

our schools, and especially in schools used by those classes which are probably destined to the pursuit of manufacturing industry (a question which had already engaged much of our attention, and to which we hope more fully to revert in our general report), yet we have not considered that an inquiry into technical education came directly within the scope of our commission, nor could we now undertake it without interposing a longer delay in making our report than we should wish. But considering the great importance of the subject, we venture to suggest, for the consideration of your Majesty's Government, whether a special inquiry into the state and effect of technical education abroad, and particularly in France, Germany, and Switzerland, should not be instituted in whatever manner may appear to your Majesty's Government best calculated to obtain full and accurate information about it."

The commission, by its secretary, sent the following circular to a number of jurors and others engaged in iron, physics, locomotion, chemical manufactures, naval architecture, general machinery, furniture and carpets, glass and artistic design, woollens, flax, engineering, education, chemistry, mining, hosiery, &c.

CIRCULAR.

"SIR,—I am instructed by Her Majesty's schools inquiry commissioners to send you a copy of a letter lately addressed to their Chairman by Dr. Lyon Playfair, and to request that you will favour them by stating whether you agree with the substance of that letter."

Many of the answers to this circular are very lengthy, we can only give a very brief synopsis of some of them.

The Rev. Canon Norris fully agrees with Dr. Playfair, and says:—"While in the matter of primary education we were, to say the least, well abreast of those three nations, yet in the matter of higher instruction, of all that tends to convert the mere workman into the artisan, Austria, France, and Prussia, were clearly passing us."

John Tyndall, Esq., F.R.S., concurs in the views of the Dr., and says:—"I have long entertained the opinion, that in virtue of the better education provided by continental nations, England must one day—and that no distant one—find herself outstripped by those nations, both in the arts of peace and war. As sure as knowledge is power this must be the result."

Edward Huth, Esq., agrees with Dr. Playfair in "toto." He says, in one passage of a long letter:—"I found my for a long time previously entertained convictions entirely confirmed, that it is the want of industrial education in this country which prevents our manufacturers from making that progress which other nations are making. From all I could see and learn I found both masters and foremen of other countries much more scientifically

educated than our own. The production of the workmen also show clearly that there is not a machine working the machine, but that brains sit at the loom, and intelligence sit at the spinning wheel. You have a fine nucleus for scientific industrial schools, in our Mechanics' institutions, whenever such institutions are properly conducted." This last view of Mr. Hurt's fully coincides with our own, as our July article testifies.

Professor Frankland, of the School of Mines, says Dr. Playfair's letter substantially expresses his convictions in regard to the matters therein mentioned. He says:—"In the Polytechnic schools of Germany and Switzerland the future manufacturer or manager is made familiar with those laws and applications of the great natural forces which must always form the basis of every intelligent and progressive industry."

John Fowler, Esq., President of the Institution of Civil Engineers, quite "agrees with the substance of the letter, that foreign nations have made greater manufacturing progress than England since the Exhibition of 1851."

J. E. McConnell, C.E., agrees with Dr. Playfair in his views generally, he says:—"It requires no skill to predict that, unless we adopt a system of technical education for our workmen in this country, we shall soon not even hold our own in cheapness of cost, as well as in excellence of quality, of our mechanical productions. In England, when a good workman is selected for a foreman's place, he is generally found wanting in technical knowledge."

Capt. Beaumont, R.E., says he concurs in the substance of the Dr.'s letter, and trusts he may not be deemed presumptuous in stating "what he believes to be a very great want in England, viz., such an institution as the well-known 'Arts et Metiers' of Paris." He says, "I know of no national institution where the public of our own country may study practical mechanics and the arts appertaining thereto."

W. S. Smyth, Esq., of the School of Mines, says: "As regards the broad subject of technical education, I will only add, that the greater proportional advancement made by France, Prussia, and Belgium, in mining, colliery working, and metallurgy, appears to me to be due, not to the workmen, but in great part to the superior training and attention to the general knowledge of their subject, observable among the managers and sub-officers of the works. No person can deny that they are far better educated, as a rule, than those who hold similar positions in Britain."

Robert Mallet, Esq., F.R.S., says: "I do fully agree with Dr. Playfair in opinion that a better