

OPENING OF THE
Stanley Technical
Trade Schools,
SOUTH NORWOOD.

TUESDAY, MARCH 26th, 1907.

Address by W. F. Stanley.

DEAR MR. MAYOR,

It has become my pleasant duty to hand over to you in public the key with which you have kindly opened my Technical Trade Schools, and in which I feel greatly the honour you have conferred. It appears to me a great advantage that these Schools should be opened by a gentleman of exalted position, who has taken great interest in technical education in our borough, particularly in being for some time Chairman of our Polytechnics, which have done most important work in raising the intelligence and the profit of our more industrious youths. Further than this, I am sure you have sympathy in our work in being yourself proprietor of a technical business, placed in strong competition with the foreigner—in a business which demands great knowledge and skill in the workman that can only be attained by practical education, such, unfortunately, as we cannot obtain satisfactorily in this country. This in a general way seriously affects the constant employment of our people.

I presume I am expected to give our friends some idea of what I am attempting to do in the Schools you have now opened to the public. I may say, in the first place, that I am very desirous of giving the boys under tuition an interest in and a taste for practical science and mechanics for their future good. I do not think our workers should fall to impotence under the superior educational skill of the foreigner in many branches of industry, as they are doing at present. I feel certain, from sentiment and from experience, that the British boy has an intellect sufficiently bright to hold his own if he can get the opportunity of practical education—without going to Germany. I am sure of this historically, in that in the first half of the last century we stood first in technical manufactures in the world. I also feel this from the experience of my own firm, in which we hold pre-eminence in one branch of scientific manufacturers, at a time when nearly every other branch of scientific work has fallen in our country to a secondary position. But I do not see why we should not wake up now. If we can so prepare our boys by education that they will be coveted as apprentices by our technical manufacturers, I am sure this will soon raise the standard of our work. Whereas, at present, our manufacturers will have nothing to do with our boys, poorly educated in such subjects as history, geography and grammar and rudimentary arithmetic only—who have been turned out in such numbers from our national schools throughout the country with no taste attempted to be cultivated for mechanics or for science. In this work I have the strong desire that our instruction should be given to the sons of mechanics, or to those of mechanical capability, who may desire to become mechanics. I have in the onset of this a little difficulty. I have fixed the fees for the first year, when the lads will waste the most materials, at 1s. a week. I have done this that the scholars may feel a certain amount of independence; but I know that in the class I desire to educate—this being a district in which the building trade is the most prominent industry—many workmen are out of employment, therefore, cannot afford my fees. To bridge over this difficulty I have a form that may be had of the head-master, which, if filled up and signed, may give remittance of the fees for the period of unemployment.

I have no doubt thereafter that, if we can give a boy a general knowledge of the manner in which work is practically done, we shall find that if he fail in the particular work to which he may have followed, or been apprenticed, that during slackness of his trade he will still have power of maintenance in other directions that may at the time be open to his acquired skill.

It may be interesting to offer a slight historical sketch of the foundation of these schools. After I had drawn up my scheme of education for boys intended for technical trades, and drawn my plans and elevations for these Schools as they are now built, I determined to solicit the Government to ascertain the legal position I held and to gain possible assistance. I was invited to lay my scheme before the Chief Inspector of Technical Institutes, and attended before a small committee of the technical branch of the Board of Education, from whom I received the greatest possible encouragement. After my interview the Education Board kindly sent me an excellent report upon technical education in France by Mr. or Professor Copeland Perry, in which I found much that I proposed doing had been already tried with excellent results in France. Very curiously, I had read German and American reports, in which I thought I could find the most light of learning; but I did not feel I could get any information from the French, wherein as I knew the schools, a quarter of a century ago, were under strong clerical influence with negation of science. But I did not know that the French had broken away from these trammels and were waking up to scientific influences. The few French schools to which the report refers, were instituted with the object of preparation for apprenticeship to technical trades, such as I desire mine should be. These Schools were originally styled "Ecoles manuelles d'apprentissage." With some changes in their construction this term was altered to the "Ecoles pratiques d'industrie," or Practical Industry Schools, still bearing equally upon preparation for apprenticeships. In France it became fully recognised—as it must be with us—that their nation was being superseded by the work of the technically educated Germans in all kinds of technical work, and that apprenticeship had practically ceased. By the effects of these schools it has been found that, although no practical tradesman would be bothered with the dunces turned out of the Semi-clerical Council Schools of France, they were anxious to capture every boy turned out of the practical schools, and the register kept for application of the boys of these schools for the first-class firms of France was always full. We need not make much research to be assured of this, seeing that if you cut off the boy's first year of valueless work as an apprentice, this time becomes all profit to the employer.

As a further effect, when these Schools were established in France, 1885 to 1893, to take one branch—engineering—this in France was at a very low ebb. To-day this is changed, and we find some of her most refined work in all details has been done, as we may see in the motor cars the French are now supplying to England, at a price that our most intelligent engineers envy.

Of course we may all recognise that this refined work is largely due to the refinement in the manufacture of tools, and in their application. But this application demands the perfect skill of the workman in the precision of his work, which must be acquired by education whether earlier or later in life. There is not a greater mistake than to suppose the possession of good tools alone ensures the certainty of good work. As we rise in refinement in our tools we demand more exact work from their application, which is purely a matter of education or practice.

To this end, in my Schools I think I am about to work in a somewhat original groove. Therefore, I venture to make some remarks upon the system in which I intend hand work to precede more exact machine work that I am about to follow. I may say that it is my opinion a boy gains little experience in hand work in producing a single article of a kind with work upon a small piece of wood or metal. Skilful hand-work appears to me very like common arithmetic. If you give a lad one piece of work only of a kind, or one sum in a rule of arithmetic, he would remember little and be very slow in making use of what he could remember. But if you gave him one piece of work to do many times over, or until he was perfect in it, or several sums in one rule of arithmetic he would in both cases master his task.

In this direction, as regards repetition, there is no doubt a great difficulty in wood-work occurs in its application to school work.

If, as in our business, bad work is useless, we give a lad (our firm do not take apprentices) a simple piece of metal work, such as making a small screw, in which, by repetition, he may become perfect in a month. When he has further advanced he might possibly take the turning of the most simple form of eye-piece of a telescope. He would probably turn one hundred of these eye-pieces before one would be sufficiently exact for use, and this work would be entirely waste. But we will come more nearly home to our local industry of the building trade. We will take wood-work, where we find a most important factor in nearly every article we make is that a boy or worker should be able to plane a surface. Now to get this skill large surfaces must be planed, and wood is dear and much planed wood would become an encumbrance to any school. My lads, in the trial classes I have taken for the past ten weeks during the completion of the building and the partial fitting of the schools, have each planed upon an average over 150 feet of superficial area in a month, with a result as given by our foreman joiner, who is the instructor, that some of these boys can plane wood better than he could do it himself after two years of his apprenticeship. This is due, of course, to the repetition and the constant watching and instruction given to the boys—not to be obtained in an ordinary workshop. The result is that having this point gained by being able to plane wood, we have many directions of construction of simple articles in a way open to us. On the contrary, we may see many of our very clever professors, who are taught in the amateur way, make, very slowly, what appear outwardly to a workman, a sad bundle of the pieces of apparatus they construct; although we know, just for the purpose intended, they are quite sufficient.

Of course these results of practical detail could not be expected in our borough schools, where, I am told, manual instruction is given for three hours a week. The boys in my School have three hours daily. This half time of fifteen hours to practical instruction per week was the period fixed at first at the French Trade Schools, "Ecoles d'apprentissage" in the "Ecoles pratiques." Now as much as 30 hours a week are devoted to practical work, and eighteen hours to ordinary education. These French schools, as also the German schools, have much longer school hours than we have in the London County schools, in which I am told twenty-three hours a week is thought to be sufficient for secular education.

I do not suggest that we should have longer school hours for the class of instruction we give. If a boy is to sit or stand relatively inactive, then three hours twice a day, literary and theoretical instruction, is quite long enough. In the case of our boys in the trial classes it was different. I have taken one and a half hours ordinary schooling and one and a half hours in the workshops, which gives them physical exercise. This, I may say, leaves the boy always fresh, with perfect enjoyment of his education. And I have no doubt of the instruction given in the one and a half hours, that it is retained quite equally to the three hours. Particularly in that the master in our schools has never over thirty boys to teach at one time; which leaves him a certain amount of time for individual instruction.

In suggesting the introduction of my form of School to others, there would be presented the difficulty of the expense of practical instruction. I can see only one way open to us politically to meet these expenses, that is, to manufacture a class of simple articles that are now imported from abroad, and to found a kind of native industry upon them. One of the most simple for the beginning I am trying to follow is, to make something similar to the well-made toys that are now imported into this country from Germany, particularly the boxes of bricks, some of which are perfectly made, also models of machinery, cranes, trucks, etc. The material in this case is small pieces of wood that are either wasted or burnt with us, and the quality of work may rise to any degree of precision, embracing in wood-work, sawing, planing, turning, carving, decorating, etc., without the product becoming a useless encumbrance. Our students may rise above this class of work and construct pieces of scientific apparatus that we now import for teaching purposes, in which form we may instil into the boys, by examples, technical skill in a very practical form. The French have encountered the same difficulty of expense, and now sell in Paris the product of their Schools, which pays a large part of the expense for the material used. But wherever the expense may be, I have no doubt the national prosperity entailed thereby would cover it. It is not so long ago that we distinguished Birmingham work, or "Brunnagen ware" as it was termed, as being the very worst; but now, I have no doubt through the influence of its technical science schools, it holds a quite different character in many branches. We may still prefer an American lock, but I have reason to think that is not final. Technical education is advancing in the North, and I can see no reason, if we can recognise our weakness, that we should go to foreign countries for our superior technical work. I was recently told by a joiner, who is out of work, that a great part of his fellow-workmen are employed only in the summer building time, as fixers of foreign work; whereas formerly he was employed in the winter preparing work preparatory for the summer trade. This taken in its broad sense, is politically a very distressing state of affairs, which it is hoped technical education will largely obviate. I know that in my own business when I originally went into it, the class of work I commenced to make was at once placed in competition with foreign work, but by tact with good work, I turned the current eventually in my own favour, or I could not have built these Schools.

I think I should make one more note, if I am not troubling you too long, which is, that it has been suggested to me that our weak, defective, primary work may be perfected in our polytechnic schools, and in this I feel certain of the excellent work they are doing. But what I am doing I want to be a little previous to wake up the intelligence of the boy when he has the time to gain it. When a working lad or man returns from a fatiguing day's work he has little energy left to go to a higher school, particularly if this is at a distance from his home.

I have now only further to mention that these Schools are now placed under a Board of Governors, of which the names are published, with our worthy Mayor as one of them, the others being personal friends endowed with strong educational tastes. I have no doubt that those friends will accept my future life-service to the Schools to perfect them as far as is in my power.

The Charity Commissioners have now taken over the trust for this Hall, and the Schools will follow after the period necessary for their establishment. You will no doubt, Mr. Mayor, have observed that fittings and scientific apparatus are very incomplete in these Schools, but the matter is in order and possibly will be nearly complete within six months.