The second part of the "Catalogue of Type and Figured Specimens" in the Department of Geology of the United States National Museum consists of three sections in continuation of the Catalogue, Part I., dealing with the fossil invertebrates; section II. treats of the fossil vertebrates, section III. of fossil plants and section IV. of minerals, rocks and ores.

All working paleontologists will welcome this volume as one which will greatly facilitate their work, and botanists in general will find section III. of much value. This part, constituting the greater portion of the volume, has been compiled by Dr. A. C. Peale, with the cooperation of Dr. F. H. Knowlton and Mr. David White. The specimens are described under their catalogue numbers, and the description in each case includes the name, authority, locality and geological horizon, together with citation of publication giving the first description and figure.

The entire catalogue closes with January 1, 1905, and includes all changes to that date. It may, therefore, be regarded as substantially up to date. D. P. Penhallow

N. H. Abel. Sa vie et son œuvre. Par Ch. Lucas de Pesloüan. Paris, Gauthier-Villars. 1906. Pp. xiii + 168.

The writing of popular or semi-popular biography of scientific men, like the sketch of Faraday by Tyndall, or of Clerk Maxwell by Glazebrook, is highly commendable. A popular biography of a mathematician like Abel, who, though he died at the age of twenty-seven, made, according to Hermite and Sylvester, several discoveries of such originality as probably to keep mathematicians busy for one hundred and fifty years in the fuller unfolding of his ideas, can not be without interest. Mr. de Pesloüan, the author of the present sketch, has done his work fairly well.

In the case of a few technical matters he did not exercise sufficient care in the reading of the proofs, but with that exception the work is creditable. This booklet does not pretend to offer new facts on the life of Abel, nor is it intended to supplant the larger biography, written in 1885 by C. A. Bjerknes. De Pesloüan exhibits great admiration and much sympathy for the subject of his sketch. The title-page is preceded by a good picture of Abel. Florian Cajori

Discussion and Correspondence

An Adams Journal Conducted by the American Experiment Stations

The interesting communication of Dr. H. J. Webber, in Science of October 18, touching the publication of research to be made under the Adams Act, is quite timely and, as to every point discussed, most commendable. Formerly connected with one of the stations and yet deeply interested in the work, a teacher in an agricultural college, and publisher of the *Journal of Mycology*—on one or all these grounds may I take the liberty of offering some suggestions.

The necessity of such a publication—distinct from the popular bulletins—could not for a moment be questioned. I believe the plan essentially as proposed could be carried out. A committee of three for each subject or division, elected for three years (election of one member each year) but eligible for re-election, to pass on the completed work submitted by the directors of the stations, would doubtless be acceptable to all. Here, of course, if anywhere, there would be friction—*censorship!* some one would be sure to say!—yet the arrangement would probably and almost universally encourage, not discourage, investigators.

The classification is on a generous scale, and could be taken up, one division after the other as occasion demands. But I would suggest that the name *Adams Journal* (conducted by the American experiment stations) be used; that series be established, as "Agronomy Series, No. 1" (No. 2 *et seq.*); "Horticulture Series, No. 1" (No. 2 *et seq.*); "Plant Pathology Series, No. 1" (No. 2 *et seq.*), etc. Each number should contain only an investigator's work on one subject; a full index should be appended to each number, and the numbers should be sold separately (at or below cost). The pagination should be continuous

in each separate series, and a title page, table of contents, and complete index furnished when the accumulated numbers warrant the closing of a volume.

It would be rash to anticipate a large subscription list; it would be in the beginning at least quite insignificant. But the stations are under obligation (moral, if not legal) to publish and publish properly what they do. Publication is in fact the inspiration of the investigator—the most precious part of his reward. Whether station workers should receive copies of the published work in their own lines free (*and exchanges with scientific journals inaugurated!*) could be settled later, but let us hope that the decision would not be in the negative.

Would this scheme of publication interfere with the patronage of existing scientific journals? I can not for a moment think that such would be the unfortunate case. On the contrary, they are bound to gain with the greater advance of scientific investigation in this country. The work done by college professors, students and independent investigators will not, under the circumstances, grow less, but more—and they now furnish the existing journals with the large proportion of the copy. Even with the establishment of an *Adams Journal* there would be, as now, some things the station workers would wish to publish, and could properly publish, in the existing periodicals. My own journal, so intimately connected with one line of station work, has been enriched heretofore by valuable contributions on mycological taxonomy from station workers, and I do not anticipate that there will be any conflict or that loss of patronage need be predicted.

W. A. KELLERMAN

OHIO STATE UNIVERSITY,
October 19, 1907

A "CENSUS OF FOUR SQUARE FEET"

TO THE EDITOR OF SCIENCE: The article by Mr. W. L. McAtee in SCIENCE for October 4, 1907, "Census of Four Square Feet," is extremely interesting, but some of his deductions therefrom, as far as insect and arachnid life are concerned, are wide of the mark. He concludes that insects are more abundant in the meadows than in the woodlands. But he has failed to take account of the trees and their fauna in the woodland. In the meadow the insect fauna is mostly concentrated on or near the ground; in the woodlands, on the contrary, the bulk of insect life is on the trees. There are many families of insects which rarely or never occur in meadows or on the forest floor, but do occur abundantly in trees. Four square feet of some forest trees would produce a great many specimens of insects; for example, a tree infested by Scolytids or with Coccidæ. Four square feet of foliage infested with Tingitids would have hundreds of specimens; if infested with gall-mites, would have millions of specimens. Four square feet of dog-wood blossom in the spring, if shaken, would produce a thousand minute Coleoptera. Four square feet of tree bark sometimes has hundreds of specimens of Psocidæ. These are all groups of insects practically unrepresented in meadows or on the forest floor, and some of them are food for birds. Even four square feet of forest floor with a few decaying fungi would produce hundreds of beetles and in some cases thousands of mites.

His figures for the meadow are not at all large; there are many spots where the Thysanura are much more numerous and where the mites would swell the figures to many thousands.

Many samples of meadow taken at different seasons would doubtless give an approximate idea of the insect and arachnid fauna of meadows; but no amount of samples of forest floor can give an adequate idea of the sylvan insect and arachnid fauna. Insects are more easily discovered in meadows than in woodlands, but the two regions are so variable that a comparison from selected spots has little significance.

NATHAN BANKS

THE OCCURRENCE OF HEROS IN YUCATAN

IN a recent paper by Mr. Thomas Barbour and myself,[1] which reported upon a collection

[1] Barbour, Thomas, and Leon J. Cole, "Vertebrata from Yucatan: Reptilia, Amphibia and