dramatic manner in which Kenjira Ota arrived upon the scene of his labors, pages 148–150, to find him accomplishing nothing more remarkable than the measurement of the freezing points of certain solutions.

In view of the fact that none of the author's own investigations have been in the field of radioactivity, it seems rather remarkable that the references, pages 260, 261 and 296, to the author's book on the "Electrical Nature of Matter and Radioactivity" are not supplemented by the titles of well-known standard works on the subject.

However, the reviewer does not wish to be understood as wholly condemning the book. Far from it. The idea of writing a book on a "New Era in Chemistry" is an excellent one, and the story, for the most part, is most interestingly told, but at the same time it is the reviewer's conviction that no one who permits so many inaccurate, careless and exaggerated statements to creep into his work should go unrebuked.

The book closes with an appendix in which are given some delightful personal reminiscences of the great men who made possible the "New Era in Chemistry."

Edward C. Franklin

*Rays of Positive Electricity and their Application to Chemical Analysis.* By Sir J. J. Thomson. Longmans, Green & Co. 1913. Pp. vi + 132. Price, $1.40.

The day of the monograph in physics is apparently here, and it will be hailed with delight not only by physicists, but also by workers in all of the neighboring sciences. For in a period like the present in which new material is appearing very rapidly, and in which the "accumulation time" of new viewpoints is extraordinarily short, it is of the utmost importance that the results of recent research be got as quickly as possible in some form which is intermediate between the journal article, with its inaccessibility and incompleteness, and the general treatise with its rigidity and inertia. Monographs of the sort which Longmans has announced, dealing with half a dozen of the more recently developed departments of physics and written by men who have been prominently identified with their development, will appeal to a wide audience.

And if the whole Longmans series is as good as the first number, the publishers, the authors, the editors and the public may all congratulate themselves. For Sir J. J. Thomson has done his very best work, so it seems to the reviewer, on positive rays, and the present monograph is a fascinatingly simple and straightforward account of that work, introduced by a discussion of the preceding work of Goldstein and of Wien, and supplemented by a chapter on the Döppler effect with positive rays, discovered and investigated chiefly by Stark and his pupils. If any one has had doubt about the effectiveness of the positive-ray method as a means of discovering the sorts of atoms and molecules which constitute the residual gases in discharge tubes, and the values of the electrical charges carried by these atoms and molecules, he should take enough time to study carefully the five plates of actual photographs contained in this book. The parabolas shown in these photographs are about as convincing evidence as could be desired.

R. A. Millikan

## SPECIAL ARTICLES

### DESICCATION OF CERTAIN GREGARINE CYSTS

In connection with other studies on the cephaline gregarine *Stylocephalus giganteus* Ellis some data have been collected during the past fall concerning the viability of the cysts of this sporozoon and the effect of dryness on the formation of sporocysts. This gregarine is a common parasite in the alimentary canal of the Tenebrionid beetles of the genera *Eleodes* and *Asida*, so abundant in the semi-arid plains of eastern Colorado.

The cysts of *Stylocephalus giganteus* are subspherical, about 450 microns in diameter and opaque white when first discharged from the host. Unlike the cysts of many species of gregarines, they are not provided with thick, gelatinous envelopes, their walls on the contrary, are quite thin, the gelatinous envelope