teaching of technology and helped to promote a better system of instruction in Irish schools.

The work was successfully commenced under the direction of the newly constituted Department of Agriculture and Technical instruction, consisting of an Agricultural Board, a Board of Technical instruction, a Council of Agriculture, and a Consultative Committee of Education. The department had an endowment of £166,000 a year, which was distributed among the several branches. It took over the duties of several other administrative bodies, and the grant for science and art for Ireland, and the grant in aid of technical instruction in Ireland as defined by the Technical Instruction Act of 1889, previously administered from South Kensington, was transferred to the new department. Among the industries for which the department is now occupied in organizing courses of instruction are engineering, textiles (particularly linen manufac­ture), shipbuilding, agriculture and the fisheries. The operations of the department extend to all grades of schools, from the Royal College of Science, Dublin, organized as a Central Technical College, to the elementary and secondary schools which the department enters for the administration of the science and art grants to the evening technical classes conducted by local authorities. The first annual report of the department, published November 1901, showed that successful efforts had been made to improve science teaching as a part of general education, and to develop on correct lines manual training and technological instruction. The municipal school of technology at Belfast, opened in 1907, is an institution similar in many respects to those of Manchester and Birmingham, and providing technical instruction in connexion with a great variety of industries. There is also a large school at Dublin, and schools have been established in Cork, Limerick and elsewhere.

*Results of Experience.—*Experience has helped to establish certain principles as applicable to technical education. It is now generally admitted that whilst the age at which the ordinary school training should cease, and technical or professional education should commence, must vary for different classes of workers, the teaching special to any industry or employment should supple­ment, and not form part of, general education. The subjects entering into the school curriculum may be, and in certain cases should be, selected with reference to their applicability to certain callings, but they should be so taught as to become instrumental in the formation of mental habits and the development of character, the mere knowledge or skill acquired being of secondary importance. In the teach­ing of science there has been a marked change in method. Formerly the usefulness of the knowledge to be derived from the study of nature gave to physical science its chief claim to a place in the school curriculum, but it is now held that the real value of the study consists in the opportunities it affords of exercising the pupil in accurate observation, and of developing resourcefulness and powers of independent thought and reason­ing. Whilst the opinion in favour of postponing as long as circumstances permit all specialized instruction has become of late years more pronounced, there has been a growing tendency, not only in England but also on the Continent and in the United States, to associate technical teaching more closely with work­shop practice. The professional or trade teaching, which is supplementary to primary or secondary education, is more practical and less easily distinguishable by the ordinary ob­server from the training of the factory or workshop. This tendency is shown in all grades of technical education. The technical institutes established in London and in the large English manufacturing towns, attended mainly by evening students, are provided not only with expensive laboratory apparatus for the teaching of applied science, but also with tools and machines for the teaching of technology; and some of the departments of these schools are equipped so as to resemble a small factory. This is the case in the departments devoted to the teaching of mechanical and electrical engineer­ing, weaving, and spinning, watch- and clock-making, boot and shoe manufacture, and the different branches of the building and printing trades.

So far, however, no attempt has been made, except in very special cases, to teach the practice of any special trade. The teaching of technology is distinct from trade teaching. In all the technical institutes of London, and in most of those of other towns, none but persons actually engaged in the industry, the technology of which they are desirous of studying, are admitted to the workshop classes. The instruction given in such classes is very different as regards method, and also in its aims and objects, from the training of apprentices in the factory or trade shop. The tools and appliances are the same, but they are used rather as a help to the teachers in illustrating principles than as a means of enabling the student to acquire that dexterity and skill which constant practice can alone secure. With the general cessation of apprenticeship, as formerly under­stood, it is only in the school workshop that the young artisan has any opportunity of learning the use, and the principles underlying the use, of the instruments and appliances connected with his trade; and in those industries in which automatic machinery is gradually displacing hand labour he is altogether dependent upon school teaching for any knowledge he may wish to acquire of the processes involved in the particular manufacture, in some small section of which he is exclusively engaged. Modern technological teaching is essentially practical, but it is nevertheless different in kind from the mechanical and sectional practice of the factory of commerce; and except in some few, mainly artistic, crafts, there is no entrance to a trade through the door of the school workshop. In other countries, particularly in France, the case is different. The school, in many branches of industry, is accepted as a substitute for the shop, and the lad is so trained that he acquires in the school not only a know­ledge of the principles of the trade, but sufficient dexterity and skill to enable him, on leaving school, to take his place among wage-earning operatives. It is only in day schools, in which the pupils spend the greater part of their time in work­shop exercises, that trade teaching can be so developed. There are schools in England in which manual training in wood and metal work is carried beyond the limits of mere educational discipline; but even in those schools no special trades are taught, and the experience of recent years has only tended to emphasize the principle, that the education given in the ordinary day schools, whether primary or secondary, should be formative and general, rather than technical or professional.

Owing partly to climatic conditions, and partly to the fact that the hours of labour are somewhat shorter in England than abroad, evening schools of technology are likely to occupy a permanent place in the English system of technical education. In these schools all grades of workmen will continue to receive their special supplementary instruction; and it is from among the workmen so trained that foremen and works managers will generally be selected. Some intermediate teaching, however, is necessary between that of the elementary school and the technical class as a preparation for technological instruction. A knowledge of workshop arithmetic and geometrical drawing is indispensable, and it is in the evening continuation classes that such knowledge may be best acquired. These classes supply the teaching which may be regarded as the connecting link between elementary and technological instruction, and attendance at such classes will gradually become a necessary condition of entry to a technological course.

By means of scholarships a large number of children from the elementary schools are now enabled to continue and complete their general education in day schools of a higher grade. Nearly every county has its scheme of scholarships, providing facilities for the further education of children who show special abilities and aptitudes. These scholarships are awarded under con­ditions which differ very widely in different localities. Pupils from the higher-grade schools enter industrial life at a later age than those from the elementary schools, and, by reason of the more advanced instruction they have received, are at once qualified to enter classes in technology. In these schools practical teaching is further developed, both in the laboratory and workshop, but as a part only of the ordinary' school course; and it would be incorrect to describe such schools as *technical* in the strict sense of the term. The position of these higher- grade schools in the general educational scheme was the subject of an important action *(Rex* v. *Cockerton,* 1901) in which it was