

craft are constructed in the classes under review, some of them suggested by the old masters of the craft, in which both design and construction are entirely carried out by the students. In connection with these classes it would be an advantage if instruction in upholstery could be introduced.

*Woodwork.*—The woodwork classes in the smaller country centres continue to be attended mostly by amateurs, but it is satisfactory to note that at every class provision has now been made, or is being made, for instruction in drawing and the taking-out of quantities, to be combined with the instruction in bench-work. This is as it should be.

*Plumbing.*—It is feared that the effects of the union awards and the requirements of the Plumbers Registration Act will seriously affect the attendance at classes in the theory and practice of plumbing. At most of the classes the goal of nearly all students was to obtain the certificate of the City and Guilds of London Institute, and the preparation for the annual examinations provided a healthy stimulus both as regards regular attendance and earnest effort on the part of students. That the qualifying examination is now held at the expiration of the period of apprenticeship already appears to have had on some classes a not-altogether desirable effect, both in the attendance and purposefulness of apprentices; and the hope is expressed that an effort will be made to correct at once any tendency in the direction indicated. The excellent results obtained in past years appear to require some modification of the time at which the qualifying examination is held. If in the opinion of the Plumbers' Board this could be effected by introducing preliminary and final stages, thus dividing the examination into two or even three parts, as there appears to be no reasonable objection to the introduction of an honours grade for the more ambitious workers, it is considered that a continuance of the excellent attendance and the high standard of work of previous years would more readily be maintained.

*Domestic Subjects.*—It is gratifying to report that the improvements in the method of instruction in subjects related to home life and work noted in previous reports have been maintained. It may be expected that as a supply of trained teachers is now available classes in these subjects will take their place as a training-ground not only for those whose sole purpose in attending is to gain information and skill that will be of value in the home, but also as a training-ground for dressmaking and millinery apprentices by affording them an opportunity of acquiring knowledge and experience that will tend to improve their status in the workroom and render their services of greater value to their employers.

While improvements continue to be made in the cookery classes, much remains to be done if these classes are to take their rightful place in a scheme of technical instruction. No exception can be taken to the character of the present work, but it is considered that increasing effort should be made to bring the instruction in the underlying principles of the culinary art more into line with the ideals which obtain in other branches of technical education.

*Engineering.*—The most gratifying advances appear to have been made in all classes in the scientific and manipulative parts of the instruction in mechanical and electrical engineering. As it is now generally accepted that no progress can be made by a student in engineering unless he is taught to develop his faculties in several directions, and that the best results are only achieved by a course of study in allied subjects, grouped courses have been organized at all the schools provided with the necessary facilities. As this requires a student to attend on at least three evenings in each week, the time that is available for home-work and private study necessary to enable him to take full advantage of the course is restricted, but in spite of this and of the limitations imposed by prevailing conditions, and the inevitable handicap of fatigue felt by many who attend after a day's work, the attendance and attention of the average student show that the earnest desire for self-improvement is fairly general among young engineers. We appear to be no nearer the ideal conditions when all apprentices and young mechanics will attend classes for technical instruction at a time when they are best able to profit by it, but the movement toward this goal is steadily gaining impetus in Great Britain, and this may have the effect of paving the way for the adoption of a similar system in this Dominion.

An added improvement appears to have been made in some of the schools, whereby the whole of the subjects of the course except workshop practice are taken by one instructor. The advantage to students of being brought continually into close relationship with a broadminded, well-informed, and able teacher of engineering cannot very well be overstated. When those who profit most by the employment of young mechanics trained in our technical colleges realize, as many employers in other countries are doing, that "the wider and deeper the training given the greater the powers of production," there will be a readiness from purely selfish if from no higher motives to sacrifice the lesser advantages with a view to the larger gains that must ensue if the training is given at a time and under conditions which ensure full advantage being taken of it by the students.

*Agricultural Subjects.*—With almost monotonous regularity reference has been made in previous reports to the lack of appreciation of the provision made by controlling authorities and managers for instruction in the scientific principles underlying the primary industries. Classes in wool-classing and shearing have flourished, but no other subjects connected with farming appeared to be worthy of consideration. It is therefore pleasing to report that in two districts very successful classes have been organized in a wider and more important range of subjects under instructors who have succeeded in arousing a good deal of quiet enthusiasm among the farmers. The classes have been well attended, everyday farming problems have been considered and dealt with in a scientific manner, and the instruction has for the most part been given in language and on lines that could be readily understood by those who have not had the advantage of previous scientific training. There are indications that there will not only be a continuance of, but also an extension of, these classes during 1915.

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