The Institute's Part in the Improvement of Industrial Relations

Sub-committees on Various Branches of this Work Made Their Reports at the New York Meeting of the Institute, February, 1920. Excerpts, Pointing Out the More Important Findings and Suggestions, Are Given

In order to carry on its work most effectively, the Committee on Industrial Organization (now known as the Committee on Industrial Relations) consists of a number of sub-committees, each composed of a chairman and members who are especially fitted to carry out the work designated by its title. With only one or two exceptions, all of these committees made reports at the New York meeting of the Institute, in February of this year, abstracts of which follow.

The Americanization Problem

E. E. Bach

Why the Americanization problem? It was definitely determined, a century and a half ago, that English should be the American language and it has been the language of the majority of the arrivals from across the sea from the beginning of the Colonial Period. For decades immigrants from other countries accepted unquestionably the responsibility of learning the language of their adopted country, for which reason the problem of educating the aliens offered no particular difficulty. As soon, however, as the immigrant tide changed from western to southern and eastern Europe, difficulties arose and the illiteracy of these had its effect on the literacy of this country. At present one-third of the population of the United States is either foreign-born or one generation removed.

Another reason for placing special emphasis on this proposition is the unprecedented increase in the number of immigrants in recent years. Immigration reached the one-million mark in 1905 and from that time until the outbreak of the great war, it averaged from 1/2 to 1 1/2 millions per year.

Americanization is not subjugation as practiced by Germany in the Prussianizing of Poland, Schleswig-Holstein, and Alsace-Lorraine. It has nothing in common with the spirit manifested in the attempted Austrianization of the Czechs and Slovaks, nor has it even a faint semblance of a shadow in common with Turkey's attitude toward the heroic God-fearing Armenians.

Americanization is not incorporation, as practiced by Canada in relation to the thousands of French who live undisturbed within its border, speaking the French language and observing the French customs, yet never becoming Canadians. Nor is it adjustment, as practiced in Switzerland, which is composed of three racial units—French, German, and Italian—each speaking his own language and being separately represented in the government.

Americanization is the process of assimilation that makes for the full functioning of American citizenship. It is the interpretation of America to the foreign-born, through reliable sources in terms of his own experience, to the end that he may express his loyalty in purposeful activity in service for this, his country.

The work of Americanization in industry can but be placed under the department of human engineering. The field of activity is as inclusive as the realm of human industrial relationships, affecting the workman on the job, in his home, in his community and in his state and federal relationships. Briefly stated, Americanization in industry has for its purpose such a happy adjustment of human relationships, between employer and employee, through satisfactory working conditions and American standard of living, as will result in maximum production and minimum labor turnover.

Industry is the greatest and most reliable asset that our nation possesses in time of peace and in time of war. It must depend on unskilled labor for its perpetuity; the non-English speaking workman constitutes nearly all of this class. The vital question that confronts this nation at all times is: Does the non-English speaking workman form a stable asset or a safe and firm foundation upon which to erect a structure so vital to the life of this nation as is industry?

Since all of the thinking in industry is done in English; since workmen must receive their directions in English; and since rules and regulations concerning all plant operations are written in English, it would seem to be a matter of the first importance to see that the non-English speaking workman at least makes the working language of industry his language.

Just as one language is the basis of security for our national life, so is one language necessary for the perpetuity of our industrial life. Just as inability to share in thought is the chief cause of weakness of our Government, because of its polyglot aspect, so is inability to share in thought the chief cause of weakness in the development of plans for industrial cooperation between employer and employee in plants where many foreign-born are employed.

It is true that speaking, reading, and writing the
American language are mere tools of learning and opportunity, but give to the foreign population of America an understanding of the language of the American Government, the American home, the American school, and the American church and you will have gone the greater part of the way in the solution of the Americanization problem.

Mental Factors in Industry

BY THOMAS T. READ

DURING the past two years remarkable progress has been made in the study of the mental factors in industry; but little publicity has been given this work, for, until the evaluation of the mental factors in industrial organization is more complete, excessive publicity might prove fatal.

Consideration of the abnormal mental factors in industry was the first purpose for which this sub-committee was formed. The sub-committee has worked quietly and, under the direction of Dr. E. E. Southard, a preliminary investigation and report on industrial psychiatry was made. The investigators now working under his direction have carried their studies out of the hospital into various industrial plants and interesting and significant case material is being prepared for publication later. Preliminary ideas regarding industrial psychiatry were presented with good results to a group of students of employment management, in the course given in Boston under the Federal Board for Vocational Education. Plans for future work include the publication of a handbook of mental hygiene of industry, written from the industrial point of view, and the extension of clinic plans to the main centers of industry for the instruction of employment managers and the general management.

Of work originating outside the group just mentioned, mention must be made of a notable paper by Dr. J. D. Ball on the correlation of neurology, psychiatry, psychology, and general medicine as scientific aids to industrial efficiency. In the plant where Doctor Ball did his work, a strike occurred, concerning which he states that “in the case of every employee terminated for the group examined, whether discharged or voluntarily leaving, the prediction of a possible abnormal conduct or a dissatisfaction was made in the laboratory report.” No one believes that strikes can be prevented by psychiatric studies of workmen. Doctor Ball specifically states that no such inference may be drawn but that “this examination does show that the agitators in this group were the self-assertive ones and the ones grading highest in intelligence; the others simply followed the leader.” In other words, the qualities that make a man a strike leader are much the same as under other conditions might have made him a captain of industry; and just as it is necessary to know the characteristics of an explosive before it is used underground, so it is desirable to know mental characteristics of a man before he is employed.

In the study of the normal mental factors in industry, the development of tests to determine the mental caliber and output of the individual continue to excite most interest. Last year the intelligence tests devised for the Army by a group of psychologists were described by Doctor Yerkes. Since then W. D. Scott and several associates, among them Doctor Yerkes, have established the Scott Co., of Philadelphia, to serve as consultants and engineers in industrial personnel. This organization has adopted the term “mental alertness” tests and has so altered the tests as to make them dependent on a large vocabulary to avoid ridiculous contradictions, and absurd problems. These tests have been applied to office workers in a sufficient number of instances to indicate their value in the selection of employees, and suitable standards for different jobs are being worked out.

In the field of application of mental factors, employee representation in company management is attracting most interest. There can be no doubt that the strong tide of sentiment toward employee representation in management has its origin in a lack of confidence by the employees. Before the American Multigraph Co. submitted a constitutional plan of employee representation it carried out a carefully planned two-year educational campaign. When the representation plan was put into force it was very successful; but to my mind this success was due to the confidence, respect, and understanding of the business management that had been engendered by the educational campaign.

Another important mental factor in industrial organization is the method of wage payment. In a paper read before the Société de l'Industrie Minérales de France, method of payment is put first in the mental factors that influence individual output, and supervision as the second. In a paper read before the Taylor Society, December, 1919, H. Archbald is inclined to consider supervision as more important than method of wage payment. Certainly both need consideration as mental factors of the first magnitude.

Industrial Fatigue

Another important field is that of industrial fatigue. Most of the investigation has been done by physiologists who have drawn their deductions from production curves that give no indication of the potential capacity of the worker or the relation of actual output to his potential capacity. In England, an Industrial Fatigue Research Board has been carrying on an elaborate investigation, but such of their results as I have seen take no cognizance of this all-important mental element in fatigue. R. B. Wolf has touched on the matter in a general way in his well-known arguments regarding the potency of non-financial incentives for increasing production.

In England there has also been an awakening of interest and at the Cambridge Summer School for the Study of Industrial Problems Prof. T. H. Pear of the
University of Manchester delivered a series of four lectures on Social Psychology and the Industrial System.

In closing this review of progress during the year, I wish to make one more reference. James H. Woodward, in his presidential address before the Casualty, Actuarial and Statistical Society of America recently, pointed out that much of human conduct is based on the unconscious, and the root of our troubles therefore often lies outside the field of awareness. He urged that the "science of human behavior," as he expresses it, be applied to social problems. "This would make it possible to observe toward social questions some measure of that serene impartial attitude which now marks our treatment of problems in physics, chemistry and mathematics. Only thus may we hope to gain a control of social phenomena in some measure comparable to our present degree of control over physical phenomena." Substituting "industrial" for "social" in this statement makes it the end-point of progress for engineers and specialists in mental phenomena in their attempts to create a "science of human behavior" that will be applicable to the problems of industrial organization.

Education

BY E. A. HOLBROOK

THE Committee recognizes at least four grades of mining and metallurgical education, as follows: (1) Graduate university courses, which develop technical specialists and research men. (2) The ordinary undergraduate mining or metallurgy course, fitting men for general professional work in mining engineering or metallurgy. (3) The trades school courses, where men with grammar-school foundation may fit themselves for foremenships and similar positions. (4) The vocational school, where men may be taught in a few days or weeks those essentials of a trade that otherwise would take years to learn if the individual depended on the good humor of his fellow workers.

As to details of subject matter and course content in any or all of these schools, the Committee recommends that the Institute, if at all interested, allow the matter to be handled by a committee of teachers themselves. The Society for the Promotion of Engineering Education is better able to discuss these problems than is the Institute.

The Committee recommends that the Institute members try to make vocational mining and metallurgical education a success in their respective communities. It also calls attention to the fact that the present high wage given relatively unskilled and untrained laborers makes it seem relatively unimportant to many men to improve themselves mentally. The Committee recommends that the Institute express its belief that this condition is temporary and should not deter any man from making the effort to obtain special trade or technical training.

Housing

BY WILL L. CLARK

MOST of the construction now being done for individuals is of poor quality. Generally there is such shortage of skilled labor and of building materials that scant selection may be exercised. Under the circumstances it does not appear expedient to suggest standards, and the Committee has not formulated any.

To those interested, attention may be called to the reports of the United States Department of Labor; the United States Housing Commission, and the Ontario, Canada, Housing Commission. During March, 1919, the Legislative Assembly of Ontario provided for the erection of dwellings, under the provision of the Dominion of Canada for lending money for 20 years at 5 per cent. per annum to the Provinces for this purpose. Such a project for the United States is not recommended by this Committee, but the chairman believes that some form of aid should be devised, and has suggested that the duties of the proposed National Industrial Commission should be extended to include the appointment of a local board in each district, which would act as an employment agency and would also obtain and publish fair prices of necessary of living and building materials, and would assist workmen with building plans and costs.

In addition to the well-known cement blocks, cement slabs, with interlocking ends to form a double hollow wall, are worth consideration. The trades school courses, where men with grammar-school foundation may fit themselves for foremenships and similar positions. (4) The vocational school, where men may be taught in a few days or weeks those essentials of a trade that otherwise would take years to learn if the individual depended on the good humor of his fellow workers. As to details of subject matter and course content in any or all of these schools, the Committee recommends that the Institute, if at all interested, allow the matter to be handled by a committee of teachers themselves. The Society for the Promotion of Engineering Education is better able to discuss these problems than is the Institute.

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FUEL SAVING

Very few houses try to prevent the loss of heat by radiation through window glass; from personal experience, the chairman knows that double windows and storm doors will save a large percentage of fuel. A practical double window-sash construction, which would keep the interior surfaces clear, should have a large sale. An excellent insulating product, called "Flaxlinum," is made from the hulls of flax seed; it is claimed that $2 in. thickness thereof is equal to 8 in. of brick. The chairman has tacked it on the rafters under roofs with excellent results in keeping out extreme summer heat in the Southwest.

MOST HOUSE FOR LEAST COST

As the present-day problem is to obtain a comfortable dwelling with modern conveniences, at the least cost, it appears as though architects and builders are neglecting the advantages of the square, story and a half design, with the stairways to the upper story and the cellar attached outside. One writer has prepared standardized plans and makes the estimate that a 22-ft. square, two-story type, compared with a bungalow, would show a saving in construction cost of at least $476; and, compared with the center-hallway type, of $818; also that operating and maintenance charges would be lessened.
Accident Prevention, 1919

BY FRANCIS P. SINN

In 1908, the Department of Commerce and Labor, after a comprehensive study, estimated that there were approximately 35,000 men killed annually in the industries of the country. In 1917, according to the estimate of the U. S. Bureau of Labor Statistics, the number of persons killed in industrial accidents had been reduced to 28,000, though the population had increased approximately 19 per cent. The coal and metal mining industries, however, show a comparatively small reduction.

The greatest force in the field of accident prevention today is the National Safety Council, the membership of which comprises approximately 4000 industrial concerns. This organization, in addition to the service it has rendered its members for the past nine years, is seeking to form permanent local councils, to promote public safety, and advance safety education. Perhaps its most ambitious task is the development of a plan for the systematic teaching of safety in public schools. This plan does not burden the schools with an additional study, but provides for the use of safety material in the various branches of study already included in the curriculum.

The Council has also undertaken to introduce in the technical schools and universities instruction in the fundamentals of modern accident prevention, so that every engineering graduate may be given an appreciation of safety and a clear understanding of its relation to efficiency and economy in production. Forty-one colleges are now using its lecture outlines, and two of the technical schools in the East have added special courses in safety to the curriculum.

SAFETY STANDARDS

With the development of the safety movement the need for standardization of safety work, especially the mechanical features of it, soon became evident. To meet these needs, the state labor departments and the insurance companies have adopted safety codes, but as these have been formulated independently they lack uniformity.

A plan is well under way for the formulation of safety standards under the auspices of the American Engineering Standards Committee. At a conference held at Washington, in December, 1919, it was decided to organize a general advisory committee which would include representatives of all national associations, state commissions, and others legitimately interested, to survey the whole field of safety standards and recommend what standards should be undertaken first and what organizations should sponsor them. This committee agreed that in general the sponsorship of any particular code should be assigned to the organization that had already formulated or started to formulate a code on that subject. It was recommended that the U. S. Bureau of Mines take up with the mining societies and the Mining Section of the National Safety Council the matter of formulating mining safety standards in addition to those already promulgated by the Bureau of Mines.

MINING SECTION OF THE NATIONAL SAFETY COUNCIL

The National Safety Council since its organization has been rendering valuable service to its members in the mining industries. At its last annual meeting, held in Cleveland in October, 1919, Benjamin F. Tillson, chairman of the mining section, recommended that the mining section enlarge the scope of its work through the employment of a technical executive secretary whose duties would, in part, be as follows: (1) To visit mines and gather information along safety lines for dissemination among the members of the section. (2) To aid in the formulation of mine safety standards. (3) To prepare safe-practices pamphlets on special mining subjects. (4) To follow up research work undertaken by individual members in behalf of the section. (5) To develop cooperation with the mining engineering societies. (6) To prepare courses in safety instruction which may be given by the members to their foremen and miners. To meet the expense of this additional service, Mr. Tillson has proposed that each member of the mining section double the dues he is now paying. It was estimated that the increased cost of this special service would be not less than $10,000 annually. Doubling the dues of the present membership of the mining section would provide this additional income, with a small allowance for extra printing.

This plan was favorably received at the annual congress, and the matter is now being submitted to the vote of the entire membership of the section. The responses received up to this time indicate that the majority of the members are in favor of the plan.

COOPERATION OF THE A. I. M. E. WITH THE NATIONAL SAFETY COUNCIL

The American Institute of Mining and Metallurgical Engineers can utilize to advantage the experience of various groups of industries represented in the National Safety Council, because safety problems in mines include others besides those which relate strictly to mining engineering. The National Safety Council can utilize to advantage the technical knowledge and information which the Institute is capable of furnishing. For these reasons, it is highly important that there should be close cooperation between the Institute and the Council. Such cooperation may be expressed in various joint activities, among which may be mentioned the following: Promotion of safety education in engineering schools and colleges; encouraging manufacturers of mining machinery to attach needed safeguards, publication of safe-practices pamphlets, and bulletins, and providing speakers for meetings.