and firm grasp of essentials; and be able to impart to the pupil the scientific interest born of insight, unified knowledge, and perspective; and also a conviction of the fundamental utility of his subject in the pursuit of other sciences and in the practical affairs of life.

In view of these considerations, I suggest the following college course of study for the equipment of the high school teacher of mathematics:

Advanced algebra, about fifty lessons; theory of equations, about fifty lessons (together with determinants and complex numbers); solid geometry, about fifty lessons; trigonometry, plane and spherical, about fifty lessons; surveying, about fifty lessons; calculus, about one hundred lessons; mechanics, about one hundred lessons; history of mathematics, about fifty lessons; physics, about one hundred lessons (general, with quantitative laboratory work); astronomy, about fifty lessons; chemistry, including mineralogy, about one hundred lessons; application of the calculus to light and heat, or to electricity, about one hundred lessons; history and theory of education, about one hundred lessons; methods, about fifty lessons.

Such a course of study should give the teacher of mathematics the original awakening and impetus, and furnish the permanent sources of inspiration and guidance without which growth and high efficiency are impossible. It places the teacher at the centre of his subject, whence he can see and use its resources to the best advantage. The command it gives him over the resources, the problems, the historical development, and the practical and theoretical utility of elementary mathematics may be expected to enrich and vitalize his teaching. Under a teacher thus equipped, the pupils feel that they are dealing with a fertile and a beautiful subject, and that they have a steady, able, and sure guide to the mastery of it. The halting and labored procedure, so characteristic of one who is not master of the situation, will be wanting; the pupils will perceive a definiteness and directness of aim and procedure, a facility of handling mathematical expressions which shows them how real it all is, how important, interesting, and useful it all is, and how accessible it all is to patient study; and, to the mathematical spirits among them, how fascinating and how simple it all may become. Such a course of study will make it impossible for the teacher of elementary mathematics to regard high school algebra, geometry, and trigonometry as "higher mathematics," as I have heard some teachers call these subjects; but he will nevertheless have a just and high regard for these subjects, and will address himself to teaching them accordingly.—*The School Review.*

BOSTON SCHOOL ADMINISTRATION.

THE feeling that I should be called upon to formulate a course of study for a primary class, or a Latin school, or a manual-training school, became oppressive when I realized that I was not what is called "equipped" for such service; nor did I hanker for the opportunity to designate what text-books should be used in the schools; a task which, in fact, amounts to nothing more than choosing between text-book publishing houses. It would seem as though even a political boss or a machine legislature could be made to understand that a lot of citizens, chosen haphazard from the shop, the counting room, the bar, the pulpit, the