

SCIENTIFIC BOOKS

Water Supply. By WILLIAM P. MASON. Fourth Edition. New York, John Wiley and Sons. x + 528 pages, 6/9. \$3.75 net.

The fourth edition of Professor Mason's well-known book on water supply testifies to the high esteem in which this book is held by the American engineering public. Published originally in 1896 it has passed through subsequent editions, each time being substantially enlarged and improved. For the present edition a large amount of the text has been entirely rewritten and suitable amount of new material added. The tables have been brought up to date and new photographs introduced. Some of the most noticeable changes are the following:

The chapter on Drinking Water and Disease has been strengthened by the addition of many pages devoted to typhoid fever. The work of recent years is drawn upon to set forth present-day conceptions in regard to the existence of the typhoid bacillus outside its human host and in "carriers." The distribution of the disease and factors operating in its transmission are also discussed. Considerable material has been withdrawn from this edition relative to the now discredited theory of water-borne malaria.

Newly developed methods of water purification, particularly processes aiming at disinfection, come in for consideration, as do certain newly found factors influencing natural purification in streams and stored waters. The use of chlorine ozone, ultra-violet light and copper sulphate receive attention. There is considerable discussion of various phases of the pollution of drinking water supplies and the care of watersheds.

Revisions and additions appear frequently throughout the chapters dealing with ground water and with the corrosive action of water. The appendices deal with entirely new subjects and are brief.

Professor Mason is always a pleasing writer and has the art of abstracting the important data from the writings of others and presenting them in an attractive form. Although this can not be called an exhaustive treatment

of the subject it is one of the most interesting and suggestive treatises on water supplies published since the old book of the same title by Professor William Ripley Nichols, of the Massachusetts Institute of Technology.

GEORGE C. WHIPPLE

HARVARD UNIVERSITY

Sarcophaga and Allies in North America. By J. M. ALDRICH. Published by the Entomological Society of America. Lafayette, Indiana, 1916.

In 1915 the Entomological Society of America, recognizing the difficulty of adequately publishing monographs on American insects, established the Thomas Say Foundation for this purpose. Subscriptions were solicited, and the accumulating funds were set aside to be used from time to time as suitable works might be offered for publication. The plan is not unlike that of the English Ray Society, which has been publishing important zoological works for many years. Very appropriately, the Foundation is named after Thomas Say, the founder of American entomology. The first monograph issued under these auspices is now before us, and is a revision of the Sarcophagid flies, commonly known as flesh-flies, by Dr. J. M. Aldrich. These flies, which are very abundant in America and Europe, and in some cases of considerable economic importance, have long been the despair of students. It was recognized that the species were numerous, and in fact over a hundred supposed species had been described, but no one could satisfactorily identify them. About twenty years ago L. Pandellé published a work in France, in which he separated the European species known to him by the characters of the sexual organs. This method proved brilliantly successful, and after a time was confirmed and adopted by the other European workers. It is now applied to the American flies, with the result of making the whole subject over, and replacing chaos by order. Dr. Aldrich has been able to recognize 145 species and varieties in the American fauna, and figures the genitalia of 138. Every reasonable effort has been made to identify the earlier

described forms, but since the older authors had little or no conception of the true specific differences in this group, many names have necessarily been set aside as practically meaningless. The treatment throughout is full and sufficient; the genera and species are separated by keys, and the descriptions of the species are quite detailed. Types are carefully designated, and localities and collectors are cited. Biological details are given when available. In all respects the book worthily initiates a series which may be expected to take first rank among those devoted to zoological subjects.

From a postscript at the end it appears that two of the species described by Dr. Aldrich were published a little earlier, under quite other names, by Dr. R. R. Parker. It seems strange that when there are only two persons in the Western Hemisphere working on a subject, they can not consult together sufficiently to avoid such conflicts. Figure 110, as I learn from Dr. Aldrich, though labelled *Sarcophaga bison* is in fact *S. bullata* Parker. The former name was a manuscript one of the author's, and was altered in the text at the last moment, because Dr. Parker published the species as *bullata*.

We hear much these days about the encouragement of research, but it is often overlooked that adequate facilities for publication are essential. Authors are not justified in spending months and years in the preparation of monographs which may never appear in print or serve any useful purpose. There are at this moment many excellent contributions the publication of which is indefinitely postponed, or which must be split up into short papers in order to see the light. To those who are familiar with actual conditions the situation is rather discouraging, and it is not mended by the appearance of a certain number of large books in sumptuous and extravagant form. The Thomas Say Foundation, from necessity no less than choice, publishes as cheaply as is consistent with excellence, and in this respect earns the gratitude of students.

T. D. A. COCKERELL

UNIVERSITY OF COLORADO

THE ORIGIN OF THE PRE-COLUMBIAN CIVILIZATION OF AMERICA

MY attention has just been called to the letters (SCIENCE, October 13, 1916) in which Dr. A. A. Goldenweiser and Mr. Philip Ainsworth Means have put a series of questions for me to answer. As the problems to be solved involve the validity of the foundations upon which has been built up (as the result of more than half a century's intensive studies on the part of leading scholars of every civilized country) a vast superstructure of ethnological doctrine and complex rationalization, perhaps you will afford me the opportunity of replying in some detail to these criticisms, and of adding to the article of mine which appeared in SCIENCE on August 11, 1916, some further reasons for thinking that this elaborate edifice of ethnological speculation will have to be demolished.

While admitting that in the end my contention may be justified, Mr. Means makes the significant comment that "it will be a long time before American anthropologists will be forced to accept these views as final." All that I have attempted to do is to "force" them seriously to examine the foundations of their beliefs, being firmly persuaded that such of them whose minds are still sufficiently alert to be no longer blinded by the outworn dogmas of Bastian and Tylor¹ will be led to accept the views which I have sketched as the only possible interpretation of the facts.

One of the three difficulties suggested by Mr. Means I have already discussed at some length.²

¹ By the same mail that brought me the proofs of this letter also came the tidings of the death of the veteran ethnologist whose teaching is so frankly criticized in it. But though his theories of "animism" and "independent evolution of culture" have been a serious factor in clouding the vision of ethnologists, the great merit belongs to Sir Edward Tylor of stimulating a widespread interest in the subject and thereby contributing materially to the advancement of learning, which has earned him the grateful tribute of all scholars.

² "Ships as Evidence of the Migrations of Early Culture," *Journal of the Manchester Egyptian and Oriental Society*, 1916.