

Our great hope, as a reward for the sacrifices we are making in behalf of education, is that our handicraftsmen may become something more than mere workers with the hand; that our gardeners, weavers, joiners may be thinkers among their various avocations; that the gardener may be a man in his garden, a weaver a thinker whilst tending his loom, the joiner a man of thought and intelligence at his bench. That our artisans should be not only good workmen but, if possible, full and complete men.

The establishment of industrial and science schools in all large centres of industry will assist much in the development of this high purpose in our future populations. If properly organised, experience has shown that there will be no lack of students to attend them. Many earnest young men are wearied of their daily round of mere mechanical effort. Owing to the minute sub-divisions the industries of the country are rapidly undergoing, the work of the artisan, unfortunately, increases in dullness and monotony. Ten men are engaged in the manufacture of one pin. Imagine the weary leaden life a man must lead who is employed for ten hours per day, throughout a life-time, simply making pins' heads, or pins' points. The intelligent workmen long to escape from this treadmill life. They wish for the chance of becoming, to use their own phrase, "all-round men," and so have a chance of change and variety or of attaining to the position of foreman. They long for the chance of improving their condition, and so feel satisfaction and pleasure at the new world opened out to them by the apprehension of the simple mechanical truths which underlie the machines with which they work. An explanation even of the simple mechanical properties as the lever, inclined plane, wheel and axle, screw, pulley, &c., and their adaptation to machine construction, affords them manifest pleasure. After having realised even these simple truths, the machine in their workshop has been transformed in their eyes into a new creature. It is now replete with interest. Its varied functions are intelligible, its complications and intricacies are no longer mysteries, but their necessity and use are patent and clear. The contemplation of their own machine may suggest ideas for the construction of other and newer machinery, and thus a way to distinction may be opened out to them, and monotony and discontent be succeeded by activity and pleasure.

The experience of educationalists agrees that the country will never fully perform its duty to our future populations, unless provision be made for education in the years intervening between school-age and manhood. How often do we see a youth who at school gave promise of a bright future, whose conduct was exemplary, and attention to studies commendable, leave school full of high hope and determination, but in the course of a few months gradually descend from his former height. He is a loungee at the street corner. He has imbibed the habit of using slang or ribald language, and the smoking of the inevitable short pipe; and probably, for lack of other resort, has become a frequenter at the dram-shop, and commenced the downward career of the drunkard. His stay at school was not sufficiently prolonged to engraft in him a love for reading and study; and consequently, without chart or compass to guide him through the most dangerous part of his life's voyage, can we wonder that he makes early shipwreck of a fair and promising career?

The excessive stimulus to the education of youth of the present day does not, unfortunately, engender a love of study and books. The rigour of the standard work as applied to all children indiscriminately, is

such as to beget a dislike for learning. Time was when school teachers considered it as one of their chief duties to enforce upon their children the necessity of acquiring studious habits. The pressure of the dull, and backward children, who require the constant attention of the teacher to fit them for the ordeal of the standard examination, is a perpetual menace against this. Lessons, which were frequent years ago, and were pleasing and useful to both teacher and taught, are rarely given now. The hard mechanical routine of the standards, succeeded by the still harder and more mechanical examination, crushes out of both teacher and scholar higher and nobler aims. The result of this intensity of education, this hot-house and abnormal system, which eminent physicians are already launching their edict against, will be to give everybody the keys wherewith to unlock the mysteries of knowledge, but few the desire to use them. A distaste for knowledge in early life naturally results in distaste in aftertime. If, however, by the establishment of trade and science classes, we could show our youths the deep and entrancing interest as well as practical benefits there is in knowledge, much might be done to counteract the effect of bad early training. Technical instruction, with its important and immediate bearing upon the ordinary occupations of life, would largely contribute to this end.

English masters do not discharge their duties to their apprentices so efficiently as foreign employers of labour. The mental, moral, and technical training of young men might greatly be promoted by the fostering care of a master. German and Austrian employers have long felt this duty, and have assisted in establishing in all large centres of industry technical schools which they give every encouragement to their young apprentices to attend. Many German masters specially stipulate in the indentures of their apprentices that they shall spend certain hours per week at these schools. The apprentice law of Austria makes it binding upon apprentices to attend the evening school for at least one year during their probationary period. These countries are rapidly reaping the reward of their foresight and care. This fact is well exemplified in the high position Germany has recently attained in the commercial world, and also in the fact that young Germans are often preferred in our warehouses to our own young men who may have spent an apprenticeship in the warehouse, but are devoid of the technical and scientific knowledge so productive of benefit to masters. Intellectual and technically trained workmen are always of the greatest value to employers of labour. *Prima facie* this would follow, and abundant proof exists to support and prove it. Mintern & Co., the great porcelain manufacturers, assert that the eminence of their firm is mainly due to the superior intelligence and technical knowledge of their workmen. They consequently zealously provide for the training of their young apprentices. Years ago they established a school of art for the encouragement of design and skill in painting on porcelain. Then apprentices were induced to attend, and every encouragement was given to lead them to excel. Early they perceived that the faculties developed, and the ideas generated in the school were reproduced in the workshop; and not only were taste and skill displayed, but even manual dexterity in painting a flower or a design was strikingly improved. Masters who pay the expenses of their apprentices to the Nottingham School of Art have already proved that as a mere investment it returns ample percentage.

If it be admitted that a cultivation of the imitative faculty by drawing has a tendency to improve those