of greenish aporhyolite occurs. It appears to have been at one time a glassy rock.

The western Shan-Tung district contains rock formations ranging from the oldest Pre-Cambrian to early Mesozoic (?), consisting of rocks of metamorphic, igneous and sedimentary origin. The oldest rocks are gneisses and schists. Embracing biotite-gneiss, biotitic-hornblende-gneiss, hornblende-gneiss, and schists of similar composition. With these are associated biotite granites. The limestones and shales forming the Sinian system present features of interest in the oolitic concretions that have been extensively developed, and have subsequently undergone recrystallization into aggregates of coarser crystals, and in the conglomeratic character of some of the limestone interformational conglomerates. These sedimentary rocks are described in detail. Associated with the Sinian series are basaltic and dacitic porphyries, besides syenitic and quartz-syenite porphyries in dikes and intruded sheets. The carboniferous strata overlying the Sinian series are traversed by dikes and sheets of various kinds of rocks, and by some extrusive flows of basalt. The commonest rocks are basalts and syenite-porphyries, with some dacites and andesites. There is also less commonly gabbro and peridotite.

In western Chï-Li there is a complex of gneisses, schists, granites and porphyries covering extensive areas. So far as evidence was found, the metamorphic rocks appeared to be mostly of igneous origin; in one instance there was proof of a sedimentary source. This complex is followed by the Ta-yang series of limestones, with shale and quartzite, of Algonkian age; and by the sedimentary rocks of the Sinian system.

The Wu-T'ai district consists mostly of metamorphosed Algonkian sediments, some of which are highly altered, while others are but slightly changed, resembling in places Paleozoic rocks. The more metamorphosed series called the Wu-T'ai system consists of mica-schists, gneisses, garnet-schists, chlorite-schists, quartzites, marble, schistose conglomerates, arkoses, etc. With these are some eruptive rocks, more or less metamorphosed: granite, augen-gneiss, hornblende-schists, quartz-porphyries, etc. The less metamorphosed series, the Hu-T'o system, consists of slates, graywackes, limestones and quartzites, with fewer igneous rocks, in dikes, both basic and acid. The district also contains rocks of the Sinian system.

The rocks of the Ts'in-ling district are mostly sedimentary; either highly metamorphosed or only slightly altered. There are also large intrusions of granite and occasional dikes of other igneous rocks. The same may be said of the Han River district, the rocks of which are described in considerable detail.

The Yang-Tzï Gorge district is chiefly sedimentary rocks of Paleozoic age, with local exposures of Mesozoic and Pre-Cambrian terranes. They are strongly but not intensely folded, and are not notably metamorphosed, except the oldest formations.

The report closes with a résumé of literature containing descriptions of the rocks of China, which shows that very little has been done in this direction. Mr. Blackwelder's report is a valuable contribution to the petrography of the region, and it is to be regretted that he was not in a position to pursue his studies more thoroughly and systematically, and that no chemical analysis of the best of his material was undertaken.

J. P. IDDINGS

Annual Reports of the Progress of Chemistry for 1906. Issued by the Chemical Society. Vol. III. London, Gurney and Jackson. 1907. Pp. 387. Price $2 net.

The development of chemistry in many different directions is so very rapid that it is impossible for any one to keep informed even with regard to the important work which is published in the various fields. The reports of progress which are published annually, by the London Chemical Society, serve, therefore, a very useful purpose in bringing together a summary of the really important advances of the science during a given year. The divisions of the present volume are: General and Physical Chemistry, by Alexander Findlay; Inorganic Chemistry, by P. P. Bedson; Organic Chemistry—Aliphatic Division,

by H. J. H. Fenton; Homocyclic Division, by J. B. Cohen; Heterocyclic Division, by J. T. Hewitt; Stereochemistry, by W. J. Pope; Analytical Chemistry, by A. C. Chapman; Physiological Chemistry, by W. D. Halliburton; Agricultural Chemistry and Vegetable Physiology, by J. A. Voelcker; Mineralogical Chemistry, by Arthur Hutchinson, and Radioactivity, by Frederick Soddy. It will be seen at once that many of these authors are well known authorities in their various fields. The topics chosen for presentation are well selected and the treatment is clear and concise. The copious references to the literature render the book a valuable index for one who wishes to follow any subject further, while the discussions are sufficiently full, in most cases, to be extremely useful to those who read for the purpose of broadening their general knowledge of the science.

W. A. Noyes

SCIENTIFIC JOURNALS AND ARTICLES

The American Naturalist for November opens with an article on the "Response of Toads to Sound Stimuli" by S. A. Courtis showing that there is very little response to anything save the mating call. But—why should there be? The sound of a bell, a whistle or any similar noise carries with it no association. Why not feed the toad each time the bell is rung and note what the result would be after a month or two? Max Morse contributes "Further Notes on the Behavior of *Gonionemus*," mainly in respect to the influence of light, and Edward W. Berry has a paper on "Pleistocene Plants from Alabama," noting that they indicate a climate about the same as at the present time. Frederic T. Lewis has "A Further Study of Leaf Development," concluding that there is a determinate evolution of leaf forms. E. A. Andrews discusses "Earthworms as Planters of Trees," showing that they do this by gathering seeds, such as those of the maple, with which to plug the openings of their burrows. T. H. Morgan considers "The Cause of Gynandromorphism in Insects." There are various points of interest in the notes and reviews. We think few will agree with Professor Montgomery that physiological evidence is better calculated to show relationships or differences that are anatomical or, what is the same thing, paleontological.

Laboratory Bulletin No. 13, of Oberlin College, is on "The Development of Nestling Feathers," by Lynds Jones. It contains a series of detailed observations, and notes among other things that the first down has no shaft and no quill, the barb vanes passing without interruption into the first definitive feather vanes, the seeming quill being due to the coalescence of the vanes of the down.

The first number of the *Bulletin of the Brooklyn Conchological Club* has just been issued. It contains among other papers articles on "Abnormal Shells" and a "List of Long Island Shells," by S. C. Wheat, and "Suggestions for the Organization of a National Conchological Society," by W. H. Dall.

SOCIETIES AND ACADEMIES

THE CONVOCATION WEEK MEETING OF SCIENTIFIC SOCIETIES

The American Association for the Advancement of Science and the national scientific societies named below will meet at the University of Chicago during convocation week, beginning on December 30, 1907.

American Association for the Advancement of Science.—December 30–January 4. Retiring president, Professor W. H. Welch, The Johns Hopkins University, Baltimore, Md.; president-elect, Professor E. L. Nichols, Cornell University, Ithaca, N. Y.; permanent secretary, Dr. L. O. Howard, Cosmos Club, Washington, D. C.; general secretary, President F. W. McNair, Houghton, Mich.

Local Executive Committee.—Charles L. Hutchinson, chairman local committee; John M. Coulter, chairman executive committee; John R. Angell, Thomas C. Chamberlin, Joseph P. Iddings, Frank R. Lillie, Charles R. Mann, Robert A. Millikan, Charles F. Millspaugh, Alexander Smith, J. Paul Goode, local secretary.

Section A, Mathematics and Astronomy.—Vice-president, Professor E. O. Lovett, Princeton University; secretary, Professor G. A. Miller, University of Illinois, Urbana, Illinois.

Section B, Physics.—Vice-president, Professor Dayton C. Miller, Case School of Applied Science;