

Fourth, the results will make it possible to plan and to make feeding experiments with farm animals with the natural mixtures of proteins as they occur in common feeding-stuffs, that will aid in the determination of the relative efficiency of the proteins of different feeding-stuffs for the maintenance, the growth, and the fattening of farm animals.

The determination of the amino acids of feeding-stuffs will be continued by this department. The results for a number of other feeding-stuffs will be published in the near future. The quantitative determination of the amino acids of the roughages, such as the hays, corn fodder, corn silage, the grasses, the straws, and the roots and tubers will be especially valuable and interesting since as yet we have no knowledge of the nature of the proteins of these feeding-stuffs.

A study of methods for the separation and the quantitative estimation of the amino acids included in the groups represented by the amino nitrogen and the nonamino nitrogen in the filtrate from the bases obtained in the Van Slyke method has also been undertaken in this connection.

URBANA, ILL.

---

### NEW BOOKS.

**Elementary Chemical Microscopy.** By ÉMILE MONNIN CHAMOT, Professor of Sanitary Chemistry and Toxicology, Cornell University. xiii + 410 pp.; 130 figs. New York: John Wiley & Sons, Inc. Price, \$3.00 net.

Notwithstanding the ever-increasing demands on the analytical chemist, the system of instruction in many American institutions has hardly changed since the days of Bunsen and Fresenius. Microscopic methods have been quite generally neglected. Most analysts approach the stage of the microscope with the fright of an amateur performer which is in striking contrast to the confident enthusiasm of Professor Chamot's students.

Since, at best, the laboratory work in analytical chemistry in the usual college course is only a start on the right road the student who has thorough grounding in several lines of attack is at a great advantage. With this equipment he can be left to schoolmaster Experience for the rest of his training.

Professor Chamot in his book has generously extended to students outside of his university and to those in practical work the advantages hitherto enjoyed only by his students. If the chemist is not called on to use the book in his college work he will at least find it useful in after-life.

The term "Chemical Microscopy" as used in the title is particularly fortunate and is much to be preferred to "Micro-chemistry" which suggests that the phenomena observed under the microscope are different from those seen with the naked eye.

Chapters I to XIII inclusive are devoted to the microscope, microscopic

accessories and technique. Far from being tedious pages culled mostly from manufacturers' catalogs, this part of the book is practical and concise, containing a vast amount of accumulated information found elsewhere only after careful search, if indeed at all. The directions for determining the crystallographic system, index of refraction, melting and subliming points will be found useful to analytical and synthetical chemists alike.

In Chapter XIV are given the characteristic reactions of 23 cations and 27 anions, being those ordinarily included in works on analytical chemistry. The descriptions are detailed and more distinctly chemical than in foreign works on microscopic qualitative analysis.

Chapter XV on the preparation of opaque objects will be of special value to those undertaking petrographic and metallographic work.

The author has not invaded the field of vegetable and animal histology. In a book of this character it is doubtless wise to avoid morphology of tissues, but a short chapter on the characteristic reactions of the common constituents of plants and animals, such as starch, sugars, proteins, fats, tannin, etc., might prove a useful addition without greatly increasing the size of the book. However, the fact that the author is a master of these as well as inorganic reactions suggests that he has good reasons for keeping within the present bounds.

The clearly written text, the remarkably well executed illustrations and the novelty of the subject should prove a lure to English-speaking chemists and induce not a few to follow up chemical microscopy as a very useful specialty.

A. L. WINTON.

**Moderne Kriminalistik.** By A. HELLWIG. 104 pp.; illustrated. Leipzig: B. G. Teubner. 1914. Price, 1.25 Mk.

This little book treats in a general way of the various methods of tracing crime and criminals followed at the present time. Among other things discussed we find references to the aid which may be secured through chemistry and microscopy in several classes of criminal inquiries. Aside from this, the book contains nothing of chemical interest.

J. H. LONG.