

apprentices at these schools. Complaints are rife that youths rarely receive that systematic tuition so essential to their efficiency. The master is generally too much engrossed with the general management of his works, and the journeyman seldom deems it his peculiar duty to teach the secrets of his craft, when by so doing he may raise up against himself a formidable competitor. The apprentice, therefore, merges into the journeyman with but vague and dim ideas of the manifold functions that may be demanded of him. His work is faulty, and performed slowly. The efficient workmen suffers in consequence, both in diminished pay and reputation; for one of the most unfortunate regulations of trades unionism is that all workmen in one branch of trade are placed on an equality, and receive similar remuneration. The good help to pay the bad. Render them all able and efficient, and employers would be able to pay higher wages, because of the increased and improved work done.

PART III.

It may be objected by some that the curriculum of the intermediate school is too extensive and ambitious; that a youth whose future was to be spent in a lace machine, would be wasting time listening to lessons adapted to the joiner or mechanic, and that the better plan would be to devote his whole time to the acquisition of knowledge directly bearing upon his special industry.

Professor Huxley, however, in a recent address, specially advised the artisans to cultivate a general knowledge, and stated that technical instruction ought to be based on a sound elementary knowledge of the leading principles of science. On this principle our intermediate school is founded. On the same principle are based the "Gewerbe" and Polytechnic schools of France and Germany. Youths are not always connected with the industry they are specially fitted for. A course of instruction, liberal and wide, would probably discover and develop the latent talent, and would turn it into in a course of usefulness and profit. Inventions of machinery have not always been produced by men engaged in machine construction. Improvements in the manufacture of lace or woollen have not always been made by those whose time has been spent among these fabrics. Neither Ratcliffe, Compton, Hargreave, nor Stephenson were skilled in the trade in which they effected such vast improvements. Lee and Cartwright, to whom we are indebted for improvements in the manufacture of lace and stocking webbing, were clergymen. Paxton was not an architect, but a gardener; while Petitt Smith was a farmer; and Sir William Armstrong a lawyer. The science school would be of inestimable value to such men; would awaken or quicken their special talents, and be productive of wealth both to themselves and the country at large.

Science and industrial schools cannot fulfil their important purpose unless those attending them be well equipped with a sound elementary education. The rudimentary scientific instruction imparted in the Nottingham Science and Technical School was too difficult for the intelligence of the majority of youths who presented themselves. The essential requisites—celerity in making notes and ability to comprehend simple mathematical formula—were only the possessions of a favoured few. Our compulsory laws, however, are making it imperative upon the present generation to attend our schools and receive instruction. But there are so many opportunities for evading constant and prolonged attendance at school, that although all may

acquire the ability to read and write, the majority will go out into the world lacking a real and abiding education. Children, as a rule, leave school at far earlier ages than aforetime. Prior to the Education Act of Mr. Forster, it was not at all uncommon for youths to remain at school until they reached fourteen or fifteen years of age. Now they leave school at the earliest age the bye-laws of the local School Board allow. This is partly the fault of the School Board. Their enactments originate, and encourage, the notion that a sufficient and efficient education has been obtained when the IV, or V, Standard Government Code is passed. Owing to this, children are commencing work at considerably earlier ages than formerly. Honour's Certificates, upper schools, and other expedients, may counteract this to an extent; but, unless some stringent laws be established, such as raising the standard, or the age, at which children shall be allowed to leave the day-school, the great results we all hope for from our educational efforts will not be fully realised. If children could be persuaded to remain until they were fourteen or fifteen years of age, a firm and durable educational foundation might be laid; and youths might come to our Evening Industrious Schools fully able to appreciate the lessons given, and afterwards turn them to practical account in their daily avocations.

The primary schools of the country might render important and valuable service in preparing youths for a future career through the industrial schools, and for an intelligent acquaintance with the several articles may have to deal with in their future business. No opportunity should be lost by a great manufacturing and industrial people like ours to encourage intelligence and skill in our artisans. Not only therefore should our Government carefully foster the movement for technical schools, but also should lend their powerful aid in promoting the teaching technology in the elementary day schools. Subjects are inserted in the Code on examination of which grants may be earned, which not be compared in utility to the knowledge derivable from a course of technical teaching. How valuable to the staple industries of the manufacturing towns of England if grants could be earned by the day-school children on an examination having chief reference to articles produced in the town,—whence and how the raw materials comes what manufacturing process they go through; their value, &c. That most pernicious principle—payment for results—has driven out of schools the old object lessons. A recurrence to these would not fail in producing benefit. Elaborate diagrams, models, and specimens of all kinds of productions both artificial and natural, are prepared by educational publishers, which would render such lessons both interesting and profitable.

Systematic tuition in the principles and practices of trade, beginning in early age at school, and continued through the preparatory, science and technical schools, concurrently with the dexterity acquired in the workshop, could not fail in producing skilled and intelligent workmen, inferior to none in the world. England's power and influence rests more on its industrial eminence than on its maritime or martial prowess. Our jealousy should be aroused at this stronghold being assailed. What millions we readily spend to defend our position as a military power. Shall we not be willing to spend to keep from falling what is far nobler, our industrial power: The fight for supremacy in industry is a bloodless one: is an honest and honourable one; is one that helps on the cause of humanity, and the progress of nations. Hitherto we have been victors in the fight. Shall we now lower our colours? Shall we