

same class by the teachers of each school (as a rule by a teacher who was present at the demonstrator's lesson and who took full notes of it), and a written examination in the subject-matter of the lesson is also held. The answers are carefully corrected by the teacher of the class, and submitted by him to the demonstrator at his next visit to the school. A general examination in elementary science is held yearly, in June.

Whilst the success generally of this method is not doubted, the principle is an unfortunate one. The fact of a specialist being required to visit the schools to give this instruction places the subject above the level of ordinary school matter, and gives colour to the suggestion that the regular teacher is incapable of giving the instruction. The question of apparatus is, again, an important one: the appliances being carried from school to school leaves the teacher giving the bi-weekly lesson in the position of having to make the best of indifferent methods of illustration for the continuation of his experiments.

The training of teachers is of the utmost importance, and requires to be of a thorough character. I suggest the appointment of science teachers for each district, whose first duty should be the training of teachers by Saturday and evening classes, and who should in addition visit the schools for the purpose of assisting and advising the teachers in their class-work. The centres of instruction being the technical schools, it would be possible to utilise the laboratories for more advanced instruction to boys above the Sixth Standard in the larger centres.

Every inducement should be given to teachers to obtain the necessary instruction, if possible arrangements being made for the free instruction of teachers presenting themselves at the university or university college classes for advanced work. I would suggest as a further inducement a bonus of £2 for the completion of certificates in certain groups of science instruction. The fact must be forcibly recognised that upon the success or otherwise of the elementary instruction depends the success of the whole scheme of technical education, and that this mainly depends upon the training and experience of our teachers. Every possible effort should therefore be made to strengthen this work in subjects such as elementary science, drawing, manual instruction, and domestic science.

Departmental Assistance.—Capitation is paid upon all teachers' classes in accordance with the Technical Instruction Act. I further recommend a bonus of £2 upon the completion of certificates in groups of science subjects, a grant of £50 per annum towards the salary of special science teachers appointed by Education Boards, and a grant of one-half the cost of fittings and appliances for special centres of science instruction established for scholars of primary schools.

5.—MANUAL TRAINING.

For many years I have urged the adoption of manual training as a portion of our primary and secondary school work; I am satisfied that what other countries find a necessity will naturally force itself upon us sooner or later. Why delay, then, the introduction of this work? It is utterly impossible to expect success by teaching manual instruction after school hours: it must be a part of the ordinary school course, and taught within school hours. Every nation which has undertaken a system of manual instruction has proved this an absolute necessity. I therefore earnestly hope that the syllabus of the New Zealand Education Department will be so revised as to enable schools desirous of commencing this important work to do so.

The great object of teaching manual training in our public schools is to inspire a love of work, to make a child feel the importance of order, accuracy, and application, as well as dexterity in the use of his hands. Surely these are important points in our practical daily life, and of use to every person, no matter what may be his position in life. Manual training must be a training which places intellectual and moral results before mechanical skill. It is a special training of the senses of sight, touch, and muscular perception by means of its occupations. While the eye is being trained to accuracy, and the hand to dexterity and manipulative skill, the mind is being trained to observation, attention, comparison, reflection, and judgment. In manual instruction it is impossible to predict the immense advantages to be gained by the colony, or the increased happiness of those at work in back-settlements, to whom the use of the common tools must be an enormous advantage. Again, the time necessary to become proficient in any trade is shortened. Unfortunately, this point is often used by the opponents of manual work, their contention being that anything appertaining to trade should assuredly be left till after the ordinary school course.

Sir Philip Magnus, one of the highest authorities upon educational work, thus alludes to workshop practice as a part of education: "It cannot be too often repeated that the object of workshop practice as a part of general education is not to teach a boy a trade, but to develop his faculties, and give him manual skill; that although the carpenter's bench and the turner's lathe are employed as instruments of such training the object of the instruction is not to create carpenters or joiners, but to familiarise the pupil with the properties of such common substances as wood or iron, to teach the hand and eye to work in unison, to accustom the pupil to exact measurements, and to enable him by the use of tools to produce actual things from drawings that represent them. The discipline of workshop instruction may be regarded as supplementary to that of drawing, with which, however, it should always be associated, as teaching a knowledge of substance in addition to that of form. Moreover, under competent instructors it may be made an instrument of education similar in many respects to practical science. In the workshop the operations to be performed are less delicate, the instruments are more easily understood, the substances employed are more ordinary, but the training is very similar, and, in so far as the faculties exercised are those of observation rather than of inference, the training, educationally considered, is a fitting introduction to laboratory practice. But, whilst a certain amount of manual training is valuable in the education of all persons, the usefulness of this kind of training is much greater in the case of children of the working-classes, whose education is often too limited to admit of much practical science teaching such as older children obtain, and to whom the skill acquired is of real advantage in inducing in