

discussion of the educational value of mathematics, in his treatise entitled "*Of a Liberal Education*," will explain and fortify the statement that the mental discipline furnished by the mathematics of Euclid and Archimedes was essentially different from that furnished by the analytical mathematics now almost exclusively in use:

"On all these accounts, then, I venture to assert, that while we hold mathematics to be of inestimable value as a permanent study by which the reason of man is to be educated, we must hold also that the geometrical forms of mathematics must be especially preserved and maintained, as essentially requisite for this office; that analytical mathematics can in no way answer this purpose, and, if the attempt be made so to employ it, will not only be worthless, but highly prejudicial to men's minds."

The modern analytical mathematics, thus condemned by Whewell, is practically the only mathematics now in common use in the United States.

Again, it is obvious that the spirit and method in which Latin has been for the most part studied during the present century are very different from the spirit and method in which it was studied in the preceding centuries. During this century it has been taught as a dead language (except perhaps in parts of Italy and Hungary), whereas it used to be taught as a living language, the common speech of all scholars, both lay and clerical. Those advocates of classical learning who maintain that a dead language must have more disciplinary virtue than a living one, would hardly have been satisfied with the prevailing modes of teaching and learning Latin in any century before our own. At any rate, it was a different discipline which Latin supplied when young scholars learned not only to read it, but to write and speak it with fluency.

I venture to inquire next how long

Greek has held its present place in the accepted scheme of liberal education. Although the study of Greek took root in Italy as early as 1400, and was rapidly diffused there after the fall of Constantinople in 1453, it can hardly be said to have become established at Paris as a subject worthy the attention of scholars before 1458 or at Oxford before the end of the fifteenth century. At Paris, for many years after 1458, Greek was taught with indifferent success, and its professors, who were mostly foreigners, were excluded from the privileges of regency in the University. Indeed, the subject seems to have long been in the condition of what we should now call an extra study, and its teachers were much in the position of modern-language teachers in an American college, which does not admit them to the faculty. Grocyn, Linacre, and Latimer, who learned Greek at Florence, introduced the study at Oxford in the last years of the fifteenth century; but Anthony Wood says that Grocyn gave lectures of his own free will, and without any emolument. It is certain that in 1578 the instruction in Greek which was given to undergraduates at Cambridge started with the elements of the language; and it is altogether probable that Greek had no real hold in the English grammar schools until the end of the sixteenth century. The statutes which were adopted by the University of Paris in the year 1600 define the studies in arts to be Latin, Greek, Aristotle's philosophy, and Euclid; and they make Greek one of the requirements for admission to the School of Law. It took two hundred years, then, for the Greek language and literature gradually to displace in great part the scholastic metaphysics which, with scholastic theology, had been for generations regarded as the main staple of liberal education; and this displacement was