paper, illustrated by coloured diagrams and a map, entitled "Notes showing that the existing Estuary of the Derwent was occupied by a Fresh-water Lake during the Tertiary Period."

The PRESIDENT having invited an expression of opinion on the subject of Mr. Johnston's paper, Mr. STEPHENS said that if there appeared to be any hesitation on the part of members present in volunteering remarks, it was not caused by any want of appreciation of the admirable paper which had just been read, but rather by the evident impossibility of properly discussing the numerous questions of interest which had been brought forward. The formation so fully described by the author of the paper had frequently been brought under the notice of the Fellows in former years, and, among others by one whose presence at their meetings would long be missed, the late Mr. Morton Allport, who was intimately acquainted with the surrounding district ; but these had been chiefly conversational discussions, of which no record had been preserved, and the Society was greatly indebted to Mr. Johnston for having presented in a concrete form so much interesting matter for future study and consideration. He (Mr. Stephens) was inclined to regard the tertiary deposits in the lower part of the Derwent basin rather as of estuarine and fluviatile origin, with land springs, which he thought were the chief agents in the formation of the beds of travertin at Risdon, and in the suburbs of Hobart, and by the process which is still going on in the formation of similar deposits in various parts of the island. Of the existence of a series of lakes in past times, far up the valley of the Derwent, which had been successively drained by erosion, and had exposed the remains of tertiary beds in the ancient valleys, there could be no doubt. These lakes indeed belonged to a later age, but there was nothing at present known which could invalidate the general conclusion so carefully stated by Mr. Johnston.

A vote of thanks to His Excellency for his opening address, and to the authors of the papers read, as well as to the various contributors to the Museum, closed the proceedings of the meeting.

MAY, 1881.

The monthly evening meeting of the Society was held on Tuesday, the 10th May, Mr. Justin Browne in the chair.

Mr. BARNARD (Hon. Sec.) laid on the table the usual returns for the past month, viz.:—

1. Number of Visitors to Museum, on Sundays 356; on week days 685 ; total, 1,041.
2. Ditto to Gardens, 4,385.
3. Books and Periodicals received.
4. Presentations to Museum.
5. Time of leafing, flowering, and fruiting of a few Standard Plants in the Botanic Gardens during April :—
   12th. Common Elm, leaves commencing to fall.
   14th. Coe's late red Plum ripe.
   15th. Chinese Chrysanthemums commencing to flower.
   24th. Mountain Ash leaves commencing to fall.
   28th. Seeds of Hornbeam ripe.
   30th. Black Mulberry leaves falling.
6. Meteorological Returns.—From the Marine Board, tables for April, from Bruni Island, Swan Island, and Mount Nelson ; Goose Island for February and March.

The presentations to the Museum and Library were as follows :—

1. From Mr. A. Wilkins, Hobart. An albino variety of the Brush Kangaroo *(Halmaturus Bennettii)*, from Spring Bay.

2. From Mr. Richard Chick. Sections of five telegraph cables from India, Egypt, the Balearic Isles, the Mediterranean, etc.
3. From Mr. R. M. Johnston. Specimens of lignified Pine, from the deep lead auriferous drifts, Back Creek, Tasmania.
4. From His Excellency Sir J. H. Lefroy. Specimen of Marble from Beaconsfield.
5. From Mr. R. B. Dyer. Specimens of Crustaceans and Echinodermata from Southport. Specimens of the foliage and fruit of the so-called "Pepper Tree" *(Drimys aromatica)*. Eggs of Mutton Bird *(Nectris brevicaudus)*, and Penguin *(Spheniscus minor)*.
6. From Mr. Rayner. Specimens of Iron Ore from the New Norfolk District.

Library.—From Mr. H. J. Buckland.—1. Buckland's "Geology and Mineralogy," 2 vols., 1837 (Bridgewater Treatise). 2. "Reliquiæ Diluvianæ," 1 vol., 1823, by the same author.

The SECRETARY read a paper by Baron von Mueller, K.C.M.G., M.D., F.R.S., entitled "Suggestions for an extended elucidation of the Plants of Tasmania."

The CHAIRMAN said that it would be seen that Baron von Mueller was desirous of getting information upon the botany of Flinders Island; he had already applied to the Society to assist him in this direction, and steps had been taken which would probably result in local assistance being procured in the way sought by the Baron, if not for Flinders, at least for Clarke's Island, and probably the botany of both islands is nearly the same.

Mr. R. M. JOHNSTON hoped that the local collectors in Tasmania would further the object of the learned phytologist. It was very desirable that the natural history of the Cryptogams of Australia should be brought up to the same state of perfection as the other divisions of the "Flora Australiensis." Mr. Bentham committed the completion of this onerous task to the illustrious Baron, and he (Mr. Johnston) was glad that there was now a probability of its being carried out.

Mr. STEPHENS read notes on a species of *Eucalyptus (E. hæmastoma)*, not hitherto recorded in the Flora of Tasmania, with its identification by Baron von Mueller. This tree is commonly known as the Gum-topped Stringy Bark.

Mr. JOHNSTON was glad that Mr. Stephens had devoted his attention so closely to the study of our Eucalypts, for it was only by a close special study of some particular family or group that we could now hope to improve or add to our existing knowledge. The proper classification of the Eucalypti is a very difficult matter, and the exact determination of closely allied species is rendered still more perplexing on account of the extreme variability due to local environments. Mr. Johnston gave an instance of this variability by reference to *E. amygdalina* as it grows in the Domain, in comparison with the same species as it grows on the hills around Launceston.

Mr. DOWDELL remarked that the timber of the Gum-topped Stringy Bark was known to be of a very superior quality—in fact, second only to that of the Blue Gum—and always commanded a ready sale in the market. The wood was easily distinguished from that of the Swamp Gum by the greater firmness of its grain.

Mr. GRANT expressed his surprise at learning that the Gum-topped Stringy Bark—the subject of the paper—had not been previously described by botanists, since it had long been well known in commerce, and was a valuable timber. He had been supplied with a large number of sleepers of this wood by Mr. Oates, whose mills were near Victoria, Huon River, and, therefore, the trees must abound there. The timber could readily be recognised by those accustomed to notice sawn woods. It had a different shade of colour to stringy bark, and to white or swamp gums, and also a

different grain, which more nearly resembled that of blue gum. It was a close, heavy timber, remarkably clear and free from knots, which, independent of the colour, distinguished it from blue gum, that otherwise it most resembled. Mr. Grant had not observed the tree growing, or noticed its wood in any large quantity, in the Midland districts, and, therefore, as it was common about the high lands, he thought it probably preferred a more humid atmosphere than obtained in the interior of the country along the course of the railway. There was also another apparent variety which he had heard called "celery-topped" gum, but which was probably a slightly modified form of the gum-topped stringy bark, since it frequented the same habitats.

The SECRETARY read a paper by Charles E. Barnard, M.D., etc., etc. "On Auriferous Country and Gold-bearing Rocks."

Mr. STEPHENS said that the paper which had just been read indicated much thoughtful study on the part of the author, who evidently took a lively interest in his subject. He did not quite understand whether the author intended to mean that the views which he expressed as to the surface indications of the presence of gold were to be taken as universally applicable ; but it would be improper to attempt to discuss in detail a paper covering such a wide range after only hearing it once read, and he would only venture to criticise one point which was too important to be passed without notice. The relations of intrusive rocks, especially those of granitoid character, to the primary strata had furnished matter for innumerable pamphlets and papers ; but it might be sufficient to say that although the granite was often found as a disturbing element in Silurian districts, it was clearly proved to have formed no part of the agencies which had produced those remarkable flexures and contortions which are special characteristics of the primary rocks all over the world, and which were attributable to forces operating on a much wider scale. This question, however, would in itself furnish matter for a lengthy paper.

Mr. JOHNSTON complimented Dr. Barnard on the very interesting sketch he had given of the wonderful results produced by the discovery of gold in Australia, and upon the very faithful picture he had given of the principal features of gold-bearing rocks and drifts. Only in regard to some of the minor points, touched upon incidentally, could he desire to offer any additional comment in the way of qualification. With respect to the effect produced by intrusive rocks, Mr. Johnston inclined to the view taken by Mr. Stephens, viz., that only to a trifling extent could the disturbed condition of the auriferous rocks be attributed to the immediate influence of the intruded rocks. Mr. Johnston stated that Mr. Mallet's theory was best in accord with facts. Mr. Mallet attributes the crushing and crumpling of the surface rocks principally to the secular cooling of the earth, together with gravitation. The cooling of the earth, at a greater rate near the surface, must have caused at first violent contraction, and consequently violent rifts, crumplings, and local heat. To the latter may be attributed the chief immediate cause of the principal masses of molten eruptive rocks. With respect to the association of certain vegetable remains with our gold drifts in Australia and Tasmania, Mr. Johnston agreed with Dr. Barnard that the knowledge of such association might be useful to the miner as a guide in his search for free gold. Still it should be borne in mind that the vegetation only pointed to the age during which the principal formations were deposited. It might happen, as in the case of the Derwent leaf beds, described by him (Mr. Johnston) on a former occasion, that same vegetation might be associated with a matrix derived from non-auriferous rocks of Upper Palæozoic age. These were incidental matters, however, which did not affect the great value of Dr. Barnard's paper.

The usual vote of thanks having (on the motion of Mr. JOHNSTON, seconded by Dr. PERKINS) been accorded to the authors of the papers read, and to the donors of presentations, the meeting closed.

JUNE, 1881.

The usual monthly meeting of the Society was held on Tuesday, the 14th June, Mr. T. Stephens, vice-president, in the chair.

The following gentlemen who had previously been nominated by the Council were balloted for, and declared duly elected as Fellows of the Society, viz., Messrs. Cecil J. Parsons, Frederick Mace, and Charles C. Nairn.

The SECRETARY brought under notice the following returns for the month of May, viz.:—

1. Number of Visitors to Museum—On Sundays, 476 ; on week days, 610 ; total, 1,086.
2. Ditto to Gardens, total 4,029.
3. Plants and Seeds received at Gardens :—From Mr. C. F. Creswell, Melbourne, Palm seeds from Lord Howe's Island, and 50 plants. From Mr. J. Sangwell, Melbourne, 48 Ferns. From Mr. Wm. Bull, London, 30 packets seeds. From Mr. J. T. Duthie, Superintendent Botanic Gardens, Saharanpur, N.W. Province, India, seven varieties of seeds of Coniferæ. From Mr. J. Latham, Liverpool-street, 30 packets imported seeds. From Baron Ferd. von Müeller, 3 packets seeds.
4. Plants, etc., sent from Gardens :—To Messrs. Shepherd and Co., Sydney, 1 box Bulbs, various. To Mr. C. F. Creswell, Melbourne, 1 ditto ditto. To the Horticultural Gardens, Melbourne, 1 ditto. To Melbourne Botanic Gardens, 1 case of plants and Sphagnum Moss. To Lieut. James, H.I.J.M. ship Riujio, 25 packets seeds. To Captain Fukushima, of the same ship, 50 ditto ditto.
5. Tench supplied :—To the Acclimatisation Society, Geelong, 132 fish.

Meteorological Returns.

1. From the Marine Board :—Tables from Mount Nelson and South Bruny for May.
2. From Mr. D. C. Purdy :—Tables from Macquarie Harbour for March and April.

Time of leafing, flowering, and fruiting of a few Standard Plants in the Botanic Gardens during May, 1881 :—

10th. Medlars commencing to ripen.
21st. *Photinia serrulata*, commencing to flower.
23rd. *Diosma alba*, ditto.
28th. Ailanthus, leaves all shed.
30th. *Spiræa prunifolia plæno*, commencing to flower.

The presentations to the Museum were as follow :—

1. From Mr. H. A. Ward, Rochester, New York:—Skin of fox prepared for mounting. Cast of Upper Silurian Fossil *(Homalonotus delphinocephalus).*
2. From the Exhibition Commissioners:—Specimens of Minerals, Models of Fruit, etc., etc.
3. From His Excellency Sir J. H. Lefroy, C.B., K.C.M.G., etc. :—A framed portrait of Captain Cook.

The CHAIRMAN exhibited some specimens of the rocks of Port Cygnet, together with rolled pebbles from the drift of the Huon Valley, which had been forwarded to the Museum ; and remarked that the latter were representatives of rocks not now found *in situ* within the settled districts of the south, and that with reference to the question of the auriferous capabilities of Port Cygnet there was not yet much that could be added to the information already communicated to the Society.

The HON. SECRETARY read a paper contributed by Professor R. Tate, Assoc. Linn. Soc., F.G.S., "On Type Species of Tasmanian Shells, unrecorded in the 'Census of Tasmanian Shells.'"

The CHAIRMAN read, "Notes on a species of *Zieria (Z. veronica)*" by Augustus Simson, F.L.S., with its identification by Baron von Müeller.

Mr. E. J. Crouch, M.R.C.S., Eng., read a paper on "The Queen's Domain, with suggestions for its improvement."

A long and animated discussion, in which most of the Fellows present took part, followed the reading of this paper, and many valuable and practical suggestions were brought out. It was ultimately determined, on the motion of Mr. Barnard, seconded by Mr. James Grant, that a committee of this Society, consisting of Mr. Belbin, M.H.A., Mr. F. Abbott, Superintendent of the Botanic Gardens, Dr. E. L. Crowther, M.H.A., Captain Stanley, R.N., Mr. John Swan, Mr. Justin Browne, and Mr. E. J. Crouch, with power to add to their number, be formed to consider the subject in all its bearings, and to confer with the Government as to the best means of contributing to the improvement of the Domain.

The meeting closed with the usual vote of thanks to the authors of the various papers, and the donors of presentations to the Museum.

JULY, 1881.

The monthly evening meeting of the Society was held on Tuesday, the 12th of July; His Excellency, the President, in the chair.

Mr. W. F. Petterd, of Launceston, who had previously been nominated by the Council, was balloted for, and declared duly elected as a Fellow of the Society.

The hon. secretary, Mr. Barnard, brought forward the following returns for June :—

1. Number of visitors to Museum :—On Sundays, 374 ; on week days, 843 ; total, 1,217.
2. Do. to Gardens, 3,495.
3. Plants received at Botanic Gardens :—From Mr. J. Smith, Riddle's Creek, Victoria, 45 varieties of Fruit Trees. From the Horticultural Society's Gardens, Melbourne, one bundle new Fruit Scions. From Royal Gardens, Kew, England, one case of Willow Cuttings. From the Rev. — Codrington, Norfolk Island, one sack of Norfolk Island Pine Seeds.
4. Plants sent from Gardens :—To Rev. M. W. Gilleran, for church grounds, Ouse, 50 plants. To Right Rev. Bishop Murphy, 50 plants.
5. Books and Periodicals received.
6. Presentations to Museum.

Meteorological Returns :—

1. From the Marine Board, tables from Kent's Group Lighthouse for February, March, April, and May; Cape Wickham, do. ; Goose Island, do. for April and May ; Swan Island, do. for May ; Bruny Island, do. for June ; and Mount Nelson, do. do.
2. From Mr. D.C. Purdy, Macquarie Harbour, table for May.

Time of leafing, flowering, and fruiting of a few standard plants in the Botanic Gardens during June, 1881 :—

17th. *Maclaura aurantiaca*, commencing to shed leaves.
20th. Common Privet, ditto.
25th. *Iris alata*, commencing to flower.
28th. *Calycanthus præcox*, in flower.
30th. Black Mulberry, leaves all shed.

The presentations to the Museum were as follow :—

1. From Captain Rapp, barque Italy, Stalactites and Crystals of Carbonate of Lime, from a cavern at Hamelin Bay, West Australia.
2. From Master B. Watchorn, specimens of Tin Ore, etc., from Mounts Bischoff and Heemskirk.