relations of the Institution to Congress, as found in the volumes of the *Congressional Globe* and *Congressional Record*, the Journals of the Senate and House, and the Statutes at Large. Part I. contains the documents pertaining to the foundation, the will of James Smithson, the correspondence ensuing and statements of other bequests to the Institution; Part II. embraces legislation relative to the establishment of the Institution, 1835–1847; Part III. embraces the legislation in Congress from 1847 to 1887; and according to the table of contents of a second volume (printed in Vol. I.), that will contain details of legislation from 1887 to 1899.

These volumes will prove indispensable to those seeking full and accurate information of the Smithsonian Institution.

H. C. B.

A College Text-book of Chemistry. By Ira Remsen. New York, Henry Holt and Co. 1901. Pp. xx + 689.

This book is intended to fill a place between the 'Inorganic Chemistry' and the elementary text-books by the same author. After an introductory chapter, in which some fundamental principles, including the laws of definite and multiple proportions, symbols, and equations, are discussed, six chapters are given to oxygen, hydrogen, water and the atomic theory. The remaining elements are considered in the following order of the families of the periodic system: Chlorine, nitrogen, carbon, lithium, glucinum, aluminium, copper, zinc, gallium, germanium, chromium, manganese, iron, platinum. Two short chapters on carbon compounds close the book. At appropriate points, topics pertaining to theoretical chemistry are taken up, such as the perodic law, mass action, dissociation, osmotic pressure, Faraday's law and atomic heats.

While President Remsen believes that 'the time has not yet come for the abandonment of the study of elements and their compounds in what some are pleased to call the old-fashioned way,' those subjects which pertain to what is commonly known as physical chemistry receive a fair degree of attention. Not only are the fundamental theories of solutions discussed in detail in two or three places, but several applications of the theory are considered in connection with individual compounds. The great importance of such a reiteration of fundamental principles is, of course, clearly recognized by all successful teachers.

The laboratory study which the author intends should accompany the use of the text is indicated by a series of experiments at the close of the successive chapters. A few quantitative experiments are included. The subjects for experimental illustration are mostly well selected, but the addition of some work, demonstrating the fundamental properties of solutions is needed.

The book, as a whole, is written in that clear and fluent English which is so characteristic of the author and which has done so much to make him one of the greatest of the teachers of chemistry.

W. A. Noyes.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for November opens with an article on 'The Parasitic Origin of Macroërgates among Ants,' by W. M. Wheeler, in which the writer describes the occurrence of certain monstrous workers of the genus *Pheidole* caused by the presence of a parasite of the genus *Mermis*. These macroërgates are compared with phenomena observed among other species, the author concluding that the character of the adult ants is not due to the efforts of the attendant workers alone, but also to a certain amount of initiative in the larvæ. H. L. Osborn describes 'Some Points in the Anatomy of a Collection of Axolotls from Colorado, and a Specimen from North Dakota,' these points being wholly external and connected with the change of *Siredon* into *Amblystoma*. 'A Parasitic or Commensal Oligochæte in New England' is described in some detail by M. A. Willcox, and Albert C. Eycleshymer gives some interesting 'Observations on the Breeding Habits of *Ameiurus nebulosus*.' M. Louise Nichols considers 'The Spermatogenesis of *Oniscus Asellus* Lim., with especial reference to the History of the Chromatin,' and George H. T. Nuttall treats of 'The Formation of Specific Anti-Bodies in the Blood, following upon Treatment with the Sera of Different Animals,' giving the results of a series of investigations which

show that, although the bloods of various animals may be mixed, they may be detected and differentiated. The final paper, by W. J. Kent, is on 'The Colors of the Crayfish': red may be caused by exposure to sunlight or by environment, but all other colors are the result of environment and are protective in their nature.

The Osprey for September contains the 'Song Birds of the Kissimmee Valley, Florida,' by Wm. Palmer, 'A Visit to Otter Rock, Pacific Ocean,' by A. G. Prill; 'Notes on the Blue Grosbeak, *Guiraca cœrulea*,' by John W. Daniel, Jr.; the tenth instalment of 'William Swainson and His Times,' by Theodore Gill; a second paper on 'The Cage Birds of Calcutta,' by Frank Finn; and the eighth and final chapter of 'The Osprey or Fishhawk: Its Characteristics and Habits,' by Theodore Gill. An editorial on 'Work and Worry for the Classicists' shows some of the numerous troubles in store for those zoologists who propose to abide by the decision of the majority, in regard to nomenclature, at the last international zoological congress.

The Plant World for October contains the second part of 'Notes on Trees of Cuba,' by Valery Havard; 'Some Interesting Cases of Plant Distribution,' by John M. Holzinger; 'The Knubble, Advice to Beginners in Botany,' by Walter Deane; and many briefer articles and notes on current literature. The supplement on the 'Families of Flowering Plants,' by Charles L. Pollard, is devoted to a continuation of the descriptions of the families of the order Sapindales.

The American Museum Journal for October should be in demand by ornithologists, for it has for supplement a twenty-four-page 'leaflet' devoted to the Bird Rock Group recently placed on exhibition. This is by Mr. Chapman, and is admirably illustrated by reproductions of the group and of the real Bird Rock whose bird life it so well represents. The *Journal* proper contains notes on the summer's work of the various field parties of the Museum, and on the recent acquisitions.

Journal of Physical Chemistry, October. 'On the First Plait in van der Waals's Free Energy Surface for Mixtures of Two Substances,' by Ch. M. A. Hartman (Physical Laboratory, Leiden). This contains a review of the investigations referring to binary mixtures and a bibliography. 'A New Proof of the Formula $d=\frac{.02T^2}{L}$,' by Felix Lengfeld. 'The Influence of Electrical Waves on Chemical Action,' by Felix Lengfeld and James H. Ransom. 'On the Dielectric Constants of Pure Solvents,' by Herman Schlundt. The work of Dr. Schlundt was carried out under the supervision of Professor Kahlenberg, of the University of Wisconsin, and while a number of new examples have been found which follow the Nernst-Thomson rule, that the greater the dielectric constant of a solvent the greater is its dissociating power, some striking exceptions have also been found, from which it is argued that the rule is inadequate.

SOCIETIES AND ACADEMIES.

CALENDAR.

The American Association for the Advancement of Science. A meeting of the council will be held at the Quadrangle Club, University of Chicago, on the afternoon of January 1. Section H (Anthropology) will meet at the Field Columbian Museum, Chicago (December 31 and January 1). The next regular meeting of the Association will be held at Pittsburg, Pa. (June 28 to July 3). A winter meeting is planned to be held at Washington during the convocation week of 1902–3.

The American Society of Naturalists will hold its annual meeting at the University of Chicago (December 31 and January 1). In conjunction with it will meet the Naturalists of the Central States and several affiliated societies, including The American Morphological Society (beginning on January 1; The American Physiological Society (December 30 and 31); The American Psychological Association and the Western Philosophical Association (December 31 and January 1 and 2); The Society of American Bacteriologists (December 31 and January 1), and The American Association of Anatomists (December 31 and January 1 and 2).