COMPOSITION OF CORN OIL (*continued*).

Glycerides of.	%.
Stearic acid	3.5
Arachidic acid	0.4
Lignoceric acid	0.2
Unsaponifiable matter	1.7
	99.8

WASHINGTON, D. C.

NEW BOOKS.

Pyrometric Practice. Technologic Paper of the Bureau of Standards, No. 170. By PAUL D. FOOTE, C. O. FAIRCHILD, and T. R. HARRISON. Government Printing Office, Washington, D. C., 1921. 326 pp. 185 figs. 18 × 25.5 cm. Price $0.60; from Supt. of Documents.

Only a few years ago the average investigator knew little of pyrometry. The whole subject was a vast mystery to him; he knew something of the use of a mercury thermometer, but a thermocouple, a resistance thermometer, or a radiation-pyrometer would not have been recognized by him, much less understood. To-day the chemist, as well as the physicist and the engineer, is obliged to make frequent and increasing use of one or more of the modern types of thermometer. In the laboratory some form of pyrometer is an indispensable tool; in the plant the size and importance of pyrometric installations has created a new profession, "pyrometric engineering."

This publication is a clear and thorough presentation of the technic of temperature measurement. The authors possess a first-hand knowledge of the subject, and have made frequent contributions to the various branches of pyrometry. The scope of the book is shown by the following list of chapter-headings: Temperature Scale; High-temperature Thermometry; Thermoelectric Pyrometry; General Theory of Optical and Radiation Pyrometry; Optical Pyrometry; Radiation Pyrometry; Resistance Thermometry; Recording Pyrometry; High Temperature Control; Melting-point Methods at High Temperatures; Standardization of Pyrometers; and Industrial Applications of Pyrometry.

As indicated by the title, the book is primarily concerned with the practical side of the subject. It contains "nothing of the historical, and the purely scientific aspects of pyrometry have been intentionally subordinated. It purports to describe practical methods in use in the industries in the year 1920." Nevertheless the theoretical foundations of the various phases of temperature-measurement are recorded, insofar as they are required for a proper understanding of the instruments and methods. While this treatise naturally will find its widest use in connection with industrial installations, it will be helpful to anyone who is called upon to measure temperatures. Of especial value to the research worker is the

chapter on "Melting-point Methods at High Temperatures." The general usefulness of the book would have been enhanced by a description of the deviation-curve and standard-table method of using a thermocouple. The Appendix contains standard tables for the copper-constantan and for the platinum-platinrhodium couples, but no hint is given as to what the tables are used for.

The publication is unusually free from typographical errors. The reviewer noted none, except on p. 170 "enunciator" for "annunciator."

The references are comparatively few; no attempt was made to include a complete bibliography of the subject. LEASON H. ADAMS.

Organic Syntheses. An Annual Publication of Satisfactory Methods for the Preparation of Organic Chemicals. Vol. 1. Editorial Board: ROGER ADAMS, Editor-in-Chief, University of Illinois, Urbana, Illinois; HANS THACHER CLARKE, Eastman Kodak Company, Rochester, N. Y.; JAMES BRYANT CONANT, Harvard University, Cambridge, Massachusetts; OLIVER KAMM, Parke, Davis and Company, Detroit, Michigan. John Wiley and Sons, Inc., New York; Chapman and Hall, Limited, London, 1921. vii + 84 pp. 7 fig. 23.5 × 15 cm. Cloth. Price, $1.50.

This is the first number of a series of pamphlets which the editors propose to issue annually. It is an outcome of the admirable work that was inaugurated by the senior editor when the war cut us off from our largest supply of pure organic chemicals. The main purpose of the series is to supply the investigator with reliable directions for making, in 200g. to 2.5kg. lots, the substances he most frequently needs for his work. In return the authors make the reasonable request that investigators who have had occasion to prepare other organic compounds on a reasonably large scale, report their results for verification and publication in the pamphlets. The authors "hope to make this (series) a clearing house for the exchange of information as to methods of preparation of some of the most needed organic chemicals."

Very few of the methods presented are new, most of them being based on the most satisfactory methods published. Some one of the authors has selected the most promising method, studied it carefully, and prepared a set of directions to be verified or improved by one of the other authors. Only such directions as gave results which were exactly duplicated in both laboratories were deemed ready for publication. The directions are excellent in their definiteness. They specify the best type and size of apparatus to be used, the most favorable temperature, the time required for each step in the process, the precautions that must be taken, the yield of substance sufficiently pure for most purposes, and the best method for getting the purest product. Each preparation is accompanied by explanatory notes and a bibliography which gives references to all of the methods by which the substance has been obtained.

The apparatus specified is in most cases such as is found in any labor-

atory, but the pamphlet also contains descriptions and drawings of some new and ingenious devices that will be found equally useful in other work. The emphasis laid on adequate mechanical agitation is altogether commendable, as is also the substitution of cheap for expensive solvents wherever possible.

The first number describes 23 preparations, selected at random, because the directions for making them happened to be ready for publication. It is expected that each subsequent issue will contain at least 20, and the authors hope that as interest in the work is stimulated this number may be considerably increased. Anyone who has had experience in the preparation of organic compounds on a moderately large scale will appreciate the care and intelligence with which the authors have considered everything that might affect the results.

The pamphlet deserves a wide distribution. For the investigator it is invaluable. The chemical manufacturer will find that most of the methods can be readily developed for production on a larger scale. The instructor in organic chemistry, by cutting down the quantities, will be able to supply his students with directions better than any heretofore available, prepare more interesting as well as more useful substances, and by assigning different preparations in successive years, stock his treasure chest without depleting his purse.

The review hazards the prediction that the new venture will receive such hearty support that the editors will be encouraged to continue the good work. It seems to him that many teachers, whose time and energies are so largely taken up by instruction that protracted systematic research is out of the question, would find it a welcome and profitable diversion to undertake the intensive study of some one preparation and thus contribute to the success of the series.

E. P. KOHLER.