

important of our schools are University men, and the examples which such schools set permeate into and pervade schools generally, the result of the introspective system of training followed at our Universities is disastrous. That the effect of a change in the present University system on scholastic opinion and practice would be far-reaching, has been clearly realized. In proof of this, I may again cite remarks made by the present headmaster of Rugby, formerly headmaster of Clifton College, which I quoted in my address to the Chemical Section of the British Association at Aberdeen in 1885: they were made at a meeting of Convocation at Oxford a few months previously. Dr. Percival said:—"If, twenty years ago, this University had said, from this time forward the element of natural science shall take their place in Responsions, side by side with the elements of mathematics, and shall be equally obligatory, you would long ago have effected a revolution in school education." Reading between the lines, I imagine that Dr. Percival would imply that such action of the University would have led schools generally to pay attention to natural science, just as they do to mathematics, and that the general public would thereby also have been led to appreciate such studies. Charles Kingsley gave utterance to similar thoughts when he said:—"I sometimes dream of a day when it will be considered necessary that every candidate for ordination should be required to have passed creditably in at least one branch of physical science, if it be only to teach him the method of sound scientific thought." Evidently Kingsley was of opinion that the teaching in his day was not always conducive to habits of "sound scientific thought"; has it been much improved in the interval? There are few who cannot realize what would be the effect of

neglecting to teach the elements of mathematics; Dr. Percival's advice that the elements of natural science should be made *equally obligatory* is therefore pregnant with meaning. All can imagine what difficulty would be created at Cambridge, for example, if those who went up wishing to study mathematics had no acquaintance with even the first four rules of arithmetic; but such is the position, owing to the neglect of natural science in schools, in which those of us find ourselves who are called on to teach science in colleges and at the Universities; and the result is, that the time which should be devoted to the study of the higher branches of a subject is wasted in teaching elementary principles, more often than not to unwilling minds unprepared to assimilate knowledge involving studies of an entirely novel character.

But, beyond the difficulties created by the low standard of scholastic and public opinion as regards natural science, there is a second retarding cause in operation, for the existence of which we teachers of natural science are in a great measure responsible, and which it behoves us to remove. I refer to the absence of any proper distinction between the teaching of what is commonly called *science*, *i. e.*, facts pertaining to science, and the teaching of scientific method. The dates at which our various kings reigned, the battles they fought, and the names of their wives, are facts pertaining to history, and it is not so very long since such facts alone were taught *as* history; nowadays, such facts are but incidentals in a rational course of historical study, and it is clearly realized that the great object is to inculcate the *use* of such facts—the moral lessons which they convey. "And if I can have convinced you that well-doing and ill-doing are rewarded and punished in this world, as well as in the world to come, I