

[The Carnegie Foundation for the Advancement of Teaching is of such importance for education and science that we should be pleased to see all aspects of the subject thoroughly discussed in this journal. As the communications hitherto received have been critical, we should like to have letters emphasizing the services of the foundation and defending the recent action of the trustees.—Ed.]

KAHLENBERG'S CHEMISTRY

TO THE EDITOR OF SCIENCE: "The penalty of being oracular is that fashions in oracles change." This clipping from a daily paper was called to mind by reading Lewis's recent review of Kahlenberg's excellent text. In this review, one whose experience is slight in teaching the first-year student gives us exact advice as to what the beginner should be taught.

Among chemical circles, the first-year course stands much as Walker used to describe the position of political economy among popular sciences. Every man thinks he is capable of taking part in a subject of such general interest. The citadel has been assailed by every new fad in chemistry until it is a by-word that, compared with mathematics and the classics, chemistry stands out prominently characterized by the unsettled conditions of its pedagogical method.

While admitting the greatest appreciation of the value of those topics for which Lewis argues so ably (as though physical chemistry needed to be propagated and popularized) the question which is most important and which the reviewer does not discuss is the suitability of these topics for first-year students. This is, I imagine, clearly answered by the fact that by far the larger number of college teachers, after studying the presentation of these topics, are not including them in the first-year course. And this is not through ignorance, as Lewis implies, but through judgment born of experience with first-year students. The chemistry of a "generation or more ago" still lives and is ready to say to its youngest branch that it does not pay to rail at one "who has the age on you."

It is unfortunate that the reviewer, because

he must ride his hobby and perhaps because he feels that the confidence which he formerly had in the ionic hypothesis has been somewhat weakened by this same Kahlenberg, should have forgotten to point out how excellently each chapter in the text under discussion is presented—how Kahlenberg's rich experience has brought him close to a knowledge of just what the beginner wants to know in the way he wants to have it presented—the beautifully balanced thoughts, the logical sequence. I have just finished reading the chapter on Sulphur. In my opinion, those of us who are teachers and are not afraid to introduce as much of the ionic hypothesis as our pupils need will have already decided with the writer that we have here the work of a master in the good old art of teaching.

The question of what may and what may not most suitably be provided for the beginner should be left for discussion to the section of chemical education; but if I may be allowed to restate from a recent address at Ann Arbor, it is not a question, in the first year, as to what we think it would be desirable for all students of chemistry to know. It is rather the "care and feeding of children" which is thrust upon us for discussion. It is perhaps because we do our work so well, concealing the difficulties, that the teachers of advanced work and the specialist think we can impose anything upon the students and succeed.

In conclusion, would it not be better if the task of reviewing a work which stands for years of enthusiastic interest and successful experience among beginners should be given to one whose interest, as expressed in the review, is sympathetic with pedagogical problems?

ARTHUR JOHN HOPKINS

AMHERST COLLEGE

BOTANICAL-EDUCATIONAL INFORMATION WANTED

TO THE EDITOR OF SCIENCE: In connection with certain important committee work for the Botanical Society of America, I need to know exactly which universities, colleges and technical schools in this country accept the College Entrance Examination Board's certificates for examinations passed upon its one-year unit (or course) in botany, counting