

ments of him who is densely ignorant of the plainest laws of mind? In a word, how shall the teacher truly educate unless he knows the laws that govern the child's mental and moral activities, and how can he know these unless he brings to their investigation the high intelligence of a well-disciplined mind?

In what we have said we would not be understood as making an attack on our primary teachers. We know from personal experience that many of them are well educated, and possessed of qualifications as teachers which make them unsurpassed. But there are many others who are by no means qualified for the great work in which they are engaged. These, perhaps, cannot be blamed for undertaking duties for the discharge of which they have not the requisite qualifications. But school authorities cannot entirely escape censure. For if they placed a true estimate on the value of the primary teacher's work — recognizing that qualifications of the highest order are essential — they would offer salaries commensurate with the importance of the work to be done, and thus teachers would be induced to qualify themselves more thoroughly for the faithful discharge of the most arduous and the most responsible duties connected with the teaching profession.

INDUSTRIAL SCHOOLS.

In this country industrial schools are regarded as places of confinement for juvenile offenders, or neglected children whose education is undertaken by the State, where, in addition to the ordinary school branches, instruction of a practical character is given in some industrial calling. Industrial schools in their fullest meaning are schools devoted exclusively to the culture of young men and women in some departments of manufacturing skill or industrial art. It will, no doubt, be interesting to many teachers to know what is being done in Europe in relation to industrial schools of the latter class. When such care is taken by the governments through their departments of Public Instruction to train the young men and women in the principles of art and design, and to develop manual skill and dexterity, we need no longer wonder that European countries should lead the world in manufacturing articles of beauty and utility.

The Hon. B. G. Northrup, State Superintendent of Public Instruction, Connecticut, gives the following account of the Industrial Schools of Europe:—

"No feature of the educational systems of Germany, Switzerland, Austria, Belgium, France and other European countries, is more striking to an American observer than the large number of industrial schools specially designed to train apprentices and make skilled workmen and competent foremen. These schools are very numerous, and as various as the kinds of industry pursued in each country or province. There has been the greatest progress in manufactures in those countries where these schools have been maintained longest and most liberally. Geneva has for many years maintained an horological school, and the Swiss watches have long been celebrated throughout the world. Last summer I visited the new Horological Insti-

tute then building at Geneva—a magnificent edifice to cost over \$200,000, and also witnessed the work of the old school then in its old quarters. The course of study and practice covers three years. There were seven instructors, who are experts, both in theory and practice. No one can graduate till he has proved his skill again and again, by making an entire watch of standard excellence.

"The same attention to minute details is seen in the industrial schools at Lyons, France, to which the pre-eminence of that city in the manufacture of silk is largely due. It has twelve professors, and the course of study occupies three years. Here, as in all industrial schools, a prominent study is *drawing*—drawing ornaments, tinted drawings, and sketching plans of machines from memory. Thorough instruction is given in every detail relating to the manufacture of textile fabrics, especially of silks; the natural history of silk; treatment of the silk worm and cocoon; spinning, throwing, weaving and testing of silks; sorting and cleaning; winding, warping and beaming; changing of looms for weaving different styles; defects in operations and their remedies; decomposition of tissues; chemistry, especially as applied to dyeing and printing; physics, with its applications to heating steam boilers, to drying and ventilation; mechanics, embracing prime motors, materials, and construction; hygiene, including physiology, noxious and useful animals, dangerous and unhealthy occupations; contagious diseases and how to avoid taking them; rural economy and 'industrial plants.' Manual exercises are conducted in the workshops in making, mending and putting up and shipping looms, in turning, filing, forging, fitting, in the various factories in Lyons, under the lead of an instructor, where every part and process is fully explained. The students afterwards draw from memory plans of patterns and of machines.

"About one hundred pupils, on an average, are in attendance. The regular charge for tuition, use of laboratories and work-shops, is \$140 a year. Indigent students are aided by the Chamber of Commerce and Municipal Council of Lyons, so that a portion only pay the full tuition. That this school, conducted without aid from the government of France, should be so liberally supported by the citizens of Lyons, and continue to flourish for so long a period, is ample evidence of its great usefulness in the opinion of most competent judges.

"More than sixty years ago France started special schools in the arts of designing, engraving and dyeing; in silk and ribbon-weaving, and lace making; in carving, stone cutting, and diamond-cutting (hence the diamond cutting for the world is still carried on mainly in Paris); in porcelain and various ceramic productions—and the pre-eminence thus gained is still retained. The artistic manufactures of France command the markets of the world. The industrial schools more recently organized in Germany, Switzerland, Belgium, Austria, Italy and England, which in the aggregate are numbered by thousands, make these nations formidable competitors in artistic work.

"When invited by the Minister of Public Instruction of France to visit the National Porcelain Factory at Sevres, I expressed to him surprise that such an establishment should come under the supervision of the Educational Department, to