tion of certain substances is found to take place. Neither is any retarding or paratonic effect to be seen as a result of this continuous illumination."

The chapter on the theories as to the nature of etiolation is curious and interesting. The theories of the earlier investigators quite naturally were very crude, and it is not too much to say that something of this crudity continues even to the present day. Apparently we are not yet ready to formulate a satisfactory explanation of the action of a plant when grown in darkness. The 'adaptive theory' of Boehm (1886) as elaborated by Godlewsky (1889) appears to be the one most favored by botanists just now. It interprets etiolation as a direct adaptation, and assumes that 'the attenuation or elongation of axial organs is a means of lifting chlorophyll-bearing organs past theoretical obstructions.' Of this the author says, however, that 'the forms presented by the shoots of a greater majority of the species examined do not exhibit any beneficial adjustments by which the plant might free itself from encompassing darkness, and lift its leaves and reproductive organs past the obstruction that intercepts the rays.'

We should like to refer to the chemical composition of etiolated plants, the rate and mode of growth of such plants, the stimulative influence of light, etc., taken up in this most interesting book, but space forbids further discussion at this time. The author is to be congratulated upon having added so valuable a book to the growing list of his publications.

CHARLES E. BESSEY.
THE UNIVERSITY OF NEBRASKA.

International Catalogue of Scientific Literature, first annual issue, R—Bacteriology. Published for the International Council by the Royal Society of London. London, Harrison and Sons, 45 St. Martin's Lane. Vol. VIII. December, 1902. Pp. xiv + 314.

This is a comprehensive bibliography of books and other contributions to bacteriological literature which appeared during 1901. Author and subject lists are given, the latter arranged according to a decimal system. The plan and essential features of this undertaking, which is an outgrowth of the 'Catalogue of Scientific Papers' formerly published by the Royal Society of London, have already been described in SCIENCE, N. S., Vol. XIV., p. 861. In the present issue there are 2,206 titles indexed under the authors index and presumably the same are grouped under the subject classes. To cover the literature of any scientific subject in all languages is a stupendous task, and for those who use the catalogue it will doubtless be found a valuable aid. While it is always easier to criticise than to construct, yet there are certain features of the present volume to which attention deserves to be called.

Exception could be taken to the admission of articles on malaria, Texas fever, surra, fungus and nematode diseases, etc., as well as many other titles that are even more remotely connected with the subject of bacteriology, but particular attention at this time is desired to a single feature.

One at all acquainted with the literature of the subject is at once struck by the paucity of reference to articles published in the United States. A careful examination of the contents of the volume revealed but about eighty titles of books, addresses, magazine articles, etc., nineteen different periodicals being represented in the list. The *Journal of the Boston Society of Medical Sciences* is first in the list with fifteen references, followed by *Popular Science Monthly* with nine, the *Journal of the American Medical Association* with six, and the *Philadelphia Medical Journal* with the same number, the others having from four to a single title indexed. None of the publications of the U. S. Department of Agriculture nor of any of the Experiment Stations are mentioned, although during 1901 there were published from these institutions many articles relating to the bacteriology of plant diseases, dairying and veterinary science. For the sake of confirming the catalogue references a number of publications of 1901 were examined to see if they were prop-

erly represented. The *Journal of Comparative Medicine and Veterinary Archives* is mentioned but once in the catalogue, although there were eighteen leading articles in which bacteria were described as the cause of the disease mentioned, and in some cases extensive studies were given of the diagnostic and cultural characters of the organisms. In the *American Veterinary Review,* not noticed in the catalogue, there appeared sixteen original articles similar to the above. In the *Medical Dial,* also not noticed, were nine leading articles treating of bacteriological studies, diagnoses and bacterial investigations of water supplies, milk, etc. The *Medical Record,* to which there appear five references for the whole year, contained in the issues from June to December, twenty-two articles that one would have expected to have found mentioned.

Since this publication, having an American representative, shows such an inadequate representation of American literature, it can hardly be wondered that so many European investigators not having access to the original publications are unacquainted with what is done on this side. Omissions from the present volume are to be included in the next, according to a note in the catalogue, and it is to be sincerely hoped that a greater effort will be made to fairly represent our American scientific literature.

Walter H. Evans.
Washington, D. C.

BOURNE'S COMPARATIVE ANATOMY OF ANIMALS.*

The first volume of the two comprising this work has already been noticed in this journal (Science, Vol. XII., p. 311, 1900). The present volume consists of a series of somewhat detailed descriptions of the structure and ontogeny of selected types of animals, the whole being intended to fit students for the preliminary and intermediate examinations in the British universities. The animals selected are the liverfluke (how this is cœlomate does not appear), earthworm, fresh-water mussel, snail, *Apus, Astacus,* cockroach, *Amphioxus,* dogfish, frog, with a chapter on other annelids and a final one on the mammals.

As a whole, the descriptions are clear and accurate, and the seventy-seven illustrations illustrative of the text. Particularly instructive is the cut (fig. 44) of the pharyngeal region of *Amphioxus.* However, it is not well adapted for use in American schools, for it tells the student just those points which we insist that he shall ascertain for himself, so far as possible, from the specimen. As a 'cram manual' it would have a value. Lastly, the title is misleading. The whole work is descriptive, not comparative; in fact comparisons and broader features are rare in this second part, which in many respects falls short of the first volume.

J. S. Kingsley.

* 'An Introduction to the Study of the Comparative Anatomy of Animals,' by Gilbert C. Bourne. Vol. II., 'The Cœlomate Metazoa.' London, George Bell and Sons, 1902, pp. xv + 321. 4*s.* 6*d.*

SCIENTIFIC JOURNALS AND ARTICLES.

The March number (Volume 9, No. 6) of the *Bulletin* of the American Mathematical Society contains: Report of the ninth annual meeting of the American Mathematical Society, by Professor F. N. Cole; Report of the December meeting of the San Francisco Section, by Professor G. A. Miller; 'The abstract group G simply isomorphic with the alternating group on six letters,' by Professor L. E. Dickson; 'Note on a property of the conic sections,' by Professor H. F. Blichfeldt; 'The analytic theory of displacements,' by Mr. R. W. H. T. Hudson; Notes; New publications. The April number of the *Bulletin* contains: Report of the January meeting of the Chicago section, by Professor T. F. Holgate; 'Some groups in logic,' by Professor E. W. Davis; 'Cesàro's Intrinsic Geometry,' by Dr. Virgil Snyder; 'Gauss's Collected Works,' by Professor James Pierpont; 'Analytic projective geometry,' by Dr. E. B. Wilson; Shorter notices; Notes; New publications.

SOCIETIES AND ACADEMIES.

PHILOSOPHICAL SOCIETY OF WASHINGTON.

The 562d meeting was held January 31, 1903.

Professor A. N. Skinner, of the Naval Observatory, spoke by invitation on the 'Prog-