

and other polished surfaces; claspers are used upon hairy mammals, such as moles and squirrels. A strange part of the business is, that by no means all the young nymphs of a species change into hypopi, and yet that those which do change include both sexes. How little they resemble the form from which they emerge and to which they return is indicated in the opinion entertained by one writer, that the hypopus was a parasite which entered the nymph and ate it up, all but the skin. To accuse it of such ravaging propensities is peculiarly unkind, since it has but a rudimentary mouth and there is little reason to believe that it feeds at all. The innocent purpose of the transformation seems to be merely to secure distribution of the species by varied contrivances for adhesion to moving objects. Acarids themselves are a slow-moving race. Unaided they can travel neither fast nor far, though a Gamasid can traverse four inches in a minute. On the other hand, they multiply with a fertility so portentous that any measures for dispersing the surplus population must be welcome in their commonwealth. But guileless as the hypopi are individually, a heart of stone would be touched at the affliction they cause in mass to the industrious ant. That long-suffering tribe is said to find some twelve or thirteen hundred species of other animals willing to share, or at any rate that are present among, the amenities of its civilised nests. One of these species is the cheese-mite *Tyroglyphus wasmanni*, and Wasmann, after whom it is named, found that a single ant might be infested by fifty, or a hundred, or a thousand, or even thousands of the hypopi, not feeding upon it, but clogging all its organs, so that it could neither talk with its antennæ, nor feed with its mouth, nor walk with its feet, nor clean itself with its combs, till the poor creature, against its will made sordid and useless, would fall into a lethargy and die.

Mr. Michael has long held a foremost place among acarologists. It may be confidently assumed that his reputation, high as it is, will be advanced by the present volume. Though the Tyroglyphidæ are comparatively simple in structure, his skilfully drawn plates help us to understand much in them that is peculiar and to admire occasional features that are really beautiful. Notwithstanding the necessarily technical and systematic character of the work, so many suggestive and critical comments diversify the recital that it will be studied with pleasure by readers who are quite outside the limited circle of specialists.

T. R. R. S.

OUR BOOK SHELF.

The Journal of the Royal Agricultural Society of England. Vol. lxii., 1901. Pp. cciv + 403. (London: J. Murray.)

IT is greatly to be regretted that the council of the Royal Agricultural Society has decided to publish the Society's journal in future as an annual volume. For fifty years the journal appeared twice in the year, and during the last eleven years it has appeared quarterly. The alteration now made is a very serious retrograde step. Not only is the space occupied by original articles and reports reduced to nearly one-half of that previously found in the *Quarterly Journal*, but the publication of new matter is now seriously delayed. We have in this country a sad lack of any provision for the publication of important agricultural papers. Besides the weekly agricul-

tural newspapers, we have only the journals of our agricultural societies; these are small annual volumes, with the exception of the late *Journal* of the Royal Agricultural Society. This journal, with a circulation of 10,000 copies, has hitherto done something to provide the required means of publication. In it the majority of the reports by Lawes and Gilbert has appeared. Where could such reports be published now? The question is a very serious one, for it involves the ignorance or instruction of our agricultural readers; and an agricultural society could do nothing more useful than the regular and systematic publication of all work relating to the improvement of agriculture. The *Quarterly Journal* now issued by the Board of Agriculture does not attempt to discharge this function; it is principally confined to the publication of statistical matter and the results of experiments carried out with funds supplied by the Board.

The present volume contains much interesting matter. The long paper on English agriculture in the reign of Queen Victoria is full of facts worth recording, though some strange mistakes are made. What, for instance, was the Royal Chemical Society, founded in 1845 through the efforts of Johnston and Voelcker? The Chemical Society of London, to which the author probably refers, was, in fact, founded in 1841. The Society originated in London. At this time Johnston was a lecturer at Durham, and Voelcker was being educated in Germany, and did not join the Society until 1849! There is a very clear and concise statement by Prof. J. McFadyean on the evidence at present existing as to the relationship between human and bovine tuberculosis. This is a weighty utterance on a most important subject. The paper on English varieties of hops will be welcomed by hop-growers. The articles are followed by the usual reports of the Society's chemist, botanist and zoologist. The most notable result in the Society's experiments at Woburn is the immense effect produced by a dressing of lime in the barley-field; this application of lime has increased the produce by ammonium salts in one case by more than thirty bushels. An appreciative biography of Sir J. H. Gilbert is contributed by Dr. J. A. Voelcker.

R. W.

Selection of Subject in Pictorial Photography. By W. E. Tindall, R.B.A. Pp. 83. (London: Iliffe and Sons, Ltd., 1901.)

MANY of us who frequent photographic galleries or exhibitions have often been struck with the fact that, although a great amount of photographic skill has evidently been bestowed on the production of some particular print, yet in spite of this the effect is not at all pleasing to the eye, and the picture is not "a success." In many cases this is due to faulty composition, the photographer not having paid sufficient, if any, attention to the elementary laws governing this branch of the art. In photography, as in painting, there are many fundamental rules which must be followed to secure a pleasing effect, and the aim of the author of this book is to set out these points for the use of the photographer.

In a series of very instructive and interesting chapters, attention is directed to the composition of all kinds of subjects with which the photographer is likely to meet, and the difficulties peculiar to each class are described.

Further, the author does not restrict himself solely to describing the chief points in the composition of any one subject, but he illustrates them by means of paintings, drawings and photographs, which add greatly to the force of the text.

In conclusion, it may be stated that the author has given us a book which should prove of great service to those who require information on composition in pictorial photography, and a useful addition to the photographer's library.