

to select their apprentices from the sons of workmen. Lads who wished to be taken on, had to appear between 9 and 10 on Monday mornings, and the interview was something after this fashion: "What's your name? What shop does your father work in? How long has he worked for the company? How many brothers have you? Are you the eldest? What's your age? Go to No. 6 shed and tell the foreman to set you on." No question about education, or his school life, or his attendance at drawing or science classes—these are matters in which large industrial firms and companies take little or no interest. If the boy be steady, obliging, and is liked in the shop he is kept on, and in time rises to be an average workman, perhaps a good workman. If he be a troublesome, careless lad, against whom the men or foreman have taken a dislike, he is turned out and has to seek some other less skilled employment. If these companies required the sixth standard and a certificate in drawing and mathematics or mechanics before taking a lad into their service and then provided schools or classes for more advanced drawing and those sciences which bear on their particular industries, and if attendance a certain number of hours at these classes were made compulsory during the first four or five years of their employment, there would soon be a more intelligent class of workmen; and the time spent at these classes ought to be considered as time spent in the service of their employers. All attempts to unite the theory of an art with its practice, except under similar favourable circumstances, will be a failure. In looking over the list of Science and Art night classes, it will be found that scarcely any exist in connection with private firms or companies. There are a few noble exceptions, but in most cases employers have either discouraged any effort to establish night-classes or declined to give any assistance. More help and encouragement have been given by the clergy than any other body, and but for their friendly co-operation, the work of the Science and Art Department would have been a failure; but the clergy can only have an indirect interest in the extension of science and art instruction. They are certainly not animated with the idea that more drawing and more science will enable us to compete more successfully with other countries, but with the higher and older faith of St. Augustine, that every increase of knowledge has a spiritual significance and relationship to God's will and providence in this world.

The great want of working men is not technical schools such as some have described, but more general and scientific education; a wider development, by means of prizes, exhibitions, and scholarships, of the classes and schools of the Science and Art Department; a better training in drawing, in mathematics, and mechanics; which all enable men to regard their labour not as the instinctive toil of animals, but as a matter upon which they can exercise their faculties. It is to a large extent the defective elementary education of lads which prevents their attendance at science and art night classes.

The great aim of all technical education should be in the first instance a training in drawing and mathematics; and to attempt education of working men without this training is to begin building with the roof instead of the foundation. All attempts to turn a school into a workshop, or a workshop into a school, will certainly be a failure in the future as it has been in the past. When a lad knows his geometry and mechanics, he has no difficulty in bringing this knowledge to bear on his daily work. The various scientific principles involved in the constructive arts will never be learnt in a workshop, nor can the practical application of this

knowledge ever be acquired in a schoolroom. The future workmen and mechanics generally leave school before they reach the sixth standard; it is therefore almost impossible to teach them any of those sciences which relate to the industrial arts, and the so-called education of the working-man is at an end. He now devotes his leisure to newspapers, politics, and trade questions, and sinks to the level of the ordinary working-man. There should be a closer connection between the elementary schools and the science and art night classes, so that lads pass from one to the other with as little interval as possible. There should be in every moderate-sized town a graded or secondary school, to which the clever boys from the elementary schools should be promoted by examinations and exhibitions and scholarships. The organizations for this secondary scientific education already exists. For a long time the agents of the Science and Art Department have been urging the wider adoption of the Department programme, but managers and committees and School Boards and employers are slow to move. City companies and private individuals might render essential service by increasing the number of scholarships and exhibitions awarded by the Department. In many places these opportunities are lost because there is not sufficient local interest to raise the five pounds required by the Department. The great value of this scientific teaching is not to be estimated by its practical material value, but for the higher purpose of developing intelligence and making men more thoughtful and self-reliant, and giving them something to do and think about as a relief from their daily work; to make practical results the direct aim of all Science and Art teaching is to impede the very results for which we are working. The more general diffusion of scientific knowledge among working men and others will bring countless blessings and benefits to mankind; but to learn science for the sake of these benefits is to injure the science and lessen the benefits. There may perhaps be good reasons why education should be directed to secure material results; but this is not the spirit in which the education of the working classes should be directed.—(*The Schoolmaster*.)

#### Plutarch on Education.

People in a museum stand and gaze at a cracked crock, clumsy in shape, and looking as if a wash would do it good, who would pass all the china shops in London without glancing at the wares exposed in their windows. And in doing this they are not inconsistent, for they feel interest in the crock, not as a piece of earthenware, but as an antiquity—as a memento of a people, mayhap, effete when as yet the Briton chased wild beasts in the "forest primeval," and his destined conquerors tilled their farms on the melancholy shores of the German Ocean. Of course, many remains of antiquity are of great value on account of the light they throw on the details of the life of peoples passed away; but, quite apart from this, one feels an interest in them because of their mere age, and the associations they recall; indeed, it may be enunciated as a truism, that things which are only commonplace when new, and rubbish when old, are curious when ancient. This is especially the case with books. A book, for instance, filled with facts with which everyone was acquainted would find few readers. A man might say of it, almost in the words of Hamlet, "All of which, sir, though I most powerfully and potently believe, yet I hold it not" needful "to be thus