

and supervision are among its goals. In all industrial countries of the world, Great Britain, the United States of America, Russia, and Australia, it is an established science which is making an important contribution to human well-being and efficiency both in war and peace; and we cannot escape the fact that our enemies, Germany and Japan, have used this approach with beneficial results in building up their war potential.

Recent investigations indicate that in New Zealand there is a great need for the application of the work of industrial psychologists if industry is to meet the increasing demands placed upon it both now and when peace returns. There is little doubt that fatigue, ill health, accidents, labour turnover, absenteeism, and discontent have proved a quite unnecessary burden to our secondary industry, and it is surprising that, in the past, manufacturers generally have not realized the economic significance of these important factors in production.

The isolation of New Zealand makes it imperative that there should be specially-constituted bodies whose duty it is to keep in touch with developments abroad, and spread information within the Dominion. The small size of most New Zealand manufacturing concerns makes it impossible for the majority of them either to employ specialists or to send their principals overseas more than occasionally, if at all; therefore they must rely to a considerable extent on services provided co-operatively or by Government agencies.

The work of the Division, therefore, is filling a long-felt need in New Zealand industry, and there are many hopeful signs that considerable progress will be made in the immediate future. There are many among our manufacturers who realize what can be achieved by the application of science to industry, and that is no doubt one of the reasons for the friendly reception given to the officials of the Division and the wide interest being manifested in the work not only by business executives, but also by the labour unions affected.

The aims of the Division fall under three main heads:—

- (i) *Research*.—To collect information about any matters which affect the well-being and efficiency of the human being in industry;
- (ii) *Information*.—To spread among manufacturers, trade-unionists, and the relevant Government Departments information about the work of industrial psychologists;
- (iii) *Service*.—To assist in solving specific problems submitted by individual organizations;
- (iv) *Relations* with other bodies.

I. RESEARCH

Three research investigations have been in progress during the year.

Absenteeism

This investigation covered forty-six factories in the four main centres of the Dominion. Statistical data were taken from the firms' records; the views of managers and foremen on the question of absenteeism were collected; and approximately four hundred workers who had been absent for not less than three days during a three-month period were interviewed. An attempt was also made to assess the effect of fines on reducing absenteeism. A report based on this investigation was printed, and some seven hundred copies have been privately circulated to manufacturers, trade-union secretaries, and Government Departments. It was decided not to publish the report, as the publicity given to the question of absenteeism probably has the effect of increasing, rather than diminishing, it. Means for the reduction of absenteeism were suggested in the report.

The Ventilation and Heating of Factory Buildings

Readings of air temperature, humidity, and air movement have been made in twenty-one factories, in each case over a period of time. A report on the investigation is in preparation. The work has left no doubt that there is room for considerable improvement in the ventilation and heating of factory buildings in New Zealand. Not only in old buildings, but also in buildings of very recent construction, adequate standards are frequently not reached. In the case of new buildings, this seems to be due to, among other things, the poor design of roof ventilators. In many factories artificial means of changing the air are needed to supplement the flow through natural openings. Other common defects are the inadequate removal of heat from furnaces, gas burners, and other sources, and the imperfect removal of fumes. The heating of some factories also leaves much to be desired, and more consideration should be given to finding the most economical and efficient methods of heating for each building. A more widespread realization is undoubtedly needed of the adverse effects, both on health and working efficiency, of ventilation and heating which fall below adequate standards.

Reduction of Fatigue and Monotony: Factory Seating

Facilities were given by an engineering firm to make a detailed study of a repetitive munitions job upon which an average of twenty girls were employed. A record of individual outputs in half-hourly periods, together with a daily report on working-conditions, sickness, and workers' attitudes, was obtained over a thirty-two-week period from 14th June, 1943, to 29th January, 1944. An investigator was present in the workroom during working-hours throughout this period. As the investigation proceeded, various changes were made. Periods of music were introduced to relieve the monotony of the job. These proved almost universally popular among the girls. Thanks are due to the National Broadcasting Service for lending the gramophone records used. To reduce fatigue, an adjustable factory seat, specially designed for the occasion, was introduced, and modifications were made to the benches, which greatly increased the comfort of the operatives. These changes were much appreciated. It remains to be seen what quantitative effect they will have. A great deal of information was collected during the process of this investigation, and this is now being analysed.