

the business of civil life, that many gentlemen, who have the most liberal education their country can afford, have looked upon the real advantages of such an education as very problematical, and have dispensed with it in their own children." The comment on this was that "published 110 years ago, it displays such a distant forecast, that it needs only a little modification to be of practical utility to-day."

Presently dawned the Revolutionary Age, and in the din of war the voice of educational reform could not be heard. The struggle for independence and the rise of the Republic beside us; the outburst of the French Revolution; the fate of Louis XVI; the Reign of Terror; the career of Napoleon, filled the minds of men. It was not till the blood of millions had dried up, and the war had ceased to be the occupation of the greater part of the peoples called civilized, that any thought could be given to such a trifle as improvement in teaching anything except the all important art of killing. Not that education was forgotten, in England at least, for on this day it must be mentioned, in commemoration according to Statute, that George III. founded this University in 1788, when the political sky had cleared for a time.

But the methods pursued were still the time-honoured and restricted systems which excluded all science but mathematics, and about the middle of this century only began that movement which has resulted in what we see now in the educational world when natural and experimental science are indispensable elements in every good scheme of education. Those who have not looked into the question would be surprised to find how short a time ago the strictest of old views prevailed at the public schools and universities, especially in England. Oxford indeed has achieved for itself a reputation of the most conservative character. It was Macaulay, (the historian, not our respected chief, who, I think, would hardly speak so unkindly of our prototype), who said of it, in reference to a period of great reaction in favour of Charles II, divine right, and so on, "It is scarcely necessary to say that, in this hot competition of bigots and slaves, the University of Oxford had the unquestioned pre eminence. The glory of being farther behind the age than any other portion of the British people is one which that learned body acquired early and has never lost."

Some 350 years ago the introduction of Greek and Mathematics, the "New Learning" of the period, was vehemently opposed. The king himself had to summon one of its fiercest opponents and enforce silence on his pulpit tirades, and when the preacher alleged that he was carried away by the Spirit—"Yes, retorted the king, "by the spirit, not of wisdom, but of folly." Speaking of to day, perhaps the brilliant satirist would have given a somewhat different statement, for great changes have been effected even there, the New Learning of our time has forced an entry, and the teaching of Oxford is now more broad and university like than it was; more in unison with that of other great seats of learning; more adapted, in fact, to the wants of the people for whose benefit it originated 1000 years ago.

It was doubtless the expressed feeling of dissatisfaction with prevailing systems of education that led the British government about twelve years ago to appoint a commission "to inquire into the revenues and management of certain colleges and schools, and the studies and instructions given therein." A very brief notice of some of the details gone into may not be without interest and value. There were series of questions addressed to the several authorities of the great public schools—Eton, Westminster, and the rest of them—and of those connected with my present subject, was one asking whether physical science was considered in determining the rank of a boy in school;

and another as to the provision for the teaching and study of it. In the whole 97 pages of evidence from Eton I could not find the words Physical Science. The same is true as regards Winchester, St. Paul's, Merchant Tailors' and Shrewsbury. At Charter House, chemistry was taught, at option, to a considerable number of boys. At Harrow no branch of physical science formed part of the regular course, but every quarter a voluntary examination, open to the whole school, was held in some one branch, and efficiency rewarded. At Rugby, natural philosophy was taught four hours a week; a laboratory was open every day but Monday, for six hours at least. The foregoing are the old public schools, called colleges, at which science is more freely brought forward. At Marlborough, chemistry is taught, and the head master, in reference to the question—"How far is it possible to give a really good public school education on any other basis than that of instruction in the dead languages?" said, "I do not believe that we are at present in a position to answer the question finally and decidedly, for the experiment has not been fairly tried, but I may state briefly my own opinion. While I should deliberately prefer, as the best education, where attainable, that mixture of careful study of the language and substance of the great writers of antiquity, with modern reading and mathematics, which I attempt to combine in my own teaching, yet I believe that a thoroughly sound education may be given, and at the same time the advantages of public school life enjoyed by boys with whom, for various reasons, a different plan is pursued by having a large space devoted to mathematics and science, and a thorough study of French and German substituted classics." At Wellington, classics form the main body or trunk of the education, on which all other parts (though not provided or considered as extra, but as integral parts of the work) have been engrafted. This has grown more important in experience; not less so. This seems not to suffer from the variety of interest, which, within careful limits, and while, as a rule, success in classics is attended with success in other subjects, there are not wanting instances in which the first success and encouragement which have "brought a boy out" and improved his classical work itself, have occurred in some other branch. Chemistry is taught as a lesson and practically, and duly examined upon. At Cheltenham "natural science has fair scope in the Modern Department, and is efficiently worked. To it we look for the cultivation of the observing and inductive faculties," and the Principal who, however, does not conduct the Modern Department the whole course of which comprises mathematics, Latin, English, History, Geography, French, German, Hindustani, English language, and literature; physical science, drawing, fortification, and surveying, said further, while having more confidence in the older classical system—"but I still think that the existence of our Modern Department gives far greater perfection to the system of education, and far better scope for the various ability and knowledge of our boys than could be possible, if only the classical system prevailed. I feel sure that it gives a true education, and not mere instruction in various subjects." As the great majority of the students at Oxford and Cambridge were sent from the schools just noticed, it was natural the commission should ask the opinion of the teachers there what were the results of their observation as to what proportion of young men had acquired any knowledge of natural science, or spent time profitably upon it, and how far the great prominence given to classics and mathematics at the Universities affected the teaching at the schools, and also whether the earnest prosecution at the schools of what are termed modern subjects would tend to give a higher value at the