

INSTRUCTION IN MATHEMATICS IN THE
UNITED STATES.

BY PROF. T. H. SAFFORD.

WITHIN a few years the general standard of mathematical teaching in this country has greatly risen. The history, in brief, of this subject can be easily narrated. Before the Revolution, our colleges were colonial English, and were somewhat like the smaller colleges of Oxford and Cambridge. The attempt was made to teach Newton's philosophy, with its introductory mathematics, including Euclid. These efforts were only partially successful, because of the low standard of scholarship in the colleges. Later, the country became independent; and we began to borrow ideas from our friends the French. This culminated, still later, in the mathematical text-books of Farrar, Davies, Loomis, and others; essentially based on French models, with that lack of demonstrative rigor which was permitted early in the century. The American mathematicians Bowditch, Peirce, and Chauvenet, with their disciples and followers, introduced the writings of Gauss and the Germans and other modern Continental writers, including of course Cauchy, Leverrier and other great French geometers, to this country; and the Harvard, Yale, and Baltimore schools of mathematics, together with many smaller colleges, have done much to make the study of higher subjects not only possible but necessary, at least on the part of our future professors and teachers of the subject.

The object of the present article is to give some practical hints, with especial reference to the existing state of things. In the first place, our colleges nominally require much which is practically ignored by many teachers of preparatory schools. A student is often admitted to college with many "conditions" in the mathematics. This simply means that he is ill prepared in the subject; and is required, before he can be fully matriculated, to pass a rather superficial re-examination. The teaching in the schools is based very much on the college examination papers; and hence it does not meet the ever-growing requirements of the college course. Again, it is tolerably easy to get a pupil past an entrance-examination, if he is allowed to forget as soon as may be all that is then required. The standard of teaching which entrance-examinations tend to produce is, therefore, a superficial one; and the rise of standard more nominal than real. Certain papers in algebra which the writer has seen are admirably calculated to