sciousness,' by Dr. Robert MacDougall; 'Morality in Child Life,' by Dr. Albert Schinz; 'Professor Titchener's View of the Self,' by Professor William Caldwell; 'Aristotle's Doctrine of ψυχή as Biological Principle,' by Professor William A. Hammond; 'Epistemology and Theories in Physical Science—A Fatal Parallelism,' by Professor A. H. Lloyd; 'Romanes and Mill,' by Professor J. G. Hibben; 'Contributions of Psychology to Morality and Religion,' by Professor J. G. Hume.

Informal communications were also made by several members of the Association.

At the regular business meeting Professor Hugo Münsterberg, of Harvard University, was elected President of the Association for 1898; Dr. Livingston Farrand, of Columbia University, Secretary and Treasurer, and Professors J. E. Creighton, A. Kirschmann and E. B. Delabarre to fill vacancies in the Council.

It was also decided to hold a summer meeting in 1898 at Boston at the time of meeting of the American Association for the Advancement of Science and that the next annual meeting should be at Columbia University, New York, that place having been chosen by the affiliated societies upon invitation from the University.

LIVINGSTON FARRAND.
COLUMBIA UNIVERSITY.

THE AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE seventh session of the Australasian Association for the Advancement of Science was held at Sydney from January 6th to January 14th, under the presidency of Professor A. Liversidge. There was a large attendance and full program, no less than 269 papers being presented before the ten sections.

The President, in his address, after referring to the losses the Association had suffered in the deaths of Sir Robert G. C. Hamilton, Baron von Müller and Professor Parker, gave an account of the work of the Association since its first meeting in August, 1888, under the presidency of Mr. H. C. Russell, when 850 members were present. Since then meetings have been held in Melbourne, Christchurch (N. Z.), Hobart, Adelaide and Brisbane. In referring to the last session at Brisbane, in 1895, he called attention to the research committees then appointed. Chief among these were (1) the committee reappointed for the investigation of glacial deposits; (2) the seismological committee; (3) a committee to consider and report upon the thermodynamics of the voltaic cell; (4) the geology, land flora, land fauna and natural resources generally of the islands and islets of the Great Barrier Reef; (5) the habits of the teredo and the best means of preserving timber or structures subject to the action of tidal waters; (6) the committee to give effect to the suggestions contained in Sir Samuel Griffith's paper, entitled 'A Plea for the Study of the Unconscious Vital Processes in the Life of a Community.' The Association had published six volumes of reports, each of about 1,000 pages. Professor Liversidge then proceeded to give an account of the history, teaching and recent advances of chemistry.

The addresses of the Vice-Presidents before the sections were as follows: *Astronomy, Mathematics and Physics*, 'Astronomy and Terrestrial Physics,' by Mr. P. Baracchi, Government Astronomer of Victoria; *Chemistry*, 'The Constitution of the Matter in the Universe,' by Mr. William M. Hamlet; *Geology and Mineralogy*, 'Early Life on the Earth,' by Professor F. W. Hutton, F. R. S.; *Biology*, 'The Relations of Morphology and Physiology,' by Professor C. J. Martin; *Geography*, 'Submarine Geography,' by Sir James Hector, F. R. S.; *Ethnology and Anthropology*, 'Origin of the Aborigines of Tasmania and Australia,' by Mr. A. W. Howitt;

Economic Science and Agriculture, 'Consumable Wealth,' by Mr. R. M. Johnston, Government Statistician of Tasmania; *Engineering and Architecture*, 'Notes on Some Recent Engineering Experiences,' by Mr. A.B. Moncrieff; *Sanitary Science*, 'Aspects of Public Health Legislation in Australia,' by Hon. Allan Campbell; *Mental Science and Education*, 'The Influence of English History on English Literature,' by Mr. John Shirley.

The report of the Glacial Research Committee, South Australia, was submitted by Professor T. W. E. David and Mr. Walter Howchin. The localities dealt with were comprised within the peninsula which formed the southern limits of the Mount Lofty Range. In 1859 Mr. Alfred Selwyn, at that time Government Geologist of Victoria, whilst travelling through the Inman Valley, discovered a polished rock surface, which, to the practiced eye, exhibited clear proof of glacial action. This was the earliest discovery of its kind in Australia, but the position was lost sight of until re-discovered by the authors of the paper in March last. This polished pavement, which measured over 20 feet in length and 6 feet in breadth, occurred in the bed of the Inman River, a little past the seventh mile post from Port Victor. The glacial beds of the Inman River have at present an elevation of over 600 feet above sea level. If, therefore, the agency of shore-ice as the means of distribution were admitted, they must assume that there had been an elevation of the land since the days of glaciation. The facts were, perhaps, best explained by reference to a combination of agencies, rather than to a single form of ice action.

In presenting the report of the Seismological Committee, the Secretary, Mr. George Hogben, M.A., of Timaru, New Zealand, referred to the work already done in his own colony through the officers of the Telegraph Department, who, on the occurrence of any earthquake shock, filled up certain forms, stating the exact time and duration and such other details of the earthquake as might be useful to the seismologist. By means of these observations the sources of many of the earthquakes had been accurately found, the velocity of propagation determined, as in general rather under 20 miles a minute; in a few cases the depth of the origin was also ascertained, the deepest one found so far coming from a point about 24 miles below the earth's surface. This work has been done in New Zealand since 1889, and the other colonies had been asked to follow suit. This they had done to a certain extent, but the committee was anxious that the system should be developed and made uniform throughout. Of recent work the most interesting item was probably the fact, based upon rough calculations from returns sent by Sir Charles Todd, Professor Bragg and others, that the great South Australian earthquake of May 10, 1897, proceeded from a line parallel to the coast near Beachport and Kingston, and was possibly due to a sliding of one part of the crust upon another, such as forms what was called in geology a 'fault.' This was probably deep, but the later and slighter shocks were surface ones, caused by readjustment of the immediate crust. The subject was still under investigation by the Secretary.

At the final meeting of the General Council the following suggestions from the Recommendation Committee were agreed to: (1) That the New South Wales government acquire the quarry of prismatic sandstone at Bondi, with a view to its preservation as a remarkable geological occurrence. (2) The re-appointment of the Committee on 'The Systematic Conduct of the Photographic Work of Geological Surveys.' (3) A Seismological Committee for 1900. (4) The government of New Zealand to equip Timaru with approval seismological

instruments in charge of Mr. George Hogben. (5) A contribution of £25 towards the preceding object. (6) The appointment of a committee to secure magnetic surveys at the extreme south of New Zealand. (7) Expressing the opinion that the publication of Victorian continuous magnetic records is desirable. (8) That the committee be re-appointed to continue the investigation of the mineral waters of Australasia. (9) That the New South Wales government be recommended to complete the borings at Funafuti while the bore apparatus remains on the island and the bore remains open. (10) A committee be appointed to draw up a list of works and papers relating to Australian flora.

The report from the Baron von Müller Memorial Committee, embodying a resolution, "That the Association places on record its sense of the deep loss sustained by it owing to the death of the late Baron von Müller, and its high appreciation both of his personal character and the distinguished services rendered by him to science," was adopted.

It was announced by Professor Liversidge that communications had been received from the Royal Society regarding the compilation of the Australian portion of an international catalogue of scientific literature, and at the instance of the Chairman an advisory committee, with power to add to its number, was appointed, consisting of representatives from all the colonies. This committee recommended that some recognized society in each colony should collect all necessary matter and forward it to the central bureau, London.

A committee consisting of Professor Lyle, Mr. W. H. Steele and Mr. E. F. J. Love (Secretary), appointed to investigate and report on 'Our Knowledge of the Thermodynamics of the Voltaic Cell,' presented their report.

The usual excursions, entertainments and public lectures were given during the week, and the proceedings closed with a conversatzione given by the Royal Society of New South Wales, at which about 750 guests were present.

Mr. R. L. J. Ellery, late Government Astronomer of Victoria, was elected President for the next meeting of the Association, to be held in Melbourne in the year 1900. Mr. C. R. Blackett, Government Analyst of Victoria, was elected Treasurer, and Professor Baldwin Spenser and Mr. E. F. J. Love, M. A., were elected joint Secretaries. An invitation to meet in Hobart, Tasmania, in 1902 was accepted.

A PLACENTAL MARSUPIAL.

The discovery by James P. Hill, of the University of Sydney, N. S. W., that the Marsupial genus *Perameles* has a true allantoic placenta, is one of the most important of the many recent advances in our knowledge of the Australian Monotreme and Marsupial fauna. In a recent number of the *Quarterly Journal of Microscopic Science* Mr. Hill contributes his first paper to the embryology of the Marsupials, and describes the relations of the fœtal membranes observed in *Perameles*, as represented in the accompanying figure.

The presence of this organ, which has hitherto been considered entirely distinctive of the Placentalia or Eutherian mammals, in a non-placental, is of great significance, and Dr. Hill concludes his paper by a brief inquiry as to the conclusions which may be legitimately drawn from it as follows: The main question is: has the allantoic placenta of *Perameles* been independently evolved within the limits of the Marsupial order, or is it directly or genetically related to that of the Placentals through the common ancestry of the Metatheria or Eutheria from an earlier Protoplacental stock?

It will be recalled that Huxley, in his