

[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?

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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

about one point out of fourteen for admission. My present data, derived from official sources, here follow, but they are, for sundry reasons, incomplete. I wish to request that any reader of this note who is connected with a university, college or technical school, will make sure whether his institution is correctly represented in the lists below, and if not I shall be very grateful if he will communicate to me the suitable correction. I shall later publish a supplementary list, and finally a complete one in connection with other related data.

The following institutions accept the College Entrance Examination Board's examinations in botany, and state the fact in their official publications: Bryn Mawr, California, Cincinnati, Columbia, Cornell, Dartmouth, Harvard (although it can count for only a half year), Illinois, Leland Stanford, Maine, Massachusetts Institute of Technology, Massachusetts Agricultural College, Mount Holyoke, Nebraska, Northwestern, Ohio, Pennsylvania, Rochester, Simmons, Smith, Syracuse, Washington (St. Louis), Wellesley, Wells, Vermont, Woman's College of Baltimore, Yale Scientific School.

The following institutions, I am assured, accept the board's examinations, although at last accounts no mention of the fact had been made in their official publications: Chicago, Haverford, Kansas, Minnesota, Missouri, North Carolina, Oberlin, Wabash, Williams.

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SCIENTIFIC JOURNALS AND ARTICLES

THE contents of the March issue of the *Journal of Terrestrial Magnetism and Atmospheric Electricity* are as follows: "Scientific Staff and Crew of the *Carnegie* at Falmouth, England, October, 1909" (Frontispiece); "Completion of the First Cruise of the *Carnegie*"; "The Present State of Our Knowledge of Magnetic Materials," A. A. Knowlton; "Beginning and Propagation of the Magnetic Disturbance of May 8, 1902, and of Some Other Magnetic Storms," L. A. Bauer; "Analysis of the Magnetic Disturbance of January 26, 1903, and General Considerations

Regarding Magnetic Changes," L. A. Bauer; "The Magnetic Storm of September 25, 1909, at de Bilt, near Utrecht, Holland," G. van Dyk; "Discontinuance of the Baldwin Magnetic Observatory and Establishment of the Tucson Magnetic Observatory," R. L. Faris; "Principal Magnetic Storms Recorded at the Cheltenham Magnetic Observatory, October-December, 1909," O. H. Tittmann; "Aurora Borealis observed at Beinn Bhreagh, near Baddeck, Nova Scotia, September 21 and October 18, 1909," A. G. Bell; "Magnetic and Allied Observations in connection with Halley's Comet"; "Hellmann's Bibliography of Magnetic Charts," L. A. B.; "Galitzin, Arnold, The Beginning of an Earthquake Disturbance," H. F. Reid; "The Tenth Edition of Müller-Pouillet's Physics (Vol. IV., Pt. 1)," W. G. Cady.

SCIENTIFIC BOOKS

Radiation, Light and Illumination. A Series of Engineering Lectures Delivered at Union College. By CHARLES PROTEUS STEINMETZ, A.M., Ph.D. Compiled and edited by JOSEPH LE ROY HAYDEN. Pp. xii + 305. New York, McGraw-Hill Book Company. 1909.

This latest book from the pen of Dr. Steinmetz constitutes to some extent a departure from his previous writings. In it an attempt, perhaps the first definite attempt, has been made to bring together not only the principal physical facts, but also many of the more important physiological facts which pertain to the effects of luminous and attendant radiation. The view-point throughout is that of the engineer. The book is the outcome of a series of lectures to engineering students. It is intended in the author's words in the preface "not merely as a text-book of illuminating engineering, nor as a text-book on the physics of light and radiation, but rather as an exposition, to some extent, from the engineering point of view, of that knowledge of light and radiation which every educated man should possess, the engineer as well as the physician or the user of light."

With the exception of a few chapters there