school. Reading of this sort is greatly needed in all branches of science, and nowhere more than in meteorology. Look, for example, at the account given of the effects of melting ice and freezing water on the temperature of the adjacent air. The effects appear either in time alone, or in both time and place. When lakes freeze, they retard the early winter fall of temperature, and when they melt they retard the spring warming by an equal amount: this effect is constant in place, but varies in time. On the other hand, when snow falls, the liberation of energy in its freezing affects the temperature of the air at some distance above the earth's surface, making it warmer than it would have been if condensation had not taken place; but the same snow, melting afterwards on the ground, keeps the air there from warming as much or as soon as it would had the snow been absent. Here, then, is an effect that varies in place as well as in time. It is like carrying ice from New England to India: if this once famous industry had been extensive enough, it would have raised our mean temperature, and lowered that of the torrid zone where the ice melted.

The second volume of the work is given to a general geographic account of climate. Here a comparison naturally arises with Hann's 'Klimatologie,' that appeared a few years ago. The subjects treated are identical; the difference is only in the plan of treatment and in degree of emphasis given to one part or another by the two authors. Dr. Hann made free use of original accounts by travellers and foreign observers, and inserted abstracts of their writings in smaller type, after presenting his own general statements; he also included the various climatic tables in the text, alongside of the paragraphs that they illustrate. Dr. Woeikof reduces the records that he consults to common form, and postpones all tables to the end of the book, where they appear with numerous diagrams that have small representation in Dr. Hann's book. Preference between two methods such as these is probably a matter of taste, my own being for that followed by the Austrian author; but the other will doubtless find equal approval. The absence of sufficient reference to earlier authors makes both books less useful than they might have been; but the insertion of the references would have materially increased the size of the volumes, already large, and I believe it was for this reason that they were omitted.

The duplication caused by the almost simultaneous appearance of these two books on one subject can only be regarded as a great advantage. They were independently prepared by leading specialists; and the careful reader, who wishes to think as well as to quote, will gain a solid, stereoscopic comprehension of the subject by approaching it from these two slightly different points of view.

Foods and Food Adulterants. Part I. Dairy Products. (U. S. Dept. Agric., Bull. No. 13.) Washington, Government. 8°.

THIS bulletin, which has been prepared by H. W. Wiley, chemist, is devoted chiefly to a discussion of the best methods of detecting the adulteration of dairy-products, that of butter being treated with greater detail than any other. During the past year the division of chemistry has been supplied with apparatus for photo-micography, and most of the illustrations, twenty-four in number, are the work of the division. Great benefit has been derived from this method of fixing the photographic appearance of the crystalline character of butter and butter substitutes. The illustrations show the crystalline appearances of butter, beef-fat, lard, butterine, and oleomargarine, and are well executed. The bulletin contains the text of the act of 1886, passed by Congress, defining butter, and imposing a tax upon, and regulating the manufacture, sale, importation, and exportation of, oleomargarine; also a detailed history of artificial butter from its first manufacture by Mége-Mouriéz, in 1870, to the present time. The writer of the bulletin believes, that, while a great deal of artificial butter has been thrown upon the market, that has been carelessly made, and therefore harmful to the health, still a butter substitute, made carefully out of the fat of a perfectly healthy bullock or swine, is not prejudicial to health. This opinion is supported by quotations from the leading authorities, such as Professors Morton, Chandler, Barker, and others. The best methods of butter and milk analysis are described in detail, both microscopical and chemical. Other bulletins are being prepared, and will soon be issued, treating of condiments, sugar, sirup and honey, drinks and canned goods, flour and meal, tea and coffee, and baking-powders.

Milton's Paradise Lost. Books I. and II. Ed. with introduction and notes, by M. MACMILLAN. New York, Macmillan. 16°.

THE difficulties of Milton's works are so great, owing to the Latinized structure of his style and his many learned allusions, that they require a commentary almost as much as the ancient classics do. Nor have our scholars neglected to provide such helps; yet for school purposes most of them leave much to be desired. The little book before us is one of the best works of the kind that we have seen, and will help to make the reading of Milton both easier and pleasanter. It is confined to the first two books of 'Paradise Lost,' which the editor rightly considers the grandest portion of Milton's works. The notes are accurate and very exhaustive, as may be seen from the fact that they fill eighty-four pages of the volume, while the text fills only fifty-four. Almost every thing is explained in them that a student would need to have explained, and the explanations are simple and clear. An introduction of moderate length gives an account of the conception and composition of 'Paradise Lost,' together with some judicious criticisms on the poem. The book may be heartily commended for educational use.

Schiller's Wilhelm Tell. With Introduction and Notes by G. E. FASNACHT. London, Macmillan. 24°.

Schiller's Wallenstein. Part I. Das Lager. With Introduction and Notes by H. B. COTTERILL. London, Macmillan. 24°.

MESSRS. MACMILLAN & CO. have, in the two books named above, made valuable additions to their Foreign School Classics series. The Wallenstein is preceded by a well-written historical sketch of the origin and character of the thirty-years' war. The difficulties in reading Wilhelm Tell do not lie in Schiller's style and diction. These are throughout transparently clear. Not so the subject-matter. The reader's progress is delayed at almost every step by historical allusions, provincialisms, topographical and meteorological terms, for the elucidation of which even the advanced student needs to have a complete cyclopædia at his elbow. All this reference-hunting involves a great waste of time, and this little edition of the work has been edited with the view to placing these side-lights at the disposal of the reader.

Higher Algebra. By H. S. HALL and S. R. KNIGHT. London, Macmillan. 16°.

THE present work is a sequel to the author's 'Elementary Algebra for Schools.' The first few chapters are devoted to a fuller discussion of ratio, proportion, variation, and the progressions, which in the former work were treated in an elementary manner. The discussion of convergency and divergency of series always presents great difficulty to the student. To render this the more intelligible, the authors have introduced a short chapter on limiting values and vanishing fractions. In the chapter on summation of series they have laid much stress on the method of differences and its wide and important applications. Permutations and combinations and the theory of probability have received due attention, also the theory of determinants and their applications. The last chapter contains all the most useful propositions in the theory of equations suitable for a first reading.

Naturae Veritas. By GEORGE M. MINCHIN. London, Macmillan. 16°.

WE learn from the author's preface that in this poem he has related certain things, which, in a temporary absence from this earth, he received from a being who, having completed the change of existence, had attained to a knowledge of the universe far transcending the capacity of man. The poem is descriptive of the author's supposed stellar visits in quest of information, which should lay at rest his doubts in regard to the dissipation of energy. Unfortunately the journey was without result.

The Owens College Course of Practical Organic Chemistry. By J. B. COHEN. London, Macmillan. 16°.

THIS little book on organic chemistry will be received with favor, doubtless, and has already received the high indorsement of Prof. Henry E. Roscoe and Prof. C. Schorlemmer. Any course of practical organic chemistry leading up to original work must mainly consist in a careful preparation of a well-selected series of organic compounds. Dr. Julius Cohen has in this little book collected such