

Labor, Capital, Money, Banking, Partition of Profits, Partnership, Wages, Trade Unions, Strikes, Savings, Investment, Credit, Direct and Indirect Taxation. Visits to neighboring factories and industrial centres are regularly organized, especially in the third year of training, and after each such visit a full account, with illustrative drawings and descriptions, is required of each pupil. An elaborate scientific and general library, with abundance of drawings and plans of famous machines and factories, is accessible to the students.

Now, the object of such an institute is technical instruction in its definite relation to the particular form of skilled industry which the student proposes to adopt as the business of his life. It has an essentially economic and industrial purpose. That purpose is to provide fully for the future masters, foremen, and captains of industry a sound professional training. But it is to be observed, that from the first, mental cultivation by means of language and abstract science, and the investigation of principles, is regarded as indispensable parts of this training. There is, on the part of the enlightened founders of this institution, no belief in any antagonism or inconsistency between head work and hand-work. The two are regarded as inseparably connected.

Another form of institute is the *École Industrielle*, annexed to the *Musee Royal de l'Industrie*, at Brussels. It is carried on mainly in the winter, from October to May; it receives pupils after the age of fourteen, and it also takes many students who during the day are employed in shops, warehouses and factories, and who seek to increase their knowledge. Here are large class-rooms, lecture-rooms, apartments for study, libraries, and the general object is, not to prepare the learner for any specific form of industry, but rather to place within his reach the particular kind of scientific or artistic training which is most likely to be useful to him in the calling he intends to follow. Here drawing, designing, geometry, form the staple of the instruction, but physics, chemistry, electricity and other branches of applied science are dealt with by special professors, and a course of lectures on economy and commercial law, and industrial legislation generally, is open to all the students.

But here the ideal technical education is not exclusively practical. The great aim is to make of the intending workman, first of all, a student and a capable draftsman, able to observe the special phenomena of his own industrial pursuit, and to describe it, and, above all, to familiarize him with so much of the philosophy of the subject as may explain the nature of the material he is to handle, and the natural forces he is to employ.

I spoke of a third view of the subject of technical instruction—that which regards the training of the hand *per se* as an essential part of human culture, apart altogether from its value as a help in doing the business of life. The advocates of this view cite Rousseau, and Froebel, and Pestalozzi, and urge with truth that the brain is not the only organ which should be developed in a school; that to do justice to the whole sum of human powers and activities there should be due exercise for the senses, and definite practice in the use of the fingers and the bodily powers. They do not want to specialize the work of the primary school with a view to the production of economic results. One of the ablest of the United States superintendents of public schools puts this view clearly: "The object of the public school is education in its broadest sense. If industrial training cannot be shewn to be education in this sense, it has no place in the public school."

We have no more right to teach carpentry and book binding than we have to teach law and medicine. The supreme end of education is the harmonious development of all the powers of a human being. Whatever ministers to this end is education, whatever interferes with its accomplishment, no matter how valuable it is, lies outside of the elementary school."

A true psychology, when it comes to be applied to the practical business of teaching, shows us that the acquisition of knowledge is not the only means by which the human soul can be enriched and the future man is to be provided with his outfit for the business of life. His training should of course enable him to know much that he would not otherwise learn. But it should also enable him to see much that he would not otherwise see, and to do what he could not otherwise do. It is not merely by receiving ideas, but by giving them expression, that we become the better for what we learn. A thought received, and not expressed or given out again in some form, can hardly be said to have been appropriated at all. But there are many ways in which a thought can find utterance. It may express itself in words, or it may express itself by delineation, design, by invention, by moulding, or by some product of the skilled hand or the physical powers and the finer sense. An education which proceeds on the assumption that the only way in which thought and power can express themselves, is by the medium of language, is essentially incomplete. Every school numbers among its scholars some who dislike books, who rebel against mere verbal exercises, but who delight in coming into contact with things, with objects to be handled, with the realities of life. And a school system ought to be so fashioned as to give full recognition to this fact. We cannot permit ourselves, of course, to be wholly dominated by the special preferences and tastes of individual scholars, but we ought to allow them fuller scope than has usually been accorded to them in educational programmes. A late eminent school master—Mr. Thring—was fond of saying, "Every boy is good for something." He did not believe in the existence of a good for nothing child. He thought that in the most perverse and uninteresting scholar there were the germs of goodness, aptitudes for some form of useful activity, some possibilities, even of excellence, "would men observingly distil them out," and that it was the duty of every wise teacher to find these out, encourage their development, and set them to work. We make a grave mistake if we suppose that all good boys should be good in one way, and that all scholars should be interested in the same things and reach an equal degree of proficiency in all the subjects of one curriculum. This is, in fact, not possible. Nor even if it were possible, would it be desirable. So one of the strongest arguments in favor of the recognition of manual and artistic exercises in our schools, is that by them we call into play powers and faculties not evoked by literary studies, and in this way are able to give a better chance to the varied aptitudes of different scholars. Boys and girls do not always like the same things. The world would be a very uninteresting world if they did. A school course, therefore, should be wide enough and diversified enough to give to the largest possible number of scholars a chance of finding something which is attractive to them, and which they will find pleasure in doing.

We have in England some experience which is well calculated to emphasize this larger view of the true scope of popular education. Connected with all our public elementary schools, in which nearly 5,000,000 of children are now in daily attendance, there are infant schools or classes, designed mainly