

colloidal chemistry, *i. e.*, the questions of surface tension, adsorption, etc., which are of such fundamental importance to the whole subject, are first discussed toward the end of the book. In the opinion of the reviewer this is an unfortunate arrangement, for to take one example, a treatment of the coagulation of colloidal solutions without a knowledge of the adsorption laws, must necessarily be handicapped to say the least.

For the professional worker in the field of colloidal chemistry, the book has little to offer, first because of its brevity and second because of the fact that although dated January, 1915, many of the results of recent research are not to be found in the book.

However if one is interested in obtaining a statement of the principal facts of colloidal chemistry unencumbered with too much theory, the book is to be recommended.

WALTER A. PATRICK

Handbook of Colloidal Chemistry. By WO. OSTWALD. Translated by M. H. FISCHER. 278 pp. Blakiston's Son & Co. \$3.00 net.

The above book is a translation of the third German edition of Wo. Ostwald's "Grundriss der Kolloidchemie." Wo. Ostwald's name has been so intimately associated with the development of colloidal chemistry, that it needs no introduction even to American readers. His broad general knowledge of his subject reminds one very forcibly of the attitude of his father, Wilhelm Ostwald, toward physical chemistry. Following the footsteps of his father, the son also endeavored to write an authoritative text-book in his own chosen field. The above book is the result, and while the reviewer can not agree with the translator in saying that Wo. Ostwald in colloidal chemistry occupies a position analogous to Wilhelm Ostwald in physical chemistry, or J. Liebig in agricultural chemistry, nevertheless one must agree that his text-book is most stimulating and interesting.

The book is divided into two parts, a general and special study of colloidal chemistry. The first part is devoted largely to classification and systematics, being the particular field in which Ostwald excels. The treatment is very general,

indeed in many cases it seems as if the spirit of generalization was carried too far. This is well illustrated in Ostwald's "negative" surface tension, the existence of which is not supported by experimental evidence and which would indeed be contradictory to our fundamental ideas of surface tension.

The second part of the book dealing with the properties of colloidal solutions is the most interesting. This is especially true of that portion which treats of the viscosity of colloidal solutions.

The book is made very attractive with its abundant photographs and tables. On the whole the translation is acceptable, but the frequent use of the ugly word "dispersion-means" in the place of dispersion medium strikes one as inexcusable.

WALTER A. PATRICK

The House Fly, Musca domestica Linn., its Structure, Habits, Development, Relation to Disease and Control. By C. GORDON HEWITT. Cambridge: University Press.

The house fly has been an illustration of the fact that it is concerning the most common animals that we often know the least. Though associated with man through all ages, and doing him incalculable injury, this insect, until recently, was either viewed with complete indifference or rather with favor as a paragon of industry. To any one who desires to see how all of this has been changed and how fully the menace which the house fly forms to public health has been established, the book by Dr. Hewitt is highly recommended. It is not a popular treatise in the usual sense but, as the author states in the preface, it complements the work by Dr. L. O. Howard, "The House Fly: Disease Carrier." Although primarily intended for entomologists, sanitarians and physicians, it contains much matter of general interest.

The various parts of the book deal with the structure and habits of the house fly, its breeding habits, natural enemies, various related species frequenting houses, relation to disease and control. The strongest parts of the book appear to be those dealing with the anatomy and with the dissemination of dis-

eases. The author's work on the anatomy of the house fly began at the University of Manchester in 1905. A very satisfactory monograph which he published in 1907-8 is largely incorporated in the present work. On the subject of the muscular structure of the larvæ particularly, the contribution Dr. Hewitt makes is important. Previous writers generally have passed over this subject lightly. In fact the anatomy of the larvæ of insects has received but little attention. The principal previous work referred to the larva of the goat moth and was published in 1762. There are few investigators qualified to do such work on anatomy as has been done by Dr. Hewitt. His account not only widens our knowledge of insect structure, but corrects many errors which have been made by less competent observers.

The subject of the rôle of the house fly in the dissemination of disease is an extremely complicated one. It is not sufficient to determine the presence of pathogenic bacteria on the fly. Immediately questions of the viability of the bacteria and the habits of the fly must be considered before the actual importance of the insect in disseminating the germs can be considered settled. On this subject in the last few years masses of articles of the most diverse kinds have appeared. Dr. Hewitt analyzes the evidence and treats it in a conservative and judicial manner. His conclusions will undoubtedly be fully substantiated in the course of time. Even since the book was published much corroborative evidence has been supplied.

The book is written in a clear and effective style, is well balanced, well illustrated and altogether in keeping with the high reputation which the author enjoys.

W. D. HUNTER

CONTRIBUTIONS TO MINERALOGY AND THE MINERAL SPRINGS OF JAPAN

THE Japanese publication *Beiträge zur Mineralogie von Japan*, so ably conducted by Professor Tsunashirô Wada, offers in its fifth number, recently issued, several valuable con-

tributions to the mineralogy of the Japanese empire. Although the title of this publication is in German, all of the articles, with the exception of some in the first number, have been written in English.¹

Of especial interest is the first paper, by Nobuyo Fukuchi, "The Minerals of Chôsen (Korea)." It presents a summary of about sixty mineral species that have so far been discovered in Korea, among them the following precious stone materials, although hardly of gem-quality: garnet, beryl (?), tourmaline and zircon, as well as rock crystal, smoky quartz, amethyst, rose quartz, etc. Large quartz crystals, of a peculiar reddish hue due to inclusions, have been found at Hukuganzan, Keishô-nando, as have also amethyst crystals. Smoky quartz occurs at several places near Keishû, Keishô-hokudô, and in this region are rock crystals affording good material for lenses. Gold placers and gold veins occur at several places; one large nugget weighing about 915 grams (nearly 30 ounces) was found near Tansen and is noted in the *Journal* of the Geographical Society of Tokyo for 1912. Limonite, the chief iron ore of Korea, occurs in four places: The Kaisen iron mine in Heian-hokudô; and the Inritsu, Sainei, and Kenjiho mines in Kokai-dô. Garnet has been found in the Suian gold mines in Kokai-dô and in the Inzan gold mines in Heian-hokudô; columnar crystals of zircon occur in a graphite deposit at Jidô, Heian-hokudô; and black tourmaline is found near the Sakushû gold mines, Heian-hokudô, and at two other localities. The occurrence of graphite in the Gneiss system and the Korean system or in old Paleozoic sediments in Korea is also studied by Nobuyo Fukuchi. The graphite veins frequently consist of two symmetrical halves of similar structure with a boundary line between them, and graphite deposits of this type are of great purity and particularly valuable from an economic standpoint. The veins are believed to owe their formation to dissociation from neighboring graphite nests, caused

¹ *Beiträge zur Mineralogie von Japan*, ed. by T. Wada, No. 5, November, Tokyo, 1915; 101 pp., plate; pp. 207-305 of continuous pagination.