can work out for itself the polar element of volume; it is more than most of us can do to draw a decent figure and give the proof for the class.

We have heard a great deal off and on about the necessity of giving the student power and the spirit of investigation; but this is merely a visionary's ideal, as anybody can see by pondering upon the question: How many of our doctors of philosophy in mathematics in this country or abroad are engaged in real research? If six to eight years of training lapse into desuetude in the case of professional mathematicians, what can you expect to accomplish with sophomores? Put into the text what you want them to know in such form that they can learn it, say I, and then see that they do learn it. And I have heard a very eminent investigator recommend the same sort of thing for candidates for the doctorate.

There is no need of going into the details, whether bad or good, of Davis's text. Suffice it to say that if books are not more carefully written, we shall have to refrain from adopting them from very lack of time to examine them in sufficient detail to make it safe to adopt them; but it is too bad to throw the whole reponsibility upon the user instead of upon the author and publisher, where we previously thought it belonged, at least to a very large extent.

Vivanti's book of exercises, a companion to his Lezioni d'analisi infinitesimale, contains 575 well-selected solved exercises in calculus; there are no applications and no rigorous types. The list should be of value to American writers of texts, but it is difficult to see how it can be of direct use in our classes.

EDWIN BIDWELL WILSON.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

NOTES.

THE April number (volume 16, number 2) of the *Transactions of the American Mathematical Society* contains the following papers: "Quartic curves modulo 2," by L. E. DICKSON; "Mixed linear integral equations of the first order," by W. A. HURWITZ; "Prime power groups in which every commutator of prime order is invariant," by W. B. FITE; "On