Proceedings.

8th January, 1851.—Monthly meeting; Joseph Hone, Esq., senior Member of the Council, in the chair.

The following gentlemen ballotted for and elected Fellows of the Society:—

Deputy Commissary-General Bishop,
W. R. Stewart,
J. A. Huxtable,
W. J. Huxtable,
} of Hobart Town.

James Arnold Wheeler, A.P.M. of Port Sorell.

A note from the Rev. T. J. Ewing, intimating that Mr. Gould has presented to the Royal Society a copy of the two parts published of his valuable monograph on the Macropodidæ.

From His Excellency Sir William Denison was received a copy of the Statistics of Van Diemen's Land for 1849, published by authority; also a folio Report on the selection of stone for building the new Houses of Parliament; and a publication entitled "Suggestions for converting Portland Roads into a Harbour."

From Messrs. Orger and Meryon, of London, was received a descriptive catalogue of philosophical apparatus, &c.

The Secretary reported receipt at the Society's Gardens, per *Rattler*, from Messrs. Lee of Hammersmith, of two cases, containing only 13 plants alive out of 59 shipped; and of a case sent anonymously by the same vessel, in which 17 out of 42 were alive.

From Mr. T. Y. Lowes was received for the Museum a fish, (not named); and from Mr. Winter, of Macquarie-street, a living specimen of *Gordius*, many inches in length, and not thicker than a thread, taken in a pool in the Hobart Town Rivulet.

The Secretary placed on the table several specimens of *Chiro-*

nectes, and other fishes, in spirits; also of the Chinese fruit known here by the name of Lee-chee.

A collection of Sea-shells was presented to the Museum from Mr. Bonney, of Argyle-street.

From Mrs. Porden Kay was received a specimen of a cloth-like tissue, which is occasionally met with on meadows in England, often covering the surface continuously over a considerable area, after the ground has been some time flooded. The specimen forwarded is from the neighbourhood of Reading, in Berkshire, England.

From I. Bisdee, Esq., was received a specimen of *Porphyrio melanotus,* procured near Lovely Banks.

His Excellency sent for examination a well-executed working model of a bridge about to be erected over the Derwent, near Mr. Bethune's, a few miles beyond Hamilton, upon the new line of road to the Gordon country. The platform will be of wood, resting upon beams, strengthened by a system of bracing; the whole to be supported upon stone piers of solid masonry. The span of the bridge will be 100 feet.

A paper upon the Statistics of Tasmania was brought forward by James Barnard, Esq., of Macquarie-street—reading postponed.

12TH FEBRUARY, 1851.—James Barnard, Esq., in the chair.

The following gentlemen were duly elected into the Society:—

James Scott, of Launceston
Neil Lewis and
George Whitcombe, } Hobart Town.

Lieut. Pollard, R.N., commanding H.M.S. *Bramble,* was admitted on the provisions of Rules XVIII. and XLVI.

The Secretary presented from Henry Dowling, Esq., jun., of Launceston, three volumes printed and published by him—namely, Bonwick's Geography, Wood's Tasmanian Kalendar (1850), Sermons by Rev. W. Dry; and from Mr. Rolwegan, of Collins-street, Hobart Town, Ross's Annual for 1829, and an Australasian Pocket Almanac for 1823. The Council of the Society are now anxious to see the sets completed.

Captain Erskine, of H.M.S. *Havannah,* presented to the Society's Museum an *Areca* and *betel* box and pouch from the (but little known) island Vanikolo.

Lieut. Pollard, of the *Bramble*, presented to the Museum a collection of shells from New Zealand, New Caledonia, the Fejee Islands, Isle of Pines, the Loyalty Group, &c.: together with a set of Pandean Pipes, as described by Cook; bracelets; drinking cup for *cava*, the exciting beverage of certain of the Oceanic Islands; an axe of Jade from New Caledonia, &c.

Mr. Chatfield, of the *Bramble*, sent to the Museum a handsome collection of shells from the South Sea Islands.

Mr. Henry Best, of Collins-street, sent a war hatchet and club used in New Caledonia and the Fejees.

Mr. James L. Burnett presented a lizard (in spirits), obtained on Mount Wellington, identical with or closely resembling Darwin's *Cyclodus Casuarinæ*.

The Rev. T. J. Ewing, of New Town, forwarded to the Museum the skins of four Tasmanian birds, set up, namely — the little Penguin *(Spheniscus minor)*, Musk Parrakeet *(Trichoglossus Australis)*, Mountain Thrush *(Oreocincla lunulata)*, and Black-headed Honey-eater *(Melithreptus melanocephalus)*.

A piece of bituminous coal was received from Edward Macdowell, Esq., said to have been obtained in the vicinity of Avoca.

From Alexander M'Naughtan, Esq., was received a packet of seeds from California for the Society's Gardens—chiefly annual.

The Secretary reported receipt of two cases of tropical plants from the Mauritius, which have been forwarded to Norfolk Island, in the hope that some of them may become naturalized there.

Mr. Milligan placed upon the table a specimen of *Acacia Gunnii* (one of the smallest and most rare of our *Acaciæ)*, from the ridge dividing the Snug from Oyster Cove, within a mile of D'Entrecasteaux's Channel, and about 500 feet above the sea-level.

12th March, 1851.—Dr. Officer, one of the Vice-Presidents, in the chair.

Mr. John Johnston, of Liverpool-street, elected into the Society.

The Rev. Henry Phibbs Fry, D.D., re-admitted upon the provisions of Rule xvi.

The Secretary reported receipt, only very recently, from the late J. E. Bicheno, Esq., of a number of blank tabular forms, divided into eighths and decimal parts, for registering barometrical and other meteorological observations.

Mr. Huxtable, of Murray-street, presented a copy of Ellis's Polynesian Researches, in four volumes.

Mr. Dobson, of Macquarie-street, presented an ornamental shield-like implement from New Caledonia.

From Major Cotton was received a fragment of spiriferous clay-rock from the vicinity of Mount Picton, with specimens of micaceous schist and milky quartz from Port Davey. The receipt of a box containing thirty-four plants, indigenous to the district of Swanport, from Dr. Storey; and the receipt of a case from Joseph Bonney, Esq., of Perth, containing eighteen choice plants, were reported.

Mr. Milligan placed before the meeting an impression of the exterior of a flat valve of a fossil *Pecten* from the clay-rocks on the Brown's River Road, near Mr. Cartwright's, remarkable for its large size and perfect state of preservation; also a cast of the exterior of one valve of a *Modiola*, of great delicacy and beauty, from the same locality.

Mr. Milligan presented a specimen of the Paper Nautilus (*Argonautus Argo*) of Tasmania, procured on the shores of Freycinet's Peninsula; also some very elegant *Dentalium*-like forms (composed of very fine sand) with the animal, whose foot is surrounded with stiff *cirrhi*, slightly curved, and having a colour and lustre resembling that of pure gold. Like the true *Dentalium*, it is found on a bottom of mud and sand in D'Entrecasteaux Channel.

The Secretary read the following extract from a note of the Lord Bishop of Tasmania:—"I am not agriculturist enough to know whether there is any thing very new, or very wonderful, in my own little experience, of the reproductiveness of *Mummy wheat*. But it can do no harm to let you know the fact, that, when I was last in England, Lady Franklin gave me a *single ear* of wheat produced from some taken by Sir Gardner Wilkinson from an Egyptian mummy, and sown in England, and that the grains of this one *ear*, dibbled out in my garden, have yielded *eight hundred and seventy-two ears*.—Believe me to remain, my dear Sir, faithfully yours,

"F. R. Tasmania."

The Secretary read an extract from a letter of James Arnold Wheeler, Esq, A.P.M., Port Sorell, reporting the discovery of a seam of bituminous coal between the Mersey and the Don Rivers,

within a few miles of Bass's Strait, likely, in his opinion, to prove of great value to the inter-colonial trade, from its very accessible position and its proximity to the ports on the opposite coast.

James Barnard, Esq., of Macquarie-street, read to the conclusion his elaborate paper on the Statistics of Tasmania for 1849.

The thanks of the Society accorded for the various donations and communications.

Mr. Hone paid a brief but warm and touching tribute to the memory of J. E. Bicheno, Esq., F.R.S., &c., late a Vice-President and Member of Council of the Society, and one of its earliest, ablest, and most zealous supporters.

A side-table was occupied with specimens of birds of this and the neighbouring Colonies, newly set up. Dr. Fry, Dr. Agnew, the Rev. T. J. Ewing, Messrs. Allport, Fraser, Mitchell, Moss, G. W. Walker, and others took part in the proceedings.

9th April, 1851.—His Excellency Sir W. T. Denison, President, in the chair.

The following persons, having been duly proposed, were ballotted for and elected members of the Society:—

The Rev. Morris Cohen
Walter Angus Bethune, of Dunrobin
Skelton Emmett, of Circular Head
John James Low, New Town
Roger Leech, „
Sylverius Moriarty, Hobart Town
J. B. Bryan, „
G. Rolwegan, „
R. Propsting, „

The Secretary read a letter from the Colonial Secretary communicating Her Majesty's gracious acceptance of Parts I. and II. of the "Papers and Proceedings of the Society," which had been presented to the Queen by Earl Grey.

The receipt of a case containing 32 plants (in good condition) from the Botanic Gardens at Sydney, through the kindness of Sir W. T. Denison, was reported; amongst them is a living specimen of the new *Damara*, lately brought from the island of Anitium, and of a new species of *Aralia* from New Caledonia.

A note read from Herr Imberg presenting a copy of his Quadrilles, with a request to have it placed in the library of the Royal Society.

An extract read from a note by the Rev. S. B. Windsor, presenting to the Museum an insect of the *Mantis* tribe, (in spirits), taken at Bishopsbourne.

From the Rev. T. J. Ewing, of New Town, were received specimens of Stalactite, from the extensive limestone caverns near Deloraine; also fragments of shale, exhibiting very distinct impressions of fern leaves from the new coal shaft near Newlands. A large specimen of the coal *(anthracite)* from the same locality lay upon the table.

Mr. H. Hull submitted specimens of iron pyrites crystallized in small cubes from the shale over the same coal.

The Secretary exhibited specimens of a new combustible mineral lately received from Mr. Wheeler, of Port Sorell, and said to occur abundantly near the mouth of the Mersey River. It is of an ashy brown colour, slaty structure, and is tenacious and semi-flexible. It ignites readily when held to a candle, and burns with a bright white flame, yielding much smoke, and giving out a peculiar odour: its geological position and associations not ascertained.

A dried skin of the Tasmanian Bittern *(Botaurus Australis)* presented to the Museum by James Barnard, Esq.

Specimens of the whet-slate, afforded by the transition rocks at Cape Grim, and familiarly known on the northern side of the Colony as *Turkey stone*, were received from James Gibson, Esq., of Circular Head.

A box of valuable mineral specimens from the collection of Lieut. Smith, R.N., recently gone to England, was received.

The Rev. Dr. Lillie placed before the meeting a hand specimen of rock consisting on one side of basalt, and on the other of limestone altered and rendered semi-crystalline by the contact; also the cast (a fragment only) of a fossil (not named) from the limestone near Tolosa.

Mr. Propsting presented a skin of the Gang Gang Cockatoo *(Callocephalon Galeatum)* of the southern shores of Australia, and an occasional visitant on the northern coast of Van Diemen's Land; also a skin of *Œdicnemus Grallarius*, or Southern Stone Plover.

A short paper read by Mr. H. Hull upon the gigantic Gum Tree at Tolosa, and upon the value of the timber of the Blue Gum.

Mr. Hull gave to the Society, in October 1848, the following measurements of this Gum Tree, namely :—

	ft.	in.
Circumference on the ground	84	0
Ditto at 6 feet from ditto	78	0

And he then estimated its entire height at 330 feet:—

The present account gives the girth on the ground...	73	6
At 6 feet from ditto	65	6
And at 21 feet up	25	0
From which a mean circumference on the ground will be obtained of	78	9
And at 6 feet up of	71	9

Mr. H. says, that since he last measured it a fire has made a hollow inside the bole of the tree 10 ft. 10 in. × 8 ft. 8 in. in dimensions; and that another tree of the same species, growing at a short distance, which is also hollow, measures 69 feet outside girth, with a circumference of 46 feet of inside measurement. The price of timber of the Blue Gum is stated by Mr. Hull to be 1*s.* to 1*s.* 6*d.* per cubic foot at Hobart Town, and 5*s.* or 6*s.* in England; while Oak plank is said to fetch 7*s.* 6*d.* Mr. Hull mentions a Blue Gum, which, in the course of clearing land for the plough, on the estate of Tolosa, was cut down, the root grubbed up, and the whole split and cleared away at a cost of £7, having yielded sufficient timber to fence in a small paddock; while another specimen of the same kind yielded 58 tons of firewood, which, being sold at 7*s.* a ton, realized £20 6*s.* Mr. Hull observes, "the Blue Gum" tree attains in moist and rich ground a diameter of 24 to 30 inches in 20 years. The trees now growing in front of Government House, the largest of which is 5 feet in circumference, were planted 16 years ago. The two trees of the smaller, or White Gum species, which are growing in the Private Secretary's garden, were planted the 28th December, 1819, and are now respectively 6 feet 9 inches and 5 feet 7 inches in girth.

A paper was read by Sir William Denison giving the results of some interesting experiments conducted by His Excellency on the culture of the Potato, under varying circumstances, as to distance between the rows and sets, the sort of manure employed, &c.

14TH MAY, 1851.—His Excellency Sir W. T. Denison, President, in the chair.

The following new members elected :—

Dr. M'Carthy, of Murray-street, Hobart Town.
Richard Rogers, Ordnance Storekeeper.
G. A. Robinson, of Melbourne.
Rev. J. Fereday, of George Town.
G. S. Davies, A.P.M., ditto
Francis Hartwell Henslowe, admitted on Rule XVII.

The Secretary submitted a diagram of a "revolving toothed dredge," forwarded by George Robson, Esq., of Port Sorell, and designed to illustrate a letter in the *Launceston Examiner* of 12th ultimo, upon the practicability of deepening and improving the entrance of the Mersey River.

A note was read from Francis Groom, Esq., offering a living *Ornithorhynchus* to the Society.

G. S. Davies, Esq., of George Town, sent to the Museum two specimens of fossil wood, said to be from Anderson's Creek, which, flowing from the Asbestos Hills, enters the estuary of the Tamar, near York Town.

The Rev. J. Fereday forwarded a specimen of fossil wood taken from a slate quarry eastward from George Town; also samples of the sweet-scented wood of *Alyxia Buxifolia*—a straggling littoral shrub, attached to the sunny and sheltered sides and crevices of *trap* and *slate* rocks along the northern coast of Tasmania, the stem of which rarely attains a diameter of more than three or four inches: it is said to occur in considerable abundance, and of the largest size, about Five-mile Bluff, eastward of George Town. The "aroma" of this wood is more agreeable than that of sandal-wood, and less volatile, and much resembles the well-known perfume of the fruit of the *Dipterix odorata*,—Tonquin bean. The *A. buxifolia* bears a white flower, and is remarkable for having the limb of its corolla quite flat and the segments contorted, as if suddenly arrested during a rapid rotatory motion. It yields a small red berry, and its leaves, bark, and succulent twigs, when cut or broken, emit a viscid milky juice.

Mr. Hull presented twenty-four Chinese coins to the Museum.

G. A. Robinson, Esq., of Melbourne, presented casts of the physiognomies of two aboriginal natives of Victoria.

The Rev. James Garrett, of the West Tamar, Whirlpool Reach, forwarded for the Museum the jaws of a shark which was taken in

Whirlpool Reach, and measured eleven and a-half feet in length. Also two fine specimens of *Trigonia*, dredged up on the oyster bank two miles below Point Rapid, in the Tamar, in about three fathoms water. Also the dried carcass of a fish (not named), allied to the shark, from the Tamar, near Middle Island.

Mr. Wheeler, of Port Sorell, forwarded to the Museum specimens of lignite taken from a well at a depth of ninety-four feet, together with nodular iron pyrites and fragments of vesicular trap rocks from the same depth. Also a specimen of iron ore *(Hematite?)* said to be from the mouth of the Leven River, and a few *Venus* shells from the beach there.

The Superintendent of the Gardens reported having forwarded to N. W. Lewin, Esq., at Wellington, a case containing fifty-seven species of plants, to be returned with indigenous plants of New Zealand.

Mr. T. Browne, of Macquarie-street, submitted a sample of fine pipe-clay from Surge's (?) Bay, in the mouth of the Huon River.

The Secretary placed on the table specimens of lignite, and a substance like semi-decomposed kino, with fossil shells of *Mytilaceæ*, obtained about thirty feet down in a shaft recently sunk by Mr. Ralston, upon a flat on the west bank of the Tamar, two or three miles below Point Rapid. Also specimens of shells (mineralized with iron) resembling *Nuculæ* and *Solenaceæ*, from the nodular clay ironstone beds, which, interlaid with clayey sandstone and with carbonaceous and slaty clays, crop out under greenstone, continuously along the river's bank downwards from Point Rapid to the vicinity of Middle Island, and upwards at intervals through Whirlpool Reach to Spring Bay, where the ferruginous shells again occur abundantly, it is said, on its eastern shore. The Secretary described the progress of three sinkings recently made by Mr. Reed on the western side of Whirlpool Reach in search of coal, and ventured the opinion that the whole of the sedimentary beds disclosed along the Tamar, from Spring Bay to Middle Island, covered though they are with heavy and extended masses of greenstone, will prove to be *tertiary*.

The Secretary drew attention to the close resemblance and probable identity of the fossil shells in certain beds of clayey conglomerate at the Mersey River—in the grit and arenaceous clay-beds over the limestone in the West arm of the Tamar—in the limestone at Maria Island—at St. Paul's Plains—Moulting Bay, and East Bay Neck,—

in the limestone at the foot of Mount Wellington, and at the "Dromedary," and in the clay rocks on the Brown's River Road, and at Arch Island, in D'Entrecasteaux Channel, &c.

Sir W. Denison observed that the limestone of Maria Island is found to yield a lime which sets under water as hard as Roman cement, and instanced the entrance to the Constitution Dock built with it.

The Secretary submitted specimens of fine coal and bituminous slate, &c. from the Don River, stating briefly the thickness of the beds and relative position of the *strata*, the distance from water-carriage, the facilities for shipment in the event of a tramway being formed, &c.

Mr. Milligan presented a good specimen of *Cyprea Umbilicata;* one of which species was recently sold in London for £30, and another given by Mr. Ronald Gunn to the British Museum. Mr. Gunn's specimen was obtained at Circular Head — that now presented to the Tasmanian Museum was cast up in a gale upon the beach between Port Sorell and the Mersey River.

Dr. Lillie drew the notice of the meeting to a fragment of a fossil from the limestone quarries at Tolosa, recently presented to the Museum by him, and which he has now no doubt is a *Conularia*.

Mr. G. W. Walker presented a specimen of *Chironectes* taken in the Bay here, and observed that when caught it raised itself on its peculiarly formed ventral fins, and sprung from them somewhat as a frog would leap.

11TH JUNE, 1851.—Joseph Hone, Esq., senior Member of Council, in the chair.

The following members were ballotted for and duly elected:—

Rev. James Garrett, of the West Tamar.
Francis Groom, of Harefield.
John Perkins, Alfred Cumberland, } of Hobart Town.

Mr. James Walch presented for the Society's library a copy of "Lewin's Birds of New South Wales."

The Secretary read a letter from Mr. Ellis, of the British Museum, acknowledging the receipt of a collection of fossil woods of Tasmania, and a suite of land and sea shells transmitted by him.

An extract of a letter from Mr. Kippist, of the Linnæan Society,

was read, announcing that a set of the Proceedings of that Society had been arranged for transmission to the Royal Society of Van Diemen's Land.

The Secretary placed before the meeting a specimen of *Ibacus Peronii*, obtained on a small island at the mouth of Port Sorell, and presented by Mr. Wheeler; also a specimen of *Pennatula grisea*, a coral insect, found by the same gentleman on the sea shore at Port Sorell, and probably noticed here for the first time.

The Secretary reported that a packet of seeds of Australian plants, comprising 70 species, had been received at the Society's Garden's from the lady of Major-General Wynyard; that His Excellency Sir William Denison had sent to the gardens a packet containing 160 species of seeds; that a packet of 133 species of seeds had been received from Kew Gardens, through Mr. Francis Butler; that a case containing 29 plants in pots had been forwarded to Dr. Storey, of Swan Port; and that the Count D'Harcourt had taken charge of a packet for the Botanic Garden at Tahiti, containing 22 species of Cape bulbs and 30 species of Tasmanian seeds.

A handsome specimen of coral and a piece of pumice stone, said to have been obtained at Norfolk Island, were forwarded to the Museum by Sir William Denison.

Mr. M'Naughtan presented a section of one of the strands of copper wire (coated round to the thickness of half an inch with gutta percha) laid between England and France for the electric telegraph: the specimen had been obtained at the time the line was ruptured. Its examination excited a good deal of interest in the meeting.

Mr. W. P. Kay sent a fragment of gray granite from Goose Island, in Bass's Strait, which was much admired, and considered to be the most durable and fit material for public buildings in these Colonies.

From the Rev. J. Fereday, of George Town, were received specimens of *lignite*, *clay-schist*, &c., obtained in sinking at Kelso at a depth of 25 feet.

Mr. James L. Burnett presented the stuffed skin of a bird shot upon Cheshunt, the estate of William Archer, Esq., which bears a closer resemblance to the *Synoicus sordidus* than to any of the quails of Tasmania, as figured by Gould.

Mr. Propsting presented a stuffed specimen of the Nankin bird,

Nycticorax Caledonicus, recently shot in the suburbs of this city, close by the residence of His Honor Judge Horne. This bird has heretofore been only known as an inhabitant of the continent of Australia.

Mr. G. A. Robinson presented two ladies' tippets formed of the tips of gay-coloured feathers, arranged in tasteful patterns upon a foundation of lawn, lined inside with snow-white down; believed to be from Upper India.

Mr. H. Hull presented some shells collected by him at Sandy Bay.

Mr. Newman sent a large specimen of fossil wood found in a field upon Mr. Palmer's farm, at Constitution Hill.

Mr. Milligan mentioned that seeds of *Alyxia buxifolia* have been sent to the Gardens; and placed on the table specimens of compact gray limestone from the hills over the Brown's River Road, about a mile northward from Mr. Cartwright's house. This limestone appears to belong to the uppermost of the long series of fossiliferous clay rocks intersected near Cartwright's Bridge, and to lie at no great depth under the arenaceous breccia, forming the highest of the sedimentary deposits visible there under the greenstone.

The Secretary submitted for inspection the perfect shell of an unusually large egg of the common barn-door fowl, having within it another perfectly formed shell of about the common size. The theory of the fecundation and development to maturity of the two perfect *ova*, one within the other, gave rise to discussion, in which Drs. Agnew and Butler and others took part.

The Secretary read a short paper by Mr. J. Maudsley on the nature, structural development, and reproduction of the *Sphæriæ* of New Zealand and Tasmania, under the name of *Clavaria crassa*. The only recorded habitat of the *Sphæria* of Van Diemen's Land is that of Franklin Village, a few miles south from Launceston. Mr. Milligan mentioned having picked up the skin of such a grub distended, with the white punk-like substance characteristic of this parasitic fungus, in a grove of young wattle trees on the eastern side of the Windmill Hill, near Launceston.

9TH JULY, 1851.—His Excellency Sir W. Denison, President of the Institution, in the chair.

Upon a ballot taking place, the following members were declared duly elected:—

W. A. Gardner, of Newnham, Launceston.
C. J. Casey, Launceston.
Richard Butler, Hobart Town.
Dr. Moore, New Norfolk.
Rev. W. R. Wade, Hobart Town.
Captain Allen, Adelaide.
W. Lyon, Wellington, New Zealand.

The following donations to the library were announced:—"Proceedings of the Zoological Society of London" for 1849, with the Annual Reports for 1849 and 1850, from the Zoological Society of London; and "Researches on Light," by Robert Hunt, from Mr. Thomas Browne, of Macquarie-street, Hobart Town.

The following costly and valuable works have been added by purchase since last meeting:—Johnson's Physical Atlas, folio; Gould's Birds of Asia, 2nd part; Hooker's Flora Antarctica, 4to; Pritchard's Infusoria, Prichard's Researches into the Physical History of Mankind. Late Numbers of the Transactions of the Geological Society of London, Annals of Natural History, Hooker's Journal of Botany, Transactions of the Agricultural Society of Scotland, Edinburgh Philosophical Journal, &c., lay on the table.

Sir William Denison presented for the Museum a sample of washed gold from Bathurst, sent to His Excellency by Mr. Deas Thomson, of Sydney.

An extensive collection of casts and impressions of the following genera of shells, &c., procured in a very perfect condition in the clay rocks at Cartwright's Bridge, on the Brown's River Road, was also presented by Sir W. Denison—*Productæ*, *Spiriferæ*, *Pectenides*, *Platyschismæ*, *Stenoporæ*, &c. &c.

His Excellency also transferred to the Museum a collection of *ores* of copper, the least familiar of which here is the red oxide, procured in the workings going on at Molong, New South Wales, and forwarded by Gother Mann, Esq., of Sydney.

From Captain M. L. Smith, of Flinder s Island, was received a bottle of water thoroughly impregnated with sulphuretted hydrogen gas, and said to be the produce of a mineral spring there.

From Captain Tylee, R.E., were received several interesting

specimens of excrescences from the lemon and other trees at Norfolk Island.

From R. W. Fenwick, Esq., A.P.M., Hamilton, was received a human cranium, apparently Aboriginal, found on Scull-bone Plains, between Marlborough and Lake St. Clair.

Samuel Moses, Esq., of this city, presented a lithographed facsimile of a kaligraphic portrait of the late Sir Robert Peel. Mr. Moses also presented a specimen of *Pterocera*, probably *crocea* (Sow. Junr.), from Streaky Bay.

Mr. R. Propsting presented to the Museum a stuffed specimen of the *Tui*—bird of New Zealand.

The Secretary submitted specimens of fine mica sand, having a reddish golden colour and lustre, from Port Cygnet, received from P. S. Tomlins, Esq.: the rich reddish yellow colour seems due to a portion of iron partially oxidized, probably by casual exposure to the action of fire.

The Secretary reported that several varieties of the potato, raised from seed at the Society's gardens last year, have this year yielded tubers of large size and good quality; a few of which will be confided to members willing to cultivate them for a season on new ground, and entirely apart from other sorts.

The Secretary placed on the table letters from Charles McLachlan, Esq., acknowledging his appointment as Honorary Agent for Tasmanian Contributions to the Exposition of the Industry of all Nations at London, and his readiness to carry out the views of the Committee here.

Mr. Milligan drew attention to some beautifully distinct impressions of fern leaves on the table, obtained at a depth of thirty feet, in the blue slaty argillaceous rock through which Cato's shaft is now being sunk on the New Town Road, near the toll-gate, and stated that the beds there appear to lie far under the seams of coal now worked in the vicinity of Newlands.

The Secretary read to the conclusion a Report on the Coal at the Don River, the geological character of the country between the Mersey and Tamar Rivers, and of that bordering the Tamar on either side from Whirlpool Reach to the sea, illustrated by an extensive assortment of fossil woods, shells, and rock specimens from the various *strata* examined.

The Secretary read instructions issued to superintendents and engineers entrusted with the formation of the wooden roads in

Canada, which are composed of pine plank, and are said to last for twenty years, subject to heavy traffic.

Mr. Barnard read a short paper on the recent Census of the population of Tasmania.

Dr. M'Carthy drew attention to the following letter addressed to the editor of the *Lancet*, in the part for December, 1850, page 643, as having a bearing on and being curiously coincident with the occurrence here of the double egg exhibited at last meeting of the Society :—

"*Boyne Terrace, Notting Hill, October* 1850.

"Sir,—I have lately received a communication from Dr. White, of the 13th Bengal cavalry, which may prove interesting to the readers of the *Lancet*. He states, 'that a fowl belonging to an officer stationed at Peshawur laid an egg so singular in appearance, on account of its great length (four inches) and narrowness, that he determined to preserve the shell. For this purpose he punctured the ends, intending to remove the interior by breathing forcibly through it; he was surprised to find the needle strike against a hard substance, and on shaking the egg he felt the more assured that it must contain something abnormal. On breaking the shell another perfect egg was found with a hardened shell, containing yolk and albumen, as in the first.'

"We read of two eggs united at the ends by the *membrana putaminis;* and also of others containing a blasted ovum, double or triple yolks, &c.: but I believe this is the only authentic record of a perfect egg with hardened shell being found in the interior of one also normal; and it would seem to determine points on which some difference of opinion has existed among physiologists. Firstly, it proves that the shell of the egg is hardened without being exposed to the atmosphere, although it has been believed that the induration of the earthy deposit depends on the absorption of carbonic acid from atmospheric contact: as the exterior shell was perfect, this explanation can no longer be considered satisfactory. Secondly, that the *membrana testæ*, with its earthy envelope, are both products of the oviduct; and that it is not the case, as has been affirmed by one author, that the shell only is an uterine secretion.—Yours obediently,

"W. H. Ashley, M.D."

13th August, 1851.—The Rev. John Lillie, D.D., one of the Vice-Presidents, in the chair.

The following gentlemen were ballotted for and elected members of the Society :—

Captain Addison, of Elizabeth-street.

Charles Lewis, of Collins-street.

Charles Betts, of Calcutta.

J. Woodhouse Kirwan, A.P.M. of Bothwell.

The Secretary reported that Mr. Ronald C. Gunn had become a life member of the Society.

Mr. Makeig, of the Treasury, presented to the library of the Society, from Mr. Turner of Honolulu, "Bingham's Sandwich Islands," and "Jarvis's History of the Hawaiian Islands."

Mr. Tribe presented part 2, vol. 11, of the Journal of the Royal Agricultural Society of England.

From Mr. Marshall, of the Bank of Van Diemen's Land, was received a stone hatchet having a wooden handle, secured with gum, of the grass tree, *(Xanthorrhœa Australis)*: the head of the axe is made of greenstone, and is double-edged. Axes of a similar description, made of sharp-edged fragments of granite, and constructed with handles and fastenings of the same kind, have been obtained from the aborigines of the remote districts of the province of Victoria.

Major Cotton sent specimens of a fine bituminous Coal from "Kingston," the estate of Roderick O'Connor, Esq., near Avoca, where several considerable seams are said to have been recently discovered. This coal is light, compact, of a jet black colour, and splendid resinous lustre: it is easily ignited, and burns with a bright white flame.

From Mr. Fraser, the Colonial Secretary, was received a specimen of magnetic iron ore, forwarded through the Survey Department by Mr. P. H. Gell, from Deloraine, where it is said to occur in large quantity, and materially to influence the action of the compass in many places. The magnetic property appears to reside in crystals of the black oxide of iron, dispersed through a compact and tenacious matrix, composed chiefly of the carbonate.

The Secretary submitted specimens of bluish shale obtained at a depth of 80 feet in Cato's shaft, near the Normal School, by the New Town Road, with impressions of fern leaves. Also a specimen of black shale, erroneously considered to be plumbago, from the same place.

Dr. Crooke remarked that Mr. James, after prosecuting his search for coal near the junction of the Newlands Road with the Main Road, to a depth of more than 100 feet, has relinquished the enterprize.

The Secretary reported the receipt at the Society's gardens of a case of fruit trees, &c., from Messrs. Lee of Hammersmith, in good

order,—comprising choice apple, pear, cherry and plum trees, raspberry plants, hazel, beech, and hybrid rose plants, &c.; also the receipt, per *Eliza*, of a case of new varieties of gooseberry, *all dead*; also a case of indigenous plants from Dr. Story, of Swan Port; also a case, per *Munford*, from Wellington, containing twenty-six species of New Zealand plants, in exchange for plants sent to N. W. Lewin, Esq., through Capt. Hayle, in April last; and a box of Tasmanian plants (sixty) collected on the East Coast, near Wabb's Harbour.

Mr. Rout, of Elizabeth-street, sent to the Museum a dried branch of *Xylomelon pyriforme*, the wood pear of Sydney, exhibiting the leaves, seed vessel, and winged seeds. Mr. Rout also sent a specimen of a peculiar combustible matter, having a black colour and semi-resinous lustre, said to have been obtained from masses which had oozed out from fissures in the sedimentary rocks on the banks of the Ouse River. Mr. Dobson, of the High School, placed on the table specimens of the same substance, transmitted by Mr. Young, of the Ouse, said to have been procured in the manner stated. Drs. Officer and Agnew considered the substance to be of animal origin, and that there has probably been some misconception as to the mode of its production and occurrence.

The Rev. T. J. Ewing sent a collection of insects from the southern coast of China.

From Mr. Henry White was received an elegantly-branched red *lithophyte*, probably a species of *Melita*, from the vicinity of Singapore. The Secretary observed that fragments of a nearly allied genus, and equally beautiful, are occasionally cast upon the northern coast of Tasmania, along the shores of Bass's Straits.

A box of specimens of the *Sphæria Gunnii*, the caterpillar plant of Franklin Village, was received from Mr. Emmett, of Circular Head, collected by himself; together with written observations on the mode of their occurrence, which were read.

Extract of a note from Mr. R. C. Gunn was read, wherein it was stated that Mr. Gunn has recently met with this fungus near Penquite, at Patterson's Plains, Launceston.

The following paper, transmitted to His Excellency Sir W. Denison by Mr. Deas Thomson, of Sydney, giving the details of assays of a picked specimen of Bathurst gold conducted by Mr. J.

S. Norrie, of Sydney, was read. Specimens of washed gold dust from Bathurst, Adelaide, and California were upon the table.

"*Pitt Street, Sydney, 24th May*, 1851.

"Sir,—I have the honour to hand you herewith the result of my analysis of the piece of Australian Gold obtained from you a few days since, and would remark that it has been conducted with every care to ensure an accurate result. The processes adopted have been those resorted to at the Royal Mint; and from previous assays made by myself on large quantities of Californian Gold sent from this, the results in England have so nearly tallied that I flatter myself the following will be found a very near approximation to the truth, if not exact.

"I have, &c.,

"J. S. Norrie."

HUMID ASSAY.

Gold	91·150	
Silver	8·286	
Iron	0·564	100·000

DRY ASSAY—MINT PROCESS.

Gold	91·100	
Silver	8·333	
Base Metal ...	0·567	100·000

"The gold is therefore of twenty-two carats, value £3 17*s.* 10½*d.* per ounce, containing 1 dwt. and 16 grs. of fine silver, the value of which, at 5*s.* 6*d.* per ounce, is 5½*d.*, making together—

	£	*s.*	*d.*
	3	17	10½
	0	0	5½
Actual value per oz.	£3	18	4

But it must be remembered that the average is hardly likely to be so high, as many larger pieces, doubtless, contain more silver.

"J. S. Norrie."

"N.B.—The piece of gold assayed was of poorer quality than the ordinary specimens I have seen from the Ophir diggings. This analysis cannot therefore be relied upon as a fair criterion of the commercial value of the gold obtained in that district.

"There was no admixture of quartz or other impurities, common in the ordinary specimens.

"J. S. N."

Lieut. Clarke, R.E., placed before the meeting a copy of the pamphlet on "Gold in Australia," sent by the author, the Rev. W.

B. Clarke, A.M., F.G.S., &c., of Sydney, for the Society; and drew attention to such of the statements as more particularly concerned this territory,—and a lengthened conversation followed, in which most of the members present took part.

Mr. Dobson, of the High School, submitted for examination a small fish caught in Carnelian Bay. It is about four inches in length, with a short stiff-pointed snout serrated laterally, rather large eyes; the head, thorax, and belly flattened horizontally, and covered with plates instead of scales, beneath a skin-like integument; a remarkably elongated fin projecting from either side near the head; the tail long, imbricated, and tapering to a point.

The Secretary mentioned a reported discovery of *quicksilver* on the property of Mr. Allwright, at Broad Marsh, and stated that, as large quantities of mercury in the metallic state have often been taken to their homesteads by sheep-owners, such discoveries in situations geologically unsuited to the production of metallic minerals are to be received with caution, however well authenticated.

The Secretary read the following extracts from letters by Mr. R. C. Gunn, on various interesting occurrences connected with the natural history of Tasmania:—

"Having girdled trees on some hundreds of acres of land on the St. Patrick's River, the *Barito organicum* now visits the farm, and the *Native Hen* is becoming abundant; both birds having been formerly unknown in that locality. Why, or how, the Native Hen has migrated thither I cannot say, as it cannot fly; and I should have presumed the clearing would not have sufficiently influenced it."

"The decaying trees are of course full of grubs, and the black cockatoos are there daily within a few yards of the house, tearing off the bark with their powerful bills. In pulling off the bark they bend their heads over so as to lay hold on the under side of the branches, and then pull upwards, standing quite vertical the while: one would sometimes fancy they must topple over."

"20th July.—A domestic cat at the St. Patrick's River is in the habit of bringing to the house numerous small animals from the bush: during the last few weeks it has caught about four dozen specimens of *Antechinus Swainsonii* or *affinis* (I am uncertain which)—the *Antechinus leucopus*, *Mus penicillatus?* and another *Mus*, with long legs, upon which it probably hops like a kangaroo, and which I cannot find in any List of the Mammals of Tasmania. All the specimens of *Antechinus* are males. Can they be thus caught whilst roving in search of the females? or why is it that males only are caught? Cats seem frequently to catch these small quadrupeds, but rarely to eat them."

"Whilst the North Esk was flooded last week, a mountain duck *(Casarca*

Tadornoides) was shot on the flat below my house: there were two, and the one shot was a female.

"I think I told you that I possess in captivity a second Van Diemen's Land species of *Dromicia* smaller than the *D. nana (gliriformis* of some authors.) It does not thrive so well as the larger species. I have had some in captivity for the last two or three years, but they have not bred. My living Thylacine is becoming tamer: it seems very far from being a vicious animal at its worst, and the name Tiger or Hyæna gives a most unjust idea of its fierceness.

"I perceived in a series of capital papers on the natural productions of New South Wales, lately published, that a Cassowary had been shot by Mr. Kennedy's party in one of the gullies near Cape York. This is the first account of a Cassowary in New Holland I have seen. The specimen was lost, and it is yet therefore undescribed.

"Have you read W. B. Clarke's paper on the fact of gold and copper being found in quartz rocks when no indications of metals appeared to the eye, even when armed with a strong magnifier? It is curious and most interesting?"

The Secretary read two letters from Charles M'Lachlan, Esq., of London, Tasmanian Agent for the Industrial Exhibition, from which it appears that the *Derwent* landed our quota on the 31st March, almost at the latest moment at which they could be received. The manuscript list sent home per *Derwent*, through the Colonial-office, had been sent by Earl Grey to the Exhibition, and thence to be printed and incorporated in the great catalogue then in preparation.

10TH SEPTEMBER, 1851.—Robert Officer, Esq., a Vice-President, in the chair.

A ballot for new members took place, when Mr. James Wood, of Hobart Town, was elected.

As first in point of interest and importance at the present moment, the Secretary drew attention to several fine specimens of auriferous quartz, presented by Dr. Officer, and recently obtained near that gentleman's station at Bunenyong, upon a spur of the Pyrenees, near the head of the Wimmera, in the province of Victoria.

From Sir W. Denison was received an unusually fine specimen of copper ore, forwarded by Alfred Denison, Esq., per *Emma*.

From the Rev. J. Garrett, on the West Tamar, were received fine specimens of Asbestos, in a series of stratified layers, traversing Serpentine from the base of the Asbestos Mountains on the eastern side: also specimens of fossil wood—one mineralized with iron, the other with silex.

Mr. Henslowe presented a slab of slate sawn on the edges, of rather soft quality, which had been forwarded from Circular Head by Mr. Whitefoord, Police Magistrate there: the old transition clay-slates spread almost in one continuous field, as far as Cape Grim to the westward; while on the eastern side they extend, with little interruption, to Table Cape. They stand for the most part on edge along the coast, and they contain many beds of micaceous flagstone, and of *whet-slate* or *hone-stone*, infinitely superior in quality to any of the specimens sent home to the Industrial Exhibition, and which have been so well spoken of. At Rocky Cape, on its eastern side, close to the water's edge, some thick beds of dark metamorphic (?) quartz intervene in the series.

From Capt. Fallenstein was received a quantity of the seeds and of the unbleached fibre of *Corchorus capsularis*, a plant of the order *Tiliaceæ*, from which a grass cloth is made in India. Some of the species are cultivated in comparatively cool climates, and it is thought this might thrive here, so as to become ultimately of economic value to the colony.

There has been received at the Gardens a packet of seeds, consisting of 100 species,—all of tropical character,—from the Botanic Gardens at the Mauritius.

A case containing 24 varieties of grape plants has been forwarded to Norfolk Island, per *Lady Franklin*.

The Rev. T. J. Ewing, of New Town, sent for presentation to the Museum a few specimens of *crustaceæ* from the coast of China.

The Secretary laid on the table specimens of *porphyry* having a flinty aspect and character. It occurs in a series of low eminences along the side of a ridge of fossiliferous clays and grit near Oyster Cove, the central axis of which appears to be a semi-crystalline felspathic rock, running up through a fissure from D'Entrecasteaux Channel on one hand, to massive hills of greenstone on the other.

The Secretary laid on the table a letter from the University of Edinburgh, acknowledging receipt of the first and second parts of the "Papers and Proceedings" of the Society.

The Secretary exhibited a series of drawings, carefully executed, by Mr. Becker, of a *Cranium* procured at the River Tambo, in Gipps's Land, and sent over for inspection by Mr. R. C. Gunn, of Launceston. Mr. Gunn has forwarded the original to Professor Owen, of London, for examination. Drs. Officer, Agnew, M'Carthy,

and other members inspected the drawings closely; but without the bones themselves, no satisfactory conclusion could be formed. They resemble somewhat the figures given by Major Mitchell of the bones of gigantic kangaroos found by him in the caverns of Wellington Valley, New South Wales. Mr. Gunn says,—"I send you the drawings of the fossil. The original is on its way home. The drawings will speak for themselves. A view from below,—one from above,—a profile, and one of each end. I can say nothing about it beyond this, that it is from the River Tambo, in Gipps's Land. From the *serpulæ*, in the socket of one of the incisors, it would seem that it has been in the sea. We cleansed the teeth a little, to show the arrangement of the enamelled surfaces, as they were a good deal encrusted. The dentition is much like that of a forester kangaroo, but the form of the skull varies in some important particulars, as you will see. Mr. Becker thinks it was proboscidean: it may, therefore, prove to be the *Nototherium* of Owen—an Australian marsupial proboscidean described from fragments of bones too few and imperfect to enable us to form any very correct opinion."

The Secretary read a letter from the Colonial Secretary, conveying the contents of certain Despatches concerning the Tasmanian Contributions to the Industrial Exhibition. Earl Grey did not receive the Despatch containing the announcement of Mr. M'Lachlan's appointment as agent for this colony, until that which enclosed the list of the goods forwarded per *Derwent* reached him, when his Lordship lost not a moment in placing Mr. M'Lachlan in communication with the Queen's Commissioners, and in giving instructions to the Agent-General, Mr. Barnard, to defray all expenses necessarily incurred in conveyance to the Exhibition Building, and in cleaning and preparing the articles for exhibition, &c.

8th October, 1851.—His Excellency Sir W. T. Denison, President, in the chair.

The following were elected members of the Society:—J. D. Loch, Ludwig Becker, and R. Garrett. Henry Durance Cartwright, Esq., of Shanghae, China, was elected a corresponding member.

The Secretary read a letter from Sir W. T. Denison communicating to the Society that Mrs. Stanley, widow of the late Captain Stanley, R.E., has presented for the library of the Society, twenty

parts of the Philosophical Transactions of the Royal Society of London.

Sir William Denison presented one 4to volume sent out by the British Government, "Observations on Days of Unusual Magnetic Disturbance made at the British Colonial Observatories."

From Messrs. Orger and Meryon, of London, was received the Second Report of the Select Committee of the House of Commons on Public Libraries.

Mr. Milligan read a note from the Secretary of the Linnæan Society of London, presenting copies of the Charter and Rules and of the Proceedings of the Linnæan Society, and promising further contributions.

From Mrs. Garrett, of Macquarie-street, was received a stuffed penguin, *(Pygoscelis Papua)*, from the high south latitude 76° 36', and longitude 174° west.

Mr. H. Hull presented specimens of iron pyrites from the coal shaft near Newlands, consisting of a congeries of small cubes, with black shale.

Mr. Tribe presented a box of objects mounted for microscopic examination.

Mr. E. Tooth, of Bagdad, placed on the table for inspection a nugget of gold brought by him from the Ophir diggings, weighing thirteen ounces. Mr. Tooth also presented to the Museum several samples of auriferous quartz, fragments of quartz with gold, and one beautiful specimen of gold crystallized in a drusy cavity of semi-transparent quartz.

Mr. Francis Butler presented from Luttrell's farm, at the Black Brush, fragments of iron glance ore and of metamorphic sandstone, compacted and rendered crystalline from contact with trap rock.

Mr. Phineas Moss presented a fragment of linen cloth taken from a mummy opened at Bath, in England, a few years ago.

From Mr. A. M. Milligan, of Launceston, was received a spirit preparation of the common black and whip snakes of the Colony.

The Secretary placed upon the table communications from the principal Librarian of the British Museum, and from the Royal College of Physicians of Edinburgh, acknowledging the second part of the "Papers and Proceedings" of the Society.

A note from Mr. Cartwright to Mr. Hull was read, promising to send to the Museum samples (as soon as landed) of *teas* mixed

with drugs, and called "Medicinal Teas," of which specimens were forwarded direct from China to the Exhibition of All Nations.

His Excellency the President submitted a paper by Mr. Robert Crawford, on the cultivation, mode of dressing, and cost of Flax, raised upon the estate of Skelton Castle, the property of Captain Dixon, on the Isis, which was read.

A paper prepared by Dr. Meyer, of New Norfolk, giving an account of experiments on the cultivation and extraordinary yield of Italian rye-grass, subjected to irrigation with manures in solution, was read.

The Secretary submitted the following extract from a note by Captain Kay, R.N., Director of the Magnetic Observatory, Hobart Town, in reply to an inquiry on the subject of the Aurora of the 4th and 5th of September last:—

"We have only observations recorded at 2 p.m., 10 p.m., and at 6 a.m. I cannot, therefore, tell you what may have been going on between these hours. The Auroral Light was very distinctly visible on the evening of the 4th; and on reference to the disturbance observations, I find that the magnets were all affected by it, and continuous observations carried on until after midnight, at which time the Aurora appears to have subsided. It was very brilliant about 9 p.m., pulsating with great rapidity, and shooting up violet-coloured streamers of light toward the zenith. Its brilliancy was, however, much diminished by the strong moonlight. I have seen much more brilliant Auroral Lights in Van Diemen's Land; as for instance those of 1847.

"Its effects upon the magnets was a deflection of the north end of the directive needle to the west, and considerable diminution of the horizontal and vertical components of the intensity. On the evening of the 5th there was not any disturbance at all at 10 p.m."

Mr. Milligan stated that he observed the Aurora of the 4th from 9 to 10 o'clock p.m., (when it began to wane), at Oyster Cove, in D'Entrecasteaux Channel; that in Hobart Town, the following evening, about half-past 9 o'clock, he observed a few faint Auroral coruscations in the south; and that the aborigines reported the occurrence from 8 to 9 on the same evening of an Aurora of unusual brilliancy, displaying long shoots of red, blue, and green light, accompanied at intervals with a crackling noise, which they exemplified by snapping the fingers repeatedly.

Mr. Milligan also read a portion of a paper on the raised Beaches of Tasmania, and the adjoining islands and coasts, illustrated with

a rich series of fossil shells and hand specimens of the formations themselves.

12TH NOVEMBER, 1851.—Rev. John Lillie, D.D., a Vice-President, in the chair.

The following persons recommended in due form and ballotted for were declared duly elected members of the Society :—

Duncan M'Pherson, of Sandy Bay.
Charles Seal, Macquarie-street.
John Young, Liverpool-street.
Mrs. Catherine Jackson, Harrington-street.

Mr. Tribe presented to the Library "Quekett's Practical Treatise on the Use of the Microscope."

The Secretary reported the following presentations to the Museum.

From His Excellency Sir W. Denison, *Zeolite*, radiating from a nucleus of half-decomposed greenstone. The mineral was found at a depth of 17 feet in the excavation recently made in Elboden Place, imbedded amidst boulders of greenstone mixed with marl and earthy matter, and weighed several pounds.

From Mr. Turnbull, of New Norfolk, some beautiful specimens of *Sulphate of Magnesia*, (Epsom Salts), crystallized in the fibrous form, upon a clay rock. The specimens were obtained in a cavern on Mount Dromedary, where it exists, it is said, in considerable quantity.

From Mr. James Scott, of Launceston, through the Survey Department, by order of the Governor, a quantity of semi-decomposed quartz, having drusy cavities filled with clay and loose crystals. It had been dug out from a depth of 13 feet from a low round hill said to have a basis of slate, and situated a little north of Quamby's Bluff, where excavations are carried on in search of auriferous beds.

From Mr. W. F. Newman a very small *quadrangular fish*, having numerous spines with plates instead of scales, joined by sutures—probably an *Ostracion*: its *habitat* is uncertain, but it is believed to have been brought in a packet of seeds from California. Several Australian species of *Ostracion*, more or less triangular and flattened, have been accurately figured by *Richardson*, from specimens sent home by Mr. Lempriere and others.

From Mr. Skelton Emmett, of Circular Head, specimens of white compact quartz, and of quartz containing *iron pyrites*, obtained on the "Black River" there, and derived apparently from the transition clay-slates existing in that quarter.

From Dr. Agnew, a Dyak Gun, with halberd-pointed bayonet affixed, for shooting poisoned arrows; also a quiver-full of small light arrows, needle-pointed at the apex, and funnel-shaped at the opposite end. It is said that these arrows are projected by blowing them with the mouth in the face and eyes of an enemy, just before coming to close quarters; and that when a thick cloud of these delicate and noxious missiles is thus adroitly fired off, it lends great effect to the charge which follows. Dr. Agnew also placed on the table a dishful of the *Ourali* or *Ourari* poison, from the West Indies.

Mr. John Abbott submitted specimens of carboniferous sandstone and shale, with vegetable impressions, from his coal shaft at Long Bay.

Mr. Milligan laid on the table a specimen of highly bituminous coal, occurring in thin irregular layers in the hard sandstone between the upper and lower beds at the Douglas River Coal Company's Works: the space from the upper to the lower coal seam there, and which is full 5 feet thick and of the finest quality, is about 73 feet. Mr. Milligan also presented several specimens of auriferous clay and conglomerate obtained from Ballarat.

The Secretary reported receipt of a valuable paper by R. C. Gunn, Esq., on the mammals of the colony.

Nuggets of pure gold, varying from one and a half to three and a half ounces in weight, were submitted by Dr. Lillie and Mr. Milligan. Mr. S. Moses exhibited a handsome bracelet manufactured of small nuggets, of their original size and shape, from the Turon diggings.

The Secretary read extracts of a letter from Mr. Lyon, of Wellington, New Zealand, to Mr. Hort, of this city, promising tertiary fossils and specimens of the *Apteryx*, &c., for the Museum.

The Secretary reported that the Superintendent at the Gardens had despatched per *Isabella*, to Mr. G. Hensen, at Auckland, New Zealand, a case containing forty-three species of plants, to be returned with plants indigenous to that country; that a case of choice plants had been received from Mr. Bonney, of Perth; and

that the contents of a case received from Anatam, in which was the recently discovered *Dammara*, &c., of new Caledonia, have been found dead.

A paper was read by Thomas Dobson, Esq., B.A., Head Master of the High School, on the rotatory law of storms, as applicable more especially to the Indian and South Pacific Oceans, in which he regrets that masters of merchant vessels sailing in these seas—to whom and to owners the subject is of the very highest importance—are not found to note with greater nicety the fluctuations of the wind and the barometrical changes during the heavy gales to which they are exposed, in order that, from the comparison of a great number of collateral facts, general laws of the utmost moment to the safety of shipping may be established. Mr. Dobson proposes vigorously to prosecute the subject, so as if possible to work out of it some practical benefit to our rapidly extending maritime interest.

D. A. C. G. Mitchell read a paper on the timber of the Blue Gum and other *eucalypti:* its strength, hardness, and durability, and its admirable adaptation to ship-building. Mr. Mitchell placed upon the table an extensive assortment of specimens of the timber of the blue gum, teak, oak, &c., used by him in testing the relative specific gravities, direct cohesive force, transverse strain, deflection and elasticity, and neutral axis; together with samples illustrative of the ravages of the *Teredo* and the *Limnoria*, &c., against which Mr. Mitchell considers charring the surface to be the only preventative.

17th December, 1851.—John Lillie, D.D., a Vice-President of the Society, in the chair.

After a ballot, the following gentlemen were declared duly elected into the Society:—Captain Goldsmith, of Hobart Town, and Andrew Mowbray, M.D., of Circular Head.

Slate from Black River, Circular Head, transmitted through Mr. Henslowe for the Museum, by J. Whitefoord, Esq., P.M., was submitted, and considered by the meeting too soft and absorbent to be well adapted for roofing purposes.

A preparation in brine of the *Marsupium* of a Wombat, containing a *fœtus*, was received for the Museum from Mr. Knox.

From Mr. Irving, of Launceston, was received a piece of inch board, cut from the centre of a log of New Zealand Pine, perforated like a sieve by the *Teredo.*

Specimens of tuffaceous trap-rock and of coarse jasper, &c., obtained at Sandy Bay Point, were received from J. L. Burnett, Esq.

From Mr. Button, of Launceston, were received specimens of the irregular hollow ferruginous bodies which are found (associated with impressions of leaves of plants, belonging apparently to an extinct *Flora),* throughout the argillaceous diluvium prevailing on the Windmill Hill, the Cataract Hill, &c., in that neighbourhood.

From Captain Hepburne, of St. Paul's Plains, were received specimens of red Hematite, of a very rich quality, and said to abound in the vicinity of Mr. Hamilton's estate there.

Mr. Milligan placed before the meeting specimens of a fine-grained white compact and hard sandstone obtained on the west bank of the Tamar, about 12 miles below Launceston, and near to Gravelly Beach. Mr. W. Kay and other members considered it scarcely, if at all, inferior in quality and appearance as a building stone to that of Ross, and likely to prove of great importance to Launceston from its proximity, and the ready means of water-carriage existing between the quarry and the town. Numerous land-slips on the west bank of the Tamar, near the locality referred to, are indicative probably of sedimentary strata beneath yielding to the weight of the super-imposed greenstone and soil.

A sample of fine iron-sand, highly magnetic, obtained upon the greenstone at high water-mark in Spring Bay, Tamar River, by Mr. Milligan, was submitted.

The Secretary also submitted specimens of Amianthus, and of fibrous and magnetic ore of iron, and of these two substances commingled, having been found separately and together, forming veins in the ridges of *Serpentine* stretching along the upper portion of Anderson's Creek, toward the Asbestos Mountains, in which neighbourhood rounded hills of iron conglomerate, passing into a rich compact and massive ore of that metal, also occur; while the Serpentine, which has a rude tendency to stratification, merges most distinctly in the ordinary overlying and amorphous greenstone of the country. A very small *Pelargonium,* common in the fissures of the Serpentine rocks, was exhibited; with the round-leaved hirsute-stemmed multifoliate variety found in the crevices of greenstone

cliffs on the coast, it deserves to be separated as a distinct species from *erodioides*. Mr. Gunn says that if more than one species is admitted, there must be half a dozen allowed.

Specimens of the Roofing Slate, near York Town, proposed to be worked by Mr. Graves, lay on the table, together with fragments of a fibrous quartz, (having much of the structure of wood), which presents occasionally in the numberless greenstone veins traversing the slate there.

A series of specimens of carboniferous sandstones and coal—transition clay-slates—flinty slate in contact with a granitic rock—granite of peculiar structure and composition—and greenstone obtained during the ascent to the summit of Ben Lomond from Kingston, were placed before the meeting by Mr. Milligan, who stated that he found sandstones and coal beds (both anthracitic and bituminous), close under the vertical escarpment of greenstone, at an elevation of 3500 feet, and that he was able distinctly to observe, and follow for some space, the line of junction of the erupted trap rock and the stratified masses, from which it appeared that the edges of the latter, while yet unconsolidated and plastic, had been upturned by the igneous matter, and that the immense plateau of Ben Lomond is therefore of an age posterior to that of the deposition of the coal; that this, with its associated shales and sandstones, has been deposited here, as at the Schouten Island and Douglas River, over granitic rock, and upon the highly-inclined edges of the transition slates, which, together with the granite itself, appear to have been upheaved by the projection of greenstone and basalt through the whole; and that at the time of such stupendous volcanic action, the highest peaks of land of the present day lay under water—a fact otherwise sufficiently proved by the character of the erupted rock and the evidences of diluvial action obvious on our highest table lands. Mr. Milligan took with him an Aneroid barometer, which fell from the time of leaving Penquite, near Launceston, Thursday, 4th December, to that of attaining the table land of Ben Lomond, on the 7th, 4·650 *inches*, during which interval there had been a natural depression of full half an inch in the mercurial barometer, near the sea-level. Through accident the instrument was not tried on the culminating points of the mountain; but there appears no reason to doubt its continuing to indicate there with the same fidelity which marked its action during the ascent.

It is therefore to be concluded that there must have been something faulty in the Aneroid, which, in the skilful hands and under the careful observation of Captain Kay, ceased to act on the side of Mount Wellington at a higher level than 3500 feet.

On the table land of Ben Lomond, Mr. Milligan observed a variety of *Ranunculus Gunnianus*, the *Phebalium montanum*, and a *Westringia*, probably *rigida* in flower, and the prostrate *Gaultheria*, (in fruit), found abundantly on the western side of Tasmania, about 1000 to 2000 feet above the sea-level, &c.

During the descent from Ben Lomond towards Fingal, a vertical escarpment of columns of greenstone is succeeded by a talus, formed of the debris of the same rocks, extending for some miles, and concealing all original geological facts between the mountain and the ridges of hard clay-slate (interlaid with seams or beds of quartz), which stretch in succession as far as the level of the South Esk, where a soft talcose schist exists, interlaminated also with quartz, and doubtless highly metalliferous, as it is probable much of the north-east portion of Van Diemen's Land will ultimately prove to be.

Mr. Milligan walked across the rugged country between Fingal and the Douglas River, and thence to St. Paul's Plains by way of the rich agricultural Vale of St. Alban's, through which the sluggish River Apsley (finally losing itself in a large marsh) flows. The tract of country thus diagonally intersected in two different directions is of greenstone, of the same character as Ben Lomond, but of far inferior elevation, and surrounded on three sides with primary or transition rocks, at a comparatively low level, where portions of the carboniferous series are seen dipping slightly under the greenstone, in beds departing but little from the horizontal position. The "Dome of St. Paul's" is greenstone, supported by granite and Silurian limestone: a ridge of granite traverses the valley of St. Paul's, and exhibits on its surface and western side patches of the Silurian series,—in some places sufficiently calcareous to yield good lime, and in others converted into a cherty and siliceous substance, as hard as quartz rock: the granite is here richly interspersed, and veined with varieties of schorl and tourmaline. The hills on the western and southern side of the St. Paul's Valley consist of coal sandstones, with bituminous coal-seams, capped as usual with greenstone. Specimens from the various rocks mentioned were placed before the meeting by the Secretary.

The following extract from a report on the geological characters of the country on the Florentine River by Mr. Dawson was read, having been forwarded by Major Cotton, Deputy Surveyor-General:—

"I may remark that shell limestone crops out towards the foot of the hills, between the Derwent and Florentine Rivers, and immediately above the level of the Florentine Valley; argillaceous schist intervening between it and the ironstone, which forms the summit of the range, and containing impressions of shells and corals, similar to those found in the analogous formations so prevalent in the neighbourhood of Mount Wellington, and ranges adjacent.

"In the limestone formation I could discover but one species of shell, and that apparently a "terebratula." (?) The upper stratum, though apparently true limestone, did not exhibit the granulated appearance of the lower, and was destitute, as far as I could find, of marine exuviæ: it was also marked by thin bands of a darker bluish-black, and parallel to the planes of stratification."

The Secretary read the following notices of physical changes, and on some objects of natural history, observed by Ronald C. Gunn, Esq., on a recent overland journey from Circular Head and elsewhere. Extract of a note from Mr. Gunn was also read drawing attention to the successful employment of *Hydro-carbon gas* for lighting the streets of towns in England and Scotland,—for the production of which a patent has been taken out by Mr. Stephen White,—its comparative cheapness and great brilliancy, and asks whether the bituminous shale from the Mersey River might not be applied to the production of this gas. Dr. Crooke thought the gas might be obtained from the *Kawrie* gum of New Zealand.—

"*Penquite, 17th November*, 1851.

"My Dear Milligan,—I will string together the few rough notes on Natural History since my last. Some may be of interest to you, others may be valueless.

"*Encroachments of the Sea at Circular Head, &c.*—It was thirteen years from the day I left Circular Head until I returned to it last month. I found that the sea had washed away about 30 to 50 acres of land, (as near as I could guess), perhaps more, between the old sawpit and the neck fence on the east beach. The whole configuration of that part of the shore is altered. The beach is strewed with Banksias of very considerable age, the soil upon which they grew having been washed away, so that an estimate may be formed of the period during which the old form of the beach had existed; although in my time the sea was encroaching steadily. From present appearances I believe the encroachments will become more and more rapid, as the land is low behind

the sand hills; and that in a comparatively short period the sea will roll up to the base of the Green Hills. All along the coast where there were sandy beaches,—such as at the Sisters, between Rocky and Table Capes,—the sea had also considerably advanced, steadily undermining the sand banks, upon which a dense belt of shrubs is growing, which were falling into the sea. The cause is not so easily traced; but I suspect it to arise from the unusual prevalence of easterly winds, which now happen almost weekly. Formerly, I have been assured by Mr. Curr, an east wind was very rare indeed; and, from recollection, about fourteen years ago they were less common than now, although then said to be more common than formerly. Can this be true? A reference to the registers kept at Circular Head can alone decide; and, if found to be so, a cause for it must be sought for. The east beach at Circular Head is now at least twice as far out as it was thirteen years ago; that is, it shoals more gradually towards the jetty.

"*Mineral Springs near Circular Head.*—I visited these springs and brought away a bottle of the water. Strzelecki gives a qualitative, but not a quantitative, analysis. It is very desirable to have this latter done, as, if it contains much magnesia and iron in solution, it might prove serviceable in many diseases. I believe the soil that surrounds the springs to contain much magnesia, as well as a good deal of lime. A sort of travertine is formed by the waters which is burnt for lime, but the quantity of iron gives it a rusty colour. Pray let me know if the analysis could be made, as I would beg to have it well done, or not have it done at all. A small kind of Bulimus (or perhaps Succinea?) was abundant on the banks of the pools, which in some instances effervesced violently.

"*New Localities of Rare Plants* —The only locality in Van Diemen's Land where I had ever found *Acacia linearis* var. *Tasmanica* was at Circular Head, covering a few yards of ground behind the lagoon, parallel to the east beach. On searching for this, to me, *rarest* plant in Van Diemen's Land, I found the ground had been cleared and the *Acacia* eradicated. I was very much pleased, therefore, to find it again between the River Blyth and Sulphur Creek, on the north coast, scattered over an acre or so of ground close to the sea. It is a New Holland species, seems very tender, and I could detect no indications of fruit. The Phyllodia are very narrow, and 9 to 12 inches long.

"I also found the *Hymenanthera angustifolia*, growing on the shingly beach, a short distance westward of Sulphur Creek, a most unusual locality for this plant, whose head-quarters are on the rich flats of the North Esk River, near Launceston. It also occurs sparingly on the mountains, clinging to the face of rocks and large stones.

"*Port Phillip Flying Squirrels.*—A family of these animals were obtained from a peppermint tree on Dalrymple's land, on the South Esk, about 15th October, 1851, about three miles from Launceston. There are six adults—two got away; but the four obtained were females, each with one young one. The young considerably advanced in the living specimen I obtained, and which I

still possess. The young one clings to its mother—sometimes on its back, but often under its belly. The specimen obtained appears to belong, so far as I have yet had the opportunity of examining, to Mr. Gould's species the *Petaurus breviceps.* I feed them upon bread and milk, which they seem to eat with avidity.

"*Dromicia.*—*Small Tasmanian Species.*—The small species which I had so long in confinement, along with specimens of *D. nana*, died in the beginning of October. Either the food, which seemed suitable to the others, did not agree with it, as I suspect; or the larger animals bullied it out of this world. At all events, for some time it looked very thin and miserable. The other three specimens of the larger species are still alive and thriving.

"*Emu.*—I obtained two emus from the Horticultural Gardens here which were quite tame, and placed them in the large paddock in front of my house, where I believed they would remain quiet. On the second day, whilst I was watching them, they stalked down through a large sheet of water, about two feet deep, (the marsh was at the time flooded, and the river North Esk very high), straight to the margin of the river, and to my surprise crossed over to Killafaddy. One was killed in attempting to bring it back, and the other I put with some wallaby and a kangaroo. The forester kangaroo was excessively alarmed at the emu, and for a day I almost feared it would have died from fright. The saliva ran from its mouth, and it bounded about in all directions to escape the great object of its terror. They are now good friends. The one killed was a female, and weighed 80 lbs. They were originally from a Port Phillip stock, but brought up in Van Diemen's Land. Mr. Gould, in his large work on the Birds of Australia, says, that the females alone, so far as he knows, make a peculiar booming noise. In that case my other specimen is also a female.*

"At Circular Head there are eleven tame ones; five still follow the mother, although the male incubates the eggs. The young of last year are now nearly as large as their parents.

"A leg of a Tasmanian emu is now in my possession, and so far as I can judge from it, as a very imperfect specimen, there are differences in the arrangement and size of the scales, which may justify the separation of the Tasmanian emu from that of New Holland. Still farther research and examination are necessary."

Dr. Officer exhibited an *obsidian*-looking substance—having much the form of the common bung of a cask, or cork of a wide-mouthed

* [Captain Hepburn, of St. Paul's Plains, possesses a breed of Tasmanian emus, which he succeeded in rearing from eggs found many years since upon the high heathy land in his vicinity. Mr. J. Hepburn informs me that the booming noise is not peculiar to the female, and that the male bird does, though not frequently, make the same sound. The Tasmanian emus share the toils of incubation between the sexes, but upon the mother devolves the care of bringing up the young brood, to which the male parent, for the most part, displays an unnatural and most bitter antipathy.—J. M.]

bottle,—flattened and rounded on the top and bottom (where it betrays the action of weather), and having a number of well-defined impressions around the sides, as if so compressed or pinched in while semi-fluid. This remarkable substance is said to have been found on the natural surface of the pasture lands of Victoria on several occasions: enquiries have now been set on foot by Dr. Officer to trace, if possible, its origin.

Mr. Dobson, of the High School, read a short paper, supplementary to that of last meeting, upon the Law of Storms. A little after ten o'clock, on the motion of Joseph Hone, Esq., seconded by A. Hort, Esq., the thanks of the Society were accorded for the various communications and specimens, when the Rev. Chairman rose, and the meeting, which was a numerous one, broke up.

TABULAR RETURN *of the Stature and Weight of Children in Tasmania, namely; Children of Educated People—of Working People—of Convicts in the Queen's Orphan School, and of Aboriginal Inhabitants. Taken in March* 1849. *Compiled by* H. Hull, *Esquire.*

AGES.	Maximum Height, in inches. BOYS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.	GIRLS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.	Minimum Height, in inches. BOYS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.	GIRLS. Educated class.	Working ditto, free	Queen's Orphan School, children of convicts.	Aborigines.	Maximum Weight, in pounds. BOYS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.	GIRLS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.	Minimum Weight, in pounds. BOYS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.	GIRLS. Educated class.	Working ditto, free.	Queen's Orphan School, children of convicts.	Aborigines.
Under 2 years	33	...	...	...	33	...	...	...	31	...	...	...	30	...	...	...	30	...	...	...	26	...	...	...	25	...	...	...	21	...	...	...
2 and under 3	36½	36½	...	...	34¼	...	31⅓	...	35	29	...	...	32¼	...	...	...	33½	37½	...	...	29	...	24	...	32	33	...	...	25	...	...	...
3 „ „ 4	38½	39½	37	..	39	35½	39	...	35	36	30½	...	36	35	35	...	32	27	38	..	35	28¼	23	...	30	...	23	...	30	...	...	...
4 „ „ 5	42	...	40¾	...	41	42⅓	41	...	39	...	34½	...	37	...	33½	...	46	...	39	...	40	44	34½	...	37	...	30	...	29	...	26½	...
5 „ „ 6	44	47¼	43	...	43	45	40¾	...	40½	38	38¼	...	39	37	37¼	...	45	63	40	...	48	49	35½	...	39	27	34	...	28½	28	33	...
6 „ „ 7	50	...	44	...	46⅓	46⅓	45¼	...	45¾	...	37½	...	42½	44½	37¾	...	49	...	40	...	46	45	47½	...	46	...	32	...	46	46	32½	...
7 „ „ 8	47¾	48	45¼	44	48¾	57	47½	...	44¾	42	39	...	42¾	41	43½	...	53	70	51	50	51	76	68	...	46	32	36	...	31	32	45	...
8 „ „ 9	50	51½	48	49	51	...	48	53½	49¾	49½	39	...	47¼	...	31½	...	55	59	54½	60	57	...	61½	86	49	56	39	...	48	...	45	...
9 „ „ 10	...	50¼	48	50½	56¼	...	46½	...	...	...	39	...	49½	...	44¼	...	...	61	58	69½	67	...	55	...	...	...	42	...	53	...	43	...
10 „ „ 11	55½	53½	51	...	53	51½	49	...	52	48½	43½	...	51¼	...	45	...	67	70	62	...	61	61	65	...	53	53	42	...	58	...	46	...
11 „ „ 12	61	55	52½	...	59½	60	55½	57	56	52¼	45	...	47½	51	52½	...	78	89	66	...	77	84	88	102	59	59	51	...	61	52	68	...
12 „ „ 13	55	...	55½	...	60	62¼	60	...	...	...	48¼	...	57½	...	50½	...	71	...	74	...	90	92	113	..	...	...	49	...	75	...	64½	...
13 „ „ 14	57¾	59	53⅗	...	63	61¼	56	58½	...	...	47½	...	57	...	52½	57½	83	90	67	...	111	82	99	122	...	...	52	...	65	...	68	121
14 „ „ 15	...	...	53½	...	...	59	55¼	...	...	...	50	...	..	...	...	...	...	...	60	...	...	82	75½	...	...	...	56	...	...	...	...	...
15 „ „ 16	68	...	...	...	...	...	59	...	...	...	...	...	...	...	55	...	148	...	...	...	...	...	97	...	...	...	...	...	...	...	80	...
16 „ „ 17	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17 „ „ 18	...	...	...	...	...	...	57	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	129	...	...	...	...	...	...	...	...	...
18 „ „ 19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19 „ „ 20	..	...	56¼	...	...	...	54½	...	...	...	...	...	...	...	...	...	...	...	99	...	...	...	80	...	...	...	...	...	...	...	90	...
20 and upwards	...	...	...	...	...	...	62½	...	...	...	...	...	...	...	56	...	...	...	...	...	...	...	102	...	...	...	...	...	...	...	...	...

N.B. Number of Children of 1st class weighed and measured 76; ditto 2nd ditto 124; ditto 3rd ditto 454; ditto 4th ditto 7.