

one time or another reached when no tinkering-up of old processes can save them from extinction. This is unfortunately too often the history of many of our chemical factories. They go on without assistance or prevision until a commercial crisis arises, then begins a tinkering-up process to save that which a competent chemist might have foreseen was in the course of natural and irremediable decay.

To conclude, let me give the evidence of a man of business, Sir Swire Smith, who was my colleague on the Royal Commission on Technical Instruction, and with whom I visited the leading schools and industrial establishments of the Continent several years ago. Referring to the very superior engineering exhibits from Switzerland at Paris last year, and recalling his conversations with employers and workmen, eighteen years ago, as to the value of the high scientific training of engineers, he writes to me as follows :

In the works visited, practically all the head men had gone through the Polytechnic of Zürich, or the Technicum of Winterthur. One important employer expressed the opinion that the higher education of young men dependent on their wages for a living had been quite overdone. At that time he was employing several scientists, who had passed the highest examinations at the Polytechnic of Zürich, and were working as ordinary journeymen. There were no openings for them in the higher departments, and in his opinion their costly education—paid for by the State—was practically wasted. Yet I was subsequently informed that these young men, who had taken high degrees and who were working in the ranks, had been sought out, and engaged for superior positions at high salaries in England. Here the capable Schweitzer was available, although it would surely be more satisfactory that our important situations should be filled by trained Englishmen rather than by foreigners. I need not tell you that the high character of the Swiss exhibits, and the great reputation of the exhibitors, were due to that combination of Science and Practice on the part of masters and men, especially the former, which we call technical education.

But to me the most interesting exhibit was that of Messrs. Schuckert & Co. of Nuremberg. In 1873 the head of this firm was a working man with only a small shop and bench for himself, but he was a man of science. In 1882 he exhibited electrical appliances, which the Technical Commissioners saw at the Nuremberg Exhibition, and employed about forty workmen. In the Nuremberg Exhibition of 1896 the exhibits of this firm were of the highest importance, and we visited the works and found them magnificently equipped for all kinds of