ferent manufacturers would have different tools to perfect; one farmer would require a different manure from another; all soap-boilers do not make the same soap; a dyer would require one colour for silk, another for worsted. In fact, each tradesman has, for the improvement of his art, some special wants which vary indefinitely according to his experience or degree of competency.

A society of scientific men cannot undertake to answer the wants of each individual; their efforts must be directed in a manner that will benefit all classes. For instance, it cannot occupy itself in perfecting implements of the industrial routine; it must search out principles which will conduce to practice.

With this latter view, our Academy has taken considerable in the progress of mechanics, manufactures, and technical arts. If ever complaints are made against its utility, they should be directed, not against the academicians themselves, but against the manufacturers and technologists who refuse to take part in their labours. If they have not done it yet, or have done it in an imperfect manner, that arises from there existing no real union between practice and science.

In order that two men enter into an intellectual treaty with each other it is indispensible that one speaks the language of the other; but not long agothe practitioner resembled a slave, who can only comprehend the language of signs; for he only recognized as true and real that which was visible and comprehensible: progress could only reach him indirectly. The practical man challenges the scientific to erect a theory on that which his reason suffers him to comprehend, and despises as purely speculative and impracticable the conclusions and lessons of science. Practice and not theory, is with him the true professor. "How can men who do not know how to manage a plough tell us what fields require, to produce a good harvest? or how rain acts on the growth of fruit?" This was for a long time the language of the practitioner.

It must be admitted that in general a theory only, does harm to the practical man every time he tries to put it in use; the attempts that he hazards produce results opposed to those that he looks for. He does not even know that the use of a theory is not a gift natural to man, and that he should be taught it just the same as he would learn the use of a complicated instrument. He does not know that the legitimate use of a law for a given case supposes the intelligent comparison of all specific circumstances, and that intellectual work supposes a series of operations in which it has no guide. In order that a theory can be made of use to him, he must give it due reflection, discern its property, in fact learn to make an exact observation. The, abyss between science and practice begins to be filled up successively, thanks to the wise princes who possessed the will and power to break down the obstacles which prevented the development of the intelligence of the people, and who by improving the system of schools and other means of instruction have extended knowledge among all classes of the population; their names are intimately connected with all the improvements that the state of civilization and culture of the mind permitted to be accomplished; they have gained immortal honour untarnished by blood or tears. In every country prosperity, riches, morality, and real power increase with the amount of knowledge that the people acquire. Is it not, in fact, the extension of knowledge which destroys the prejudices proceeding from primitive ignorance and paralyzing the expansion of individual force? Is it ot a deeper knowledge of things that gives us our laws, our inmost convictions, our customs, the commodities of civilized life, our arts, sciences, and manufactures?

The progress which has been made in schools, and other means of instruction, during the last fifteen years, is in reality greater than that of several preceding centuries. The education of the workman, manufacturer, technologist, merchant, the labourer, is no longer compri-ed, as formerly, of a lecture on writing and the four rules. Not only in our gymnastics and industrial schools are the faculties of the mind developed in such a manner, as that young men who leave them are fitted to accomplish the most complicated intellectual operations; but, further, it gives to the pupils a great amount of knowledge, by the help of which, without more attention, more order, or more activity than their fathers, they can undertake more difficult tasks, and perform them in a more satisfactory manner. In fact, this is the principal result of the education they receive—the young men learn to comprehend the language of science, and acquire in consequence the advantage of bringing to bear upon the wants of life and society, the discoveries which they make by its study.

It is worthy of remark that this improvement is universal in all spheres of society; in fact, the idea that a little of science is useful under all circumstances, even to the poor workman, is beginning to take root even in the minds of men who have had no occasion to follow the professed course in schools. We generally believe that some scientific knowledge of botany is useful to the gardener—that the baker, the soapboiler, the tanner, and the dyer, would feel, in the practice of their art, the want of possessing some knowledge of chemistry. One gardener is not worse than another because he comprehends better the life of plants; a baker is not the less useful because he knows the composition and properties of bread, the flour, salt, fermented dough, or yeast; a soapboiler will not be the less successful in his operations because he takes account of the character of the grease, the