The National Institute of Industrial Psychology

A LARGELY attended meeting of the National Institute of Industrial Psychology was held at the Mansion House, London, on March 27, at which the principal speakers were Viscount Haldane, Mr. W. L. Hichens (Chairman of Messrs. Cammell Laird & Co., Ltd.), and Dr. C. S. Myers (Director of the Institute). The chair was occupied by Mr. H. J. Welch (Director of Messrs. Harrisons and Crosfield, Ltd., and Chairman of the Institute). The following resolution, moved by Dr. Myers and seconded by Mr. Hichens, was carried unanimously:

"In view of the present serious economic situation and of the necessity to reduce costs of production and to increase the total national output, this meeting is of the opinion that: (*a*) a more complete and scientific development of the nation's human resources and a reduction of wasteful and misapplied energy are matters of urgent national importance; (*b*) the methods adopted by the National Institute of Industrial Psychology have been shown to reduce costs of production, to promote the development of individual ability, to eliminate unnecessary effort and fatigue, and to improve the health and well-being of the worker; (*c*) it is imperative that a national fund should be immediately established to enable the institute to extend its sphere of usefulness and to continue the necessary researches into the scientific problems involved."

The following letter was read from Mr. Seebohm Rowntree: "I am sorry I cannot be present, for I should have been glad of an opportunity to speak of the services of the institute to the cocoa works at York. We have felt for some time that benefits would accrue if some of the human factors affecting efficiency were studied on a more scientific basis. . . . It was a great advantage to be able to turn to an institute like yours and to secure from you not only a trained worker to make actual observations among the workmen, but the services of a skilled psychologist to direct him. It has shown us how important are the researches still to be made in our own factory by psychological experts."

Mr. Harry Salmon (Managing Director of Messrs. J. Lyons and Co., Ltd.), in proposing a vote of thanks to Viscount Haldane for his address, expressed his pleasure and satisfaction at the work carried out by the institute in the factories and depots of his firm. The output of the packing department of the chocolate factory had been increased by over 35 per cent., and at the same time the amount of effort and fatigue of the workers had been reduced. Similar results were being obtained in other departments of the firm.

Dr. Myers emphasised the value to the employees of the institute's work. Many workers, he said, have expressed their gratitude spontaneously to the investigators for the reduced fatigue felt at the end of the day. The form of the daily output curves before and after the investigations has actually demonstrated the reduction in the workers' fatigue.

The institute, he said, also aims at guiding the young worker in the choice of his occupation, submitting him to detailed examination by applying to him a series of mental, physical, and medical tests, and considering the results in conjunction with school records. These tests serve also to guide the employer in selecting the most capable applicant for a vacant post. They are not intended to replace the ordinary interview, but to supplement it by the measure they afford of the candidate's general intelligence, and of his endowment with the special abilities required for the particular job. The institute has already, thanks to the investigations of Mr. Cyril Burt, formulated satisfactory tests for shorthand writers and typewriters. Mr. Muscio's tests for selecting compositors, published by the Industrial Fatigue Research Board, have proved equally valuable.

In the United States numerous bureaux of vocational guidance are scattered over the whole country. Occupational tests are to-day being applied in America for the selection of sales clerks, proof-readers, clerical workers, inspectors, assemblers, and other types of factory workers. Mental tests have been introduced in place of, or as complementary to, the ordinary entrance examinations in several important universities of America. At the Carnegie Institute of Technology in Pittsburgh (in the University of which there are over 2000 students of psychology) the Bureau of Personnel Research is maintained financially by a number of industrial and commercial firms, who thus obtain information relating to the selection, training, organisation, and supervision of their personnel. Single firms or groups of firms arrange with the Carnegie Institute for special research on the problems arising in their factory, office, sales, or executive organisation. Instruction and research on vocational psychology are carried on in most of the American universities.

In Barcelona, the Institute of Vocational Guidance is supported entirely by the city and by the province of Catalonia. Over a thousand applicants for advice pass through its hands every year. In Brussels a similar rate-supported vocational guidance bureau is doing most valuable work, abolishing the huge number of occupational misfits and thus reducing not only the vast expense of a needlessly large labour turnover but also the overstrain and unhappiness of the misguided worker. In Germany laboratories concerned with industrial psychology and physiology have been established in Berlin, Frankfurt, Leipzic, Munich, and other large centres. The Allgemeine elektrische Gesellschaft, the Osram Company, the Berlin Tramways, Siemens and Halske may be mentioned among the firms which have availed themselves of the services of such institutes, especially in the selection of workers in their principal departments. It is stated that during twelve months the Grosser Berliner Strassenbahn has saved over twelve million marks as a result of the application of vocational selection, proper training based on motion study, etc. Indeed, Germany hopes to secure a lead in commerce and industry by paying attention to their *human* aspect, just as in pre-war days she advanced by paying attention to their *material* aspect. Her trade unions are likewise recognising the value of vocational guidance and of systematic training in approved methods of work.

Viscount Haldane, in the course of an eloquent address, stated that there was no problem more menacing than that of unrest arising out of the relations of Labour to Capital. We had reached a stage at which the merely mechanical work was being done more and more by the machine, while the worker was becoming more and more engaged in the directing of the machine. In other words, mind was becoming of ever-increasing importance; indeed it was not capital that created wealth, nor labour, but mind. One of the objects of the institute was, so far as possible, to relieve labour from the feeling that men and women were only machines. The aim of the institute was not to secure increased output at all costs to the worker, but to improve the mental, physiological, and physical conditions under which he worked and by this means to increase his efficiency. We were beginning to realise that the workman,

although he is not a machine, needs to be studied with the same scientific care and methods as are now applied to a machine, and within twenty years, he imagined, the expert in psychology and physiology would be at the elbow of every manager of a great business. If this were done we should have taken a step towards securing the contentment of the workers, because they would, at the end of their day's work, be fresh enough to turn their attention to that spiritual refreshment and knowledge which would give them the full meaning of life.

Gas Cylinders Research.

THE first report of the Gas Cylinders Research Committee has just been published by the Stationery Office. The Committee was appointed in 1918 to inquire into the whole question of cylinders for the storage and transport of compressed gases other than acetylene, but the present report deals only with the material for cylinders for the so-called permanent gases which are not liquefied at the pressures prevailing in the cylinders. The main question under discussion was the advisability of using steel of higher carbon content than has hitherto been permitted in this country, the regulations based on the recommendations of the 1895 Committee requiring that the carbon should not exceed 0·25 per cent., whilst in America the carbon may be as high as 0·55 per cent. The railway companies favour the continuance of this restriction, arguing that the immunity of this country from cylinder accidents as compared with foreign countries points to the desirability of using only low-carbon steel. On the other hand, it is shown that cylinders of steel containing 0·43-0·48 per cent. of carbon have given perfectly satisfactory tests at the National Physical Laboratory, and that such cylinders are at present carried by road, whilst the railways conveyed a large number of hydrogen cylinders of this composition during the war under an indemnity from the Admiralty.

The Committee was not able to arrive at a unanimous decision. Eleven of the members sign the main report, in which steel of the higher content in a normalised condition is recommended as an alternative material, the stress tests and tests for toughness being specified. The chairman, Prof. H. C. H. Carpenter, and the scientific members of the Committee are agreed on this point. The dissenting member, Mr. J. H. B. Jenkins, is of opinion that high-carbon steel is not only less tough, but also more liable to variations in quality than mild steel, and that the saving in weight which would be effected by the change is too small to justify even a slightly increased risk of accident. The report contains a long account of mechanical tests and microscopical examinations, and will be found of interest by all steel metallurgists, whether they are concerned with the immediate problem or not.

University and Educational Intelligence.

ABERDEEN.—At the spring graduation ceremony on March 30 the honorary degree of doctor of laws (LL.D.) was conferred upon Prof. T. W. Griffith, Professor of Medicine, University of Leeds; Mr. John Masefield; and Dr. C. H. Turner, Dean Ireland's Professor of Exegesis, Oxford. The following higher degrees were also conferred. *Science: D.Sc.*, G. P. Hector, Agricultural Department, Dacca, India. Thesis—"Studies in the Botany and Genetics of Rice." *Medicine: M.D.*, F. W. C. Brown. Thesis—"A Critical Investigation into the Thermal Death Point of the Tubercle Bacillus in Milk, with Special Reference to its Application to Practical Pasteurisation." J. G. Danson. Thesis—"Anaphylaxis: its Relationship to Asthma and Hay Fever." M. Y. Garden. Thesis—"Observations on the Treatment of Diseases of the Lungs and Pleura by Artificial Pneumothorax." R. D. Lawrence. Thesis—"The Estimation of Diastase in Blood and Urine and its Diagnostic Significance." *Ch.M.*, Dr. W. Brander. Thesis—"Spontaneous Rupture of the Pathological Spleen."

LONDON.—The following doctorates have been conferred:—*Ph.D.* (*Science*) on Mr. J. Mould for a thesis entitled "The Properties of Dielectrics, including the Variations of Dielectric Constant with Frequency, the Energy dissipated therein and the Variation in Conductivity," and on Mr. G. Sheppard for a thesis entitled "Contributions to the Geology of Southern Alberta and Saskatchewan, Canada, with detailed reference to the Stratigraphy and Structure of the Foothill Belt and its Associated Areas"; and *Ph.D.* (*Economics*) on Bal Krishna for a thesis entitled "Commercial Relations between India and England."

The Lindley Studentship, of the value of 120*l.*, offered every third year, will be awarded to assist research in physiology in the physiological laboratory. Candidates should submit a statement of qualifications and the mode of research proposed to the Academic Registrar by May 1.

Three Research Studentships for post-graduate work, of the value respectively of 175*l.*, 105*l.*, and 75*l.* (with remission of school fees in addition), and available for two years, will be awarded in July next by the London School of Economics and Political Science. Applications, upon a special form obtainable from the director of the school, Houghton Street, W.C.2, must be sent in by, at latest, May 31.

MANCHESTER.—A Fellowship for the encouragement of research in preventive medicine has been instituted in memory of the late Auguste Sheridan Delépine, professor of public health and bacteriology in the university from 1891 to 1921, by the addition of the emoluments of the former Junior Research Fellowships in Public Health to the interest derived from an endowment of 1000*l.*, made by Dr. Charles Slater of Tunbridge Wells. The regulations which have now been approved provide for a Fellowship of 300*l.*, to be offered biennially and to be open for competition by candidates who are graduates in medicine of this or any other approved university, or who hold an approved registrable medical qualification.

The Ashby Memorial Research Scholarship in Diseases of Children, value 100*l.*, is being offered this session. Applications for the scholarship, with information as to the subject proposed for investigation and the qualifications of the candidates, should reach the Internal Registrar of the university before June 30.

WE referred in these columns on March 6, p. 325, to a scheme put forward by the Colston University Research Society, of Bristol, for the establishment of Colston Research Fellowships in the University of Bristol. Already the Society announces that Messrs. J. S. Fry and Sons, Ltd., Messrs. E. S. and A. Robinson, Ltd., and Messrs. C. Thomas and Bros., Ltd., have each promised to contribute the 150*l.* annually necessary to found Fellowships. It is to be hoped that the lead given by these firms will be quickly followed by other local manufacturers.