough to settle the question of dilution; for it is obvious that in a complicated trade such as engineering, with its many varieties, questions of detail might arise in almost every works which needed some machinery for their solution. This has led to the introduction of Dilution Committees in many establishments. These committees, consisting of representatives of the workers (mainly, of course, the skilled workers), discuss with the management on what machines or processes, to what extent, and under what conditions dilution shall be introduced. Committees of this character, dealing with an important range of economic questions, have often been led to raise other questions than that of dilution, and to bring forward for discussion with the management, with which they were being brought into constant contact by the problems of dilution, questions and grievances of a general character. Sometimes the committee has remained in name a Dilution Committee, while it was in reality a Works Committee. Sometimes a definite change has been made, and the Dilution Committee, with more or less change in its composition, has been turned into a Works Committee. In any case, the problem of dilution has been one of the most potent forces in forwarding the movement towards Works Committees. Though there has been a marked tendency for Dilution Committees to develop into Works Committees, it may be noted that in one or two cases the Dilution Committee was formed after, and as a subcommittee of, the Works Committee.

The importance of the connection between a Works Committee and the Trade Unions is indicated by complaints that Dilution Committees' negotiations have violated Trade Union agreements.

Methods of Remuneration

One of the necessities of the war has been to increase output; and one method which suggested itself for this purpose was that of payment by results in trades where timework was the normal practice. In many trades any system of piecework is very unpopular, and, in the past, has been strongly opposed. This is true of engineering, where the Unions had left any piecework which was introduced to the control of individual bargaining. The rapid extension of piecework in such trades has led to a variety of forms of collective bargaining. In some establishments a new piece-price is submitted to the Works Committee before it is discussed with the individual workman. In others an Appeals Committee has been instituted to consider and bring forward complaints against piece-prices or premium bonus times fixed by the management. In others, again, something on the lines previously mentioned as existing in parts of the pottery industry has been developed; and prices have been discussed, not with the individual workman, but with the workman and two or three of his mates on similar work. In other establishments various forms of collective or group bonus on output (or output value) have been adopted; and in some of these cases committees have been formed either temporarily, in order to discuss the introduction of the new method, or permanently, in order to supervise its working. In other cases committees have been formed to deal with timekeeping bonuses or profit-sharing schemes.

Committees connected with methods of remuneration are not, in themselves, Works Committees proper. They may be committees representing only a small section of the establishment (*e.g.*, the toolmakers), while the rest of the workmen in the establishment are not concerned and are represented by no committee. They may, again, be partial in scope as well as in membership, and deal with no other matters than that of a bonus. This, however, is unlikely and seems unusual. A committee connected with a bonus system often comes to embrace a wider scope, and will bring forward, or be consulted by the management about, other matters.

Timekeeping

Committees whose sole function, or one of whose main functions, is the improvement of timekeeping, have been instituted in the coal mining industry, at the ironworks in Cleveland and Durham, and in a number of engineering and munitions factories. The Pit-head, or Output, or Absentee, Committees, as they are variously called, commonly deal with the negligence of mine officials as well as with cases of absenteeism. The committees at the Cleveland and Durham blast furnaces are confined to the one function of improvement of timekeeping.

Welfare

The strain of the war has introduced conditions which have made it necessary to consider ways of promoting the physical welfare of the workers. Long hours, have been worked; night shifts have been added to day shifts; workshops have sometimes been crowded; the introduction of women workers by the side of men, in occupations where women had not previously been employed, has raised a number of questions. Matters such as the best distribution of working hours, the provision of canteens and mess-rooms, and the improvement of ventilation and sanitation, have all demanded attention. On such matters, where the interest of the workers is paramount, the simplest course is obviously to consult them, and to receive their complaints and suggestions through their own accredited representatives. This course has been adopted in a number of establishments; and the result has been the institution of a Welfare Committee, which has eased the situation by removing, or preventing the rise of, a number of grievances. The workmen have thus been allowed a voice in regard to the conditions under which they labour, and these Welfare Committees, though they can hardly be called Works Committees, may be said to prepare the ground. They serve to engender something of a spirit of community in the works, and to help the workmen to feel that they have a common interest as workers in the same establishment.

War Charity

In several cases (for instance in the Glasgow district) committees have been formed to administer funds raised in the works for the purpose of helping dependents of workmen who have joined the Colours. These committees form a germ which may develop, and here and there has developed, into Works Committees capable of entertaining grievances or raising general questions and bringing them to the notice of the management. Where the firm has subscribed to the works' fund, and has been represented on the Committee of Management, the nucleus of a Joint Committee is obviously present.

Other Causes

In much the same way committees formed in an establishment for social purposes prepare the ground, if they do nothing more, for the institution of Works Committees. They help to create the habit of common action through representatives; and accustoming the men of different crafts and different Unions to act together for purposes of a social nature, they gradually lead to the adoption of the idea that a certain range of industrial questions may be treated in the same way. In some of the best establishments which have recently instituted Works Committees the success of these committees is largely attributed to the work which committees of a social character have done in preparing the ground.

It is believed that the ways indicated are those in which Works Committees have mainly tended to arise. In a subject of such variety, however, it is impossible to make any exhaustive enumeration. Often the institution of a Works Committee is due to the initiative of an employer or manager who desires to give the work-people a larger control over working conditions or who finds that his task is greatly eased if he can deal with an accredited representative of the workmen. Sometimes a committee may have arisen in connection with a particular dispute and for negotiating a settlement, and may then, in the issue, be adopted as a permanent mode of working. In certain cases during the war, as before it, the creation of a Works Committee has been one of the terms of settlement of a dispute.

Constitution

The constitution of a Works Committee naturally varies with its functions. A Welfare Committee, handling questions in which the difference between unionist and non-unionist workmen, or again the difference between different Unions of workmen, hardly arises, will tend to be composed of representatives of all workers, elected without regard to differences of craft or grade or occupation. An Industrial Committee, handling as it does questions in which differences of skill or of craft are concerned, will involve a new range of considerations. It may be necessary to consider the relation of such a committee, if one is instituted, to the existing industrial organization of the workmen in the works in the shape of shop stewards or delegates; and, again, it may be necessary to consider whether management and labour should sit together as a Joint Committee (and, if so, in what proportions), or whether the Works Committee should be one of workers only, with opportunities of ready access to the management—and ultimately, it may be, to the directors—when such access is desired.

The last point may be taken first. Joint Committees are rare. There are some committees of this nature, containing two or three representatives of the management and about a dozen representatives of the workmen, which meet at regular intervals—in one case from week to week, but more often at longer intervals. Even when the Committee is a Joint Committee, however, some provision has generally to be made for separate meetings of the representatives of the workers; and, as a rule, Works Committees appear to be committees of the workers only, with regular facilities for consultation with the management, either at fixed intervals or whenever occasion arises. Joint Committees may ultimately come to be the normal form, but in the preliminary stage of development it seems likely that committees of workers only, with regular facilities for access to the management, will generally be the form adopted.

Where the committee is a Joint Committee, the idea of the joint meeting is probably first mooted by the management; and unless the workers' side is already in existence the management may suggest the basis of composition and the methods of election of the committee. Where, however, the committee is a

committee of workmen only, it is advisable (whether the idea of such a committee is suggested by the management or develops spontaneously among the workmen), that the workmen should be left to determine the basis of its composition and the method of its election for themselves.

Two main methods appear to prevail in regard to the composition of a Works Committee of the second type mentioned above.

(*a*) The committee may be elected by all the workmen employed, each department or shop being treated as a constituency, and returning a number of members, perhaps in proportion to its size. This appears to be the simplest method and is found even in works in which the workers have already an industrial organization in the shape of shop stewards or delegates. This is the case in most works, and in such cases it may be advisable to build on the existing organization. This brings us to the second main possibility.

(*b*) The committee may be a committee of the shop stewards of the different Unions represented in the works, or, in a large works where shop stewards are numerous, a committee elected by the shop stewards. In one works, for instance, which employs about 3,000 workmen, the Works Committee (in this case a Joint Committee) contains 12 representatives of the workmen elected by the shop stewards (some 40 in number) of the various Unions represented in the works. In another works a committee of seven shop stewards meets the management monthly and discusses questions which its members and the management have asked to have placed on the agenda.

The two methods which have just been described represent the two possibilities at either end of the scale; but various methods may be employed which combine, or come as it were between, these two possibilities. Even where the committee is elected by all the workmen, unionist or non-unionist, voting by departments, the tendency, if the works is strongly unionist, is towards the election of representatives who are all unionists and are also, either altogether or in part, shop stewards of their Unions. In one works with 4,000 workmen the Works Committee of 21 members, elected by a general vote of the men workers, is entirely composed of shop stewards. In another works, with 3,500 workmen, in which a Works Committee has existed for about 10 years, all the workmen in any department may vote,

but only unionist workmen can be elected, and half of the members of the Works Committee are shop stewards.

Another method which deserves special notice is that of election on the basis of Unions, all the members of a Union in the works electing a certain number of representatives. The number of members to which a Union is entitled may vary in direct proportion (or in some other way) with its membership in the works. Thus, in a scheme under consideration for an engineering works, representation on this basis gives seven members to three General Labour Unions, eight members to the largest Union of skilled men, two members to each of two other Unions of skilled men, and one member to each of seven other skilled Unions. This method—since in an engineering establishment the members of a Union may be distributed through several departments, in each of which there may be a shop steward or stewards of the Union—is not necessarily identical with that in which the shop stewards of the different Unions in each department form the committee. In several iron and steel works the method of election appears to be by the members of each *branch* of a Union who are working in the establishment.

In one such case the right to representation is stated to belong to the branch because it has members in the works. The statement, however, is qualified in order to cover the case of a Trade Union branch—*e.g.*, of the Amalgamated Society of Engineers or the Bricklayers' Union—only some of whose members may be employed in the particular works. In their case only the members of the branch employed in the works make the appointment; and from the nature of the case the representative so appointed is almost bound to be the person acting as shop steward for the Union in the works. This, combined with the fact that the branches of the iron and steel Trade Unions correspond to sections or departments of workers in a single works, makes such branch representation similar to departmental representation. Another feature of this system is that the secretary of any branch who is working in the establishment—this is almost bound to be the case with branches the membership of which is confined to the works—is, *ex officio*, a member of the committee. The draft proposals for representation now being discussed by the shipbuilding trades in one district are to the effect that each Works Committee should be composed of a certain number of representatives from the men of each trade or Union em-

ployed in the yard, and that among the representatives of each trade or Union one at least should be an official shop steward. Some of the Unions in the shipbuilding industry include, it may be noted, several trades, and the official yard delegates (or shop stewards) of the several trades in one Union often form a Yard Committee for such functions as the inspection of Union cards.

Other methods found in practice are election of all the members by the whole of the employees in an establishment voting as one constituency, and election by occupation or trades.

In some works there is one committee for skilled men and another for unskilled or semi-skilled. In several large engineering establishments, for instance, there are two Committees of Shop Stewards, one for craftsmen, and another for semi-skilled men and labourers. Generally, however, there is only one committee for both sets of workmen. The persons elected to such a committee are in certain cases drawn solely from the ranks of the skilled craftsmen, though there may be unskilled men (and stewards of unskilled Unions) in the works. The exclusion of any *direct* representation of the unskilled men in such circumstances is generally due to the same cause as the absence of any direct representation of the smaller craft Unions, *viz.*, the fact that a department's representative tends to belong to the Union which has most members in the department. There are certainly cases in which this apparent exclusion of representation of the interests of the unskilled is a source of friction between the different classes of workers; and the presence in some works of separate committees is the extreme expression of such difference in interest. It is argued that the unskilled men—though they may be excluded by exactly similar circumstances—are in a different position from a minority of skilled men who may be excluded from direct representation, in that the interests of the latter, being akin to their own, are better understood by, and receive more sympathetic consideration from, the skilled men on the committee. It would nevertheless appear that most committees appointed on a departmental basis do succeed in representing fairly the interests of all their constituents; and it is claimed that the committee member tends to look upon himself not as the representative of a particular craft or section in the department, but as the representative of the department as a whole.

The position of women workers is in some respects analogous to that of unskilled workmen. In some cases they have a vote

for the Works Committee elected by the various departments, and they may have a representative of their own on that committee; in other cases representation is secured to women's departments as such. Sometimes, even where women are excluded from voting, the Works Committee may represent their interests; and it may entertain and bring before the notice of the management grievances of women workers and questions affecting their interests and the conditions of their labour. Occasionally, though this is rare, there is a separate committee to represent the interests of women workers.

From what has been said it is obvious that the constitution of a Works Committee raises a number of questions. (1) In the first place, there is the question whether the committee should be based on the industrial organization of shop stewards, where such organization is in existence, or should be based on a general vote. (2) In the next place, assuming the latter alternative to be adopted, there is the question whether all the workers should vote, and if so, how the constituencies should be arranged, or whether only unionist workers should vote, and, if so, how and in what proportions the different Unions should be represented. (3) Further, there is the question whether there should be a single committee, or one committee for skilled and another for unskilled workers; and (4) finally, there is the question whether women workers should have a separate committee or be represented through the general committee of the works.

No general answer can be given to any or all of these questions. The circumstances of different works vary, and each type has to find its own solution.

Wherever it is possible, a committee of shop stewards or Trade Union representatives would appear to be the best solution. At the same time, it is important to secure that the size of the committee, while large enough to be representative, should not be so large as to make it unwieldy, and that, as far as possible, there should be direct representation of each department. The size of the committees actually in existence varies; some committees have 12 members, some have upwards of 30. The smaller number seems more likely to be effective. It may be necessary, therefore, that a Works Committee, if it contains a large number of members, should appoint a smaller committee of itself; and that, while the management should be in regular contact with the smaller committee, questions of difficulty should be re-

ferred by the smaller committee to the larger, the management meeting the larger committee in case of need. In its choice of the smaller committee the Works Committee could allocate a place, or a number of places, to each department or group of departments. Another method of electing a committee of manageable size would be that from the stewards in each department (or, in certain cases, groups of departments) one should be appointed by a general election held in the department or by the departmental stewards themselves. In certain cases, in large works, it may be desirable that the stewards in each department should form Shop Committees, with which the general committee could keep in touch and from which its members could learn the needs and the complaints of each department. Another variant is that sub-committees instead of being departmental should be functional, *i.e.*, should each deal with a particular matter or set of matters such as dilution, piecework, suggestions of improvements, etc.

The existing Works Committees have generally two officers, a chairman and a secretary. The tenure of office of the committee is often unfixed. Where it is fixed, it may be for six months or for a year. A fixed tenure, provided that it is not too short, seems desirable; a new election will reinvigorate the committee and if the workmen in general have any feeling which the committee has failed to express, it will give a chance for its expression.

The desirability of election by secret ballot has been emphasized by many employers and by some Trade Unionists.

Procedure

Some Works Committees have regular meetings with the management, at intervals of a week, a fortnight or a month. A list of agenda is circulated and regular minutes are kept. In one establishment where this is done the men's chairman presides at one fortnightly meeting and a representative of the management at the next. In other cases the meetings are not regular, but are held whenever occasion arises. Arguments may be used both for and against a system of regular meetings. It may be urged in their favour that they provide a known and regular time for raising a question; that they enable questions to be raised in their initial stages, whereas, if meetings are not held

until occasion arises, a question may have grown acute before a meeting is held; and, finally, that by bringing representatives of the management and the men into constant contact, they accustom either side to seeing and understanding the point of view of the other. It may be urged, on the other hand, that if meetings are regular, and at frequent intervals, there may often be no business to be done, and that the effect may be either to make the committee slack, or to induce the more restless members to manufacture business by finding grievances and discovering difficulties. In any case it may be suggested that the main thing is not so much regularity of meetings, as what may be called *the principle of the open door.* If the men know that their representatives have access to the management, and if they know that the management, on its side, is ready to consult their representatives, the success of the main function of the committee is secured. The number of times at which a general Works Committee needs to meet the management will vary with the type of works and with the degree to which sectional questions can be handled by such a committee. One committee, in an establishment in which relations have always been good, has met the management on an average three times a year in the last twenty-four years, though in the last three years, owing to the number of questions raised by the war, the average number of meetings in each year has been seven. During the whole existence of the committee, however, the right of the separate trade delegates to meet the management has been freely used. Employers complain that workpeople tend to want all questions settled offhand, and fail to realize that investigation may be necessary; and one argument in favour of regular meetings is that they form a permanent and businesslike substitute for frequent sectional deputations. There would appear to be many questions which can be settled in a more satisfactory way if they are discussed and investigated at regular joint meetings. This method, however, cannot be applied indiscriminately; there will always be matters of urgency which must be taken up as they arise; and sectional questions may, in certain cases, be better treated apart from the regular meetings of a general Works Committee.

One other caution may be suggested in this connection. Works Committees instituted in engineering establishments during the course of the war have naturally found abundant work. The same will probably be true of the period of reconstruction

after the end of the war. It is possible, however, that under normal conditions a system of weekly or fortnightly meetings might prove unnecessary. It may be suggested, therefore, that a distinction may be drawn, on the point of frequency of meetings, between what may be called "the emergency period" and the period of normal conditions.

Another question of procedure, which also bears on the matter of frequency of meetings, is connected with the position of the secretary of a Works Committee. In many establishments which have Works Committees a large part of the active work which they entail is done by the secretary. Difficulties are reported to him by the workmen concerned either directly or through a member of the committee, and he, after consultation with the committee (or, it may be, in lesser matters, immediately), brings the difficulties before the management. Such difficulties may often be settled at once, and their settlement simply reported to the Works Committee. A great deal of work may thus be thrown upon the secretary in consulting the workmen concerned and in interviewing the management, and the position is thus one which offers a great deal of scope to a man of capacity. Such a man may largely carry on his shoulders the current work, and the committee may only need to deal with larger questions. But the position has its difficulties, and there are two matters which deserve particular notice. One of these is the question of the secretary or chairman's moving about the works during working hours, and entering departments other than his own, for the purpose of interviewing any workman who has preferred a complaint. If the secretary is bound to ask the consent of a foreman or overlooker before he enters a department, and if that consent may be refused, the work which the secretary can do in investigating and removing grievances is liable to be hindered. If, on the other hand, he can enter any department (without any formality, or on simple notification of his wish) and engage in discussion with a workman, the work of the department may be held to be likely to suffer. From the experience of several works, however, it would appear that this freedom of movement is found to be an essential condition of the success of a committee. The extent of freedom necessary, and the members of the committee to whom it should be allowed, will vary with the size and the other circumstances of a works.

The other matter which arises in connection with the position of the secretary is concerned with his remuneration. His

secretarial duties may interfere with his own work. He is bound to lose time, and, consequently, unless some arrangement is made to indemnify him, he is bound to lose wages. In one case, in which, it is true, the work is specially complicated and onerous, the amount of time spent on secretarial work is said to amount to a total of 30 hours in the week; in another case the loss of wages involved has, over a period of several weeks, amounted to £2 a week. In one large works, where the committee is engaged to a great extent with questions arising from charitable work, the secretary now gives his whole time to the duties of his position, and is paid by the firm. In some cases it would appear that the secretary is paid ordinary time-wages for the time he spends on secretarial business in working hours; in other cases, where the work is premium bonus or piece-work, he may receive the average earnings, or, again, his companions may keep his machine running in his absence. It seems, however, that some arrangement is necessary to meet what is often a real difficulty. It may be argued that the management should pay the secretary the full wages which he would otherwise have made, since the work he does conduces to the better running of the establishment. On the other hand, the men might object to such a course, on the ground that it tended to make the secretary more dependent on the management and less of a fellow-workman. Another method, which is employed in some cases, is that the secretary should be reimbursed for lost time by the workmen. In certain cases it may be noted that weekly contributions are paid by the workpeople to meet the expenses of meetings, etc.

Another question, which is somewhat analogous, concerns the time of the meetings of the Works Committee. Under one plan the meetings may be held in the employer's time, and the members may be paid full rates during the time they spend in attendance. This is a plan which is often adopted when there are regular meetings with the management. Many committees which have no regular meetings with the management meet after working hours. Another plan, which has been suggested, is that the meetings should be held partly in the employer's time (the members being paid full rates during that time) and partly in the time of the men, or, in other words, after working hours. This may present some difficulties, as some of the members may find it inconvenient to stay after working hours. On the other hand, it is argued that this course best corresponds to the logic of the situation; management and men both gain from the work

of a committee, and it seems logical that either side should surrender a part of its time. The solution of the problem depends to some extent on the length of the working day. Members of committees have complained that to meet at 8 or 8.30 p. m., after 3 hours of overtime, was "a bit hard." Under normal hours the attitude would have been different.

In the matter of procedure in the stricter sense of the term there is at present a good deal of variety. Generally the procedure is somewhat informal, and this, in the earlier stages of a Works Committee, is perhaps to the good. The normal procedure, so far as one can speak of a normal procedure, is somewhat as follows:—

(1) A workman who has a grievance will report it, directly or through the committeeman in his department, to the secretary. Lesser grievances, which do not affect a number of men or raise a general question, may be settled at once by the secretary with the foreman or departmental manager concerned.

(2) Grievances which are not thus settled are taken up by the committee, and brought by the committee before the management.

(3) If grievances or disputes are not settled with the management, they are carried to the branch or the district organization of the Trade Union or Trade Unions concerned, and they go henceforth along the ordinary channels of Trade Union organization.

The effect of this procedure can best be seen by comparing it with the procedure which is followed in the absence of a Works Committee or of recognized shop stewards for the separate trades. Where there is no Works Committee, the individual workmen, or a delegation of workmen, will bring their case to the management, if they can get admission; and failing any agreement, the matter will go straight to the Trade Union. Where there is a Works Committee the difference is this: first that there is a certainty of admission to the management; secondly, that instead of the onus of stating their case being thrown on the individuals concerned, there is a regular machinery (the officers and the committee) to sift the case and to state it formally; thirdly, that, instead of the action taken being individual or sectional, it is the general action of a body representative of all the works; and, finally, that there are two chances of a settle-

ment being attained in the works (first between the secretary and the foreman or departmental manager, and, failing that, between the committee and the management) before the question goes outside for settlement. The main difference between this procedure and that adopted when trade shop stewards are recognized is much less, and only arises on the third of the points just mentioned. This difference, however, is important, because it involves the problem of the delimitation of a Works Committee's functions. It may also be noted that, in certain cases at least, the machinery of the Works Committee is brought into operation not as a preliminary to the question going before a Trade Union branch, but in support of a decision previously come to by a branch. This is so in certain iron and steel works. The difference, it may be said, is more apparent than real, because many of the branches (and these the strongest in numbers) are in such cases works branches— that is to say, the membership of the branch is confined to men employed in the works. On the other hand, certain branches extend their membership beyond the works; and, in so far as the Works Committee takes up a case already entertained by such a branch as union business, there is another form of procedure. This procedure appears to have been adopted in certain cases with the acquiescence of the Trade Union branch concerned. It seems important that the place of the Works Committee in relation to trade questions should be properly defined; otherwise there may be dangers of overlapping and confusion through (*a*) the diversion of a purely trade question to the Works Committee, when it ought to go through the ordinary Trade Union channels, or (*b*) the use by a Trade Union branch of the Works Committee in support of a case which it should properly call upon the officials of its Union to handle.

Three other matters of procedure call for notice. One of these is the use of what may be called "the referendum." A Works Committee, when its members feel that a matter is important, and that it is necessary that they should ascertain and carry with them the opinion of the workers either in a department or in all the works, may summon a general meeting and bring the matter forward for discussion in that meeting. There may be no rules to decide when this should be done, and it may be done at different stages, either before a matter has been discussed with the management or subsequently to such discussion; but the possibility of such a general meeting enables the com-

mittee to make sure that its policy will be adopted by the workmen concerned, and it puts it in a position to assure the management that a policy thus confirmed can really be carried into effect. In certain industries the regular shop meeting is a feature of shop organization. This is so, for example, in furnishing and in the woodworking side of the aircraft industry in London. The shop meeting is really a factory meeting, and is held once a month.

Another matter of procedure is one which touches the management and directors of a firm. It is important that the representatives of the firm, who meet the committee, or (if it is a joint body) sit on the committee, should belong to the highest rank, and should include the general works manager (or, if there is one, the labour superintendent)[1] and one or more of the directors. A great part of the value of the Works Committee, from the point of view of the men, is that it brings them into contact, and gives them an opportunity of discussion, with the authorities with whom, in its absence, they seldom get into close touch, and then only on points of difference. Nor is it only the workmen who stand to gain if the highest rank of management is represented. Members of the firm who are primarily occupied with finance or technique will be brought into contact with those questions of labour which are the fundamental problems of industry, and in discussing these questions with the representatives of the workmen they are likely to gain a deeper insight into the best methods of conducting the industry.

Lastly, there are questions connected with the keeping of minutes, the drawing up of agenda, the presentation of complaints, and the like. Where regular joint meetings are held it is common for a complete record of each meeting to be made in shorthand by a member of the staff and for the workpeople's secretary to make notes of the proceedings; minutes based on the complete record may be circulated among the members of the committee after the meeting. Even where the committee of workpeople as a whole does not meet the management, it may supply the latter with copies of the minutes which concern the management. It is common for the management to supply typing facilities for the duplication of minutes and of agenda. In

[1] A particularly interesting development during the war has been the appointment to the management staffs of several establishments of persons whose chief function is to deal with labour questions. The success of a Works Committee may to a considerable extent depend upon the status and qualifications of such an official.

some works complaints made to the committee must be in writing. This rule has sometimes been introduced in order to check the making of frivolous complaints or inaccurate statements; it may be compared with a method of the "chapel," where a member may call a special meeting by placing a shilling (or other sum) "on the stone" on pain of forfeiting his shilling if the chapel decides that his complaint is groundless.

Functions

Since Works Committees are of different types, it is obvious that their functions vary considerably. In the first place there is the distinction already mentioned under the head of nomenclature. A Welfare Committee is concerned with all questions that affect the comfort and physical well being of the workman while he is engaged on his occupation; an Industrial Committee is concerned with industrial conditions in general. Often a Works Committee will undertake both sets of functions, but some committees may be confined, primarily at any rate, to the working of a system of bonus on output or premium bonus or piece-rates; others may be confined to questions of dilution; others may have a general and undefined scope which depends on an unwritten understanding between management and men.

There are several questions of a general character which deserve some attention, before we turn to the detailed functions actually discharged by various Works Committees. Are these functions always consultative, or are they sometimes executive? This raises another question—is it possible, in the strict sense of the word, to speak of a Joint Works Committee? What, again, are the functions of the management, and how far may a Works Committee trench on these functions? Finally, what is meant by "recognition," and what is the effect of recognition on the functions and powers of a Works Committee?

As far as the first question is concerned, it would appear that the functions of a Works Committee are practically always consultative. Usually a Works Committee can bring matters before the management and discuss them with the management; it can press its views about these matters on the management; in the last resort, it can induce the Trade Union organization to call a strike. But the Works Committee cannot usually, as such, carry its views into action, or ensure that they shall be carried

into action, by any direct machinery. The management has the executive power, and unless the management is impressed by the representations of the members of the committee, or by the sanction which lies behind them, those representations will not lead to executive action. This would appear to be usual even where the Works Committee is a Joint Committee. There are, indeed, certain cases in which the decision of a *majority* of the members of such a Joint Committee is carried into effect. This is so in the Pit-head and certain other committees which have the power to fine bad timekeepers; and in certain engineering establishments the question of prosecuting bad timekeepers before the Munitions Tribunal is decided by Joint Works Committees. But, so far as can be discovered, the general custom is to the contrary. *Unanimity* must be attained; the management must be convinced, and both sides must freely agree together, before executive action is taken. The operation of a Joint Committee is really in the nature of consultation between two parties—consultation which, if it results in unanimity, results in action, but not otherwise. It would be a mistake to think in terms of voting, or to think that even if there is voting, its result is a formal decision by a *majority* vote. What happens is rather discussion by which misunderstanding is often removed, and upon which, if *unanimity* is attained between the two sides, action will ensue. It follows, therefore, that generally we cannot speak of Joint Committees, if by Joint Committees we understand joint executive councils acting by the vote of the majority. On the other hand, there are Joint Committees, if by Joint Committees we understand deliberative meetings of both sides, always attended by both sides, though often accompanied by separate meetings of the two sides.[1]

A question of importance, when we are considering the functions of a Works Committee, is the definition of the term "management." It may be urged, on the one side, that the functions of a Works Committee should not be such as to interfere with

[1] The division between executive and advisory powers in a scheme now under consideration for an engineering works may be noted. It is proposed that the former should include (1) those powers conferred by the Trade Unions and in accordance with the constitution or resolutions of the local Allied Engineering Trades and (2) those conferred by the firm. The suggested first list of executive powers contains the following:—determination of hours of work (with minimum of 50 per week); messroom; heating, lighting, sanitary matters, &c.; ambulance; collections, supervision of notice boards, entertainments, &c.; proposed technical lending library and works magazine; and organization of the Sports Association. The advisory functions include the regulation of piecework; the engagement, dis-

management; it may be urged, on the other, that if a Works Committee is to be debarred from questions of management it loses reality and becomes a mere form. Much, therefore, depends on the sense in which the term management is used. Is the work of the foremen part of management? Or does the word denote the higher organization of industry? It would appear that a Works Committee, if it is to be of any value in ventilating and removing grievances, must be in a position to ventilate grievances arising from the conduct of foremen or overlookers. Such grievances touch the worker most closely in his daily work, and if they cannot be discussed the committee loses a sphere of action in which it might be of the greatest service. It is true that if a committee has the right of criticising the action of foremen, difficulties may arise. Foremen may feel that their authority is undermined; they may feel that they are being made responsible not only, as heretofore, to the management (a responsibility they know and understand), but also to the committee; they may feel that, with a dual responsibility, their position becomes exceedingly difficult. These are real problems. In many instances, however, they seem to have been surmounted; and if they prove serious, they may perhaps be met, to some extent, if the general manager arranges to meet the foremen in advance, and to discuss with them criticisms and grievances which have come from the Works Committee.

The last of the general questions raised by a consideration of the functions and position of a Works Committee is that of "recognition." This, again, is a term which seems to be understood in different senses, and which it is difficult to define. A committee may be held, from the point of view of the management, not to be recognized, even when the management is in constant touch with its secretary, and even when it consents to meet those members of the committee who represent a department which has a grievance. Here the point would appear to be that the management does not, as such, formally meet the

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charge, dilution and transfer of labour (excluding disciplinary discharge), training and education of apprentices; suggestion of improvements in methods; timekeeping, &c. It is proposed that seven sub-committees be formed, each sub-committee to deal with one or more of the above-mentioned functions, *e.g.* a sub-committee for hours of work, engagements and discharges, and timekeeping; a sub-committe for messroom; and a sub-committee, advisory and *negotiatory*, for piecework. There is this reservation in regard to executive functions that if capital expenditure is involved authority should be obtained from the firm before such expenditure is incurred.

whole committee. In another case a system almost exactly parallel—a system under which the management interviews four of five members of the committee—is described as one of "recognition." The term "recognition" thus appears to have no fixed meaning; and it may be concluded that what matters is the fact of consultation between a committee and the management rather than any formal pronouncement about the fact.

In the preceding paragraphs the functions of a Works Committee have been discussed with reference to the management. It is obvious that they must also be discussed with reference to Trade Union organization. A Works Committee must stand in some sort of relation to the district committees of the Unions to which the workmen in the works belong, and some demarcation of functions, whether explicit or implicit, has to be made. The relations vary, and the demarcation is not always easy to make. Generally the division is said to be that questions of general application—district rates of wages, hours of work, and other district or national conditions of work—are regarded by Works Committees as outside their sphere, and such questions are left to be settled by the employer or association of employers with the Trade Unions. On the other hand, questions of a particular application relating to a works—for example, a piece-rate for a particular job for which it is impossible to lay down any general piece-rate for the district—are regarded as belonging to the functions of a Works Committee. Such a committee may thus deal (1) with the particular application in the works of a principle general to the district, and (2) with questions which are entirely peculiar to the works. But the general problem of the relations of Works Committees and Trade Union organization is one that demands separate treatment, and it will accordingly be treated in a subsequent section.

The powers of the management and the powers of the local Trade Union organization may be said to constitute two points more or less fixed, and the powers of a Works Committee are naturally determined with reference to these two points in ways that vary according as those points vary. Turning to the Works Committee in itself, we may distinguish two main types of function. In the first type a committee is primarily concerned with some one particular thing—a scheme of dilution, a system of bonus, or a method of profit-sharing. This does not prevent such a committee from dealing incidentally with other things.

On the contrary, a committee on dilution will be led to discuss the wages of dilutees and other questions; a committee on a bonus system will be led to deal with time-keeping and other matters which affect the bonus. A committee, therefore, which is primarily and formally concerned with a particular thing may actually be something of the nature of a general Works Committee. When once an organization is created, if only for a single activity, it will naturally become a centre for other activities; the management, finding a representative organization which it can consult, may consult it on broader issues; and *vice versa* the representative organization, meeting the management to discuss one issue, may readily tend to bring forward other issues. The tendency for this to come about is greater if the committee is one of shop stewards who are charged by their Unions with a general supervision of conditions.

In the second type a committee is from the first general in its range, and is formed to deal with the general industrial conditions of a works. One such committee has for its province (1) to enquire into grievances reported by workmen; (2) to bring before and discuss with the management grievances that it considers genuine; (3) to consider complaints about wages and piece-rates which concern individuals; (4) to consider questions relating to the health and safety of the workmen; (5) to consult with the management on the interpretation of awards, orders and circulars; and (6) to consider generally the conditions of work in the establishment. This may be considered to be fairly typical. Another committee, primarily concerned with piece-rates, has also dealt with questions of ventilation and sanitation, complaints about the decisions of foremen, arrangements of shifts and of hours of admission to the works, the allocation of piece-work and time-work, and the interpretation of official orders and circulars. Other matters handled by Works Committees include works discipline, especially timekeeping, methods of paying wages, hours of overtime and the like. The questionnaire which is printed in the first Appendix contains a list of possible functions; and it may be said at once that different Works Committees exemplify all these functions and that some exercise functions which are not included in the list.

Instances may be cited of committees which are tending to exercise, or actually exercise, peculiar and interesting func-

tions. In several cases Works Committees have made suggestions for economies in the running of machinery, and it is agreed on both sides that the committees have brought to light weak spots in organization. A striking feature is the keenness of certain committees, or of the more active members of the committees, to discuss the after-war situation, and this in relation not only to working conditions, but also to such problems as the proper employment of plant. Another case is equally interesting. This is the case of a works in which a Works Tribunal has been instituted in lieu of the Local Munitions Tribunal. The men elect a jury of twelve and a chairman; and this tribunal has been successful in bringing about a great improvement in discipline and time-keeping.[1] An incident in this works, though it does not bear directly on the matter of Works Committees, is indirectly of value as showing that consultation with the workmen may be of great service to the management. A question arose of the introduction of dilution into the works, and the men in the pattern-making shops objected to its introduction. They were interviewed by the managing director, who asked what alternative suggestion they could make for increasing output. They answered that they believed they could easily increase their output if they had additional equipment. A tool catalogue was put before them: they suggested the purchase of a number of tools costing in all nearly £2,000. The tools were bought, and the output was increased by 50 per cent. without dilution.

The range of functions which a Works Committee can efficiently undertake is necessarily indefinite, and a subject of contention not only between employers and workpeople but also between different groups both of employers and of workpeople. Some of the questions on which there is considerable difference of opinion may be noted; they include questions affecting promotion, dismissal, the suggestion of improved processes, lectures and education in trade technique, and works discipline.

[1] This is a very interesting matter, especially in view of the argument in the report of the N.W. Commission on Industrial Unrest, that *joint* committees of employers and employed would administer "industrial law" better than legal tribunals. The existence of a number of Joint Committees which exercise such functions has been mentioned. The particular interest of the above mentioned Works' Tribunal is that it is not a Joint Committee but is wholly composed of workpeople. The firm has no status in the court, merely appearing by its representative as it would in the Local Munitions Tribunals Procedure is quite formal, and the firm's representative is expected to address the chairman as "Sir."

The question of alleged wrongful dismissal is already handled by the Trade Unions, and there is a considerable body of opinion among both workpeople and employers that, at least in the first instance, it is a suitable function for a Works Committee. Dismissal for such a reason as alleged disobedience, it is argued, may be only a cloak for victimization; reasons may be invented by a foreman in order to get rid of particular men. The claim is made that the other workpeople are likely to understand the psychological influences underlying such action, and that no such dismissal should be made until the circumstances have been discussed with the Works Committee. The situation in which slackness of work compels a considerable reduction in the number of employees is more complicated; on the one hand, workpeople complain that the opportunity is used by certain employers to get rid not only of the less efficient employees but also of those who have shown themselves active in support of their fellows—that is, to cover up victimization; on the other hand, employers complain that workpeople are exclusively biased in favour of the claims of seniority, and make little, if any, allowance for differences in efficiency. There would appear to be some truth in both contentions. A frank discussion would probably tend to remove the causes of the workpeople's complaints and, at the same time, to produce a balance between the claims of seniority and of efficiency satisfactory to both employers and employees. What is perhaps even more important is a further argument; such frank discussion would lead to plans for the alleviation in the particular works of the effects of a general slackness. It is not contended that any general remedy for unemployment can be found on these lines; all that is suggested is that local and individual effort may help to solve the problem. Dismissals due to the introduction of new machinery or new methods are perhaps of a kind with which a Works Committee might properly deal.

Workpeople are ready to acknowledge the benefits due to improvements and yet naturally resent such improvements where they involve the destruction of their craft or sudden loss of employment. It may be suggested that what individual employers have done in the past—namely, to make arrangements by which the dislocation of livelihood is reduced—can be carried out more generally; and that in individual establishments adjustments for such a purpose are a suitable subject for discussion by a Works

Committee. It is, of course, a subject of vital importance to the Trade Unions; it is indeed an aspect of the process of dilution as seen at work in the normal industrial conditions of peace time. Though the Trade Unions could not be expected to hand the matter over to a Works Committee, there appears to be room for the latter to deal with the question within certain limits.

The appointment of foremen is a question on which there may be said to be three groups of opinions.[1] Many employers hold that it is purely a management question. The opposite extreme to this is the claim made by a considerable section of Trade Unionists that the workmen should choose their own foremen. A position intermediate to these two extremes is taken up by a certain number of employers and by a section of workpeople; the appointment (they feel) should be made by the management, but it should be submitted to the Works Committee before it becomes effective. Even this intermediate position, however, is not really a common position; there are differences of opinion as to the conditions under which the appointment should come before the Works Committee—that is to say, whether or no the Works Committee should have power to veto the appointment. Those employers who are prepared to submit such appointments to a Works Committee are for the most part of the opinion that this should only be done in order to explain the reasons for their choice. This, they hold, will tend to remove obstacles which might otherwise be put in the way of the appointment. A considerable body of workpeople, on the other hand, hold an intermediate position which comes nearer to election of foremen by the workpeople; they think that the Works Committee should have the right to veto the choice made by the management. A few employers consider that this—or even direct

[1] This question of promotion has been discussed in one aspect only, *viz.*, in relation to the appointment of foremen. It is, of course, much more general, and is in many of its aspects a matter of agreement between Employers' Associations and Trade Unions. Such agreements may regulate progress within a trade or a group of connected trades, and necessarily involve, among other questions, that of standard rates of wages. The discussion of promotion in this wider sense of the term could come within a Works Committee's functions only where the Trade Unions make no conditions except the payment of standard rates—and then only within the limits of this condition. The promotion to foremanship may be said to be distinct, in that a foreman is a member of the management staff, and directly concerned with such employer's interests as the maintenance of discipline. The dividing line, however, is not well defined in certain cases, and the fact that certain Unions which largely control promotions among the men paid by wages have also organized the lower grades of the staff, paid by salary or standing wage, complicates the issue. In some of these cases certain Unions claim the right to intervene.

election—may be possible when a Works Committee, through the experience gained in consultations about such appointments, has learned to estimate all the qualities necessary in a foreman. It has already been mentioned that Works Committees very often discuss the conduct of foremen. The conclusion then reached, that such discussion was a desirable function for a committee, would appear to involve as a corollary that of consultation about appointments. This latter function would tend to remove the necessity for the former.

Among the results expected from the giving of a larger measure of responsibility for industrial conditions to the workpeople is a considerable increase in efficiency. This is said to be possible if the ability of the workpeople to suggest improved processes and methods is properly used. The experience of individual firms would appear to confirm this contention. Many firms have for years past had awards schemes in operation, and in certain cases these have stimulated important suggestions for improvements. The fact that the "suggestion box" is often stated to have proved a failure is not necessarily a condemnation of the idea; it may only mean that the somewhat mechanical and uninspiring device is in itself an inadequate stimulus. A comparison of the results secured in establishments more or less similar (so far as work is concerned) would suggest that the success of an awards scheme depends to a great extent upon the action of the management. Where the management gains the confidence of the workpeople, and has devised methods of considering suggestions which appeal to the workpeople, there is a much more powerful response than in works where, though there may be a suggestion box, these conditions are absent. Many employers and workpeople agree that a Works Committee may not only produce the atmosphere necessary to the stimulation of suggestions, but may also help to arrange for the proper investigation of proposals made by workpeople. In this connection, as in the quite different field of grievances, it would appear to be important that suggestions which look to be worthless should, nevertheless, be considered. To put the matter on the lowest ground, this will probably pay in the long run. The fundamental matter is that everyone should be encouraged to think about the processes and the organization of the works. It should be noted that workpeople very commonly complain of the staff's attitude on such matters; any suggestion, they say, is apt to be brushed

aside with the remark that they are not paid to think but to work. The obstruction in such cases may be a foreman or manager, and even though the higher management may be sympathetic, it may never hear of a suggestion. His mates also are sometimes not very encouraging to a workman with ideas. For lack, therefore, of encouragement, or because of actual discouragement, ideas of value are held back and the capacity for ideas destroyed. How best to arrange that suggestions will be guaranteed an adequate consideration is not a direct concern of this report, except in so far as a Works Committee may be employed for the purpose. It is doubtful whether a general Works Committee is a suitable body with which to discuss the value of a change in a particular process or machine, and the use of a small subcommittee for this purpose may be suggested. The argument has been used that a man will place his ideas before two or three responsible work-mates for their criticism, but not before a big committee. If the small committee thought the proposal sound, it would then go straight to the higher management. For more general questions of organization, as distinct from questions of individual methods or machines, the general Works Committee, or in large works a Departmental Committee, would probably be a suitable body. Testimony to the value of suggestions made by both of these has been received from employers. A further suggestion with a direct bearing on this subject has been made; that the education which certain firms provide for sections of their staff, such as foremen and underforemen, might be extended to representative workpeople. This may take the form of educational lectures, which will widen the outlook of the specialized worker by showing him how his own activities fit into those of others and into the general plan of the establishment's activities. [1]

The attitude to a Works Committee's assumption of responsibility for discipline varies very considerably, both among employers and among workpeople. There is a considerable body of experience, and it would appear that, though there are examples to the contrary, Works Committees which undertake disciplinary functions usually do so with success. There is, at the same time, a very general demand among workpeople that, if Joint Committees are to discuss the bad timekeeping and other mistakes of the employees, they should have similar powers of

[1] **Another interesting feature in this connection is the development of Works Magazines.**

dealing with faults on the side of the management. In a number of establishments committees regulate fines or deductions made from bonus because of lost-time, negligence, damage or other cause.

A note of caution may be added. There is some evidence that a small minority of employers may endeavour to use a Works Committee in order more easily to impose penal conditions which are objected to by the main body of workpeople. This is opposed to the whole spirit which makes a Works Committee a success, and is bound to produce friction. A somewhat similar attitude is taken up by a small minority of workpeople who appear to desire that no joint meetings should be held in an orderly or businesslike manner.

It may be added in conclusion of this section, that the opinion, and indeed the practice, of a number of firms inclines in the direction of *ad hoc* committees. It is held that this enables the firm to consult the men who are directly concerned, and that it has the additional advantage of giving greater reality to the consultation. When consultation takes place on an immediate and definite issue, it is said to result in practical and useful discussion; and the fear is expressed that consultation, in the absence of such an issue, may only be an empty form. The inclusion in such committees of the shop stewards who represent the classes of men concerned—as is often the case—gives a direct connection with the Trade Union or Unions whose standard may be affected.

Relations with Trade Unions

Something has already been said in the sections dealing with the constitution, procedure and functions of Works Committees, concerning the relations between such committees and Trade Union organization. The position is in certain respects somewhat paradoxical; the problem as seen by most Trade Unionists is that of strengthening the Trade Union organization in the workshop, but, on the one hand, many employers prefer not to deal with the shop stewards in the works but with the outside Trade Union organization, and, on the other hand, some elements in Trade Unionism prefer that it should stand outside the workshop and handle questions in each works from the outside, while some unionist shop stewards consider that their Works Committees should not be subject to any control of the Trade

Unions. The general question of the relation and the relative weight and power of Works Committees and district organizations is one which is likely to be settled gradually in experience and actual working. Here it may be convenient to draw attention to some considerations which appear to affect this general question, particularly as seen in the engineering industry.

The first consideration is that the change in the conditions of working have made necessary the development of new machinery for collective bargaining. Since the questions for which this machinery is required are, to a great extent, peculiar to individual establishments, the collective bargaining, if it is to be done at all, must be carried through in each establishment. At the same time, unless the results are to impair the standard conditions which it is the business of the Unions to uphold, the work must be entrusted to representatives of the Unions. Thus there has come about a natural development in the functions of the shop stewards. Previously they had to see that no encroachments were made on standard conditions; now they may have the more positive duty of participating in the settlement of piecework prices in terms of these standard conditions. [1]

In regard to the changes just mentioned, and in regard also to dilution, the interests of the workpeople belonging to different skilled Unions are more or less the same. This, combined with the natural community in the works, probably accounts for the fact that certain apparent difficulties of representation are, as a rule, easily overcome. The impossibility of so representing different Unions on a Works Committee that satisfaction is secured to all is alleged to be such a difficulty. So far as the skilled trades are concerned—at least in engineering—the difficulty would not appear to be serious. In many cases where even a small minority only of the skilled Unions have *direct* representation there would appear to be no dissatisfaction.

As between the members of skilled and unskilled Unions the position is more difficult. There are several cases of two separate Committees of Shop Stewards—one representing the skilled and the other unskilled and semi-skilled men—in the same works. In other establishments, however, skilled and unskilled men vote for the same committee and act together as members. This

[1] The appointment by the men of a separate rate fixer, whose business it would be to arrange piece prices with the firm's rate fixer, is a suggested development towards which a movement is being made in one or two firms. In one large establishment, such a duplication is suggested by one of the firm's rate fixers as a very desirable arrangement.

would appear to be the most desirable arrangement. The case, however, in which a minority of unskilled men in each department is represented on a Works Committee by a skilled unionist is not exactly on a par with that in which a minority belonging to an unskilled Union is so represented. Apart from the fact that unskilled men are more likely to be distributed through all the departments, so that though in a minority they form a considerable proportion of the total number of employees, there is the further consideration that the similarity of interest and the community of feeling are not so pronounced. In many establishments the difficulty has apparently been surmounted: but in a number of others it is still a serious problem. The problem would appear to be one which cannot be settled by the men in each establishment—though they may provide valuable suggestions—and it must probably be left for the Trade Unions concerned to come to some agreement on the matter. For this reason a certain number of workpeople, both skilled and unskilled, consider that in cases where the difficulty is acute the policy of two committees is the best present working arrangement. The defects of such a system are perhaps too obvious to require particular mention. It may, however, be noted that the system obstructs very considerably that joint consideration of common interests and desires, to find expression for which is one of the main purposes of a Works Committee. It tends instead to concentrate the attention of each committee upon points of divergence of interest.

The coming together into one committee of shop stewards responsible to different Trade Unions raises a number of questions. It is true that the rules by which Unions define the functions of their shop stewards are fairly uniform, and so long as a Works Committee respects the rules of the different Unions there is little fear of overlapping or confusion in functions. The general rule which determines the functions of a Works Committee in relation to Trade Union organization has already been mentioned. As is said in the case of one Committee, "The Committee regard questions of general application, relating to rates of wages, hours of work or otherwise, which affect 'district conditions,' as beyond their jurisdiction. There is no formal rule to this effect; but this limitation of the Committee's power is well understood, and no difficulties have arisen."

It is thus the rule that general questions of district or national

conditions are left to the Trade Unions, while the Works Committee deals with either the detailed application of these general rules within the works or with questions entirely peculiar to the works. On the whole, the information which is available would suggest that the division of jurisdiction is well understood and closely followed. There are, however, certain difficulties.

In the first place there is evidence of uncertainty as to whether or not a Works Committee should undertake certain functions; matters may sometimes seem from one point of view to be "branch" or "district" business, and from another to be "works" business. A tool-room bonus, for instance, may be arranged in a works between a committee and the works manager, and they may agree in regarding it as a works affair, while the local branch (or district committee) of the Union concerned may consider that it is a question of wages which demands their sanction. In view of the variety and complexity of bonus schemes which have been instituted in munitions factories, and of the possible reactions of these upon standard rates, there would appear to be some need for careful definition of a Works Committee's functions in this field.

There is some evidence also of actual conflict of authority. Such cases, however, would appear to have been given an altogether disproportionate prominence in public discussion, to the detriment of those whose main desire is to create a constitutional machinery suited to new and rapidly changing conditions. In a few instances, however, a Works Committee would appear to have been in doubt as to whether it was an independent organization or one subject to Trade Union control. Thus, a Works Committee wholly composed of Trade Union stewards has made a demand for an advance in wages to which, under an alternative agreement made by the Trade Unions, the workmen represented by it had no claim. In one or two cases representations have been made to Government Departments for advances in wages and improvements in other working conditions in individual works, independently of district or national machinery, though the works in question were known to recognize district standards.

It would appear that the uncertainty as to the real position and powers of a Works Committee in relation to the Trade Unions is, at least in the engineering industry, to some extent due to the fact that the various members of a committee may be responsible to many different Unions. Though, therefore, the

Works Committee may aspire to be a unit of government, this is rendered difficult in view of the different and possibly conflicting authorities from which the members obtain their status. One suggested scheme proposes to overcome this particular difficulty so far at least as the Unions of skilled men are concerned. It would bring the committees in the various establishments under the district Engineering Trades Joint Committee, and confine membership of any committee to those organized in the Trade Union affiliated to the district committee. This question of the relationship of works to district committees is interesting also in view of the proposals contained in the Whitley Report. That Report advocates Joint National and District Councils and Works Committees; and the problem of the relations of the District Council and the Works Committee and their relative functions is one which will need to be investigated when measures are being adopted to institute such Councils.

The need for this consideration of relationship between Works Committees and the district Trade Union organization would appear to be more necessary in certain industries than in others. It would appear, for instance, that in the iron and steel industry the fact that members in one works commonly form a branch of their Union, and that the secretaries of branches are usually—it may be in virtue of the office they hold—members of the Works Committee, makes the problem of inter-relations less difficult, at least for those Unions which are organized on the basis of works.

A point of procedure may be noticed. It is sometimes the case that a Trade Union official accompanies the representatives of the Works Committee in an interview with the management; or, again, a Trade Union official may attend the deliberations of a Joint Committee if the men so desire.[1] But this apparently is exceptional; and, as a rule, a Works Committee acts by itself, and refers to Trade Union officials questions which are too large or too difficult to be settled in the works. It should, however, be noted that many trade unionists are of the opinion that the right of the Trade Union officials to attend committee meetings (or to inspect the minutes of a committee) is a necessary condition of the satisfactory solution of the question of inter-relations.

[1] It may also be noted that officials of the various Unions were members of the workmen's side of the Joint Committee formed in connection with a profit-sharing scheme instituted before the war by a well-known shipbuilding firm in a northern town.

Two other questions which are involved in this problem of the inter-relations of Works Committees and Trade Unions call for notice.

The first relates to the victimization of men who show themselves active as shop stewards or as members of a Works Committee. It is impossible to estimate to what extent such victimization actually occurs, and this is partly due to the difficulty of defining what victimization is. Workmen complain not only of victimization, but also of the difficulty of bringing the charge home even when (they state) they have no doubt about the facts. For this reason many of them hold the view that, unless the Works Committee is properly related to and protected by Trade Unions, it cannot hope—in certain establishments at least—to discuss questions before the management with that sense of freedom which is essential to the success of joint deliberations. In this connection it may be noted that one of two reasons given for the short terms of office of the shop stewards and secretaries of committees in one industry (one and three months respectively) was the fear of victimization. The other reason—in this the Works Committee appears to revert to the early forms of conducting the business of Trade Union branches—was stated to be the desire that everyone should take his share of office.

The other question relates to the allegations made by certain Trade Unionists that certain employers—more particularly in one or two industries—are fostering the growth of Works Committees in order to destroy Trade Union influence in their works. The danger, it is said, from the point of view of Trade Unionism is exactly the same as that which is believed to result from profit-sharing, *viz.*, that the workman is detached from his fellows and his power to obtain certain standard conditions is consequently weakened. The further charge has been made, in regard to one or two industries, that the employers were proposing, in the name of the Whitley Report, to form Works Committees without connection with the Unions, and from these committees to build up District and National Councils representative of employers and employed. It must, however, be emphasized that any such action is directly opposed to the proposals of the Whitley Report. These proposals look to the control of Works Committees by National or District Councils which, on the workpeople's side, would be representative of Trade Unions only; and, in order that Works Committees should be formed on lines

satisfactory to the national organizations, the Report proposes that the formation of Works Committees should, as far as possible, follow, and not precede, that of the National and District Councils. A logical application of this order of procedure may be impossible, but wherever individual employers find it desirable to form Works Committees before National or District Councils are instituted, the idea of the Whitley Report may be so far followed that such proposals should be brought before the Trade Unions concerned, and they should be asked to share in the formation of the Works Committee.

General Considerations

The applicability of Works Committees to different industries is a matter of importance. During the war the discussion of them has been associated most generally with the engineering industry, and it is probably in that industry that, for reasons already stated, their development during the war has been most rapid. This development, however, has by no means been confined to engineering; and in certain other industries, for example, iron and steel works, there has been a marked increase. If we consider pre-war experiences, and include not only general committees formed for special purposes, but also sectional committees, it would appear that an industry in which committees had not been in existence at some time or other would prove the exception rather than the rule. In this connection one may note that in establishments in the distributive trades several committees have been formed to help in the running of profit-sharing schemes. It may also be noted that during the war one very large establishment has seen the development not only of separate Committees of Shop Stewards, representing the skilled and unskilled sections of engineering respectively, but of at least two other committees constituted on more or less similar lines. One of these is composed of shop stewards from the building trades, and the other of delegates from the clerks engaged in the various departments. The works in question is exceptional, not only in size but in certain other respects, so that it cannot very well be taken as an example. The specific representation of the building trades may, however, be put alongside, the previously mentioned examples of informal committees constituted on big works of building construction. It may also be argued

that if a committee is desirable in a distributive trading establishment for the administration of a bonus scheme, the same form of organization may be useful for other general purposes. It may further be argued—and it is so argued by some—that a Works Committee is desirable in any establishment in which more than a certain number of people are employed. Whether the organization is either necessary or desirable in every or nearly every kind of establishment is a question which the future must solve. Here it may be noted that at present considerations almost diametrically opposite to one another appear to determine the general absence of committees from different groups of industries; in some this would appear to be due to the absence or the weakness of Trade Union organization, while in others the strength of Trade Union organization makes Works Committees unnecessary for the purposes which call them into existence in a number of industries.

The cotton industry is a case in point. Here the contiguity of the mills, and the fact that conditions are so uniform that district piece-lists are practicable, ensure that the strong district organization (with its permanent secretary on both sides and its district committee on both sides) is adequate to those needs which in engineering, for instance, have produced the demand for a works organization. The same problem of wages has necessitated in other industries, *e.g.*, certain of those coming under the Trade Boards Acts, direct State-enforcement of piece-rates. Though for this purpose a Works Committee may be unnecessary or undesirable in both groups of industries, it may be that other purposes will produce a similar form of organization. It would appear that most of the needs to which reference has been made in this report are not quite peculiar to any one type of industrial establishment, but more or less common to all. Questions of foremanship may be given as one instance. Welfare is another; very many matters can be brought under its scope, and it seems likely that in future Works Committees will come to play a greater part in their administration. [1]

It may be suggested that the size of the works concerned is a factor of importance in any discussion of the range of application of a system of Works Committees. It is sometimes urged

[1] Since the above paragraph was written a movement to bring the union organization more closely into relationship with the conditions in individual cotton mills has produced a scheme in the Oldham district. The proposal is to make shop (or mill) clubs an integral part of the district union, to deal with shop grievances, &c.

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that Works Committees are only valuable in large works, in which the workmen number 3,000 or upwards. It is certainly true that the larger the works, the greater the help which a Works Committee can give in putting the higher ranks of the management in touch with the feelings and needs of the men. In a small works the manager will probably be able to familiarize himself with every detail of the work, and he will be brought into contact with nearly every workman. He may feel that he is already in close touch with the men, and that a Works Committee cannot make the touch closer. Even here, however, a Works Committee is likely to help. It will enable the management to discuss matters not with isolated individuals, but with the accredited representatives of the whole body of the men, and it may help to bring to light difficulties, needs, feelings and defects which might otherwise have remained concealed. A Works Committee may thus serve not to supplant, but to supplement, the advantages of personal touch, even in small establishments; while in large establishments, where personal contact is not so easy, the help which it may give is obvious. In any case it should be remarked that committees are to be found in works of very different sizes. One committee is concerned with workers in a single establishment to the number of 10,000 men; many are to be found in works in which the workmen number about 3,000; a number exist in works employing about 100 workmen.

To this may be added the expression of opinion of the owner and manager of a small printing office where the compositor's chapel (there is only the one chapel in the office) has at present only ten members. He is in direct contact with each of the men; but he has found it advantageous in the past to have the father of the chapel and one or two of the other compositors together "for a talk over tea." This, it may be said, is done in many small businesses. It may, however, be worth while to consider the advisability of putting such discussion on a regular footing even in small businesses. In the instance mentioned the employer proposes to make a trial of regular discussions. Probably the only generalization one can safely make about the need for Works Committees in relation to the size of establishments is that the need increases with the size.

There remain two points of importance. One is the question of the practical success of Works Committees; the other the importance from that point of view of the human factor.

As regards the first question, evidence is forthcoming from all parts of the country—the Clyde, the Tyne, the Midlands, the Bristol, Manchester, Yorkshire, and London districts. As regards the second, this much is clear: success depends to a great extent on the existence of a spirit of counsel and understanding on both sides. If "the management door stands open" to all legitimate grievances, and if the men are ready to present their grievances and to take into consideration the difficulties of the management, the fundamental conditions are present. Much will always depend on the personalities concerned. Every human institution requires for its success the guidance of personalities. A Works Committee requires for its chairman or secretary—or, at any rate, one may say, ideally requires for its chairman or secretary—a man of personality, trusted by his fellow-workmen, respected by the management, with the spirit of service, and ready, in that spirit, to give his services freely in the cause of his committee. It requires no less a sympathetic and capable management, ready to listen, ready to weigh carefully, ready to take pains in discussion, and prepared to persuade and to be persuaded. It is one of the most encouraging signs of the times that on both sides such men have been found, and that, both among the management and the men, personalities have emerged to meet the needs of the institution.

Works Committees mean discussion; discussion takes time; and from this point of view it is sometimes argued that a Works Committee may tend to slow down the pace of industry; and, again, that it may be difficult to convince a committee of the value and the feasibility of a new idea or process, so that the way of innovation may be somewhat impeded. These, however, are theoretical objections. In practice Works Committees—the evidence would suggest—have improved timekeeping and increased output, and in that way they have accelerated rather than impeded the pace of industry. In practice, again, they have been the opposite of conservative, and instead of checking change they have themselves suggested change. And even if they made the pace slower, or change more difficult, they have advantages that would compensate, and more than compensate, for these defects. They make for better relations and greater harmony, and these are the things that matter most to industry. More time is gained by the absence of disputes than is lost by the presence of discussion; more improvements can be introduced

in an atmosphere of harmony than can possibly be introduced in an atmosphere of suspicion.

That Works Committees have, in the great majority of cases, tended to introduce greater harmony, and, through it, greater efficiency, is proved by the evidence of those concerned in their working. It is not denied that in some cases (though these are very few) Works Committees have failed. A few cases of such failure have been noted in committees instituted during the war for general purposes. In one of these the failure was perhaps due mainly to defects of machinery, and it is stated that the Works Committee may be resuscitated; in another the failure was due to deep-seated causes, which made success impossible, and the failure reflects no discredit on the institution. In almost every case, however, the testimony is to the opposite effect. Sometimes introduced with difficulty and amid suspicion, committees have established themselves and done service which is acknowledged even by their original opponents. By providing a channel for the ventilation of grievances at an early stage, and before they become acute, they have prevented disputes and strikes, and they have improved timekeeping and increased output. Nor is this all. The functions of Works Committees are not merely concerned with bringing grievances before the management, but also with a preliminary enquiry into grievances, in order to decide whether they are well-grounded and serious enough to be brought before the management. The work which they do in this preliminary stage is not the least valuable part of their work, and, far from hampering the management, it obviously does the reverse and relieves the management of difficulties and grievances it would otherwise have to face. Grievances are either nipped in the bud by being shown, upon discussion in committee, to be unfounded, or they are settled in discussion between the secretary of the committee and the foreman or head of the department, and in either case they never come to the main management. When grievances cannot be settled in this way—since, for example, they may involve the head of a department directly—there remains the possibility of access to the main management. The necessity for this has been emphasized by both representative employers and representative workmen; and upon it, so far as can be judged, depends not only the removal of grievances, but (what is still more important) that really suggestive and constructive work which the

signatories to the Whitley Report had in mind in recommending that workpeople should be given a larger voice in determining industrial conditions.

In more than one works the summary of opinion on a Works Committee—and that not on one side only, but on both—has been expressed in the phrase, "This is the best thing that has ever happened in the shop." Such a summary could not be given if experience had not proved that a Works Committee was more than a piece of machinery and something different from the old methods of industrial conciliation. It means that a Works Committee is felt to be something vital and something new—something that enlists the workers in real participation, and something that offers fresh promise for the future.

A PLAN FOR CO-OPERATIVE MANAGEMENT[1]

Industrial Relations Becoming Critical

Today we all see clearly that the war between capital and labor, or between the employing class and their employees, is getting to a stage or condition which seriously endangers the existing industrial and social structures in most of the civilized nations, and the political structures in those nations which have had no experience in the practice of liberty.

After the firm establishment of a limited League of Nations with plenty of force at command, the thing most to be desired by the free peoples, and by those who are hoping to become free, is a just settlement of the industrial strife. I propose, therefore, to put before you in as concise form as I can the changes which must be brought about in the present policies and procedures of the two parties to this strife before any just and durable peace settlement can be expected. Some of these changes have already been brought about in an experimental and scattered way. They greatly need to be universally adopted.

On the Part of Employers

1. Abandonment of every form of despotic or autocratic government in factories, mines, transportation service, and all other industries which deal with the necessaries of modern life.

[1] By Charles W. Eliot. Boston Transcript. March 15, 1919.

2. Universal adoption of coöperative management and discipline throughout the works or plant, the employer and the workman having equal representation in managing committees.

3. Adoption by all corporations, partnerships and individual owners of every means of promoting the health and vigor of employees and their families, including the provision of free medical and nursing service, good housing, and all feasible protection against accident, sickness, alcoholism, and vice, not as a matter of charity but as a sound business method. Prolonged education for adults who are already earning their livelihood should be included among these means.

4. Careful revision in all large services—so large as to preclude intimate relations between the employer and the employed —of the means of dealing promptly and justly with complaints of employees, whether individuals or groups. In complaint cases foremen may be witnesses, but never judges.

5. Universal use in large services of well-trained employment managers for dealing with the engagement, distribution, shifting, promotion and dismissal of employees.

6. General adoption of a genuine partnership system between the capital and the labor engaged in any given works or plant, whereby the returns to capital and labor alike after the wages are paid shall vary with the profits of the establishment, the percentage of the profits going to payroll being always much larger than that going to shareholders or owners and payroll never to be called on to make good losses. As in ordinary partnerships the annual or semi-annual accounts should be open to the inspection of all persons directly interested. As a means of securing to employees full knowledge of the partnership accounts they should always be represented in the directorate.

7. Constant effort on the part of managers to diminish monotony and increase variety in the occupation, from day to day and year to year, of every intelligent and ambitious employee. There is no uniform mode of putting this policy into effect in all the various industries; but there are two methods of wide applicability. The first of these is the policy of shifting employees from one task to another in the long series of tasks involved in the production of the establishment; the second is the policy of offering instruction at cost out of hours to aspiring employees. This policy requires on the part of those who apply

it acquaintances with individuals, skill in selection, and persevering good will.

8. Universal acceptance of collective bargaining through elected representatives of each side.

On the Part of Employees

1. Abandonment of the doctrine of limited output; because this doctrine demoralizes every person who puts it into practice by never doing his best.

2. Abandonment of the idea that it is desirable for workers of any sort to work as few hours in a day as possible and without zeal or interest during those few.

3. Absolute rejection of the notion that leisure rather than steady work should be the main object of life. On this point three principles may be said to be established by the history of civilization itself, first, that a leisure class in any community is apt to become a useless or even dangerous class; secondly, that civilization advances among different races in proportion to the prevalance among the masses of the love of liberty under law, and of the habit of steady work as distinguished from the intermittent work of the hunter or the nomad; and, thirdly, that the higher or most satisfactory employments or occupations permit and encourage every man to work to the limit of his strength and health out of love for the work itself, or his own satisfaction in it. This is true of all the learned and scientific professions and of the higher walks of business and politics. In this respect the lower occupations need to be assimilated as much as possible to the higher.

4. The first question for any young man to ask when he is choosing an occupation is, is there in the occupation contemplated variety, interest, and instructiveness as life goes on, not how few hours a week can he earn his livelihood in it. In other words, it is a great object in life to have an occupation which yields in itself continuous satisfaction and contentment, and at the same time is not subject to sudden interruption or ceasing at the will of other people. Of course the mental workers, whose success depends chiefly upon their own capacity and industry, have great advantages in this respect over handworkers who tend machinery. On the other hand, they have but slight advantage over diligent workers in such occupations as farming,

carpentry, blacksmithing and printing, for example, in which there is large variety, and personal knowledge and skill count for much.

5. Abandonment of two conceptions which underlie the use of violence or force for winning the victory in contests between employers and employed. The first is the conception that capital is the natural enemy of labor, and the second, the conception that unorganized laborers are traitors to their class. These conceptions belong to an industrial era which is really passed. They are miserable survivals of much earlier times when hours of labor in factory industries and in farming were unwholesomely long, wages deplorably low, and the mass of the people had little control over legislation or the manners and custom of the ruling classes.

6. Abandonment of all violence toward property or persons in the prosecution of industrial disputes. It is a consideration strongly in favor of this abandonment that a strike covering the whole territory of the nation or a large part thereof has lately become possible, because of recent improvements in means of communication. Such a strike, or even a threat of it, is capable of inflicting much suffering on millions of non-combatants.

By Both Parties of the Industrial Strife

1. Willing adoption by both parties of the methods of conciliation, arbitration, and ultimate decision by a National Government Board as sufficient means of bringing about just and progressive settlements of all disputes between capital and labor. The war has demonstrated within the last two years the feasibility of adjusting disputes between employers and employed by these means. To be sure it has been under abnormal conditions that these means have proved to be temporarily sufficient; so that the immediate problem before the country is how to demonstrate that these means are sufficient under normal conditions, and that they are the only ones which a free and law abiding people should hereafter use.

2. Recognition by both parties that a new and formidable danger threatens civilization, and that all good citizens of the Republic should unite to suppress anarchy and violent Socialism and to secure to all sorts and conditions of men "life, liberty, and the pursuit of happiness."

3. General acceptance of the view that American liberties are to be preserved just as they have been won. They have been slowly achieved by generations of sturdy, hard-working people who value personal independence, industry, thrift, truthfulness in thought and act, respect for law, family life and home, and were always ready to fight in defense of these things.

4. Acceptances of the truth that the democracy which is to be made safe in the world does not mean equality of possessions or powers, or a dead level of homogeneous and monotonous society, but on the contrary the free cultivation of infinitely diversified human gifts and capacities, and liberty for each individual to do his best for the common good.

SOME ELEMENTS IN CO-OPERATION[1]

I have always believed in co-operation between the employer and the employee but I was once inclined to think that probably the question of wages could only be settled solely and entirely along the line of bargaining, like that of the buyer and the seller. The more I have studied the question the more I come to the conclusion that co-operation in the fixing of wages is not only possible but is the proper thing.

The laborer, on his part, must realize that there is not an unlimited fund upon which he can draw but that it is limited by what may be called the gross profits of the particular undertaking or the industry in which he is engaged.

The employer, on his side, must realize that there are certain duties he owes to his employees and also to the community. It is desirable from all points of view that the general mass of the people in our country, and in fact in any country, should live on as high a standard as is possible. The day of the sweatshop, if not already gone, is rapidly going. I believe that with the proper study of the problem in each shop, or in each industry, by the employers and the employees the wage question can be settled amicably, allowing the employee a wage sufficient to maintain him at the best standard of comfort that the country will afford, and at the same time giving the employer a proper return upon his investment a proper return to guard him against

[1] By J. Parke Channing. From an address before the Association of Superintendents of the Bush Terminal, New York. March 26, 1919.

the risks of the business, and a proper amount of money to allow for depreciation for the accumulation of a fund for replacement, for the building of additions to his plant, or for enlarging the scope of his operations. To accomplish this result in its broadest sense in any industry means the complete organization of the employers on one side and the employees upon the other side. It will not do to have a large number of the manufacturers out any more than it will do to have any large number of the workmen act as free-lances. Let us take for example an industry of which I know something, (though it is not my specialty), and that is coal mining. We have enormous coal deposits in the United States and yet they are being most wastefully wrought because of improper control and improper co-operation. The owner of a tract of coal-land may sink a shaft upon his property, hire inefficient men, pay them low wages, take out half of his coal, leaving the rest as pillars, and sell it at what he thinks is a profit. Hundreds of others are doing likewise. The selling price at the mouth of the shaft is reduced to only a few cents over the apparent cost and the first thing he knows the man wakes up and finds that his capital is gone. Nor is this the worst. The most unfortunate part is that the remaining coal is irretrievably lost to the country, on account of poor mining methods.

There is no reason why any industry should sell its product at a price which will not allow a fair return to both the operator and the workman. We talk about the vicious circle of high prices. There is just as vicious a circle of low prices.

What I have said refers primarily to wages. The other point to consider is output, both as regards quantity and quality. It is here that co-operation between the employer and the employee is going to yield enormous results. I think that a fair presentation of the case before any body of workmen will eventually lead them to realize that in the long run efficiency will result in a lower selling price with increased profit both for the laborer and for the employer. It is, of course an axiom of political economy that with lower prices for any commodity there is a larger demand for it and thus a greater use for it, with a consequent raise in the standard of comfort.

As I said before the total sum that can be annually distributed to the worker of the country depends primarily upon what he does and if we can assume, as I think we can, that the amount

necessary to be held back for profits on capital and new construction is fixed, then greater efficiency and larger production primarily tend toward increasing the sum which may go to the worker.

A study has lately been made of industrial conditions in England and the results have been published in what is known as the Whitley report. This proposes co-operation between the employer and the employee in industry, such as I have outlined to you, and already in a great many industries the organization of councils have already taken place. There is first a general nation-wide council of the whole industry, then there are the local councils for the various districts, and finally the councils for the individual works. Here these various problems are threshed out and order is brought into chaos.

I now come to the point which interests you men as superintendents more than anything else. As you all know, all operations of industry have become more and more concentrated. The day of the little shop, where the employer knew all his men, has disappeared and in its place we have large organizations with anywhere from one thousand to ten thousand men where it is physically impossible for the owner or the superintendent to come in contact with all of his employees. The result has been that the personal touch has been eliminated and the worker thinks all his employer wants is to get as much out of him as he can for as little money as possible. Undoubtedly there are employers of this type but they are growing fewer and, in my estimation will in time entirely disappear. Undoubtedly this point of contact must be spread out into numerous points of contact, but the contact must still be kept up. You will recall that twenty years ago the automobile was usually of the one lunger type with a single spark plug. Today we have twelve cylinder cars with twelve spark plugs. In industry instead of one owner we now have a dozen and sometimes a gross of foremen. It is through these men for the every day operations that we must get our contact with the worker. It was Judge George J. O'Keefe, who suggested this simile to me the other day and asked me if I could not say that "the foreman is today the spark plug of the industrial machine."

MAINTAINING THE WORKING FORCE

HOW TO REDUCE LABOR TURNOVER[1]

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.

[1] By Boyd Fisher. U. S. Bureau of Labor Statistics. Bul. 227. p. 29-47. October, 1917.

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 classes 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 co-operative 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 diciplining 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 co-operative 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 imporant 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. Physicians 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 bene-

fits 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 puctuality.

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 be-

ing 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 practice 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 distinction 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 Proctor & 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 inagurate 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 hopeful 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 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.
      (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.

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

(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) 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.

KEEPING MEN AT THEIR JOBS[1]

Five years ago the Firestone Tire & Rubber Co., Akron, Ohio, was afflicted with every labor problem that confronts modern industry. There was an astounding labor turnover. The men who left the company's employ averaged between 20 and 30 per cent monthly. Absentees from work caused figures of 15 to 20 per cent each 30 days. Accidents injured 4 per cent of the entire force every month. And the damage to machinery wrought by new and ignorant workers, the defect of product caused by masses of untrained and unskilled men, the accident compensation amounting to exorbitant figures, and the unreasonable cost of the employment department were problems much like those most employers encounter now.

In 1912, Robert E. Lee, factory superintendent, appeared before the officers of the company and asked for a clubhouse for the workers, explaining the need for a common meeting place where the men could mingle, bathe, play, read and become more or less a body of friendly individuals. He had difficulty securing the swimming pool without the clubhouse. The idea was too new. It was a period when employers, struggling to perfect their products and plants, overlooked the human element and

[1] By A. Sinsheimer. Automobile. 36:524-8. March 8, 1917.

felt that it was something apart from the industry. Last year the company built the clubhouse at a cost of $350,000—around the swimming pool. This year it voted to give Mr. Lee $1,000,000 to spend on the welfare of the workers as he sees fit. All of which proves that he has accomplished a change of thought in the administrative headquarters and has convinced them of the soundness of his plans.

The company has met with a remarkable success. It has decreased labor turnover, reduced accidents, lowered the number of daily absentees, and increased the contentment and productive capacity of its workers, besides obtaining all the other benefits which accompany such results. It has discovered the recipe that makes improved industrial relations between employer and employee. It has learned the ingredients of that recipe and their correct proportions. It is using a goodly measure of ideals mixed with a like amount of practical action which usually produces results where the human element is involved.

To begin with, Mr. Lee believes that every man in the factory is his equal in rights, and that low wages, overwork, long hours, injustice and unhealthy working conditions are not the means to a maximum production of a high quality of product. On this philosophy he has erected his system for sound industrial relations—a system that is neither entirely a matter of practicability, nor wholly a structure of ideals but rather one, carefully and thoughtfully, built of practical ideals.

Regulating Discharge of Workers

For example, Mr. Lee observed that many men were discharged by foremen because of petty spite, ignorant authority or jealousy. That seemed to him to be a clear instance of injustice. It did not conform with his principles. He took the authority of discharge from foremen and placed it with department managers. Here, too, he found the same evils. Men were discharged because of personal enmity and for other than business reasons. Again, he moved the right of discharge higher. This time that right was vested in just one man—himself—and to-day no one among the more than 8000 Firestone factory employees can be discharged except by the factory superintendent. This, of course, was a move prompted by the man's ideals. Here are the results:

When the foremen had the right of discharge, between ninety

and 100 men were released each week. When the right was given only to department managers those figures were reduced to twenty-five men per week. Since Mr. Lee has taken the matter of discharge upon himself, a period of 10 weeks, five men have been discharged in all.

Objections were made to the plan in which it was claimed that the procedure would weaken discipline, and that though there might be an inherent antagonism between foremen and workers, the very word foremen implied "first men," right of hiring and firing and power of authority. As a matter of fact, Mr. Lee has found that no weakened discipline has replaced the inherent antagonism and that instead, better workmen, more efficient foremen and a powerful co-operative spirit has been the result. Foremen, of course, still retain some authority. They can, at all times, take up subordination or inefficiency with the department managers or Mr. Lee, and this power, they find, is sufficient to maintain the necessary discipline.

Probably the clearest description of Firestone operations is to say that the factory superintendent always puts himself on a level with the workers. When they require aid they come to him. If there is a personal quarrel he usually is the referee. If they need financial help he extends it. Within the last 3 years he has loaned $30,000 to the employees without security. More than $29,500 has been paid back, and he expects to receive the balance when the men can afford to pay it.

Cashing in on Loyalty

Recently he walked out of the factory and found two employees engaged in a loud quarrel on the street. He took them into his office. One owed the other 50 cents and the creditor had taken it upon himself to seize the debtor's coat until payment was made. Mr. Lee questioned the debtor:

"Do you owe him any money?"

"Sure, I owe him 50 cents, but I won't have it until pay-day and it is cold. I need my coat."

The superintendent turned, smiling, to the creditor, and calling him by name—he knows the majority of the men by their first names—said:

"Well, John, this man is cold. He needs his coat. Will you give it to him?"

John refused to part with the coat until he received the

money. Mr. Lee gave him the 50 cents. The debtor drew a pencil from his pocket and commenced to write an order on his wages for the amount.

"No," said his employer, "you can stop in here and pay me when you want to."

The workers left, each satisfied. A little thing, this may seem, but—the debtor was overheard to remark later that he "would fight for this company if they asked me to." Which implies that the little deed involving the insignificant sum of 50 cents had created a loyalty in an employee, which might be estimated at a worth many times its cost.

However, there are matters, other than these little ones, that come under the supervision of Mr. Lee. There is the management of the factory, the clubhouse, the park where Firestone workers may purchase homes at cost, the insurance plan, and the profit-sharing system—all under his direction and displaying in their methods and results the principles on which he operates.

Reforming the Shift System

The most important act Mr. Lee has performed is undoubtedly his radical change of factory operation. About 36 months ago, he observed, with dissatisfaction, the day and night shifts by which the men worked for 2 weeks by day and then 2 weeks by night, in about the same way as the majority of the automobile and tire factories now operate. The plan appeared injurious. He could not understand how a man who passed 2 weeks at night work and the following 2 weeks at day labor could be a healthy, happy and contented worker. Working by day and then changing to work by night, he felt, was certain to injure the worker's habits, produce restless sleep, harm the health and consequently ruin his ability as a workman. Besides, the men who drifted into Akron soon learned to dislike the work and departed for more congenial localities.

This is the situation as improved:

1. An 8-hour day was adopted.
2. Piece work pay was increased to provide the same wages as with the 9-hour day.
3. A priority rule was put into effect and the day shift made permanent.

This last was the most important step.

Sixty per cent of the entire force, picking them by their length of service, was made then into the day shift on a permanent basis. The remainder was placed in a permanent night force. As soon as a vacancy occurred in the day shift, or the demand came for additional workers, the men with the longest service record in the night shift were transferred to the day organization. Once a man was made a member of the day force he was assured that his transfer was permanent.

The result was amazing. In the first place, the Firestone company has expanded to such a degree within the past few years that all of the men who were with the company 2 years ago are now on the day shift. The employment office has been besieged by men seeking employment where there is an opportunity to secure steady day work. The labor turnover which was 20 per cent monthly in 1913, dropped to 6 per cent in 1914 and to less than 2 per cent in 1915. It has risen slightly in the last year because of the increase of new men. The organization was composed of less than 5000 men a year ago and it is now a force of more than 8000. The accidents which were injuring 4 per cent of the men per month have reached the point where less than 0.08 per cent of the workers come to harm, and this despite an increase of 100 per cent in the number of employes.

The present turnover is still less than 2 per cent among the 60 per cent of the men in the day force. It has increased only among the night force, which is a sort of crucible to eliminate drifters and floaters and laggards.

85 *Per Cent Glass Factory Walls*

In addition a medical and dental department was installed and the new factory buildings erected in which the wall space is 85 per cent glass. A few years ago, it was no uncommon matter for a large factory to suffer the loss of ten men yearly in every 1000 through death either by ordinary illness or by accident. On which basis, Firestone, with its 4400 men would have lost forty-five men per year. In the last 3 years, the company has only lost ten men, seven of whom were killed by a dangerous railroad crossing near the factory. This record Mr. Lee attributes to the considerable and unusual amount of window space, the health and happiness of the men, produced by the permanent day work, the use of the swimming pool and general sanitation.

Firestone is very solicitous of the health of the individual. Recently, a worker who had always been an excellent producer was noticed to be behind his usual record. He was sent to the factory physician, who reported him suffering from a heart lesion, due to the work of building up tires, at which he had been engaged, being too strenuous. He was quickly transferred to lighter work, given medical treatment and soon regained his usual working speed. The dental clinic saves many times its cost. Formerly, when a worker suffered from tooth-ache, it meant a loss of a day both to the company and the individual. Now he is sent to the clinic where 15 or 20 minutes suffices to relieve the pain and allows the man to continue his work.

The average wage throughout the factory is $4.30 per day and ranges from the minimum of $2.75 to $6.50.

Developing Firestone Park

Six years ago, Akron had a population of 65,000. To-day it has more than 130,000 within its boundaries, of whom 51,000 are in the rubber industry. The vast increase has caused evil housing conditions, forced many to sleep and live in unhealthy surroundings. To overcome this condition so far as was possible, the company purchased a plat, called it Firestone Park, and proceeded to improve it and erect homes at reasonable purchase rates for its employees.

The allotment is 2400 feet from the Firestone factory. It is in one of the most beautiful sections of the city where the air is dry and clear and the ground is sufficiently high to afford a view of the surrounding country and to insure healthy living conditions.

The entire plat allows for the construction of approximately 900 homes and the improvements will, in all, total an expenditure of $650,000, which includes sewers, storm drains, water, gas, electric lights, sidewalks and paved streets.

In the center of the plat the city school board has secured large grounds for the public school and near it will be a 16-acre park for the enjoyment of the property owners and their children. Plenty of trees and shrubbery has been added. Over 200 houses are under process of construction and more than 100 others have been occupied. Since 873 lots have been purchased, the company has decided to add more territory and will extend the boundaries to include space for another 1300 lots.

The present plat of 220 acres was purchased at $1,200 per acre. There are four lots to each acre deducting for improvement space, so that each lot costs $300 and with $625 added for improvements makes a total of $925, which is $25 more than the Firestone employees pay for them. The company has donated the property for the public school, the park and the several churches which are to be erected.

Houses Sold at Cost

The workers purchase the lots or houses by a payment of 5 per cent with their order and make monthly payments of 1 per cent, out of which the company pays interest on the investment, insurance and taxes. The houses are erected by a real estate company formed by the Firestone concern as a subsidiary corporation, if the workers so desire, and are sold to them at prices ranging between $2,200 and $3,000, which are based on actual cost. Any persons other than Firestone employees desiring to make purchases are allowed to do so, but must pay 10 per cent and more and also have to pay 10 per cent down with their purchase.

An allowance of 6 per cent is made on the house if the workers want to assume the cost of insurance. There is no assessment made on lots or houses for improvements since this is all estimated in the monthly payments.

The enterprise is costing Firestone approximately $1,500,000, but it is believed that sales to employees and others and the interest and the profit derived from sales to outsiders, will make the transaction an even break when completed. Thus many of the workers will own their homes, live healthy, care-free lives, be in a position where they will not care to leave the company's employ, and the cost to the company will amount to practically nothing.

The Profit-Sharing Plan

A few weeks ago, the company gave a dinner to its workers and announced a new profit-sharing plan whereby employees could secure the Firestone common stock by payment of $100 per share, this price being maintained to March 1, 1917. Since the stock lists at $140 to $150 at this time, the act was virtually a

gift of the difference on each share to the purchasers. Under the plan employees can buy shares in proportion to the length of continuous service as follows:

Service.	Shares.
Less than 6 months	1
6 months and less than 1 year	2
1 year and less than 2 years	3
2 years and less than 3 years	4
3 years and less than 4 years	6
4 years and less than 5 years	8
More than 5 years	10

The stock may be purchased for cash, part cash, or part deferred payments or all deferred payments. The deferred payments bear interest at 6 per cent and are subject to the following conditions:

Payments of subscription shall be weekly installments, paid in cash or deducted from the salary or wage of the worker, as the employee may elect.

The minimum payment is 50 cents per week for 1 share, with an additional 10 cents per week for each additional share subscribed.

The minimum payment for employees who are paid semi-monthly is $1 each pay-day for one share and 20 cents per share each pay-day for each additional share subscribed.

Additional payments in excess of this minimum may be made in any amounts at any time as the subscriber may elect.

Dividends on the stock will be credited to the subscriber's account as additional payments. When the stock has been fully paid for, dividends will be paid directly to the employee.

When through accident, sickness or other cause the employee is unable to meet his payments, he may apply to the employees' stock department, which will extend the time of payments if circumstances justify.

All payments are to be made to the employees' stock department at the Rubber City Savings Bank, a bank in which the company is interested and which was opened for the convenience of its employees.

The full number of shares subscribed for by an employee remains with the company for a period of 5 years whether the stock has been previously paid for or not. If all payments have been made and the stock is fully paid up, it is then delivered to the owner. Otherwise it remains with the company until the amount due is completed.

Cancellations are made upon any of the following conditions:

(a) Request of the employee.
(b) Failure to make payments when due unless time is extended by the employees' stock department.
(c) Any attempt of the purchaser to sell his stock, his agreement or any rights thereunder.
(d) Resignation or dismissal of the employee prior to the expiration of 5 years, excepting women who have been in the employ of the company 2 years or more and who leave the employ to be married within 3 months and who, when married, have the privilege of continuing their payments on the same terms as if they remained in the company's employ.

In the event of cancellation or any agreement, the employee receives the full amount of all payments with interest at 6 per cent from the date upon which each payment has been made. An additional sum will also be paid provided the market price of the stock is in excess of the price at which the worker purchased it upon the following schedule:

Cancellation in less than 1 year—No additional payment.

Cancellation at 1 year and less than 2 years—10 per cent of the difference between the price at which the employee purchased the stock and the market price.

Cancellation at 2 years and less than 3 years—25 per cent of the difference between the price at which the employee purchased the stock and the market price.

Cancellation at 3 years and less than 4 years—45 per cent of the difference between the price at which the employee purchased the stock and the market price.

Cancellation at 4 years or thereafter—70 per cent of the difference between the price at which the employee purchased the stock and the market price.

The market price is secured by taking the average bid price as quoted in two leading Cleveland morning papers on the Tuesday preceding the date of cancellation. If a more reliable source becomes available, the company reserves the right to adopt it, and also reserves the right to sell the stock of the employee in the open market and to pay the worker the percentage as scheduled above instead of directly taking over the stock.

All stock taken over is to be turned back to the employees' stock department to be thereafter resold to workers at the average cost to the company.

In the event of death or total disability, while his stock agreement is in force, the employee or his or her beneficiary or his or her estate shall have the privilege of continuing payments on the stock purchase agreement on the same terms and conditions as if the worker were still in the company's employ, or if the employee or beneficiary or estate does not elect to take advantage of this privilege the company will either purchase or sell the stock at market price and pay the full price realized less any indebtedness due on the agreement, to the employee or beneficiary or estate.

Holding the Workers

Immediately this plan was evolved, blanks were issued informing each worker how many shares he was entitled to purchase and requesting him to state the number he wanted. Returns were large. Practically every worker made a demand for the maximum shares. Many men are paying cash in full and are anxiously awaiting the time when they can buy more stock. And again, the company has created a plan whereby the men will keep their jobs, for no worker is desirous of losing the valuable returns to be derived from the stock—and in addition, he becomes a more thorough worker, since he feels a proprietary interest in the company. Of course, the plan costs Firestone approximately $40 for every share taken by the employees, but the estimates of the cost of labor turnover make this a negligible amount in consideration of the returns.

A number of companies have endeavored to determine just what labor turnover costs. One concern employing 18,000 men which is forced to employ 88,000 in the course of the year to maintain its organization, estimates that the minimum cost per man is $64, which means that that company is paying something like $4,000,000 yearly because of the labor turnover evil. Another employer with a force of 4000 men believes that his labor turnover which is 20 per cent a month costs him between $75 and $500 per man per year, dependent on the individual. These figgures are based upon the cost of the huge employment force it is

necessary to maintain, the cost of time and space used by the employment department, the cost of examination and investigation, the cost of instruction, the cost of hindered production, the cost of damage to machinery, the cost of defect of product and the cost of the constant discord wrought in each department by the hordes of men who come and go.

Clubhouse Pays for Itself

The clubhouse erected by the company at the expense of $350,000 is as yet more or less of an experiment and the company is, in consequence, unable to determine the results and the cost.

The institution is sustained by members who pay $2 yearly dues and by the returns from the barber shop, bowling alley, swimming pool and lunchrooms, plus appropriations from the company's treasury. After 3 months' operation there are 2000 members who pay 5 cents a game for bowling, 5 cents for the plunge, which includes suit, towels and soap, 10 cents for a shave and 25 cents for each meal. The cigar stand sells cigars and tobacco at a profit of 10 per cent. The meal costing 25 cents is sold at actual cost and is equal to a meal costing 80 cents at a downtown hotel. At present the club requires an outlay of $250,000 yearly, the majority of which is spent for food, as more than 3000 meals are sold daily. It is now estimated that the clubhouse will cost the company about $500 a month over the receipts, based on the existing membership, which will probably double itself within the next year.

The company, however, is using the dining rooms to hold its banquets. These cost less than $1 a plate as compared with $3 a plate at downtown hotels. In consequence, it is apparent that, taking all factors into consideration, at the expiration of 12 months, the clubhouse about pays for itself.

Mr. Lee is now planning to utilize a part of the $1,000,000 voted for welfare work, for a comprehensive group insurance scheme whereby workers will receive life insurance. Details of the plan will not be completed for several months.

These form, in the main, Firestone plans, for the creation of contented employees and the reduction of labor turnover, but it has also engaged in many minor deeds embodying the same ideals and practicability.

Office Men Form Club

Recently twenty members of the office force discovered a vacant mansion in Akron with sixteen large and comfortable rooms and 2½ acres of ground, that could be rented for $100 a month. The group held a conference with the company officials. The house was rented. The company provided $2,000 to pay for furnishings. The men employed as housekeeper a woman who had been in charge of the small Firestone restaurant, previous to the construction of the clubhouse, and a man to act as a general worker. To-day those twenty young men paying $30 a month each, secure good meals, have excellent living quarters, and by their joint expenditure pay the necessary salaries, rent and all other upkeep. Talk to one of them about their "Valley View Club" home or about the Firestone company and they speak as if they were discussing their own homes or fathers.

In fact, the entire organization, with its smiles, contentment and cheerfulness, its light and sanitary shops and offices, its own homes, its clubhouse, and its common stock interest in the concern, regards the company and its officials far more as a huge family rather than as an industry. And it pays. Of that there is no doubt. The results display themselves in the following figures which show just how three companies in Akron fared during the busiest months of 1916 when each was striving to add to its organization.

	A Company	B Company	Firestone
July	13,028	12,310	4400
September	13,021	12,338	6610

Thus while A lost seven men despite efforts to increase, and B added but twenty-eight men, Firestone increased by 2210 men.

There is much in the Firestone system worthy of adoption.

REDUCING LABOR TURNOVER IN OUR SHOPS[1]

The problem of rapid and economical production has changed greatly, and just as this nation has grown away from its isolation and is now a part of the world family, so the question of shop management has gone far beyond the walls of the shop, to which it was formerly confined.

[1] By F. H. Colvin. American Machinist. 48:27-9. January 3, 1918.

This is being recognized by many progressive business men, and the old idea that there was a distinct line between the shop and the living conditions of the men who worked there, is being greatly changed. The manning of shops, the difficulty of securing and of keeping men, the cost of constant change both in delay to output and in wear and tear on machinery, all have tended to force consideration of the larger aspects of the case.

It is needless to enumerate the disadvantages of labor turnover as every shop manager knows them full well, at least so far as his shop is concerned. The effect on the housing conditions of a city and on the transportation, both by railway and trolley, is not so often considered. The means of avoiding difficulties as much as possible, are well worth careful study, and generally speaking this is fully as much a study for a psychologist as for a shop manager.

A little contemplation of the case, however, shows very clearly how matters outside the shop affect not only the length of time a man will stay but the kind of men who can be had, assuming, of course, that work is sufficiently plentiful for men to have some voice in the matter. A self-respecting man will not bring his family into a town or a neighborhood which does not provide decent housing, good schools, churches and amusements. Or if he does, he will not remain any longer than is necessary.

The Housing Problem

The housing problem is one of the most serious which confronts the promoters of some of the new huge enterprises, such as the shipbuilding and other immense programs. In this case it is the lack of homes.

The quality of the homes has a direct bearing on the amount and quality of the labor which can be secured. This fact ties up the successful shop or the successful community very closely to the necessity of taking an active interest in a question which was formerly considered as entirely outside of the manufacturing field.

In this way, what we formerly termed welfare work and looked upon as a fad for philanthropically inclined men and women, becomes very closely connected with the shop; and while the fatness of the pay envelope still, and probably always will, hold a prominent place in the drawing attractions of a plant,

the question of the housing and other social conditions are becoming more important factors every day.

One phase of this problem is to be found in the old factory tenement of the New England mill towns. Some few were well kept but for the most part they were dilapidated affairs, with positive ugliness sticking out all over them. They were, however, much more elaborate as a rule than the company houses built for miners, and they were much more comfortable, as many of the latter were simply board shacks which would not have been tolerable except where coal could be had almost for the asking.

The company house, like the company store is always under the suspicion of the employee, especially where he is compelled to use either; while if the company gives greater value for the money than can be obtained from private owners of houses or stores, there is objection raised on the other side. The company store, or its later development, coöperative buying through the aid of the company's business organization, is however much more likely to remain a fixture than the company house or tenement, and even this is likely to give way to community coöperation, as is shown by action taken in a number of large cities. Readjustment is made necessary by the fact that small concerns cannot afford to invest the necessary capital either in houses or stores, and are consequently placed at a great disadvantage in securing the workers for their shops; there are other factors to consider, such as the inevitable flotation of labor from one plant to another—due to lack of work in some trade or to the natural desire for change of occupation, or friction of temperament and similar causes. All of these make the question of employment a community problem as well as a problem for each individual shop.

Americanizing the Alien

While the housing problem is of great importance in connection with labor turnover, there is still another which cannot be overlooked without grave danger for both present and future. This is the problem of the Americanization of foreign-born workers within our gates; and it means far more than the mere securing of naturalization papers, which in some quarters, is all too easily accomplished. It means the instilling of American ideas and ideals into minds which have been trained in entirely different ways.

These things imply much more than a mere teaching of the language and the customs of the country; they imply more than learning to repeat the constitution or any set formula, or to salute the flag with appropriate action and words! And before we can expect a man or woman to be thoroughly loyal to his or her adopted country, we must see that they have something to be loyal to: That it represents to them what it does, or should represent to us.

We have done much to eliminate the grafting and thieving which formerly beset the immigrant on every hand from the moment he landed until he became accustomed to the ways of the country and of those whom we permitted to prey upon him. The worst of this wrong has gone, but enough still remains to cause a perfectly just resentment in too many cases.

Better Offices and Officials Needed

One of the first things to be done is to raise the tone of the naturalization offices and the tone of the officials with whom the alien must deal. Few of us who have not had occasion to go to these offices, realize what dingy and unimpressive places they are. Tucked away in old buildings on a side street, with dirty stairs and smelly atmosphere, they are not calculated to impress an immigrant with the glory or greatness of this republic with which he has cast his lot.

Then he is too often met by surly officials, themselves foreigners imbued with their own importance in many cases, who treat the new-comer as they would cattle. Names are called with a foreign accent and the applicant jeered at or thrust aside if he does not understand at once. The spirit of kindliness is entirely lacking, and this is a place where it would not only be most welcome but would add appreciably to the immigrant's respect for the new country.

First impressions remain with us for years and many an immigrant has been embittered by his treatment in little things; so much so as to require years to make him really get the true spirit of the country. Particular care should be taken in the selection of the men and women who deal with the foreigner, and careful attention also should be paid to the location, furnishings and general conduct of the offices in which they are handled. Elaborateness is unnecessary and out of place. But simple, clean and wholesome surroundings, together with kindly and sym-

pathetic treatment, will go a long way toward securing the respect and loyalty which is needed always.

A Square Deal Makes for Loyalty

This fair treatment must extend beyond the official, however, and into every dealing with the immigrant. The employer must not take advantage of his ignorance of the ways of the country, but give him a square deal. The loyalty which just and kindly treatment engenders will well repay the effort in nearly every case, even without the additional satisfaction of knowing we have done the right thing. We must not forget that men look upon employers as a class by themselves and judge the whole class by the treatment they receive from their particular employer; thus one unfair employer can cause much disturbance in a city where the majority are giving fair treatment, and thus it becomes to the interest of the rest to see that the black sheep is brought within the fold.

It must not be imagined, however, that all the unfair treatment comes from the employer. In too many cases the men in the shop, either individually or as a group, band together to make it unpleasant for the outsider, entirely forgetting the spirit of brotherhood of which they often talk very fluently. In some cases this is due to a much mistaken notion of Americanism, and in others it is due to the foreigner being hired at less than the regular wage, which in turn gets back to the employer. All lines of race prejudice should be eliminated, and each man treated for what he is or what he is willing to become, without regard to in what particular spot in this wide world he happened to be born. Who of us has any choice in this matter?

One of the very important factors in Americanization is the teaching of the language of the country; it also adds to the safety of the workers in the shop and to the output as well, since in many cases both accident and delay frequently come from misunderstandings.

Teaching the Language

This teaching of the language is also a community problem, although many employers, such as Henry Ford, provide special schools for this purpose; but it is necessary to teach the women of the family, as they play a large part in the work of American-

ization, and this places it entirely beyond the problem of the individual shop, except, of course, in communities like Plymouth, Mass., where the Cordage Company is the only great manufacturing industry in the town.

Cleveland is trying the experiment of using its public schools as community centers with this in mind, and is centering various activities in these schools for this purpose. These activities include coöperative marketing and other features of direct interest to the women of the household, and all of the conversation and instruction are given in English. When desired, instructors in household economies and in the cooking of various products which are new to the foreigner, visit the homes, and in this way is established a bond of sympathy and confidence with the housewife, at the same time instructing her little by little in the use of the English language. There can be no question as to work of this kind having its lasting effect on the minds of the newcomer, of its increasing his respect for and loyalty to the country; and it all makes for greater security and greater prosperity in days to come.

Just as our ideas regarding housing and schooling as a direct factor in running our shops, have changed materially in the past few years, so must many of our other ideas give way to newer, and we hope better methods of running the shops, for housing and schooling are but part of the factors which enter into the question of labor turnover.

The question of hours and sanitary, lighting and safety conditions in the shop, also plays its part, and at this particular time, when the country needs the greatest production possible, we must consider our shops as part of the great national supply system, whose first duty is to turn out its maximum product regardless of any notions of our own as to just how it shall be done. We must sink any former prejudices as to the number of hours, the payment of overtime and other details, just as the employee must make his union a secondary matter at this time. Nothing must interfere with the production of needed munitions and supplies.

When a shop finds its labor turnover is larger than in other shops in the same locality it is time to begin to look around for the reason, and the shop which can prevent this large turnover, which affects not only that shop but the whole industry and its output, has a great accomplishment to its credit.

Some of the attractions, aside from the questions of housing

and schooling, are shorter hours, bonus or dividends, group-insurance policies for all employees, health insurance, assistance in buying homes or Liberty Bonds or both, and other inducements which, while not gifts, are a reward for earnest work and attention to the business of the company. And there can be no better time than the present to inaugurate any changes which may seem desirable. It is an opportunity for both sides to get together in some equitable sort of a compromise which shall make for greater production and better feeling between the employer and the employed.

SERVICE FEATURES

MAKING THE JOB WORTH WHILE[1]

The Work of the Employment Manager, Bonuses and Vacations in Maintaining a Steady Work Force

"All persons applying for employment in this house who are turned away must be treated so that they will go away wishing to be employed here as much or more than when they applied." This from a set of rules worked out by a large mercantile establishment for the guidance of those who interview prospective employes is an example of the new standards that are being set up as employers are coming to recognize the human aspects of the labor problem. Nowhere is such recognition more in evidence than in those establishments where the employment department has been raised to the dignity that its importance demands.

Within the last few months I have had a chance to talk with some of the leading employment managers of the country. From them I have learned directly of the new spirit that has grown up wherever the business of employing men has been recognized as one of the major questions with which industry has to deal. I found that it is not alone because men are scarce that some industrial leaders have taken up in earnest the work of conserving their working force.

"It's my job to keep men from quitting, that's true," one of them said to me. "But it's just as important to do that when there are plenty of men to be had as when you can't hire one anywhere." And then he pointed out how much more valuable a man is who had become familiar with his surroundings. Even if the man in the street looking for work is equally skillful, the man on the job is the better man, on account of his acquaintance with the methods of the factory.

One of the tasks of the modern employment department, therefore, is to find out why men quit; just as the sales department when it loses a customer wants to know the reason, or as

[1] By John A. Fitch. Survey. 40:87-9. April 27, 1918.

the chief engineer looks for the cause, when the expected power fails to develop.

It is interesting work—this business of taking your own temperature, so to speak. Some companies have found, to their surprise, that their wages were too low. They had not known it until they began to count up the number who left because they could do better somewhere else.

Sometimes you find something altogether new that you were not looking for. About a year ago, for example, a new man went into the employment department of a large corporation. He was unfamiliar with the processes in that particular industry, and as he went over the plant to study the different departments he found one where it seemed to him the heat was excessive. He mentioned it and everyone else in the office laughed at him. They told him that he was absolutely wrong and that no old-timer would give a second thought to the matter. Then they began to keep records of quits, and found to their surprise that an unduly high proportion of men were leaving that particular department. When the men were interviewed they complained of the excessive heat. The old-timers were then convinced and measures were taken to improve the condition.

It may seem easy enough to find out from a man who has chucked his job just why he did it, but it isn't. It is easy enough to get a chance to interview the man. He has to go through the employment department to get his pay. But he does not always care to tell his real motives. The employment manager of a firm employing 10,000 people, told me that one of the most difficult problems he had to face was to find a man who could interview employes who were quitting and find out from them the cause of their dissatisfaction. Two men whom he had tried in that position had failed and he was looking for a third man. Another unusually successful employment manager, who told me that he puts his best men on this job, said that he was completely baffled. He could not find any single or intelligible cause for the employes quitting. Yet the firm had a turnover of 100 per cent.

There is nothing more likely to develop a spirit of understanding and fair dealing than this practice of looking for the causes of dissatisfaction. You may not always find them, but the mere looking for them is sufficient to give you a new and broader point of view. "An employment manager," one man said to me, "must look the facts in the face. He must be a sci-

entist. His work represents an altogether new conception of responsibility, for he must represent something more than the views of the employer. He must understand the employes just as well as he does the employer, and stand in a middle position representing both." Another employment man expressed a similar idea when he said to me: "The business of an employment department is to understand the point of view of the men and interpret it to the management."

Of course, most employment managers, even the best of them, have a long way to go before they can be truly representative of the men. A man hired by the employer to deal with the workers does not find it the easiest thing in the world to get the point of view of the shop. The very man quoted in the paragraph above said to me: "An employment department that is on its job, won't let an agitator get started. Men who are satisfied won't listen to an agitator." I gathered that he would consider as an agitator anyone proposing to organize a union; and that he would conceive it to be a part of his business to block any movement in that direction.

But what of that? He has started out with a new formula—he is going to defeat organization by making men satisfied. If he sticks to that program with all the sincerity and singleness of purpose, with which I was impressed as I talked with him, neither the unions nor anyone else in the long run will have much to criticize.

As employment departments are developed to a high degree of efficiency, it is becoming more and more the custom to keep tab on absentees, with a view to promoting regularity. Every morning the foreman of each department checks up his force and reports to the employment department the names or numbers of those who are absent. It then becomes the duty of members of the staff of the employment manager, who are designated for that purpose, to make inquiry either over the telephone or by personal visit at the home of the absent employe to discover the cause. This is done the same day that the absence is reported. This inquiry is made for three reasons: To maintain a high standard of health; to correct abuses, and to overcome the habit of irregularity.

Wherever the employment department is highly developed, and there is a medical department with a sufficient staff, it is customary to turn the inquiry over to the latter, if it is found

that the absence is due to illness. In some factories a force of visiting nurses is employed, who do all the work of looking up absentees. One method or the other is employed at such establishments as Sears Roebuck & Company, in Chicago, the Ford Motor Company, the Solvay Process Company in Detroit, and many others. At Ford's, for example, as soon as it is found that an employe is ill, a visit from the nurse follows immediately. If she satisfies herself that the case is being taken care of properly, she so reports; if no doctor has been called and she thinks the case requires the advice of a physician, she notifies the medical department and a doctor is sent.

Another large company has found this method very effective in preventing dissatisfaction due to various causes. It has been discovered frequently that a man stays away from work because of resentment over some minor injustice or a slighting remark on the part of the foreman. In such a case the man is asked to come back; some responsible representative of the management takes the matter up with the foreman and the man, and the trouble is straightened out. Thus not only are the services of the man retained, but knowledge is at once acquired of a tendency on the part of the foreman which if unchecked may lead to a great deal of trouble.

It was a matter of some interest to me to discover that in one of the largest firms in Detroit, where there was an employment manager, but no method of following up absentees, they were complaining of a high labor turnover. If a man is absent five days they simply assume that he has quit and drop him from the payroll.

Of course, it is found often enough that a man has laid off just because he has the habit of irregularity. Such a case requires the exercise of tact. Indeed, the whole practice is one that can easily make trouble if it is not handled with considerable diplomacy. I was deeply interested in the method of one of the most successful employment managers in the country, as he explained it to me. "When a man enters the employ of this company," he said, "he is told that the company assumes him to be a fair-minded and honorable man who will discharge his obligations. The company has hired him and has entered into a contract to pay him a certain amount every day that he works. The employe on the other hand has entered into a contract to put in a day's work every working day. If he doesn't show up, the

company will therefore naturally assume that he has met with some accident, is ill or has met with some other misfortune, and will send someone around to see if the company can help. This makes the follow-up seem reasonable, and the company is able at once to take any action that may seem necessary."

A by-product of this keeping tab on absences, is the maintenance of records which are sometimes very valuable in dealing with certain causes of unrest. The company has a record of all of a man's lost time. The advantage of that was explained to me as follows "A man thinks he isn't making money enough. He goes in and makes a kick; the superintendent can immediately turn to the books and see if he has been working full time. Often the man doesn't realize how much time he has taken off, and the record shows him why he isn't making more money. One of our first-class workmen was getting forty-five cents an hour, but he was working only part time, so he thought he was underpaid. We figured out that if we paid him only thirty-three cents an hour, and he worked full time, he would make just as much money as he was then making. So we told him if he didn't straighten up and come to work every day, we would cut his rate to thirty-three cents. The man saw the point; he has been working regularly ever since."

The old idea of securing punctuality was to enforce it through rigid discipline. There were fines for tardiness and absence, and often discharge. The new idea is to offer a reward for punctuality instead of a definite punishment for the lack of it. This idea is worked out in an interesting way at the Cloth Craft Shops of the Joseph and Feiss Company in Cleveland. Every year the plant closes down for one week, so that every employe gets a vacation whether he wants it or not. It is not a vacation with pay, but after working for the company for one year an employe is entitled to a vacation bonus equal to forty-eight hours work. This is due him if he has a perfect attendance record. Every unexcused absence of one day takes eight hours off his bonus. A reasonable absence is not counted against a man, but if he takes a day off just for fun he will lose some of his vacation money.

Probably the most interesting method for insuring not only punctuality, but efficiency and satisfactory conduct of every sort, is that followed by the Ford Motor Company. As is well known, the five dollar wage at Ford's is made up of two elements: the

daily rate, which is the wage proper, and the difference between that and five dollars, which is termed profits. It is the Ford theory that a man is entitled to his wage, if he is kept on the payroll at all, but that he is entitled to his profits only in case of his adhering very strictly to the rules laid down. Therefore, if a man grows irregular in his attendance, after the cause has been ascertained and it is discovered to be for no good reason, the company takes him "off profits." He is then given thirty days in which to improve his record. If he has done so at the end of that time to such a marked degree as to indicate that it is his intention in the future to observe the rules and be regular in his attendance, he is permitted to draw as back pay all of the accrued profits which would have been paid him had he not become subject to discipline. If, however, his record has not sufficiently improved in thirty days, the period of probation is extended for another thirty days. If he makes good within that time, he receives a portion of the accrued profits, but 25 per cent is retained. When the try-out runs for three months, he gets back 60 per cent of his profits. After four months, he gets back only 50 per cent. If it takes him five months to make good, he gets back only 25 per cent, and if after six months his record has not sufficiently improved, all of his profits are withheld and he is automatically discharged. It should be stated in this connection that the profits are not retained by the Ford Motor Company, but are put into a charity fund.

Daily regularity is not the only desirable thing.. Employers are coming to feel that if it is a good thing to reward a man for working every day, it is also a good thing to reward him for remaining continuously in the employ of the company. This reward is taking two forms: an increase in wages based on service, and a vacation with pay for a definite period of time. This tendency with respect to wages was mentioned in a preceding article. It is interesting and gratifying to note that employers are beginning to realize that vacations with pay are as desirable for the shop workers as for the office employes, and so, gradually, the old invidious distinction between office and shop is disappearing. The Solvay Process Company gives to every employe who has been working for the company one year, one week's vacation with pay. The practice of the Joseph Feiss & Company, in this respect, has been mentioned. At the Black Company, manufacturing cloaks and suits in Cleveland, a week's

vacation with pay is given after two seasons of employment. Sears, Roebuck & Company have developed the idea of the larger reward for longer service, and give one week's vacation with pay for one year's employment, two weeks after three years. At Filene's, in Boston, the practice is related directly to the length of service. After six months service an employe is entitled to one day of vacation for each month of service, and this continues until the maximum of two weeks is reached. In this case also the vacation is with pay.

These are some of the methods that are being used by forward-looking men in the industrial field, to attract labor by making the job worth while. The importance of the movement is incalculably great in a time when the successful issue of war is dependent in so large a degree upon industrial efficiency. The government itself has recognized its value, and in the Shipping Board and the Ordnance Bureau men are giving their whole time to the spread of the new doctrine of employment management. It is a movement that can result in nothing but good to the workers, to employers and to the public.

ADMINISTRATION AND COSTS OF INDUSTRIAL BETTERMENT FOR EMPLOYEES[1]

The present article treats of the methods of carrying on betterment work, the costs to the employer, and the effect of the work on the efficiency and stability of the force in the different establishments visited.

Cost to the Employers of Betterment Activities.

It was found in this study difficult to get very exact information, both on the costs and on the comparison of the present conditions with those prevailing before service work for the employees began. It was rather surprising to find that few firms had definite knowledge of what the work was costing them. In the majority of cases, even with a fairly well organized department, no separate record of the expenditures was kept, and in those establishments which were able to give the amounts ex-

[1] By A. L. Whitney. U. S. Bureau of Labor Statistics. Mo. Rev. Vol. 6, No. 3. p. 199-206. March, 1918.

pended, there was so much diversity in the forms of welfare work for which the figures were given that it is difficult to make a comparison or arrive at very definite conclusions as to the

ADMINISTRATION OF WELFARE WORK AND ITS EFFECT UPON TIME LOST AND STABILITY OF THE FORCE, BY INDUSTRIES.

Industry.	Number of establishments.	Number of employees.	Welfare work administered by—		Establishments having—		Establishments reporting as to effect of welfare work upon—			
			Employer alone.	Employer and employees jointly.	Outside agencies cooperating.	Welfare secretary employed.	Time lost.		Stability of force.	
							Improvement.	No change.	Improvement.	No change.
Automobiles	9	95,683	6	3	3	3	5	1	2	2
Boots and shoes	5	23,930	1	4	1	1	3	.....	3	.....
Chemicals and allied products	7	13,539	2	5	3	3	4	1	3	1
Clothing and furnishings	13	19,498	3	10	8	10	6	.....	6	.....
Electrical supplies	5	51,040	1	4	2	1	2	1	1	2
Explosives	5	36,030	2	3	4	4	2	.....	2	.....
Fine machines and instruments	8	25,326	2	6	2	2	3	.....	3	.....
Food products	15	[1] 17,638	12	3	6	3	8	.....	5	1
Foundries and machine shops	49	143,882	28	21	12	16	18	6	18	8
Gas and electric light and power	10	[2] 27,102	1	9	1	2	2	2	2	1
Iron and steel	[3] 40	213,143	33	7	12	9	15	2	9	4
Mining, coal	12	34,807	7	5	4	1	6	3	3	6
Mining, other than coal	12	25,448	5	7	5	2	6	.....	7	.....
Offices	9	13,814	2	7	.....	3	2	1	1	1
Paper and paper goods	7	9,174	3	4	3	2	6	.....	3	1
Printing and publishing	10	12,769	5	5	3	4	4	.....	4	.....
Railroads, electric	17	60,642	6	11	3	4	6	2	5	2
Railroads, steam	10	393,583	4	6	8	1	2	1	2	1
Rubber and composition goods	9	42,847	5	4	3	6	4	1	3	.....
Stores	47	125,148	17	30	20	30	18	2	10	3
Telegraph and telephone	[3] 15	[1] 66,447	14	1	2	8	2	.....	3	.....
Textiles	60	71 221	41	19	31	16	21	2	22	2
Other industries	57	[1] 138,793	31	26	18	10	15	4	19	3
Total	431	[4] 1,661,504	231	200	154	141	160	29	136	38

[1] Not including 1 establishment, not reported.
[2] Not including 2 establishments, not reported.
[3] Individual plants of 1 corporation have been counted as separate establishments.
[4] Not including 5 establishments, not reported.

The table above shows, by industries, the number of establishments scheduled and their employees, the administration of the welfare work, and its effect in regard to the time lost and the stability of the labor force.

outlay which might be considered to be a reasonable one. The costs, as given, vary from a fraction of 1 per cent to 5 per cent of the total annual pay roll. In those cases where the allowance is as high as 4 and 5 per cent, the costs of the pension or group

insurance plans and the contribution to the benefit associations or the maintenance of an expensive clubhouse form a large part of the expense. It seemed, taking into consideration the scope of the work in relation to the costs, as reported by the different companies, that excluding unusual contributions to these features a fairly comprehensive program could be maintained for about 2 per cent of the annual pay roll. Another element to be taken into consideration in this matter of costs is the degree of participation of the employees. Those examples of welfare which cost the firms the most are not necessarily the most successful, since advantages are appreciated by most people in measure as they give to them, both of money and effort. The company which, while encouraging and aiding such work, still leaves a share in both the management and the expense to the employee is probably nearer to harmonious plant relations than the employer who gives lavishly but administers the work in a more or less paternalistic spirit.

Comparison of Present Conditions with Those Prevailing Before Welfare Work Began

The date of the beginning of welfare work, as reported by many of the firms, is somewhat misleading. Many firms had an employees' benefit association long before any other work of this character was even thought of, and to accept the dates given by these firms would give an entirely erroneous idea of the length of time over which the movement extends. It is safe to say, that with the exception of a comparatively few of these establishments, the major part of the progress along these lines would extend over only the last 10 or 12 years. The emergency hospital work, for example, has been introduced or extended in many of the hazardous industries since the passage of the various State workmen's compensation laws. The work along the lines of safety and sanitation also has been much influenced by these laws and has grown with amazing rapidity in the last few years. The increase in the number of firms providing a pension system for their employees has been very marked in the last seven years, and group insurance has developed entirely since 1911.

In spite of the fact that so much of this work is comparatively recent, it will readily be seen that, owing to the abnormal labor conditions of the past three years, it was very difficult to obtain

from the companies a comparison of present conditions with those prevailing before welfare work was undertaken. The extent to which the output is affected by the welfare work is difficult to determine, both because of the present unusual labor conditions and the fact that few companies had made any study of this point. A few firms, however, gave it as their opinion that the output had been increased by it, although several of these stated that this improvement was only in part due to the welfare work. Quite a number stated that their increased output was due to a reduction in the working hours, a form of welfare which has not been given special consideration in this report.

The stability of the force also has been much affected in many plants by present labor conditions. One hundred and thirty-six of the establishments scheduled reported an improvement in this regard, due in whole or in part to the betterment activities. In many cases this was more than a mere expression of opinion, since many employers have, of late, been impressed with the fact that a large turnover is a very important item in the cost of production, and have been seeking to reduce this turnover by more scientific management of the employment departments and by the introduction of welfare features. One firm which had compiled statistics in regard to the reduction in the turnover had an increase of 13.4 per cent of employees of more than two years' service in 1916 over a similar group for 1914, due entirely, so the management stated, to their welfare work.

One hundred and sixty of the establishments reported an improvement in the time lost. There are probably two reasons for this: One is the work of the emergency hospitals, which care for the general health of the employees and do much preventive work, as well as sort out those most undesirable physically through their examinations on entrance; the other is the installation of safety devices and the education through safety lectures and literature, which has resulted in a large reduction in the time lost through industrial accidents.

Even though only a small proportion of the companies reported on this subject, still enough have done so to prove that welfare work does have an appreciable effect upon the work and health of the employees. It would be reasonable to suppose, even without the confirmation of such reports, that all service work which is carried on in such a spirit that it results in a more contented force, as well as a healthier one, must have the effect

of making the employees more stable and more efficient. Another proof of this is found also in the attitude toward welfare work, even of those employers who are least in sympathy with it, for there is an apparent realization among them that much of this work is becoming necessary in order to get and retain a desirable class of employees.

Administration of Welfare Work

It will be found that the administration of this work is by employers alone in slightly more than half of the cases. This also probably gives a somewhat wrong impression, since there are necessarily many firms reported which do not do a great deal along these lines. The companies which do the least are those most likely to control entirely such features as they have, partly because the kinds of work first introduced are usually those which naturally remain under the immediate direction of the firm, and partly because it usually takes some experience in order to realize the desirability of giving the employees an active part in the conduct of the welfare activities.

It is natural that the employer should direct the work of the emergency hospital, although there are a number of cases where this has been given over to the benefit association; similarly several firms allow their employees to manage the lunch room, either on a cooperative basis or using the profits for either the benefit or the athletic associations. The employees quite frequently have a voice in the management of the club rooms or houses, in several instances being given entire control of the clubhouse. In the matter of athletics and recreation, more often the employer plays a passive part, assisting financially, and also providing rooms for meeting purposes, gymnasiums, and athletic fields. The work among families, except what is done in connection with the benefit association, is entirely under the direction of the companies through the medium of the welfare secretary or visiting nurses. The administration of the benefit associations is in most cases either mutual or in the hands of the employees. Pension and group insurance funds, being in most cases provided by the firms, are therefore administered by them, as is much of the educational work, although frequently members of the force assist in teaching, especially in the classes in English for foreigners.

Mention must be made of one conspicuous and well-known example of cooperative management by the firm and its employees of both the business and the welfare organization. It has been the policy of this company in increasing degree through the past quarter of a century to give the employees a share in the management. An association of the employees is maintained, to which every employee belongs. The affairs of this organization are conducted by a group elected by the employees, and this executive body has the power to make, change, or amend any rule that affects the discipline or working conditions of the employees. This can be carried even over the veto of the management by a two-thirds vote of all the employees. This association is also represented by four members out of eleven on the board of directors of the corporation. All the parts of the welfare organization have been carefully built up and are controlled and managed by the council of the association through committees. The firm contributes club and business rooms, certain salaries, and any other assistance necessary. The fundamental principle followed by the club in the management, however, is that these activities shall be in the main self-supporting and that financial or other assistance rendered by the firm shall receive a direct return from the employees in increased efficiency. There is no doubt that in this particular instance the generous and broad-minded policy of the firm is reflected in the very unusual personal interest in the business which is evidenced by the employees as a whole.

Cooperation With Outside Agencies

Employers cooperate frequently for the betterment of their employers with certain established outside agencies, such as the local school boards, the Y. M. C. A., and the Y. W. C. A. In the North and West the continuation school work is often carried on beyond the requirements of the law, and several companies also cooperate with the public schools in their apprenticeship courses. In the South the public school terms are often extended many months each year through the contributions and assistance of the companies. The Y. M. C. A. and the Y. W. C. A. also serve as the medium through which the employers carry on the club work for employees, as in the case of most railroad companies which use the Y. M. C. A., since it is so well organized and seems particularly to fill their needs. In a few other in-

stances firms have established their own branches of these organizations or pay membership fees for junior employees in the city branch. In many instances either one or both of these organizations, with the sanction of the company, conduct meetings for employees in the plant. In one western city an association of several of the nursing and charitable organizations does much welfare work for employees and their families in the different industries. This association is supported by voluntary contributions, and recently all the principal industries in the city except one agreed to pay five cents per month for each employee in return for which the association cares for any cases to which the employer calls its attention.

Employment of Welfare Secretary

In 141 cases it was found that a welfare secretary was employed. Very often the secretary's sole duties are supervising the various welfare activities. In other cases the employment and welfare departments are merged into one, part of the time of the manager being given to each, and in still other instances the doctor or head nurse assumes these duties in addition to the hospital work. In quite a number of instances the welfare department employs a corps of trained workers. One large department store has, in addition to its medical department and welfare secretary, a number of college women engaged in educational work, physical culture, and dancing, as well as supervising the library and the girls' clubhouse. Another company which does much community work has, in addition to the head worker, seven others, teachers, librarian, and a visiting nurse who have kindergarten, manual training and other classes, many clubs among both young and old, and also have much general supervision of the townspeople, of whom many are foreigners.

The duties of a welfare secretary are many and varied. She frequently must oversee the work of the emergency hospital, see that the food served in the lunch room is kept up to the standard, and that the kitchens are kept in a sanitary condition, and look after many of the details of sanitation; she often has charge of the library unless it is sufficiently large to require one or more special attendants; her office is so placed that she has a view of the rest and recreation rooms, and in some plants, of the cloakrooms. Often, in cases of special need, she visits the

homes, and a number of instances were found where the firm had placed a sum of money at her disposal, to be used at her discretion, in special cases of illness or distress among the employees or their families. In the larger cities there is a great deal of cooperation among those serving different firms in this capacity, in the way of exchange of ideas, and the visiting nurses' association also is utilized often to help out in cases of illness in families. The State factory inspectors suggested to certain establishments, in one large city, which had not yet taken up any work of this sort, that they should allow an experienced woman to start the work for them. This woman, feeling that this particular city was well equipped to do the necessary educational and recreational work, did not include such work in her program, but confined herself to the installation of rest rooms, emergency rooms, and lunch rooms. Even when little space was available she utilized it until such time as the firm could provide more. Two or three months were spent in each plant getting the work under way, when it was turned over to a competent woman, and the same thing begun in another establishment. This particular welfare worker was able to interest the employers, since she believed that production is increased and labor turnover decreased by the introduction of this work.

Conclusion

One might conclude that all welfare secretaries are women since they have been cited especially. In the majority of cases this is true, but in a number of instances this department, especially in those industries employing only men, is managed by a man. In either case the opportunity which is presented for a very broad and helpful service to the employees is very great. It is a difficult position to fill, since, if the policy pursued is not a liberal and broadminded one, the employees may feel that the position is being used to their disadvantage, but if, on the other hand, the one who holds it is gifted with sympathy and tact, the possibilities for help and encouragement of all kinds are almost unlimited.

MEDICAL, HOSPITAL, AND SURGICAL TREATMENT FOR EMPLOYEES[1]

A study of work for industrial betterment carried on by employers, covering a large section of the country and including many firms which are large employers of labor, was made recently by agents of the United States Bureau of Labor Statistics. Schedules were taken for 431 establishments, 375 of which, with a total of 1,204,010 employees, reported some provisions for giving medical treatment. These establishments cover a great variety of industries, such as mining, foundries and machine shops, manufacturing of iron and steel, electrical supplies, automobiles, furniture, boots and shoes, textiles, and explosives; also steam and electric railroads, telegraph and telephone companies, electric light and power companies, and stores.

The method of caring for the health of employees along strictly medical lines varies greatly with the needs of the industry and the individual ideas of employers. It ranges from the most simple equipment, consisting of first-aid cabinets located in the office or about the plant, to the most elaborate and up-to-date emergency hospitals. These hospitals often consist of a suite of rooms including doctors' offices, operating rooms, and wards for men and women with doctors and nurses on duty throughout the working hours.

This work has grown to large proportions in many industries because of the impetus which has been given to the safety movement in the last few years. As a result of this work in the mining and iron and steel industries especially, crews of men are instructed in the principles and practice of first-aid, and interest is stimulated and maintained among the employees by means of safety-first magazines and bulletins and by contests among various first-aid teams for which prizes are given. In some cases the day on which these contests take place becomes the gala day of the year for the employees and their families. The participation in rescue and first-aid work is entirely voluntary on the part of employees, but each one before being allowed to enter the work must have a doctor's certificate showing that he is physically fit to undertake it. Four to six men are assigned to

[1] By A. L. Whitney. U. S. Bureau of Labor Statistics. Mo. Rev. Vol 5. No. 3. p. 59-67. September, 1917.

each first-aid crew and the course consisting of lectures, demonstrations, and drills is usually completed in 12 lessons. This training by the company doctor goes on continually, and many new crews are added each year. Rescue crews consist of from five to eight men who are trained by special instructors to work with rescue helmets in a room filled with smoke or noxious gases. One company has a fully equipped rescue car containing stretchers and stretcher racks with a capacity of from 16 to 20 men. There is also a small operating room with sterilizing equipment and a supply of drugs and dressings. In addition the car carries oxygen helmets, safety lamps, reels of life line, and two pulmoters, and is always ready with the necessary crew of men in case of emergency.

In the mining industry, where much of the work is done by first-aid crews, there are first-aid boxes at the different mine levels and sometimes emergency and refuge chambers built of concrete. One company reports a special signal system in case of accidents, to call the first-aid men. Stretchers and usually pulmotors, or lung motors, are supplied. One company keeps first-aid boxes dry by use of electric-light bulbs. Pocket first-aid cases are also frequently furnished the men.

Of the 375 establishments reporting provisions for medical treatment 110 have first-aid equipment; of these, 77 have first-aid kits only, 16 have first-aid cabinets with stretcher or cot, 12 have first-aid kits in rest rooms, 5 have kit, stretcher, and pulmotor.

In the mining and iron and steel industries, in foundries, machine shops, and other extrahazardous industries the emergency hospital equipment is often very elaborate. All the modern sanitary appliances, such as faucets, which are operated by foot or knee pressure, glass cabinets for medicines and instruments, porcelain tables, electric sterilizers, and complete equipment for major and minor operations, are found. Forty-three of these establishments employ surgeons, so that accidents, even though very serious, may be cared for without the loss of time which is often so serious a factor in surgical cases. In order that there may be as little delay as possible in getting patients to the general hospital, eight establishments which are not equipped to care for very serious cases have their own ambulances, of which six are motors.

There is a systematic endeavor in most establishments which

possess good emergency equipment, to have the employees report to the doctor or nurse for even the slightest injuries, and as a result there has been a great reduction in the number of cases of infection. In many cases severe penalties are imposed if workers endeavor to remove particles from the eyes of fellow workmen or bind up cuts or scratches, and sometimes this is considered sufficient cause for discharge.

About 190 of the companies visited give free medical service to employees in addition to the accident work. In those industries in which accidents are rare and seldom serious much has been made of the medical service, and in department stores and large offices, which almost uniformly have elaborate emergency equipment, employees are encouraged to report to the hospital for the most trivial complaints. In these establishments often a large percentage of the employees are treated each month, while in those which confine themselves to accident work only, comparatively few usually receive treatment. Of the 375 establishments, 265 have hospital equipment varying from very ordinary to very elaborate, and 110 other establishments have first-aid kits only. Of these 375 establishments, 171 employ doctors, 84 have doctors on call, 99 have none, and 21 do not report. One hundred and twenty-two establishments employ 1 doctor each, 20 employ 2 doctors, 8 employ 3, and 16 employ numbers varying from 4 to 12. Two companies employ 14 and 22 doctors, respectively, each company having several plants; another employs 43, but this company covers a wide territory and much family work is included. One company has a hospital adjacent to the plant which was started by the firm but is now a public hospital at which all emergency cases are treated. One other does not report number of doctors. Of the doctors reported in the 171 establishments, 48 are reported as surgeons.

Trained nurses are employed by 181 establishments, 165 have none, and 29 do not report. Of these 181 establishments, 104 have one trained nurse each, thirty-nine have two nurses, twenty have three, twelve have four to eight; the five employing more than eight have reported for more than one plant. In one establishment the nurses in the company hospital serve as emergency nurses.

The management of one very large company employing many young women believes that the company should not take the responsibility of treating its employees in any except the very sim-

plest first-aid cases. It is the policy of this company to have a first-aid cabinet in the rest room in charge of one of the older employees, and if any sudden, serious case develops to send for a physician. As far as possible, however, the company works through the family physician, believing that a better feeling results on the part of employees and their families if this is done. This company also believes that a finely equipped emergency hospital encourages those with trifling ailments to think too much of them, and makes it too easy often to get medicine without which in the end the employee would probably be better off.

The emergency hospital work is to a certain extent allied with that of the benefit association, and in a few instances is managed by this association, the employer giving space and equipment and usually making a contribution to the association funds. In the majority of cases, however, the employer pays for and controls the hospital work, and the medical work in connection with the benefit association is incidental to the regular work of the hospital.

It is quite a general practice to give applicants for employment a more or less comprehensive physical examination. This ranges from a few general questions to a thorough physical test, of which complete records are made and kept. It is also quite usual for such establishments to reexamine after absence from illness or other causes. It is to be understood that the main purpose of entrance examinations is to exclude those who are undesirables from the standpoint of, the employer—that is usually those suffering from tuberculosis or other contagious diseases—although occasionally firms having some outside work are willing to take tubercular people. In a very few instances, however, valuable assistance is given by the medical department in helping employees to correct minor defects revealed by the examinations. One firm employing a very large number of men gives advice to applicants who are rejected because of defective physical condition as to the correct treatment necessary for cure or help and recommends them to reliable physicians or hospitals. Where circumstances warrant the arrangements for hospital care are made by the health director of the company. Only such applicants are rejected as are totally incapacitated or are suffering from contagious or infectious diseases. The claim is made by this firm that by means of this advice 25 per cent of the rejected are reclaimed and hired. Another place reports that of the 7 per

cent rejected the proportion able to remedy their defects through proper attention is large enough to reduce the net rejections to less than 2 per cent.

Periodic examinations are found less frequently than preliminary medical examinations. In occupations which are subject to occupational diseases or in establishments which handle or manufacture food products, periodic examinations are either nesessary for compliance with the State or municipal law or are so manifestly a requirement of ordinary humanity and social protection that they can not be regarded as welfare work. Examinations given by steam and electric railroads are mainly for sight and hearing, and, therefore, are more for the protection of the public than for the benefit of the employees. In the comparatively few cases besides these in which periodic examinations are given general corrective work is done or a change of work is ordered in cases where it is found that employees are not physically capable of doing the work assigned to them. This, as well as leave of absence sometimes with and sometimes without pay, is often the method of dealing with the less serious cases. Employees who are found to be in a generally rundown or anemic condition are frequently given egg and milk or malted milk regularly, and the results of this diet are carefully noted by physicians or nurses. Special examinations and subsequent medical attention are given in a number of establishments upon request of the employee.

Of the forty-nine establishments which report periodic examinations, seventeen have annual examinations and of these ten examine all employees, one examines heads of departments and assistants annually, the remaining employees being examined at the end of one year's service and not thereafter, and six do not report the number examined each year. Six establishments have semiannual examinations, and of these one examines all employees, another all but the salaried force, one all male employees, while the others do not report classes of employees examined; two of these establishments give semiannual dental examinations. Of the other periodic examinations reported four (three biennial and one every four years) are by railroads and twenty-four are for food handlers or for persons exposed to occupational diseases, and vary from weekly to bimonthly examinations.

Nine establishments examine after absence on account of ill-

ness or for other causes and of these one examines every two years and also before promotion and reemployment, one establishment examines laborers after one year of service, eighteen report special examinations, in cases of suspected tuberculosis or other disease, and three give them on request of the employees. Fifteen report definite corrective work on the part of physicians as a result of examinations. Four give egg and milk or malted milk to employees in poor physical condition. Thirty-two firms will pay the entire expense of employees who, after a reasonable length of service, develop tuberculosis, but if the employee is able to pay part of the expenses he is expected to do so. One firm maintains its own tuberculosis sanatorium in the mountains, to which all of its employees suffering from this disease are sent; a limited number of employees suffering from other diseases are also cared for at this place. Because of lack of local facilities for the care of tuberculosis another firm has established a special dispensary near the plant for the use of employees who either have contracted tuberculosis or are suspected of having it. These patients are under the constant oversight of a doctor, and a specially trained nurse who superintends their examination at the clinic and also visits them in their homes to teach the most modern methods of prevention and cure. The most serious cases are kept at the dispensary. In Chicago a number of firms are contributors to a tuberculosis sanatorium where employees of these firms may be treated at much reduced rates; and in cases of necessity no payment at all is required.

Thirty-two firms send employees to sanatoriums. Two establishments have a joint fund given by employer and employees for sanatorium care of tubercular cases. Sixteen companies pay all expenses, one pays all after two years' service, one after three years' service, and another pays if employees are unable to do so. One company has its own sanatorium and several other firms send to a sanatorium which is maintained jointly.

Change of occupation in cases of poor physical condition is reported in fourteen cases, and leave of absence either with or without pay for the purpose of recuperation is reported in six cases. Several companies have introduced dental service for their employees. One company having semiannual dental examinations for all employees has a suite of rooms consisting of dentists' offices, a sterilizing room, and a radiograph room. The rooms are of white enamel with porcelain fittings, glass-topped tables

and desks, and faucets operated by foot pressure. Radiographs are made in all cases of suspected blind abscess. General prophylactic work is done, and a report made to the patient of the teeth which need attention. Very complete records are kept of all cases.

Another plant employing one dentist and two assistants has had a dental dispensary in operation for several years. The office is equipped with two chairs and two sets of instruments, so that no time is lost between patients, and one set of instruments is always sterilized and ready for immediate use. All employees in need of immediate attention are cared for, but only those who have been in the company's employ for more than six months are entitled to receive extensive treatment. Nearly all kinds of dental work are done at no expense to the employees. This work costs the employer a little more than $4 a year per employee. Here, as in several other establishments, toothbrushes and powder are sold at cost. Still another place which provides general surgical work gives prophylactic treatment for the preservation of the teeth and also treats pyorrhea. Others do regular dental work but charge for the cost of materials only. In one establishment, while the work is done on the company's time, the charge to the employee is the actual cost of the work to the company.

There are a few instances of employers providing the services of an ear, nose, and throat specialist or of an oculist who examines eyes free and furnishes glasses at cost. Out of forty-three department stores included in this topic, three furnish chiropodists, owing to the prevalence of foot troubles caused by the strain of long standing. Five companies employ oculists, nineteen employ dentists, and two ear, nose, and throat specialists.

Visits to the home by the doctor or visiting nurse are often of great value. One very large firm has an efficient method of keeping track of employees who are out because of illness. These employees are reported every twelve days by the absentee department and a special investigation is conducted. In case the employee needs financial assistance, either for medical service or for the support of his family, he is given a regular weekly allowance from the "aid-to-the-sick" fund which the company maintains. Another company has a systematized method of caring for its employees who are absent because of illness or in-

jury. Such employees are required to notify the health department within twenty-four hours. A trained nurse calls on the second day of absence, and every third day thereafter, to see that the patient is receiving proper medical attention. While this company does not attempt to do organized social supervision or give bedside care, the nurses try to instruct families in the essentials of American standards of living. Each nurse engaged in this work is assigned to a district and is encouraged to cooperate with public and private agencies that are concerned with the betterment of social conditions. In this establishment, as in others that employ visiting nurses, automobiles are furnished by the company for the use of the nurses.

In several instances absences are investigated by the visiting nurse who gives advice and assistance, and in one case her report to the manager is the basis for help extended by the company.

Of the establishments scheduled, 166, employing 429,871 male workers, report 102,701 male cases of illness and accident, or 24 per cent in an average month, while 90 establishments, employing 83,034 female employees, report 22,819 cases, or 27 per cent for a like period. Two hundred and sixty-one establishments, including several which do not report cases by sex, with a total of 770,889 employees, report 196,722 cases, or 26 per cent. For the establishments reporting the per cent varies in male cases from less than one to seventy, in female cases from less than one to seventy-four; in total male and female from less than one to sixty-eight per cent. Included in the totals are nine establishments showing a percentage running from 76 to 110. It should be borne in mind that these are the per cents that the number of "cases" are of the number of employees, and may or may not be the per cents that the number of employees receiving treatment are of the total number of employees. This arises from the fact that the same employees may have received treatment at two or more distinct times during the month, and each treatment would be considered a "case." It is also to be emphasized that the term "illness and accident" as used here includes all cases reported to the hospital, many of them of a very minor character.

While these per cents may have no definite value as showing the proportion of employees treated, they do show in a general way the great variation in the relation between the number of employees and the services rendered.

For a company having a limited amount of space and wishing

to install emergency equipment at a moderate cost, one room that was equipped at an approximate cost of $1,000 was almost a model of its kind. The floor of rubber tiling cost $350. The plumbing, which was of the most modern type, having knee-pressure faucets and all of the fittings of the best porcelain, cost $250. The rest of the equipment, consisting of two medicine cabinets, an instrument cabinet, a porcelain operating slab, an electric instantaneous heater for use in case the other hot-water supply should fail, an electric warming pan, a sanitary cot, and a sanitary screen by which the cot can be entirely shut off from the rest of the room, was furnished at a cost of about $400.

A description of elaborate emergency equipment which has been practically standardized by one large company and which may be modified to meet the needs of individual plants is as follows: All interior woodwork is finished with a sufficient number of coats of paint and enamel to give a finish which can be easily washed and kept clean. The operating, re-dressing, and bath rooms have a tile or vitralite wainscoting, and the floors are of marble chips set in white cement. This is preferable to a tile flooring, as tile where subject to rough usage becomes gray and porous and thus more difficult to keep in a sanitary condition. Steel enamel chairs and tables are used in preference to wood, as they are more sanitary and wear better. The re-dressing room is used for the re-dressing of all cases and for minor injury and medical cases. The equipment here consists of a washstand with knee or foot faucet attachments, a foot bath, medicine and instrument cabinets, bottle rack for antiseptic solutions, basin stands, instrument sterilizers, dressing carriage tables, chairs, and nurse's desk, Justrite pail, and the necessary surgical instruments.

The operating room is equipped similarly to the re-dressing room with the addition of high-pressure steam, hot and cold water, instrument and utensil sterilizer. The wards or recovery rooms are equipped with beds, tables, and chairs. Beds are furnished with electric warming blankets and heating pads. The X-ray and laboratory room is used for diagnoses of fractures and of various diseases.

There is undoubtedly much valuable preventive and curative work done through the agency of these hospitals. In many cases employees who are too poor or too careless to take steps to secure the proper treatment for themselves or who do not realize

that such treatment is necessary are advised and cared for in time, and much needless suffering is thereby avoided. If the work is intelligently and conscientiously carried out, and the tendency to give medicine for too trivial causes is avoided, the results to the employee will be better health and increased earning power and to the employer a more efficient force of employees.

LUNCH ROOM FOR EMPLOYEES[1]

The survey made by the Bureau of Labor Statistics included 431 establishments in a great variety of industries, such as mining, foundries and machine shops, manufacturing of iron and steel, electrical supplies, automobiles, furniture, boots and shoes, textiles and explosives; also steam and electric railroads, telegraph and telephone companies, electric light and power companies, and stores. Of these 431 establishments, 224 provide lunch rooms for their employees. Seven of these establishments did not report the number of employees, but for the 217 establishments reporting, the total number employed was 830,125.

Lunch rooms, like emergency hospitals, belong probably among the more essential features of industrial betterment, for while the provision of recreational facilities of different kinds tends to promote good fellowship and interest in the place of employment, these facilities do not have as direct a bearing on the health of the workers as does the opportunity to secure a warm and wholesome meal at a cost which puts it within reach of all.

Kind of Service

Restaurants, with waiters, and cafeterias seem to be about equally popular, there being 112 of the former and 96 of the latter, while 16 establishments have restaurants for the office force and officials and cafeterias for the factory workers. The cafeteria method of serving seems to be especially desirable where large numbers must be taken care of in a short space of time, as the two, four, or six way cafeterias permit of very

[1] By A. L. Whitney. U. S. Bureau of Labor Statistics. Mo. Rev. Vol. 5. No. 6. p. 207-15. December, 1917.

rapid service. One company states that 1,500 people are served by this method in nine minutes and another that 1,300 are served in six minutes.

The following table shows, by industries, the number of establishments having restaurants, cafeterias, and lunch rooms, the character of management, and the total employees.

ESTABLISHMENTS HAVING RESTAURANTS, CAFETERIAS, AND LUNCH ROOMS, BY INDUSTRIES AND BY CHARACTER OF MANAGEMENT.

[In this table sixteen establishments are shown under both "restaurant" and "cafeterias" as they maintain both; and twelve of the establishments shown as furnishing room, coffee, etc., for employees bringing their own lunches also have restaurants or cafeterias.]

Industry.	Number of establishments.	Number of employees.	Number of establishments having restaurants managed by—			Number of establishments having cafeterias managed by—			Number of establishments furnishing accommodations for those bringing lunches.	
			Company.	Contractors.	Employees.	Company.	Contractors.	Employees.	Room only.	Room, coffee, etc.
Automobiles	7	93,384	2	1	.....	2	2	.....	3	.....
Boots and shoes	4	23,230	1	.....	.....	3	.....	.....	.....	.....
Chemicals and allied products	4	9,446	3	.....	.....	1	.....	.....	.....	1
Clothing and furnishings	9	15,710	1	.....	.....	8	.....	.....	3	.....
Electrical supplies	5	51,040	5	.....	.....	1	.....	.....	.....	.....
Fine machines and instruments	6	22,553	4	1	.....	2	.....	1	2	.....
Food products	8	[1] 11,665	3	.....	1	4	.....	.....	.....	7
Foundries and machine shops	26	64,401	22	1	.....	1	1	2	9	1
Gas, electric light, and power companies	7	[1] 24,768	4	.....	.....	3	.....	.....	.....	.....
Iron and steel	14	76,092	6	6	1	1	.....	.....	3	.....
Offices	7	[1] 10,651	4	1	1	2	.....	.....	.....	.....
Paper and paper goods	5	7,472	.....	1	.....	4	.....	.....	1	1
Printing and publishing	7	9,666	2	1	.....	5	.....	.....	.....	.....
Railroads, electric	5	40,402	4	.....	.....	.....	.....	1	.....	2
Rubber and composition goods	6	35,588	3	.....	.....	4	1	.....	1	.....
Soap	4	8,168	3	.....	.....	2	.....	.....	1	.....
Stores	41	[1] 116,068	9	1	2	29	.....	3	1	4
Telegraph and telephone companies	14	[2] 64,538	8	.....	.....	7	.....	1	.....	1
Textiles	9	20,051	3	.....	.....	5	1	.....	2	3
Other industries	36	[1] 125,232	22	1	.....	14	1	.....	8	9
Total	224	[3] 830,125	109	14	5	98	6	8	34	29

[1] Not including employees of one establishment, not reported.

[2] Not including employees of two establishments, not reported.

[3] Not including employees of seven establishments, not reported.

Establishments Having Restaurants, Cafeterias, Or Other Lunch Facilities

Of the 224 establishments providing lunch rooms, eighteen maintain them for only the office force and officials, and sometimes for foremen, while the remaining 206 serve employees of the factory as well, although in the majority of cases there are separate rooms or a section of the dining room reserved for the office people and foremen. This does not seem to be inspired altogether by a feeling of superiority on their part, as might be supposed, for a number of establishments reported an unwillingness on the part of the factory workers to eat with the office force and foremen; in some cases because members of the office force are better dressed, and in others because they feel more freedom without the presence of those under whom they work. This was especially true in plants where many foreigners of different nationalities were employed, as they usually desire to eat by themselves.

For 181 establishments, with 605,174 employees, it is estimated that the number using the lunch rooms daily is approximately 168,000, or 28 per cent of the total number of their employees. These figures include those employees who bring their own lunches to the regular lunch room and buy nothing and those who supplement their own lunch with one or more dishes from the counter, as well as those, usually the larger number, who buy the entire lunch.

There are sixty-three companies which provide a room for the use of those bringing their own lunches. Twelve of these furnish such a room in addition to the regular lunch room and therefore are included in the total number of establishments having lunch rooms. Thirty-four of these sixty-three firms provide the room and tables and chairs only, but twenty-nine, in addition to this, supply tea, coffee, or milk and in a few cases, soup. Twelve of these twenty-nine establishments serve coffee free to all who wish it, one furnishes soup free, and several of them give tea and milk as well as coffee. In this connection it might be stated that several companies report that it is their practice to discourage the excessive use of coffee.

Character of Management

The majority of the lunch rooms are managed directly by the companies, but in twenty cases the management is turned over to an outsider, the company supplying space and generally light, heat, and equipment also. In these cases, too, the companies usually supervise the quality of the food offered and also limit prices, although the food prices are not as low as in the many establishments which manage this work with no thought of profit. In thirteen instances the companies allow the employees to manage the restaurant. A few of these lunch rooms are run on a cooperative basis, but most of them make a small profit which is turned over to the benefit association or to the athletic association, the lunch room usually being managed by a committee of employees appointed by the association which is to receive the profits.

General Descriptions of Restaurants and Kitchens

One company, having both a large factory and office force, has a large lunch room for each. The one for the office employees is a very beautiful room with specially designed tables and leather seated chairs. These specially designed tables, having concealed seats, can be transformed, by a folding back of the top, into comfortable settees for use during gatherings of employees. About 800 are served here daily. The main part of the service is cafeteria, but there are tables where service by waiters can be had at an additional charge of five cents. The regular luncheon is twenty cents, dinner is twenty-five cents, and a la carte orders are at moderate prices. Employees bringing their own lunches must eat them in this room. About 1,500 members of the factory force use their lunch room, where a club luncheon, consisting of soup, meat, potatoes, and another vegetable, dessert, and tea, coffee or milk, is served for fifteen cents. The company aims to provide employees with wholesome food at low cost.

A new lunch room which had been opened but two days at the time of the agent's visit is attractively finished as to wall decorations and lighting. The tables have vitralite tops and seat fourteen people each. It was the plan of the company to furnish

the service free and apply the twenty cents charged for the meal to the purchase of the foodstuffs. If at the end of a month there should be a surplus the employees were to vote as to whether they would have a more elaborate meal or the same kind of a meal at a lower price. This factory, which employed no women, is situated in a locality having no lunch rooms except those in connection with barrooms, and it was the desire on the part of the management to keep the men away from the saloons at noontime which led to the installation of the lunch room.

One establishment manufacturing playing cards has a beautifully equipped cafeteria seating about 1,400. This is located in a separate building. The dining room has marble-topped tables with a raised marble shelf in the center of each, which contains a porcelain ice-water keg, with faucet. The glasses and condiments are on this shelf, and a wire basket suspended beneath contains the silver. The office employees have a section reserved for them and are waited on by waitresses. The prices are so moderate that the company has a large deficit to meet each year. Music is provided each day during the luncheon period.

It is, of course, often found to be the case that employees go to work in the morning with little or no breakfast. Two firms, each employing a large number of girls, allow them to go to the lunch room in the morning for milk or coffee and rolls. One of these firms grants ten minutes each morning for this purpose.

A lunch room for which construction and equipment costs were given was built to seat 1,100 people at one time. The room has a very large cafeteria counter and small tables with Carrara glass tops. The cost of the special construction of the dining room and kitchen was about $5,300, while the equipment, furniture, and fixtures cost approximately $6,200. The lunch room is under the general supervision of the welfare secretary, but the preparation and dispensing of food are taken care of by a private caterer, who provides good substantial food at a moderate cost in consideration of the company supplying space, equipment, light, and heat for which no rental is charged. About 2,500 people use this lunch room daily.

Many of the establishments, in addition to the attractive restaurants, have exceptionally well equipped kitchens with all the up-to-date electric machines for saving work. An electric dish-washing machine through which 24,000 pieces could pass in an hour with practically no breakage and an electric potato

peeler holding a barrel of potatoes at a time are features of one establishment. In almost all of the restaurants which serve large numbers, part or all of the many electric labor-saving devices have been installed. It was noticeable that a large proportion of the kitchens would pass with a very high mark as to sanitary conditions, although a number were visited which were not adequately screened for flies and which in general neatness left a good deal to be desired. However, these were in the minority and the general standard of cleanliness and quality of food served by most of the companies was very good, while some were models of neatness, kind of equipment, and generally efficient service.

There are different methods of payment in use by the various companies. One company, whose charges are based on the amount of wages, uses tickets of three colors to indicate the three rates which are charged. In some cases metal checks are used, while in others books of tickets are sold either by the cashier or by foremen in the shops. In the majority of cases, however, the employees pay cash.

Number of Attendants Required

In several restaurants the attendants at counters and tables are members of the regular working force who usually receive their regular rate of pay while performing this service and their lunches, their coats or uniforms being furnished and laundered. In one case the office errand boys and apprentices wait on the tables, leaving their work fifteen minutes before the others and receiving only lunch in payment; in another case the girls volunteer their services and receive lunch in return; and in still another case factory boys serve in the dining room for two hours, being paid their regular factory rate, except for half an hour, and receiving a free lunch also.

The number of attendants necessary to serve an average of 4,100 people daily is reported by one firm. This company has four restaurants, a cafeteria, a dining room, a lunch counter, and a grill room. The cooking for the four restaurants is done in one kitchen, and the same quality of food is served in all. Employees are free to patronize any one of them although the cafeteria is the one generally preferred. Here a full meal may be purchased for eighteen cents, the average check, however, being

but eleven cents. Besides the manager, his assistant, and the chef there are thirteen full-time kitchen and dining-room workers and about seventy others who work during the luncheon period only. Twenty of these are porters in the plant who clear away the used dishes.

It is the practice of a number of companies which have cafeterias to have the employees carry their used dishes to a shelf or window which they pass on the way out. In this way the amount of help needed is lessened without imposing unduly upon each individual.

Financial Results of Operating Restaurants

Forty-six of the companies which keep the entire control of the lunch rooms have reported as to the financial returns of the undertaking. In thirty-five cases there is a deficit varying with the size of the plant and the prices charged for food. In nine cases the restaurant is self-supporting, and only two of these reported a surplus. One company reports a deficit of about $1,000 a month. The office and factory employees in this plant are served separately. A regular dinner is served the factory workers for fifteen cents, the a la carte rates for the others being correspondingly low. The company feels that its deficit is too great, although, since the feeling with the firm is that the employees are entitled to one good, wholesome meal a day, a loss is expected.

A company employing about 12,000 has several mess halls in different sections of the plant. These are located in separate frame buildings. The main mess hall is in two sections, one for clerks and foremen and the other for the general working force. About 1,300 eat in this building daily. The average price paid for a meal by the office force is twenty-three cents; by the factory employees twenty-one cents. The colored employees are fed in a separate mess hall having long, high tables at which the men stand. About 350 meals are sold here daily at a cost to employees of ten cents each. Two other lunch counters together serve 1,400, the average check being twenty-three cents. Owing to the increasing cost of foodstuffs and the desire on the part of the company not to lower the food standard, the company was paying a deficit of from $900 to $1,200 per month at the time the schedule was taken.

Establishments Serving Free Meals

In few instances are meals served free to employees. One insurance company, however, having several thousand employees, serves to each person in its employ a lunch, consisting of soup, meat, one vegetable, bread and butter, a choice of desserts, and tea, coffee, milk, or buttermilk. At the time the schedule was taken this lunch was costing the company about nineteen cents per person. This plan was instituted as a means toward greater efficiency in the afternoon's work, since it was found that many could not, or at least did not, get the proper luncheon. This is not regarded by the firm as a gift but as a supplement to the wages, which are already as high, it is claimed, as those paid for similar work by other companies.

Another firm, doing a large mail-order business, gives breakfast to those of its clerks who are required to come early to attend to the incoming mail. Several give supper to overtime workers, and several others, whose plants are run during the entire twenty-four hours, provide free coffee at midnight. One company giving a free lunch to office and clerical force, has furnished a small kitchen and dining room for its thirty-five women employees and provides the materials from which the girls prepare their own lunches. Another, with 600 employees, serve an a la carte lunch to the men for 10 cents and the same lunch free to the 250 women employed.

Boys earning less than $5 per week are given their lunch by another company. Still another gives milk and soup to all juniors. Nearly all of the banks visited give a free lunch to all employees, which is done largely for the purpose of keeping the clerks in the building at the noon hour. A newspaper company pays a restaurant for furnishing a lunch consisting of sandwiches, coffee, cake, pie, and cookies to from twenty to thirty of its newsboys every night.

Many companies which charge for other items on their bills of fare provide tea, coffee, or milk free. This is almost universally done by the telephone companies, whose lunch-room food and service is always excellent and provided at very low prices. The employees of one large office building are provided with a lunch room seating about 1,300 girls at one time. The majority of them bring their lunches, supplementing them with

dishes from the cafeteria counter. Tea, coffee, and milk, the latter in unlimited quantity, is provided for them free by the company.

Undesirability of Serving Lunches in Workrooms

Several firms insist that their employees shall leave their work places at lunch time and that those who wish to bring their own lunches shall eat them in the dining room. In these cases it is usual to assign a permanent place at the table, where the lunch may be left upon arrival. In only one instance was there evidence of any objection on the part of the companies to employees bringing all or part of their lunches from home. This one company insisted that all employees who wished to eat in the building should buy their lunches in the dining room, although there was no objection offered to their going outside for them.

Nine establishments having restaurants also have lunch counters in the plant, either because of lack of space to take care of all the employees, or for the use of those workers who do not consider themselves sufficiently well dressed to eat with the others. For these same reasons eight firms provide box lunches to be distributed through the factory at lunch time, and several have coffee booths. One company has soup stations throughout its large factory, and another in addition to its restaurant has eight electrically heated "cafemobiles," each carrying trays, dishes, and food enough for 300 men, which go through the plant at meal time. One company, with about 11,000 employees, has, in addition to a fine restaurant for its office force, five lunch counters in the factory, where about 6,000 are served daily with sandwiches, coffee, and milk. There are no tables but benches are provided adjacent to the lunch counter. It is without doubt something of a problem for firms which employ large numbers of workers to provide a place separate from their workrooms in which all can eat, but since it is generally conceded to be undesirable for employees to be obliged to eat at work places, it would seem that in such cases either a very simply furnished room might be provided or the employees might be served in the restaurant in shifts, as many of the companies find that this plan works satisfactorily.

Average Prices Charged For Food

The prices generally charged for a table d'hote meal for factory workers vary from fifteen to twenty-five cents, in the majority of cases the charge being twenty cents. In a few cases office workers pay slightly more. The a la carte prices vary, of course, greatly. The usual prices of bread and butter are from two to five cents; sandwiches, soups, and vegetables, three to five cents; meats, eight to fifteen cents; fruits and desserts, two to five cents; tea, coffee, and milk, two to five cents; the usual price of a cup of coffee being three cents. It is possible, in most of the cafeterias, to get a good lunch for from fifteen to twenty cents, and in some of them for even less. It must be borne in mind, however, that the prices charged for food as quoted in this article do not cover the general rise in foodstuffs in the last few months. They only serve to show that the average cost of a sufficiently satisfactory meal was much below that of the average outside restaurant, and that it is probable, therefore, that whatever increase the employers may be obliged to make because of the present high prices of fuel and foodstuffs will be in the same proportion.

Conclusion

There seems to be no particular reason why lunch rooms should be installed in one industry more than another. The determining factors seem to be the distance from homes; the lack of good restaurants or the presence of many saloons near the plant; the desire to keep employees upon the premises during the lunchean period; and, perhaps the most frequent reason of all, the wish to give employees the proper kind of food, since the tendency with many workers is to economize in this way to the detriment of their health, strength, and efficiency. Several of the companies reported that the meal served in the company restaurant was the best one of the day for many of their employees. Of the industries reporting restaurants the iron and steel industry and foundries and machine shops showed the smallest proportion of these facilities for the general working force. Their restaurants are mainly for the office force and for officials, although there are a few cases where large numbers of the plant men are served. Steam railroads do practically

nothing along this line, although the employees are sometimes served, at a reduction, in the regular station restaurants. All of the telephone companies, most of the large offices, and nearly all of the department stores visited maintain lunch rooms.

Only two of the companies visited reported that they had tried lunch rooms and given them up. Two or three others reported that the patronage was not satisfactory, but generally where they were found they seemed to be regarded as necessary to the successful operation of the plant, office, or store. It is certainly rather remarkable that a business of such magnitude should have grown up in so many and such varied industries. That they are so largely run at a loss is not an indication of poor management but rather of the belief that the expenditure is necessary and that it is justified from a business point of view if it results in better health and greater efficiency for part or all of the working force.

HOW TO ORGANIZE FOR SAFETY[1]

Necessity for Organization

The Accident Prevention problem involves two essential elements—Safeguarding and Education, in each of which there is more or less detail work. Experience in the past decade has conclusively proven that safeguarding and educational work in any plant is not a "one man job"; that satisfactory results can be secured only through the highest measure of co-operation between the employer and his employes, and this only by means of organization. The employer himself must be vitally interested in the work if he expects to educate his men to share the responsibility with him. The men must be given a part to perform in it, if their interest is to be aroused and maintained. The problem must touch them somewhere, and they must be brought into direct relationship with their employer. It is only through organization that this is possible, whether the plant be large or small.

The Work of an Organization

The form and character of any organization must naturally vary as the work to be performed varies; hence the Work to be done by a Safety Organization in plants of all sizes should

[1] By R. W. Campbell. Bulletin National Safety Council. Chicago.

first be considered before determining what the Form of organization should be.

Safeguarding and Education comprise the task of any Safety organization, all of which naturally requires efficient planning, direction and supervision.

In Safeguarding there are involved among others the following essential elements:

1—A study of hazards incidental to the use of equipment and machinery;

2—Adoption of standards for practically and efficiently guarding dangerous places and machines;

3—Inspection for,—

(a) Need of safeguards
(b) Installation of safeguards
(c) Maintenance of safeguards
(d) Use of safeguards;

4—In new construction or replacement, checking in drafting room or purchasing department.

In Educational work there are involved among others the following essential elements:

1—A study of hazards incidental to operations;

2—Adoption of operating rules covering safe method of doing work;

3—Instruction of new men as to hazards and rules;

4—Interesting the men;

5—Providing Bulletin Boards, in the several departments for the posting of Safety Orders, Rules and Information.

Form of Organization

The existing working force of every industrial or transportation concern, whether large or small, is adaptable very readily to an Accident Prevention Organization. No new employes are required unless it be in the case of very large concerns in which it might be necessary to select some person to devote himself exclusively to the inspection work. The only differences are that the organization does not need to be so extensive in the small plant and that the duties in such a plant

are performed by different factors in the organization. Forms of organization for plants of different sizes are suggested as follows:

A—For plants employing over 750 men, the following elements are essential:

1—A Safety Inspector. He should,—

(a) Inspect:

(1) For need of safeguards;
(2) For installation of safeguards;
(3) For maintenance of safeguards;
(4) For use of safeguards;
(5) For Unsafe Practices;
(6) For Plant Sanitation and Cleanliness.

(b) Recommend methods of safeguarding and design of guards;

(c) Have charge of details of all Safety work;

(d) Supervise the holding of meetings of foremen and men;

(e) Receive all reports, recommendations and suggestions;

(f) Keep all necessary records.

2—A Plant Committee of Safety composed of plant superintendent or his assistant (chairman), safety inspector (secretary), and three or more high grade department superintendents, foremen or workmen, which should,—

(a) Have general charge and supervision over Safety work;
(b) Pass on all controverted matters;
(c) Gather all available information;
(d) Establish standards for safeguards;
(e) Promulgate rules for safe operation;
(f) Outline educational campaign.

3—Workmen's Committee; consisting of three to five workmen, appointed and changed periodically. They should,—

(a) Make inspections and recommendations as to method of remedying dangerous conditions found or unsafe practices noted;

(b) Investigate accidents in their several departments;

(c) Render weekly or monthly written reports on forms provided for that purpose.

4—Foremen. Each foreman should,—

(a) Enforce Safety rules adopted;

(b) Be held responsible for the Safety of his men;

(c) Investigate accidents and "near" accidents, reporting causes and suggestions for method of preventing recurrence on forms provided for that purpose;

(d) Make frequent inspections of his department;

(e) Render weekly written reports on forms provided for that purpose.

5—Meetings of Foremen—held monthly to discuss Safety matters.

6—Workmen: Each workman should be educated and interested in Safety matters. This work involves,—

(a) Instruction of new men;

(b) Familiarizing of men with rules;

(c) Interesting the men through bulletin boards, prizes, etc.;

(d) Discipline.

Where two or more plants are operated by one company, its Safety work may be coordinated and directed by a Central Committee of Safety, consisting of representatives from each plant, with possibly one of the Executive Officers acting as Chairman.

In larger organizations, special committees may effectively assist the central or plant committee in solving peculiar or intricate problems.

B—Plants employing 250 to 750 men:

In plants of this size the form of organization should be practically the same as in larger plants, except that the person performing the functions of Safety Inspector may perform other duties, preferably along mechanical lines, in the labor department, or as assistant to the superintendent or manager.

In plants of approximately 250 to 350 employes, the Central Committee need not be so large, but should include at least the plant superintendent, Safety man and one department superintendent or foreman.

C—Plants employing less than 250 men:

The following elements are essential:

1—SUPERINTENDENT as head, to perform the same functions as the Central Committee in large plants; also to perform part of the duties of the Safety Inspector in the following respects:

(a) Have charge of details of Safety work;

(b) Receive reports, recommendations and suggestions:

(c) Keep all necessary records.

2—WORKMEN'S COMMITTEES, to be organized and perform the same duties as required of similar committees in large plants.

3—FOREMEN, to perform the same duties as required of foremen in large plants. The inspections by foremen will take the place of inspections by Safety Inspector or Safety man in larger plants.

4—MEETINGS OF FOREMEN, held monthly to discuss Safety matters.

5—WORKMEN. The same work must be done in instructing, educating and interesting the men as is done in the large plant.

Conclusion

The foregoing elements of an organization may be modified or amplified to meet the needs of plants of any size or peculiar form of operating organization.

It has not been possible in this bulletin to elaborate on the minutiae or details of organization, or work of an organization, that may be applicable to different forms and sizes of industrial and transportation enterprises. Only the vital and essential items have been enumerated.

A GOOD HOME FOR EVERY WAGE-EARNER[1]

A good home for every wage-earner is possible only by recognizing that housing is intimately and permanently related to a number of large and difficult problems. Some of these are planning problems, some questions of broad economic policy. For example, we have the close relation between city-planning and housing—how it is influenced by the location of factories; by the proper districting of the city, and by other building regulations; by the street system, and especially by means of tranportation; by the proper distribution and development of parks, playgrounds, and neighborhood facilities for recreation. Many housing schemes have been carried through as if they were isolated phenomena, and thus have failed of their purpose.

Then housing is, of course, closely related to the building interests, materials of construction, and the loss by depreciation and fire. It is affected directly by policies with regard to land and taxation, the prevailing practice as to public health and sanitation, and especially standards of living and their dependence upon the minimum wage.

From the point of view of economics—and I believe that the ultimate solution of this problem is to come mainly in that direction—housing is big business, and should be handled as big business is handled. Building operations in the United States amount annually, it is said, to four billion dollars. More than half of this great total is spent in dwellings; much of it—in fact, from an economic point of view, most of it—is not well or permanently invested. A large percentage of the houses, especially the cheaper sorts, are poorly conceived for their purposes, and 80 per cent of all of them are built of wood. A frame house may be a satisfactory house, provided the space between and around houses makes it reasonably safe. Usually there is an excessive depreciation and a fearfully costly fire-risk. This constitutes a huge economic loss, amounting, by the most conservative estimate, to hundreds of millions of dollars annually, which sum must be paid, as other carrying charges are paid, out of production, and finally must be taken care of in the wage-earner's payroll.

[1] By John Nolen. Address delivered at the American Civic Association Annual Convention, Washington, D.C., December 15, 1916.

Closely related to housing is the question of wages and standards of living. Consider, for example, these four points and their relation to one another:

1. The minimum desirable house of four or five rooms cannot be provided in the United States, even under favorable conditions, for less than about $1,800 or $2,000—that is, for house and lot, with street improvements, essential public utilities and neighborhood recreation.

2. A house costing that sum cannot be offered on the basis of an economic rent of, say, 5 per cent or 6 per cent net, for less than $15 a month.

3. Unless a wage-earner with a normal family of wife and three dependent children has an income of $15 a week or $800 a year, he cannot afford to pay as much as $15 a month for rent.

4. More than one half of all workingmen earn less than $800 a year.

Thus we see that no solution of the housing problem in its most acute form, affecting more than 50 per cent of all wage-workers, is possible until a better adjustment can be made in the relation of these four points. Here is our choice. Either the cost of the house and lot must be substantially reduced, or the standard of healthful living must be lowered, or the wages of the lowest-paid workmen must be raised. The other three possible alternatives, if they may be so considered, are to put the wife and children at work to add to the family income, to take in boarders or lodgers, or to count upon private philanthropy or the public treasury to provide not a few but great masses of wage-workers with a house at less than an economic rent.

What, then, is the first step toward a solution of this large and important problem? I believe it is to recognize that the subject is primarily one for the right application of broad economic principles. We must in some thoroughgoing way convert the great forces, working through regular channels, which now produce bad housing, to produce good housing, and we must do it by bringing into control and coöperation with them the forces that believe in good housing and will gain from it, which are mainly the manufacturing and business interests that depend upon the efficient and happy workman. This great change in housing methods will come, if it does come, from the substitu-

tion for exploitation and excessive return of the reasonable profits of business, from the transfer of housing from the field of speculation to that corresponding to legitimate manufacturing. We shall then proceed in very much the same way that the manufacturer proceeds. We shall want to know the facts as to the nature and extent of the demand. We shall have definite aims as to the product. We shall use skill and experience and factory methods. We shall back the enterprise with adequate capital and count upon a fair rate of interest.

The Girard estate in Philadelphia is an illustration of what I have in mind. There are now upon the Girard land, in South Philadelphia, 481 completed dwelling houses, one apartment house containing four seven-room housekeeping apartments and four stores. The rents for the dwelling houses, including light, heat and hot water, range from $31 to $58 a month. This estate has invested between two and three million dollars in houses, apartments, stores, power plant, street mains and power-plant equipment for the service of community heating and lighting. There is also a public park, a free library, and a modern public school within the territory, the park having so far cost over $60,000. The net income from this enterprise amounts to 4 per cent per annum net upon the value of the ground and 5 per cent per annum net upon the cost of the buildings. A sinking fund has been established to make good any depreciation in the value of the improvements, and one half of one per cent of the cost of the buildings and the street improvements is set aside each year and invested. This deposit invested at 5 per cent will repay the entire cost of the buildings in forty-eight years.

The following statement of the Woodlawn Company, Wilmington, Delaware, is another example of the financial basis on which permanent housing can be provided for the wage-earning class, as a good business investment yielding 5 per cent interest net:

The houses are built in solid rows, and the row contains four six-room houses, four four-room houses and six two-family houses. Some of the houses in the district differ from these, but most of them come within these four types. In the twenty rows which have been built there are 270 houses, with accommodations for 390 families. It has been somewhat difficult to determine the exact cost of each type on account of building the sev-

eral types at one time, with contracts usually covering two rows of houses, but the cost, without the land, is about as follows:

Six-room house, $1,775.00	Rents for $16.00.
Four-room house, $1,425.00.	Rents for $13.50.
Two-family house, $2,475.00.	First floor rents for $11.50.
	Second floor rents for $12.00.

The houses are built of brick with slate and slag roofs. They are all sewer connected, have city water and gas, and some of them have electric wiring. A range, with water-boiler attached, is installed in each kitchen. Bathtubs and kitchen sinks are porcelain enameled. Stationary laundrytubs are installed in the second-floor flats. There are front and back yards, and parts of the tract have been set aside for park or playground purposes. The first houses were built in 1903 and the last ones in 1913. They were not built for sale, but are to be kept in the ownership of the Woodlawn Company. The six-room house is as large, if not larger than the majority of wage-earners want. There are more applications for four-room houses and flats than for any other kind. This development of the Woodlawn Company represents an investment of $583,000 and it has yielded an average net profit of about 5 per cent.

It would be comparatively easy to show that the larger part of low-cost housing in the United States is not today satisfactory in character. To my mind, however, a peculiar opportunity for improvement is now presented. Something relatively new has recently happened in this country. Employers of labor, not a few but many, are having such great difficulty in getting and holding employees, and they are so impressed by the new conditions and the cost and inconvenience that these conditions involve, that they are ready to consider any practicable proposition that will lessen their troubles. It is now easy to draw their attention to the poor character of much of the housing of wage-earners, and more especially to the utter inadequacy of the supply of small houses of suitable types available at rents which the workingman can afford.

From a recent study of conditions in four cities, I believe that there is today an opportunity for a substantial and permanent advance. The four cities investigated were Waterbury and Bridgeport, Conn., Kenosha, Wisconsin, and Akron, Ohio. In some respects the problems are similar for all these cities; in other respects they are local and peculiar.

In all cases the local organization resolved that before plunging in and building something they would find out by careful investigation the extent and character of the demand for houses, and also the experience of other places in meeting somewhat parallel conditions and requirements. The first step, it seemed to them, was a social and economic survey, a diagnosis that would give them confidence in the prescription for immediate needs, and, at the same time, enable them to adopt measures that would be preventive in character and apply to meeting the situation in more normal times.

A typical illustration of procedure is that of Waterbury. The investigation began by the consideration of three main classes of facts: (1) What are Waterbury's housing needs? (2) Where can these needs be met? (3) How can workingmen's houses be provided in Waterbury? The data when collected showed that there were from 1,000 to 2,000 families to be provided for; that 35 per cent of these were skilled workingmen and 65 per cent unskilled; that the average weekly wage of the skilled was about $20 and of the unskilled $14; that 54 per cent of the total were married men; and that the consensus of opinion with regard to the type or types of houses was that the one-family house should be preferred, if the family could afford it. If not, a double house, or two one-family houses built together, with separate yards, and that only when necessary the three- or four-tenement flat should be built.

Detailed investigations based upon the questionnaire which was submitted to the manufacturers were made for each city. The results were summarized in each case and made the principal basis for the recommendations which followed.

The recommendations were somewhat different for the different cities, because of different local conditions. However, those submitted to the Bridgeport Chamber of Commerce are typical, and will serve for illustration. They were seven in number, as follows:

1. That the Bridgeport Housing Company be formed at once, with a capital of at least $1,000,000.

2. That someone with special fitness be employed by the Company to give all his time to the problem of providing houses or apartments for workingmen.

3. That various tracts of land suitable in character and location and low enough in price for the housing of workingmen be purchased by the Company.

4. That the Housing Company undertake the early building of houses and apartments primarily for rent.

5. That the Company should provide especially the single-family, detached dwelling, for sale on easy terms.

6. That the proposed Housing Company should coöperate with the family which has acquired title to a building lot, but has not yet built upon it.

7. That the Housing Company should facilitate, so far as possible, broad city-planning improvements, especially those relating to main thoroughfares, parks, playgrounds, and the districting of the city.

The recommendations submitted to these four cities of which those for Bridgeport are typical, have been so framed as to meet the actual housing needs of workingmen, on terms which their wages make possible. The proposals are not essentially new, and not in any sense radical. In fact, they follow conservative and well-tried-out schemes of other housing companies. Virtually everything recommended has been successfully executed elsewhere in this country for the same classes of workingmen, with the same income or even less. No one house or method is endorsed as the only one, although the emphasis is put upon the single-family, self-contained, detached house or cottage as on the whole most desirable when possible. In addition to the single-family house, detached, the recommendations include an endorsement of the single-family house in groups, also of well-arranged, well-lighted apartments or flats. All these types have some advantages of economy of land cost or of land improvement cost, or of house construction, and they take into account the fact that different people have different tastes and preferences as well as different needs in housing, as in other matters. What is best depends upon conditions and circumstances and the cost. These recommendations were, of course, only the first step in a constructive program. Every effort, however, was put forth to make it a definite and practicable step, and to suggest logical methods for following the matter promptly by action.

What has actually been accomplished so far? Briefly, the following may be said:

In Waterbury, two large manufacturing concerns have begun operations and a considerable number of new houses of desirable types will be completed and available this spring. Furthermore,

the attention of all the manufacturers of the city has been effectively drawn to the subject, and through the publication of the report in full in the *Waterbury Republican,* as a Sunday supplement, public interest has been aroused and public opinion formed favorable to the energetic prosecution of the subject. No joint action, however, on the part of manufacturers or of business interests generally, has yet been secured, and it will be interesting to observe how much can be accomplished without it.

In Kenosha, the movement was begun by the Manufacturers' Association and had the approval and support from the start of all the business interests of the city. Although the investigation was not taken up until May, the Kenosha House Building Company and the Kenosha Homes Company were successfully organized in July. Land was purchased and building begun early in August. In September, Mr. Alfred F. Muller was appointed Manager of the Homes Company. Plans have been made for the construction of at least 400 single-family houses. Some are already completed and occupied. So far the operation is confined to the detached cottage type of five or six rooms. The price of the first houses on 40-foot lots, which had already been laid out when purchased, will be from $2,200 to $2,600. It is hoped that later operations will make possible houses at about $2,000, on a minimum of 50-foot lots.

A fuller statement about Kenosha has been made in a paper for the American Civic Association by Mr. Muller. However, I want to say that I know nothing better nor more promising than what has been done in Kenosha during the last six months. Some forces are now being used there for good housing that formerly built houses less good or were relatively inactive in adding to the supply of houses. These forces have been stimulated, directed and helped by the effective organization of the manufacturing, business and financial interests of the city. The work is on a good business basis, yielding a good return. It places no dependence upon philanthropy and charity. It is being done by the entire community for the entire community. It is free from any taint of paternalism or embarrassing relation of employer and employee. It is permanent and intends to occupy the field so long as there is any need for it. It is of inestimable benefit to the four parties most affected, namely, the employers of labor, the people of the city as a whole, the legitimate real-estate operators and builders, and, above all, to the wage-earner

himself. With slight modifications to meet local conditions, the method of Kenosha is, I believe, capable of wide application.

The Bridgeport story is just begun. After the presentation of the report entitled "More Houses for Bridgeport"[1] and the careful consideration of the whole matter by the Chamber of Commerce, the Housing Company was incorporated, with a capital of a million dollars. A prospectus has been issued. A capable manager has been engaged by the Company to give all his time to the problem, offices have been opened, land has been acquired, and negotiations are now under way for the construction of buildings. Definite house-plans have been prepared by Schenck & Mead, Architects, of New York City, for the "Connecticut Development," a five-acre tract at Connecticut Avenue and Waterman Street. They include provision for 86 houses accommodating 138 families, a liberal playground, and arrangements for agreeable development and planting of the entire property.

If successful, I believe that the movement in Bridgeport will be particularly instructive and significant. Its operations are bound to be large, because the demand is so great, and the conditions that the Company has been organized to combat are typical of a modern industrial city in the throes of very rapid growth.

One of the most important city-planning aspects of housing that has as its ideal "a good home for every wage-earner" is the removal of the factory and the home to the city out-skirts,[2] thus instituting a process of industrial and residential decentralization.

The main points for consideration in this process are the following:

1. What location generally is the best for factories in order to secure factory efficiency?

2. What location for factories and for homes for factory employees is most advantageous for the city as a whole?

3. Most fundamental of all, assuming that factories are located on the outskirts of a city, where should the men and women employed in these factories be encouraged to live?

(1) The first question is concerned with factory efficiency. So far as location goes, the main items that determine factory efficiency are as follows: (*a*) cheap land; (*b*) land in large

[1] More Houses for Bridgeport: Report to Chamber of Commerce, Bridgeport, Conn., by John Nolen, City Planner. Price 50 cents.

[2] For fuller discussion of this topic, see Proceedings of National Housing Association, 1912 and 1916.

blocks, unbroken, and uninterrupted by public streets; (*c*) ample and convenient freight facilities and railroad sidings; (*d*) success in obtaining and holding employees who are well housed at low rates in a good environment.

(2) The second important question is, what location for factories and for homes for employees in factories is most advantageous for the city as a whole? This question may be answered in favor of the outskirts, for three reasons: (*a*) the city needs its centrally located land for retail business and commercial purposes; (*b*) so far as possible the city's streets should be relieved from the unnecessary hauling of raw materials of the factory's products to and from the factory through the built-up city; (*c*) it is desirable that the central city should be free from smoke and other nuisances often associated with factories. It is this point of view largely that has justified the establishing of the outlying industrial zone so common in European cities.

(3) The most fundamental inquiry, however, is the question of the location of the homes of factory employees. The more important advantages that are assured to workmen's homes in the outskirts as against homes in the city are as follows: (*a*) the opportunity for relatively cheap land; (*b*) proximity to the factory, and the incidental saving of time and carfare; (*c*) a home in the outskirts will place a workman close to the country and to the city's outlying parks.

The general conclusions from this examination of the problem of the factory and the home are five:

1. That new factories, in their own interest and in the interest of all others concerned, should locate on the outskirts of cities, or establish independent industrial centers, whenever practicable.

2. That existing factories in cities should be encouraged, as opportunity offers, to remove to more open situations.

3. That employers and employees should coöperate in a social and democratic way to create a community on the outskirts of cities near factories, each doing their part to make the local community healthful, convenient, and attractive.

4. That the same coöperation should be directed toward securing also for employees and their families, by proper transportation facilities, some of the advantages and pleasures of city life.

5. That the choice for factory employees should not be sharply drawn between the city and the country. Both should be recognized as desirable—the city for occasional inspiration, diversion, and wider social intercourse, and the more open countryside for the essentials of daily life.

One important phase of the housing problem is the employment of methods of house construction which will reduce the cost. This would come mainly from the adoption of the standardizing principle, which might be applied successfully in concrete, wood, or other materials. In the case of concrete, as illustrated at Forest Hills Gardens, Long Island, N.Y., the noteworthy advantages of such a system lie in the natural adaptation of construction and design, shop manufacture with its possibilities of standard, economic conditions of all kinds, the use of efficient mechanical devices, and the adjustment of the building units. The use in construction of large concrete units for bridges, warehouses, power-plants, hotels, etc., is no new idea. It is now proposed to extend it to the low-cost house field, made possible by standardization and wholesale building operations. This extension should result in great economies in labor and a distinct reduction in the time required for house-building.

It ought also to be possible to effect substantial economies, and at the same time secure houses of good design and sound construction, by the wider application to wage-earners' homes of mill-cut methods. There are a number of mill-cut house concerns in the United States, but they all appear to be doing a relatively small retail mail business, each handling a considerable variety of designs. What is most needed, it would seem, is a large wholesale business, with carefully worked out, standardized plans, limited to a few varieties. There is a call especially for four- and five-room houses with bath, the materials for which would cost not more than $800, and the construction, according to the usual estimate, about $800 more, making a total of $1,600. A lot 50 feet by 100 feet, with improvements, would normally not run over $400, so that the total cost for house and lot would be approximately $2,000. I know of few other regular business opportunities offering as good promise of useful service and profit.

In conclusion, may I ask, is not this the real problem of housing: "How are we going to invest 25 per cent of the workingmen's wages—a very large sum of money—so as to get the maximum return for him, for his employer, for the legitimate

building interests, and for the community at large?" The way followed at Waterbury, Kenosha, Bridgeport, and now being taken up at Akron, is, I believe, at least promising of good results. Therefore, it is worthy of careful watching.

The other and final question is, "Who is primarily responsible for action?" That, after all, is our real problem, how to get started, and the reason that the housing movement halts. I do not think that we can prove by logic that the employers are responsible, although there is no doubt in my mind that it is to their own interests to act promptly and on a large scale. The investment in housing should be looked upon as a part of the total investment necessary for carrying on business. An increase of 4 per cent or 5 per cent in the capitalization of business would provide permanently for the housing of all workingmen, married and single, men and women.

APPENDIX

.....PLANT

DATE REQUISITION FOR HELP

BUILDING NO. FLOOR NO. DEPT. NO. SHIFT

NUMBER WANTED	KIND OF MEN WANTED	DATE WANTED	RATE APPROXIMATE

STATE ABOVE, NATURE OF WORK TO BE DONE

MAKE OUT SEPARATE REQUISITION FOR EACH KIND OF MEN WANTED

.....Asst. Foreman

..... Foreman

Approved..... Supt.

Approved..... Works Mgr.

(Face) (Over)

NAMES OF MEN SENT FOR	DATE	REMARKS

(Reverse)

REQUISITION FOR LABOR (4″ x 6″)

No.....

APPLICATION FOR POSITION

What position do you apply for?..	.....191..
Name	What Dep't? .....
Street	Age .....
Town	Married or Single?.....
Nationality	Language Spoken.....

When were you last vaccinated?.....

Do you live with parents?	Are you boarding?	Are you housekeeping?
.....	.....	.....

.....

Last Employer's Name.....

Address..... Kind of business.....

How long were you there?.....Salary received.....

Why did you leave?.....

When did you leave?.....

Have you ever been employed here before?.....

Would you consider it your duty to report, in writing or otherwise, any act or conduct of your fellow employee that you consider against the interests of our business?.....

It is understood that I become a member of..... & Co.'s Employee's Mutual Aid Association as soon as I enter the employment.

I agree, if engaged, to conform to the rules and regulations of the Company. My engagement can be terminated at the option of..... I being likewise at liberty to terminate. Absence from duty for one week without notice terminates my engagement.

(Do not write below)	
Dep't.....	.....
Date.....	(Applicant sign here)
Engaged by.....	
Salary.....	

FORM USED BY DEPARTMENT STORE EMPLOYING 2500. (Over)

GIVE NAMES AND ADDRESSES OF FORMER EMPLOYERS

NAME	ADDRESS	CAPACITY	LENGTH OF TIME	YEAR

References other than Employers:

(REVERSE) OF APPLICATION BLANK

Form 874–B. 8–18–15 M.

REGISTRATION OF EMPLOYMENT

NAME _____ PRESENT ADDRESS _____

HOME ADDRESS _____ PRESENT ADDRESS _____

IN CASE OF EMERGENCY NOTIFY

NAME	RELATION TO YOU	TEL. NO.
ADDRESS	WHERE EMPLOYED	

Age	Birthplace	Yrs. in U. S.	Naturalized	White / Black	Married / Single	Ever in our employ? Date	Dept.	Education

FORMER EMPLOYERS

Employer	Address	Nature of work	Date	Why Left

DRAFT RECORD						PHOTOGRAPHIC RECORD						PHYSICAL RECORD					
Date						Date						Date					
E. F. C.						Dept.						Accepted					
Terminated						No.						Rejected					
Certified						Initials of Photographer						Initials of Doctor					

DATE _____ SIGNATURE OF EMPLOYEE _____

FORM USED BY SHIPYARD OF OVER 10,000 EMPLOYEES (5″ x 8″)

This card is intended to contain a complete record of an employee from the time he enters the concern to the time he terminates his employment. The section of the card referring to "Draft Record" was used during the war. The color of the card is orange. A different color is used for cards of female employees.

EMPLOYMENT RECORD

Check No.				
Date				

Name

Employed As Date Effective

Foreman Dept. Rate

Button By Failed to Start Interviewer

RE-EMPLOYMENT

Occupation	Dept.	Rate	Date	Interviewer

CHANGE OF RATE

Occupation	Dept.	Rate	Date	Effective

ADJUSTMENT DIVISION

TRANSFERS

From Occupation	Dept.	Date	Rate	To Occupation	Dept.	Date	Rate

TERMINATIONS

	Date	Date	Date	Date
Resigned				
Laid off				
Disch'g'd				
Notice				

Reasons:

Signed Adj.*

Signed Adj.

Signed Adj.

Signed Adj

Reverse Side of Registration Card

*The term "Adj." stands for Adjuster or the person who interviews each employee who terminates his employment with the company.

Name..... Address.....

Age..... Race..... Trade.....

Eyesight ..... Urinal Diseases.....

Hearing ..... Varicose Veins.....

Mouth ..... Genitals .....

Teeth ..... Hernia .....

Heart ..... Vaccination .....

Lungs ..... Illness .....

Blood Pressure .....

Remarks .....

Accepted..... Rejected.....

Date..... Signed.....
Examiner

PHYSICAL EXAMINATION CARD

U. S. SHIPPING BOARD EMERGENCY FLEET CORPORATION

Form 210.—E. F. C. (Size 4" x 6" Yellow)

FOREMAN'S RATING

Mr.....Foreman Date.....

.....Dep't.

The bearer....., applies for employment as.....with.....experience.

Please interview him and note result below with any recommendation you may wish to make.

.....Employment Department

Foreman's rating of applicant.....

Recommended for .....

Rate recommended .....

.....Foreman

Return in sealed envelope to Employment Department. .....Dept.

U. S. SHIPPING BOARD EMERGENCY FLEET CORPORATION

Form 208.—E. F. C. (Size 4" x 6")

This slip, printed on colored paper, is sent with the applicant to the foreman of the shop or department wherein he is to be placed.

Form 128

RUBBER WORKS COMPANY

QUARTERLY INDIVIDUAL RATING LIST OF EMPLOYEES

DEPARTMENT _____ DATE _____

NAME OF EMPLOYEE	Nationality	Length of Service		Average Weekly Earnings for Quarter		Kind of Work	10%	10%	10%	10%	10%	10%		10%	10%	10%	10%	100%	REMARKS
		Yrs.	Mos.				Physical	Intelligence	Speaks English	Temperate	Department and Cleanliness	Days Absent No.	Days Absent %	Speed in Work	Quality of Work	Industrious	Adaptibility to Job		

(Size 8½" x 13¼", White)

RECORD SHEET USED IN DETERMINING UPON PROMOTION AND INCREASE IN WAGES.

.....191..

To.....

REGARDING.....

DEPT..... OCCUPATION.....

WE BELIEVE FOR THE BEST INTEREST OF EMPLOYER AND EMPLOYE, THAT IT WOULD BE WISE TO CHANGE THE WORK OF THE ABOVE NAMED, AS WE FIND

R.T.W. 540 .....M. D.

(Size 3″ x 5″)

Used by the Medical Examiner in notifying the Employment Department that an employe is physically unsuited to his work.

Form 872-B. 8-18-5 M.

REQUEST FOR TRANSFER

NAME..... DATE.....

DEPT.....No.....

LENGTH OF SERVICE.....

I hereby make application to be transferred

From..... To.....

APPROVED:

.....
OLD FOREMAN

APPROVED:

.....
NEW FOREMAN

APPROVED: SIGNED:

....
ADJ. SUPVR.

Application for transfer may be made only after THIRTY DAYS Employment with the.....CORPORATION.

(Size 3″ x 5″)

This form is used by foremen where an employe desires to be transferred.

FOR TIME DEPARTMENT

TRANSFER CARD

NAME OF EMPLOYEE			TRANSFERRED { TEMPORARILY / PERMANENTLY } CANCEL THE TERM WHICH DOES NOT APPLY
FROM		TO	TO TAKE EFFECT
DEPT	NUMBER	DEPT NUMBER	

PRESENT POSITION		NEW POSITION	
POSITION	RATE PER HOUR	POSITION	RATE PER HOUR
REMARKS		(SIGNED)	
			DEPT FOREMAN (PRESENT)
		(SIGNED)	
THIS FORM SHOULD BE RENDERED IN TRIPLICATE. THE ORIGINAL MUST BE FORWARDED TO THE TIME DEPT. THE DUPLICATE IS FORWARDED TO THE RECEIVING DEPT. THE TRIPLICATE SHOULD BE RETAINED BY THE ISSUING DEPT		(APPROVED)	DEPT FOREMAN (RECEIVING)
			GEN'L SUPT.

(Size 4″ x 6″)

This form is used by several large corporations. It is rendered in triplicate, each form of a different color. The original goes to the time department, the duplicate to the receiving department, and the third is retained by the issuing department.

ACCIDENT REPORT

Name..... Check No..... Dept.....

Time of Injury.....Time reported.....

Place of Accident.....Date last inspection.....

Cause .....

.....

.....

Nature of Injury.....

.....

.....

Treated by.....

Period disabled.....

Compensation .....

Witnesses .....

.....

Foreman .....

.....

(Size 4″ x 6″)

Form used in the Medical Clinic of a manufacturing concern employing about 3000 men.

REPORTED TO COMMISSIONER

SERIAL NO.

MAN'S NO. NAME ADDRESS

NATURE OF ACCIDENT | OCCUPATION AT TIME OF ACCIDENT

CHARACTER OF INJURY

PLACE OF ACCIDENT	MACHINE		TIME OF ACCIDENT				
			HOUR				
DEPT.	NUMBER	CLASS	A. M.	P. M.	DAY	MONTH	YEAR
DATE RETURNED TO DUTY							

ATTENDED BY WHERE TAKEN

TOTAL HOURS LOST	RATE	AMOUNT	SURGICAL FEES	TOTAL COST	AMT. PAID

REMARKS

AP 19

ACCIDENT REPORT

(Size 5" x 8")

THE YOUNGSTOWN SHEET & TUBE CO.

MEDICAL DEPARTMENT

Check No..... Name.....
Department..... Age..... Date.....
General appearance.....
Height.....ft.....in. Weight..... Color hair.....
Eyes .....
Ears .....
Nose .....
Mouth .....
Neck .....
Heart .....
Lungs .....
Abdomen .....
Arteries .....
Extremities .....
Ing. region .....
Spine .....
Skin .....
Infectious disease .....

FORM OF PHYSICAL EXAMINATION RECORD.

ERIE FORGE & STEEL CO.—MEDICAL DEPARTMENT.

Name..... Check No..... Address.....

Date of injury..... Age.....Department.....

Nature of injury.....

.....

Date discharged by doctor.....Date able to work.....

Date.	Treatment and progress of case.
.....	.....
.....	.....
.....	.....

COMBINED SURGICAL CASE RECORD AND REDRESSING RECORD.

TERMINATION NOTICE

SETTLEMENT CLERK: PAY EMPLOYEE NAMED BELOW, SETTLEMENT IN FULL FOR EARNINGS DUE

NAME	DEPT.	NO.	MONTH	DAY	YEAR

WHY TERMINATED

FOREMAN OF DEPT.

MEMO OF TIME NOT PREVIOUSLY REPORTED TO TIME OFFICE

WEEK ENDING	DAY WORK HOURS	BONUS P W HOURS	RATE	AMOUNT	

TIME CLERK

ORIGINAL—
TO BE TAKEN BY THE EMPLOYEE TO EMPLOYMENT OFFICE

TOTAL EARNINGS			
DEDUCTION			
NET AMT PAID			
DUE BILL NUMBERS			

(Size 4″ x 6″, Blue)

TERMINATION NOTICE

SETTLEMENT CLERKS PAY EMPLOYE NAMED BELOW, SETTLEMENT IN FULL FOR EARNINGS DUE.

NAME	DEPT.	NO.	MONTH	DAY	YEAR

WHY TERMINATED

FOREMAN OF DEPT.

RECORD

RECOMMENDATION

DUPLICATE—TO BE SENT AT ONCE IN SEALED ENVELOPE TO EMPLOYMENT OFFICE.

(Size 4″ x 6″ White)

A duplicate of this form on yellow stock is retained for the foreman's record.

CLEARANCE SLIP

Date.....

Name..... No.....

O. K. by.....As to tool clearance

O. K. by.....As to brass checks, badge, buttons and keys

Received from the LAKE TORPEDO BOAT CO. $.....as wages in full.

Signed.....

Form L.T. 147

(Size 3" x 5")

Form to record clearance of responsibility for tools and other company property at time of termination of employment, and receipt for wages.

SURVEY OF NATIONALITIES

DEPARTMENT	American	Irish	Russian	Italian	Pole	Spanish	Greek	Swede	Norwegian	Magyar	Austrian	Other Nationalities	Ist Papers	Naturalized	TOTAL

LABOR STABILITY REPORT

PLANT SUMMARY

Month.....19....

Name of Firm..... TOTALS

Total No. of Employees 1st of month—Male.....Female..... .....

Total No. of Employees end of month—Male.....Female..... .....

Net Increase or Decrease . . . . .or.....%

Labor Turnover . . . .%

Turnover previous month. . .....%

ENTRANCES	Male	Female	Per cent
1—Employed	.....	.....	.....
2—Re-employed	.....	.....	.....
.....	.....	.....	.....
	Total, ...		
TRANSFERS			
1—Promoted	.....	.....	.....
2—Another trial	.....	.....	.....
.....	.....	.....	.....
	Total, ...		

TERMINATIONS	Male	Female	Per cent
1—Resignations (voluntary) . . .	.....	.....	.....
2—Discharges.	.....	.....	.....
3—Lay-offs	.....	.....	.....
4—Unavoidable	.....	.....	.....
.....	.....	.....	.....
	Total, ...		

EXPLANATION

LABOR TURNOVER is the condition in industry represented by the engagement, loss, and replacement of workers. It represents the leakage or waste of man power and is a fair index of the efficiency of management methods and conditions of employment.

FORMULA FOR COMPUTING LABOR TURNOVER

T=Turnover; A=Average* number actually at work daily for period computed; L=Loss; M=Transfers from department to department; U=Unavoidable losses (death, disease, etc.)

For the Plant $\frac{L-(M+U)}{A}=T$

For a Department ‡$\frac{L-U}{A}=T$

The following formula is recommended by U. S. Dept. of Labor and National Employment Managers' Conference, Rochester, N. Y., 1918.

$\frac{L}{A}=T$

WHEN INCREASING THE FORCE=Subtract the increase from the number hired during the period. This will give the amount of loss or value of L. Then use the formula.

WHEN DECREASING THE FORCE=Add the number represented by the decrease to the number hired during the period to obtain the number leaving or value of L. Then use the formula.

*The average should be obtained by adding the daily totals of workers employed and dividing the result by the number of working days; for a weekly average, by taking the daily totals of workers employed and dividing by the number of weeks. To obtain the annual rate of turnover multiply the monthly figure by 12, or the weekly figure by 52.

‡Transfers should be included in the value of L. when computing turnover for a department.

[Over]

If it is desired to obtain a daily turnover record for a particular department this sheet can be used to advantage after writing in the dates of the month in the column marked "Department."

It is suggested that all totals be written in red ink so as to make results stand out clearly.

LABOR TURNOVER

ENTRANCES

DEPT.	NEW WORKERS			RE-EMPLOYED			TRANSFERS			Summary of Terminations,			RESIGNATIONS								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	SKILLED	SEMI-SKILLED	UNSKILLED	SKILLED	SEMI-SKILLED	UNSKILLED	PROMOTED	ANOTHER TRIAL		SKILLED	SEMI-SKILLED	UNSKILLED	WAGES	BETTER JOB ELSEWHERE	HOUSING CONDITIONS	INDUSTRIAL ACCIDENTS	WORK CONDITIONS				REASON UNASCERTAINED
Totals																					
%																					

NOTE: Each Dept. should be subdivided so that each division may be accorded its net gain or loss.

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BY DEPARTMENTS

TERMINATIONS .....19....

DISCHARGES								LAID OFF			UNAVOIDABLE			TRANSFERS			TOTALS		
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38			
INCOMPETENT	CARELESS	FREQUENT ABSENCE	LATENESS	MISCONDUCT	INSUBORDINATE			SEASONABLE OF NO WORK	TEMPORARY WORK		DEATH	ILLNESS		PROMOTED	ANOTHER TRIAL		ENTRANCES	TERMINATIONS	NET GAIN (+) OR NET LOSS (—)

TERMINATIONS

TURNOVER ACCORDING TO PERIOD OF SERVICE

	TOTAL	
Employed 2 weeks or less . . .	=.....	.....% of terminations
" 2— 4 weeks . . .	=.....	.....% " "
" 1— 3 months . . .	=.....	.....% " "
" 3— 6 months . . .	=.....	.....% " "
" 6— 9 months . . .	=.....	.....% " "
" 9—12 months . . .	=.....	.....% " "
" 1— 2 years . . .	=.....	.....% " "
" 2— 3 years . . .	=.....	.....% " "
" 3— 4 years . . .	=.....	.....% " "
" 4— 5 years . . .	=.....	.....% " "
" 5—10 years . . .	=.....	.....% " "
" 10—15 years . . .	=.....	.....% " "
" Over 15 years . . .	=.....	.....% " "

TURNOVER BY NATIONALITIES

	TOTAL	
American	.....	.....% " "
English	.....	.....% " "
Italian	.....	.....% " "
Russian	.....	.....% " "
Polish	.....	.....% " "
French	.....	.....% " "
German	.....	.....% " "
Austrian	.....	.....% " "
....	.....	.....% " "
....	.....	.....% " "
....	.....	.....% " "
....	.....	.....% " "

.....

EMPLOYMENT MANAGER

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