

Railway Department); tests of spring buffing and draw-gear (for the Royal Commission on Railway Rolling-stock); a determination of the calorific power of Christchurch gas, and tests of tank-bands for the Christchurch City Council; tests of Portland cement, the strength and porosity of roofing-tiles, the strength of concretes, and the insulation of electric wires for various firms and persons. Much has recently appeared in the public Press concerning the relations of science and industry and the supposed apathy of the manufacturer in connection with scientific investigation, but experience here has shown that the New Zealand manufacturer is anxious to obtain scientific assistance when it can be supplied in a form of practical value. Investigations carried out in the School of Engineering laboratories at the cost of those interested have assisted in placing the cement and cast-steel industries of the Dominion on a satisfactory footing, and the strength and elasticity of the principal New Zealand timbers has been determined for a Government Department.

Two valuable additions to the testing plant were received during the year, a selerescorpe or hardness tester and a fluid-gauge capable of direct measurement of differences of .0001 of an inch. Delivery was taken of the experimental electrical plant ordered in 1914, consisting of one 12 kw. motor-driven alternator set, one 9 kw. rotary converter with transformer, one 7 h.p. three-phase motor. Foundations were put in, the plant installed, switchboards designed and erected, and the necessary connections made.

A new testing-bench was provided and the electrical laboratories greatly improved by the introduction of sliding windows in a brick partition-wall.

The school has greatly to regret the death of G. McIndoe, B.E., lately Demonstrator in Electrical Engineering, who was killed in action.

ROBT. J. SCOTT, Professor in Charge.

#### EXTRACT FROM THE REPORT OF THE ACTING-DIRECTOR OF THE CANTERBURY COLLEGE SCHOOL OF ART.

The total number of students on the roll at the commencement of the year was 340, the roll numbers being well maintained throughout the year. Drawing and painting: Although quite a number of advanced students left at the end of 1916, the standard of work was good, some excellent work being done in the evening life, landscape, still life, and antique classes. Design: Work in this section was quite up to the standard of previous years. Art crafts: The work in this section was an improvement on previous years. It has not suffered from loss of students owing to the war, as have other sections. Good work was done in enamelling, silversmiths' work, jewellery and repoussé work. These subjects attract more students than do wood and stone carving, tooled leather, and leadlight work, all of which subjects are taught in the school. Modelling: No life-modelling class was held, as many of the advanced students had left. Some very good work was done in modelling from the cast, and excellent (in some cases) in modelling from plant form by junior students. Architecture: The high standard of work in this department has been maintained, although all the eligible students have gone to the war. Several lady students in this department are making headway. Sign-painting: In this class, although many of the advanced students have gone to the war, some very good work was done. Ticket and show-card writing being a feature of this class, there is a noticeable increase in the number of lady students for this branch of work. Painters' apprentices class: This class, which is in its infancy, will not be the success expected of it until it is possible to enforce attendance of apprentices in other classes than that devoted to practical work. The practical work is done in the day classes, time for which is allowed off working-hours by the master painters. So far the apprentices are free either to attend or stay away from the evening drawing classes. The clause in the award compelling apprentices to attend four hours per week in their own time does not affect those who were apprenticed before the award was made. At present some few attend the evening classes, and the effect on their practical work is most marked. Until it is possible to get all the boys to attend the drawing classes the scheme (which has the support of both master painters and Operative Painters' Union) cannot be said to have had a fair trial.

Classes were held on Saturday morning for teachers, also at the Normal Training College on Tuesday afternoons.

The school examinations were held at the end of the year. In those sections under the heading of pure art it is very difficult to get outside expert criticism—this is the case in all the Dominion art schools—and I believe it has been suggested that an examining body be formed on somewhat similar lines to that which obtains in England. It is a committee of experts acting under the Board of Education, who set papers, examine them, and issue reports. By this means a standard would be set which would apply to the whole of the Dominion. The only means we have at present of judging our work in relation to that of other schools—a most unsatisfactory one—is through the competitions set by the art societies who hold art exhibitions and competitions for students. In these last year some few of our students competed and more than held their own in both pure and applied art. The work in applied art is judged by a master working-jeweller of the city, who in commenting on the work expressed the opinion that the general work was highly creditable in execution, and in some cases excellent. The same applies to the needlework class, the work of which was judged by two experts from the workroom of one of the leading business houses of the city, who in their remarks on the examination expressed surprise at the quality of the work. The architectural section was judged by a committee of architects of the New Zealand Institute of Architects. The painters' apprentices were examined by a committee of masters and workmen. Two scholarships, valued at £25, one for pure art and one for applied art, were awarded to Miss N. Marsh and Miss M. Harris respectively. Other scholarships were also awarded to day and evening students. Special prizes were given by Mr. J. W. Gibb, Mr. Hurst Seager, Mr. H. W. Montgomery, the executors of the late Mr. W. Sey, the Canterbury Branch of the Institute of Architects, Messrs. Hammond and Co., Mr. W. Reece, and Mrs. Lonsdale, to whom are due the thanks of the school.

F. G. GURNSEY, Acting-Director.