prae), *Demodex* (*folliculorum*), *Dermanyssus* (*gallinae*), *Glyciphagus* (*domesticus*), *Polydesmus* (*complanatus*), *Psoroptes* (*equi*), *Rhizoglyphus* (*robini*), *Trombidium* (*holosericeum*).

THYSANURA: *Lepisma* (*saccarhina*), *Podura* (*plumbea*).

ORTHOPTERA: *Blatta* (*orientalis*), *Ectobius* (*lapponica*), *Gryllus* (*campestris*), *Periplaneta* (*americana*).

ISOPTERA: *Termes* (*fatale*).

CORRODENTIA: *Atropos* (*lignarium*).

ANOPLURA: *Pediculus* (*humanus*), *Phthirus* (*inguinalis* so. *pubis*).

HEMIPTERA: *Anthocoris* (*nemorum* so. *sylvestris*), *Corixa* (*striata* = *geoffroyi*), *Nabis* (*vagans* so. *ferus*), *Nepa* (*cinerea*), *Notonecta* (*glauca*), *Reduvius* (*personatus*), *Triatoma* (*gigas* = *rubrofasciatus*).

DERMAPTERA: *Forficula* (*auricularia*).

SIPHONAPTERA: *Pulex* (*irritans*).

CH. W. STILES,
Secretary.

CURIOSITIES OF ANTHECOLOGY

KNUTH'S "Handbuch der Blütenbiologie" consists of Band I, 1–400, 1898; Band II, Teil 1, 1–697, 1898, Teil 2, 1–705, 1899; Band III, Teil 1, 1–570, 1904, Teil 2, 1–601, 1905. It is the most important general work on anthecology that has ever been published, summarizing all the literature down to 1903. It gives abstracts of all my flower and insect papers and gives the insect visits of all the species mentioned in them. Band II, Teil 1, 2, contains European and arctic results. Band III, Teil 1, 2, contains results from the rest of the world. I have the satisfaction of knowing that those who ignore my papers also ignore Knuth's work.

Davis' "Knuth's Handbook of Flower Biology" is another thing. Vol. II is Band II, Teil 1, of Knuth's work. Vol. III is Band II, Teil 2. Band III, Teil 1 and Teil 2 have not been translated.

It is remarkable how persons not really interested in this matter should feel impelled to write about it.

In the *Botanical Gazette* we read, "The third volume of the English translation of Knuth's 'Handbuch der Blütenbiologie' has just appeared and completes the work."

In the *American Bee Journal* we find, "A survey of the whole subject may be obtained from the English translation of 'Knuth's Handbook of Flower Pollination,' three volumes published by the Clarendon Press, Oxford, 1906. This admirable treatise has a splendid summary of the more important work done along the lines of pollination up to the year 1906."

In a Carnegie publication, with two authors, it is stated, "No previous floral study of *Rubus* has been made in America, but several European species have received much attention (Knuth, 1908: 352)" and "The pollination of the rose appears to have received no attention in this country, but several species have been studied in Europe (Knuth, 1906: 348)." But Knuth, 1904, Band III, Teil 1, 340, 344, gives abstracts of *Rubus occidentalis* and *villosus, Rosa humilis* and *setigera* and cites my "Rosaceae and Compositae" of 1894.

Another paper with two authors says: "Doubtless some of the papers dealing with flowers and bees have been overlooked." This article of 1920 repeats 385 and overlooks 259 of the cases recorded by me, all of them given by Knuth in 1905, Band III, Teil 2.

A paper with two authors involves a trinity, one, the other and both. A fine point of cooperation would be to combine with some one who would do the work and take the blame for any error, while you take the credit.

In "Flowers and Insects" (XXI, *Bot. Gaz.* 73: 148), I made a fuss about Knuth's volume II repeating Mueller's lists for the third time, while his volume III merely summarizes American lists. The joke is that Davis' "Knuth's Handbook" repeats Mueller's lists for the fourth time, while all mention of American lists is suppressed.

In a letter of December 8, 1919, the Oxford University Press, American Branch of the Clarendon Press, says, "Replying to your letter of Nov. 25th, we beg to say that the 4th and 5th Volumes of Knuth's 'Flower Pollination' have not yet been published, and we regret we have no information as to when they will be ready."

It is evident that the authors cited above as referring to the work thought that all of it had been translated, and that all who bought the first volumes thought that the rest would be translated.

CHARLES ROBERTSON

CARLINVILLE, ILLINOIS

AN EARLY BOOK ON ALGOLOGY

A COPY of one of the rarest botanical works in America has recently been found at Rutgers University. This is "The Algae and Corallines of the Bay and Harbor of New York," published by Mr. C. F. Durant in 1850, said to be the first book on algology published in America. Only two other copies are known to be in existence, one each at the Brooklyn Botanic Garden and the New York Botanical Garden. The work is unique in that every plant described in the text is illustrated by an actual dried specimen, the little cards bearing the plants being pasted on

blank pages, thus forming a very original Icones Algarum.

The history of the book has been described by Hollick[1] and interesting excerpts are given by him from Durant's notes, which now form an invaluable commentary on the floristic (and faunistic) communities of New York Harbor and Raritan Bay before pollution had destroyed them.

It is possible that still other copies are hidden away in our older libraries and can yet be retrieved.

ARTHUR P. KELLEY

RUTGERS UNIVERSITY

SCIENTIFIC BOOKS

Manual of Meteorology, Vol. I. By SIR NAPIER SHAW, with the assistance of ELAINE AUSTIN. Cambridge University Press, 1926, pp. XX + 340, 121 illustrations. Price 30s. net.

THIS volume is part of the monumental work planned by Sir Napier Shaw when he retired from the directorship of the Meteorological Office. That the last shall be first receives a striking confirmation in the issue of the four volumes constituting the work, for the final volume (IV) was handed to the printer on Armistice Day, and duly made its bow to the reading public in 1919. It dealt primarily with wind and pressure; though perhaps pressure should come first, since difference in pressure initiates air flow or wind.

Volume I now appears, and from a personal letter we know that Vol. III is ready for the press. Vol. IV had 166 pages; the present volume (I) has just double that number, and naturally the price also is doubled; but the increase will not be grudged. The present volume carries as sub-title "Meteorology in History"; and the text justifies the heading.

The author gives his viewpoint when speaking of what was expected of him as his bit, during the World War. He says, "It became my duty to supply or alternatively to train officers for various meteorological services." The director was working in an environment "which contained within its own experience or on its shelves almost all that there is to know about the weather"; yet he had to send responsible officers into the services, "with a formula by which they could carry on in place of the knowledge that would enable them to become a part."

This and the feeling that the atmosphere should be studied as a whole led to the conception of a compendium of what had been done by workers in many lands. Furthermore, there lurks in the author's mind a feeling that the study of the atmosphere, that is, aerography, should be thrown open to amateurs, whereas it is now to all intents and purposes limited to a professional few in official harness. He says truly that the study of weather, "which in so far as it is specialized is devitalized," ought to be an attractive subject for amateurs. It is to furnish amateurs with the necessary historic background that this big piece of work was attempted.

The present volume has fifteen chapters, and in every chapter there is plenty that is filling and on the whole easily digestible. The menu ranges from Aristotle's Meteorologica to the equipment of a modern observatory, including radio-integrators, pyranometers and pyrgeometers. The illustrations are abundant and, considering the age of many of the originals, have come out well. The personal touch is shown in photographs of some of the international meteorological congresses.

The pioneers in meteorology were all good-looking men, although running largely to whiskers. In the Paris conference photograph not one of the thirty-four faces is clean shaven. How fashion changes! To-day in a group of fifty airmen there would not be a single face adorned with excess pilosity.

There is one American meteorologist whose face is missing; that is William Ferrel, due probably to Ferrel's modesty. Langley and Maury are present; but Franklin and that earliest explorer of the upper air, Dr. John Jeffries, are missing. Robert Boyle might have been included, for certainly the author of the "Spring of the Air" did a lot to advance knowledge of air pressure.

There is little to criticize in the book, for it is evident that the utmost care has been taken to get dates, names and facts correct. A reviewer can only applaud the author and those who assisted him, for both quality and quantity of work. The type work is excellent, and the Cambridge University Press lives up to its high standard. The book contains 121 illustrations, 95 of which are cloud photographs. No one interested in aerography, the science of the air, can afford to be without the book.

ALEXANDER MCADIE

An Outline of a Reclassification of the Foraminifera. By JOSEPH A. CUSHMAN. Contributions from the Cushman Laboratory for Foraminiferal Research, Vol. 3, pt. 1, 1927, pp. 1–105, 21 plates. Published by the author at Sharon, Mass.

DR. CUSHMAN'S latest work upon these important micro-organisms will be welcomed by all students of this class and particularly by those employed in economic geology. In a former article, issued by the

[1] Hollick, Arthur. "A Quaint Old Work on Seaweeds," Proc. Staten Island Assoc. Arts Sci., vol. 5, parts III and IV, 1915.