J. M. Willis. Only one double fluoride could be obtained of the formula CsF.TeF₄.—On the double chlorides of cæsium and thorium, by H. L. Wells and J. M. Willis.—Studies of Eocene mammalia in the Marsh collection, Peabody Museum, by J. L. Wortman.—On the separation of the least volatile gases of atmospheric air and their spectra, by G. D. Liveing and J. Dewar (from the *Proceedings* of the Royal Society).—The estimation of calcium, strontium and barium as their oxalates, by C. A. Peters. In the estimation of calcium by titration of the oxalate with permanganate accurate results may be obtained when hydrochloric acid (with a manganous salt) is used as a solvent. The conditions have also been worked out under which barium and strontium can be accurately estimated as oxalates.—On calaverite, by S. L. Penfield and W. E. Ford.

Transactions of the American Mathematical Society, July.— On the convergence of continued fractions with complex elements, by E. B. Van Vleck. Few theorems of a general character have hitherto been obtained, and these but of recent date. The present paper recapitulates these, and some new criteria are deduced. The demonstrations are based upon certain equations which the writer believes to be new and of a fundamental character. The references to previous memoirs form a useful feature.—Geometry within a linear spherical complex, by P. F. Smith, is a paper devoted to the study of a point-sphere correspondence of involutory character, which appears as a direct generalisation from a certain point of view of the well-known point-sphere correspondence arising in a dilatation and the point-point correspondence of spherical inversion. Illustrative problems are discussed.—A new determination of the primitive continuous groups in two variables, by H. F. Blichfeldt. These groups can, by a proper choice of the variables, be transformed into *projective groups* of the plane, a result which Lie obtains after determining the canonical forms of the primitive groups. This fact can, however, be established from the general properties of such groups, and its use leads to a new determination which it is the object of the paper to show. —Determination of all the groups of order p^m which contain the Abelian group of type $(m-2, 1)$, p being any prime, by G. A. Miller.—On a fundamental property of a minimum in the calculus of variations, and the proof of a theorem of Weierstrass's, by W. F. Osgood.—Concerning Harnack's theory of improper definite integrals, by E. H. Moore. The paper considers the improper simple definite integrals of Harnack (1883, 1884), and opens with a capital introduction to the bibliography of the subject.—Zur linearen transformation der ϑ-reihen, by F. Mertens.—All the papers were presented at different meetings of the American Mathematical Society, ranging from October 1900 to July 1901.

SOCIETIES AND ACADEMIES.
New South Wales.

Linnean Society, July 31.—Mr. J. H. Maiden, president, in the chair.—Further notes on supposed hybridisation among the Eucalypts: with the description of a new species, by Henry Deane and J. H. Maiden.—Notes on the botany of the interior of New South Wales, part iv., by R. H. Cambage. The country particularly referred to comprises the district between Mount Hope and Parkes, the route traversed generally following the very low range which forms the watershed between the Lachlan and the Bogan Rivers. Mallees were found to be numerous near Mount Hope, but had ceased before Parkes was reached. *Eucalyptus conica,* Deane and Maiden, and *E. albens* were met with near Trundle.—Contributions to a knowledge of Australian Entozoa, part i., description of a new species of *Distomum* from the Platypus, by S. J. Johnston. *Distomum ornithorhynchi,* n.sp., is found in the stomach, duodenum and proximal portion of the small intestine of the duckbill. The species falls into Dujardin's subgenus *Brachylaimus.*—Revised census of the marine mollusca of Tasmania, by Prof. Ralph Tate and W. L. May. By far the greater number of the named species of Tasmania have been known by description only, covered by the papers of Tenison-Woods, 1875-81, and continued by Petterd and Beddome to 1884; and in consequence many of the species have been re-described under different names. The efforts of the authors, carried on for many years, are to bring these little known species into relationship with the constituents of neighbouring local faunas. The authors have had access to very

nearly all of the local types, and their knowledge of the Australian fauna imparts to their interpretation of the Tasmanian species a value which may be accepted as correct in the main. The unfigured species, including about 30 new forms, number 120 or thereabouts, which are illustrated. Two new genera are established, *Petterdella,* based on *Stylifer Tasmanica,* T.-Wds., which has the general form and aperture of *Rissoina* and the heterostrophe nucleus of *Eulimella*; and *Thraciopsis* (nomen mutandum)=*Alicia,* Angas *non* Johnston (1861). A new species of a previously unknown genus in Australia, *Cyamium,* is described. Among some of the several changes in generic location is the transference of *Cominella tenuicostata* to *Phos* in a sectional group belonging to the Older Tertiaries of Australia. This is not the only instance of the survival of an Eocene genus in an unique species in the waters of Southern Australia and Tasmania. The number of species in the census of Tenison-Woods has been considerably reduced, but many extralimital species have been added. The total number is 676, grouped as follows :—Cephalopoda, 10 ; Gastropoda, 503 ; Scaphopoda, 4 ; Lamellibranchiata, 156 : Palliobranchiata, 3.

GÖTTINGEN.

Royal Society of Sciences.—The *Nachrichten* (physico-mathematical section), part 1 for 1901, contains the following memoirs communicated to the Society :—

January 12.—W. Voigt: on the pyromagnetism and piezomagnetism of crystals.

February 23.—W. Boy: on the representation of the projective plane on a finite closed surface free from singularities.

March 9.—E. Zermelo : on the addition of transfinite cardinal numbers. H. Liebmann: on the flexure of the closed ring-surface. W. Nernst and E. H. Riesenfeld: on electrolytic phenomena at the common surface of two solvents. W. Kaufmann: on an analogy between the behaviour of Nernst's "incandescent oxides" and that of conducting gases.

May 11.—Emil Cohn: on the equations of the electromagnetic field for bodies in motion.

The *Minutes* of the Society contain brief reports on the progress of the Mathematical Encyclopædia, and of the new edition of Gauss's works, together with an obituary notice of Prof. Max Müller.

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