that facts must be cited before many of the stock examples of 'useful adaptations' can be cast out. And from this standpoint a number of Morgan's examples of non-useful adaptation fail to convince. Thus, why may not the different colors in the mouths of the male and female hornbills be useful in sexual selection? Morgan assures us that these differences in the colors are useless since they can not be seen, but on the other hand, from what we know of the habits of huge-billed birds, it is quite possible that during nuptial antics the bills are widely open. Again, Morgan admits that the green color of a frog is probably useful, but believes useless the black pigment lining the body cavity. He does not show that it *is* useless, in spite of our lingering suspicion that a black screen behind a thin body wall might well be useful in collecting warmth, or even in protecting from light delicate viscera. So, also, we are not convinced that gray hair and retreating chin are altogether useless organs, for it is quite possible that there is some foundation for the popular belief that they are adverse to sexual sentiment, and may thus, after all, play a useful part in selection.

BASHFORD DEAN.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of Physical Chemistry, November. 'History of the Water Problem' (Mrs. Fulhame's theory of catalysis), by J. W. Mellor. A sketch of Mrs. Fulhame's 'Essay on Combustion,' published in 1794, in which appears the first clear statement of the influence of water on chemical transformations. 'An Apparatus for the Electrolytic Determination of Metals, Using a Rotating Cathode,' by E. S. Shepherd. By this means the copper in chalcopyrite was determined electrolytically in from twenty-five to forty minutes. 'Solubility of Calcium Sulfate in Aqueous Solutions of Sulfuric Acid,' by F. K. Cameron and J. F. Breazeale; 'The Solubility of Magnesium Carbonate in Aqueous Solutions of Certain Electrolytes,' by F. K. Cameron and A. Seidell. *December.* 'Action of Sodium and Potassium Amalgams on Various Aqueous Solutions,' by Gustave Fernekes; 'The Rate of Formation of Iodates in Alkaline Solutions of Iodin,' by E. L. C. Forster; 'Iron Salts in Voltameter Solutions,' by J. M. Bell.

SOCIETIES AND ACADEMIES.

THE WASHINGTON ACADEMY OF SCIENCES.

THE annual meeting of the Washington Academy of Sciences was held on Wednesday evening at the Cosmos Club and the following officers were elected for the ensuing year:

President—Charles D. Walcott.

Vice-Presidents—From the Anthropological Society, D. S. Lamb; Archeological Society, J. W. Foster; Biological Society, B. W. Evermann; Botanical Society, F. V. Coville; Chemical Society, F. W. Clarke; Entomological Society, W. H. Ashmead; Geographic Society, A. Graham Bell; Geological Society, G. K. Gilbert; Historical Society, W J McGee; Medical Society, C. W. Richardson; Philosophical Society, C. F. Marvin.

Secretary—Frank Baker.

Treasurer—Bernard R. Green.

Managers: 1905—L. O. Howard, O. H. Tittmann, Carroll D. Wright; 1906—C. W. Hayes, G. W. Littlehales, C. Hart Merriam; 1907—Geo. M. Kober, Gifford Pinchot, F. A. Lucas.

PHILOSOPHICAL SOCIETY OF WASHINGTON.

AT the 33d annual meeting, December 19, 1903, Professor C. F. Marvin, of the Weather Bureau, was elected president; Messrs. Abbe, Hagen, Littlehales and Day, vice-presidents; Mr. B. R. Green, treasurer; Messrs. Hayford and Wead, secretaries, and Messrs. De Caindry, Paul, Winston, Bauer, Briggs, Fischer, Harris, Rosa and Abbot as members of the general committee; on this committee are also *ex officio* Past Presidents Dall, Walcott, Rathbun and Gore.

The secretaries' and treasurer's reports showed the society to be in a prosperous condition.

THE 577th regular meeting was held January 2, 1904, President Marvin in the chair.

Mr. F. G. Nutting presented by invitation a paper on 'The Electron Theory of the Radiation of Gases,' pointing out how this theory explains various peculiarities in the spectra of gases.

Mr. C. G. Abbot then described work of the past two years at the Smithsonian Astrophys-