

fat with petroleum ether, and "ether-petroleum ether"—results ranging from 8.31 to 8.468 per cent. which, while approaching some of my own results, are still somewhat lower than might be expected after the painstaking methods of extraction.

As to the statement that, "In the writer's experience, it is the rare exception rather than the rule, for condensed milks to contain less than a proportion of 25 per cent. of fat in the milk solids," it would seem that such experience is not exactly in harmony with some of the recognized authorities; for it is only necessary to refer to the article by T. H. Pearmain and C. G. Moor<sup>1</sup> where several analyses are given in which the fat is less than 2 per cent. of the whole, or less than 7 per cent. of the milk solids.

Moreover, the highest result, 8.468 per cent. fat, as given in the article by J. F. Geisler, would be by calculation 25 per cent. of 33.87 per cent. milk solids,—a result decidedly lower than the usual percentage of milk solids in condensed milk, judging from the published analyses of Leffmann and Beam, T. H. Pearmain and C. G. Moor.

Hence the possibility, in view of the omission to state the total solids and cane-sugar, that my critic may have proved the rare exception in his experience by obtaining fat proportionately less than 25 per cent. of the milk solids.

I have taken this opportunity to make the above statements, because of the criticism offered, before the general meeting of the Society in June, when I was unable to attend.

FREDERIC S. HYDE.

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### NEW BOOKS.

VICTOR VON RICHTER'S TEXT BOOK OF INORGANIC CHEMISTRY. EDITED BY PROF. H. KLINGER. AUTHORIZED TRANSLATION, BY EDGAR F. SMITH. Assisted by WALTER T. TAGGART. Fifth American, from the tenth German edition, carefully revised and corrected. Philadelphia: P. Blakiston's Son & Co. 1900. xii + 430 pp. Price, \$1.75.

The recent edition of von Richter's inorganic chemistry, translated by Professor Smith sustains the reputation of former editions in containing a large amount of subject-matter in a limited space, and in presenting the most recent additions to the

<sup>1</sup> *Analyst*, 20, 268.

knowledge of this subject. The arrangement of the present edition is based on the periodic system of Mendelejeff and Lothar Meyer, and it presents a logical sequence of fact and theory according to the inductive method. The book is considerably enlarged from former editions by the introduction of chapters on the periodic law, relations of chemical affinity, and a brief statement of the theories of solubility and thermochemical phenomena. These are useful additions since training in elementary chemistry cannot now be considered complete unless these recent conceptions of chemical theory receive some attention.

The introduction seems a little heavy for a beginner, but for the best use with beginners as with any good text-book much depends on the skill and faithfulness of the teacher. For rapid advance, it is essential that the student gain a clear idea as to what chemistry is before proceeding to the study of facts and phenomena. Doubtless this is best accomplished by a brief preliminary statement of elementary principles, illustrated by experiments to be performed by the student.

This edition appears at an opportune moment, and it will doubtless meet with the favor it deserves.

CHARLES F. MABERY.

THE ELEMENTS OF PHYSICS. BY HENRY CREW. Second edition. xvi + 353 pp. New York: The Macmillan Company. 1900. Price, bound, \$1.10.

In the preface to the first edition, the author said: "Physics is not a series of disconnected subjects, including mechanics, sound, light, heat, and electricity. It is, on the contrary, a body of well-organized truth, forming one great whole. \* \* \* A science covering fields apparently so diverse, yet so intimately connected, demands an elementary treatment which shall be rigidly consecutive."

The more important changes from the first edition are the following: "All use of the method of limits, either for defining physical quantities or for other purposes, has been abandoned. All Greek letters, except  $\pi$ , have been replaced by English symbols. All use of trigonometrical functions has been given up."

These changes are good ones from the point of view of the teacher of physics. On the other hand, the student would certainly find his calculus come easier if he saw from the start