

While this book is intended primarily for the use of students, it can hardly be recommended as a desirable work for those just entering upon the study of organic chemistry, since it is much too full for such. It will be found most helpful to those who have such a knowledge of the subject as can be obtained from a work like Remsen's little book on organic chemistry. It will also be a most grateful help to those who are engaged in various lines of chemical work and who desire to keep informed of the present state of knowledge of organic chemistry, but who have not time or means to get their knowledge at first hand from the literature of the various chemical journals.

L. L. VAN SLYKE.

MANUAL OF CHEMISTRY. BY W. SIMON, PH.D., M.D., ETC. Fifth Edition. pp. 502. Lea Bros. & Co. 1895.

Professor Simon has found it desirable to issue a revised edition of what is correctly termed a manual of chemistry. When to the title is added that it is especially a manual for medical students, the experienced reader knows tolerably well what advantages and shortcomings are to be looked for; and if the reviewer adds that the advantages are well represented, and the shortcomings are such as are identical to the plan of the book, it will be easy to form a general idea of its character.

The first fifty pages go over the theory of chemistry from the most elementary definitions to a discussion of the periodic law. Now it is manifestly impossible to give in a couple of hours' reading a satisfactory treatise on such a subject. On the other hand, it is desirable for medical students to have some knowledge of chemical theory; and as the medical student's chemical library consists too often of but one book, it is necessary to put the main facts in that book. It is, of course, understood that the book is to be supplemented by an extended course of lectures, and is intended to give, first, elementary knowledge to the young student, and second, a repository of all the principal things he subsequently learns, for future reference. Now this book gives these things very well indeed; and what has been said of the theoretical part applies to the whole book. It goes into descriptive chemistry, and analysis, qualitative and quantitative, and physiological chemistry, and treats of all the chemicals men-

tioned in the U. S. Pharmacopeia. Happily it was not thought best to include industrial chemistry.

The book is concisely written in good English, and is embellished with eight colored plates, representing sixty-four reactions very useful to the student, and by no means easy to produce; they seem very good.

A. H. SABIN.

NOTES.

Note on a Molding-sand.—A number of years ago a bed of excellent molding-sand was discovered in Belmont County, Ohio, near the Ohio river. It was, in fact, pronounced almost an ideal sand for heavy castings, and so popular was it with foundrymen, that the bed is now about exhausted, and has been closed by the owner.

The sand, when taken from the bed, coheres in lumps, is dark colored and rather coarse-grained. The grains consist of a rounded quartz nucleus, covered with a coating of brownish-red clay, that seems to adhere closely to the quartz, but dissolves when the sand is treated with hydrochloric acid, leaving the pure white nucleus behind.

The sand, even when rammed in a mold, is very porous, readily permitting the escape of gases, it is strongly cohesive, and will not blister or scale off when the molten metal flows over it. Most sands used for making heavy castings soon have the life burnt out of them; but it is said that this sand is wonderfully tough and durable.

Few sands possess, along with other good qualities, this desideratum of life-length.

Whether the good qualities of this particular sand are due to its physical condition, or to its chemical composition, or, as seems likely, to both, the writer cannot say.

An analysis of the sand, dried at 100° C., follows:

Free silica	73.47	per cent.
Combined silica	5.30	" "
Alumina	12.86	" "
Ferric oxide.....	3.97	" "
Lime.....	0.62	" "
Magnesia.....	0.60	" "
Organic and water	3.13	" "

Total..... 99.95