Proceedings.

11th February, 1852.—Monthly meeting; Joseph Hone, Esq., Senior Member of Council present, in the Chair.

The following gentlemen were ballotted for and declared duly elected Members of the Society:—

The Rev. Charles Price, of Launceston; William Archer, Esq., of Brickendon; J. R. Kenworthy, Esq., M.D., of Cambock; Richard Truro, Esq., and William Dawson, Esq., of Hobart Town.

The Secretary notified the following presentations to the Library of the Society;—By order of His Excellency Sir William Denison,—One quarto volume of "Magnetical and Meteorological Observations at Toronto, made in 1840-41-42; printed by order of H. M. Government, under the superintendence of Lieut.-Colonel E. Sabine, R. A.:—also the Report of the "Geological Survey of India for 1849," forwarded by the Indian Government. The "Journal of the Agricultural and Horticultural Society of India," part 2, vol. vii., received from the Society at Calcutta. A pamphlet containing a notice of the *Dinornis* and other birds, rock specimens, &c., collected in New Zealand by Walter Mantel, Esq., received from Mr. Mantel. A list of the Ferns cultivated at Kew Gardens in 1845, by Mr. J. Smith, Curator, received from Ronald C. Gunn, Esq. From Mr. H. Hull, an account of the "Anniversary Meeting of Antiquaries at Copenhagen in 1850 and 1851."

L. Becker, Esq., presented to the Museum some rounded fragments of Greenstone, obtained under the sand a little beyond high water-mark near Wedge Bay, and having a bronze-like metallic covering, which Mr. Becker considers is Sulphuret of Iron, with probably Iodine or Bromine in combination. Mr. B. observes that sulphur is an abundant product on the sea shore, sulphureous gases being freely disengaged during the decomposition of the sea-weeds, and that *Iron* is derived yet more abundantly from the land. Mr. Becker also presented specimens of Fossil Wood from the sandstone over the coal at "High Plains," near Hamilton, and of conglomerate containing Opal, &c., from nearly the same locality.

Mr. S. Moses presented a well-preserved and very perfect cranium of a Walrus, *Trichechus rosmarus*, (Lin.) from Behring's Straits, where it was slaughtered by Esquimaux, in presence of the crew of the Prince Regent, by the Captain of which vessel it was afterwards purchased and prepared for the Museum.

Mr. Alfred Moses presented two complete Esquimaux dresses; one made of the skin of the Rein-deer, well tanned with the fur outwards; the other

a thin light waterproof, made of the intestine of the Walrus. It was remarked by Captain Kay, that the substance used in tanning had probably been the bark of the birch, which abounds in those northern latitudes.

Mr. John Johnston, of the New Wharf, sent two young antlers of the Rein-deer, together with the skin of a Polar Bear, *Ursus maritimus*, (Lin.), the skins of two pairs of Parrots shot on the coast of New Holland, one pair of Ducks from the shores of New Zealand, one dried specimen of Flying Fish, and a collection of Sponges, *Cellariæ*, &c.

The Rev. J. Robertson sent a specimen of Red Hematite, an ore of iron very rich in metal,—obtained in the neighbourhood of Bothwell.

Mr. James Burnett, of Macquarie-street, presented specimens of Greenstone, of an unusually crystalline structure, from the head of the ravine near Dynnyrne House.

Major Cotton presented specimens of ferruginous conglomerate and quartzose rocks from the great bend of the Gordon River, together with compact blue limestone from the Florentine River.

Mr. Newman presented a fragment of milk-white, compact, and fine-grained quartz from Port Davey.

Mr. Story sent specimens of rock formations from the Eastern Marshes—namely, quartz rock, quartzose grit with iron, greenstone, flinty slate, &c.

Mr. G. W. Walker presented a specimen of white clay-schist thickly studded with grains of pale yellow pyrites of iron, from the Cascades, Tasman's Peninsula.

The Secretary submitted specimens of fossil wood and porphyry from the upper portion of the Huon River.

From Francis Groom, Esq., of Harefield, was received a specimen of transparent crystallized quartz from his neighbourhood.—Break-o-day Plains.

Captain Goldsmith presented to the Society's Gardens a case of valuable splants(28), imported per *Rattler*. A case containing 31 plants received from A. M'Leay, Esq., of Sydney. From the Botanic Gardens at Sydney, a case received containing 32 species, partly exotics.

The Venerable Archdeacon Davies presented to the Society's Gardens a case containing 29 choice plants, imported per *Rattler*.

The Superintendent at the Gardens forwarded per *Tasman*, to Messrs. Knight and Perry, a case containing 51 plants of *Araucaria excelsa*—also a case to Messrs. Lowe, and Co., containing *Araucaria excelsa* and *Cunninghamii;* and per *Wellington*, two cases to Messrs. Lee of Hammersmith, containing 123 plants, including *Araucaria excelsa*, *Cunninghamii*, *Bidwillii*, and another Pine from New Caledonia—*Dacrydium Franklinii*—*Athcrotaxis selaginoides* and *cupressoides*—*Carpodontos lucida*, *Coniferæ* of New Zealand, &c. &c.

Mr. Milligan made the following remarks upon the habits of the Wombat, the Hyæna, and certain reptiles.

Wombat, *(Phascolomys Vombatus)*—" The aborigines of Tasmania state that, though this animal often crosses streams of water, it never does so by swimming, however deep they may be; but that it walks along the bottom of the water channel from the side at which it enters to that where it emerges."

Hyæna, *(Thylacinus cynocephalus)*—" The aborigines report that this animal is a most powerful swimmer; that in swimming he carries his tail extended, moving it as the dog often does, and that the nose, eyes, and upper portion of the head are the only parts usually seen above water."

Snakes.—" The aborigines inform me that snakes often climb lofty trees in order to plunder the nests of parrakeets and feed upon their young; and that when disturbed they drop from a great height, and move off apparently uninjured by the fall. They say that snakes often feed, and even gorge, themselves upon the fruit, (when dead ripe), of the native currant tree, *(Lencopogon gnidium)*, a shrub which is very plentiful upon the sand hills by the sea side, upon which snakes are well known to abound."

" The aborigines describe a tail-less snake, whose bite is, they say, most deadly, as existing sparingly on the main land, and more plentifully on some of the islands in Bass's Strait,—for instance, upon Cape Barren and Flinder's Islands."

The Auroral lights, which were visible here from ten to nearly half-past eleven o'clock on the evening of the 11th ultimo, became subject of discussion; and a short notice from the Ed. New Phil. Journal was read, attributing all the phenomena of the Auroral arch and clouds, the pulsation, the rushing pencils and beams, &c., &c., to luminous electric discharges polarizing watery particles in the upper regions of the atmosphere, and causing deflections in the angles of the crystals, which would variously refract and reflect the rays of light, &c.

After having passed a vote of thanks to His Excellency Sir W. T. Denison, President, and to the other persons who made presentations and communications to the Society, the members separated.

22ND MARCH, 1852.—Monthly meeting; His Excellency Sir William Denison, President, in the chair.

The following gentlemen having been proposed and ballotted for were declared duly elected into the Society:—R. Q. Kermode, Esq., of Mona Vale, M.L.C.; William Birch, Esq., of Launceston; J. W. Gleadow, Esq., of Launceston, M.L.C.

His Excellency the President read a Despatch from Earl Grey, with an enclosure from the Queen's Commissioners, expressing the sense entertained of the important aid rendered to the Great Exhibition by eleven (in which Committees were formed) out of forty-three colonies, and promising to forward copies of the list of awards by the juries, and of the Illustrated Catalogue, &c.

Sir William Denison also read a Despatch intimating the Queen's gracious acceptance of the first volume of Papers and Proceedings of the Royal Society of Van Diemen's Land, handsomely bound in *Colonial material* for the purpose, forwarded through His Excellency the Lieutenant-Governor, by order of the Council of the Society.

The President stated that the Journal of the Royal Geographical Society of London has been forwarded through the Colonial Office for this Society.

The Secretary reported receipt of a Copy of the Report, List of Members, &c., and a volume of Proceedings of the Royal Institution of Great Britain in return for "Papers and Proceedings" of the Society.

A letter, addressed to the Secretary by Sir H. Ellis, read, conveying the thanks of the Trustees of the British Museum for such of the Tasmanian contributions to the Exhibition of 1851 as were ordered to be deposited in the National Museum upon the final closing of the Exhibition.

A letter read by the Secretary from Mr. M'Lachlan, agent for Tasmanian contributions to the Great Exhibition of 1851, enclosing for the Society a list of awards of juries, published by authority. Mr. M'Lachlan deserves the thanks of the colony for the close and unwearied attention he has given to their interests on this great occasion.

Chester Eardley-Wilmot, Esq., reported having been entrusted by Mr. Wheeler with a spirit preparation of *Pennatula (grisea?)* for the Museum —a fine specimen, and in a good state of preservation—obtained on the sea-beach at Port Sorell.

Dr. Lillie presented specimens from Mount Alexander, Victoria, of clay-slate with mica, talcose clay-slate, and granite in a state of partial disintegration.

Dr. Lillie also presented from Mr. David Ritchie a specimen of red coral, and a large aboriginal fishing-hook, made from the shell of *Meleagrina margaritifera*, from Caroline Island, one of Patterson's Group.

Specimens of quartz, clay-slate, ferruginous conglomerate, &c., from the Great Bend of the Gordon River, were received from Mr. Henry Cotton, of the Survey Department.

From Mr. Berthon, of Green Ponds, was received a rich specimen of ferruginous schist, belonging apparently to the clay-slate and mica schist system of rocks,—one of several fragments found on the estate of Woodlands, but not *in situ*.

Mr. Milligan presented a small sample of grain gold, and gold in quartz, obtained by washing clayey earth, the detritus of soft schists taken from a depth of 20 to 30 inches below the surface, near Tower-hill Creek, Fingal.

The Secretary also submitted specimens of crystallized quartz, and quartz having gold and galena interspersed, from Mount Alexander.

A case of plants (30), of great value, had been received at the Society's Gardens from Mr. Macarthur, of Camden, New South Wales.

Mr. Propsting, of Elizabeth-street, presented a sample of the soil and detritus of talcose slate and quartz from which gold is washed near Mount Alexander, Victoria.

His Excellency the President read an interesting and valuable paper on the specific gravities of gold and quartz; gold with platina, silver, copper, &c.; giving a detailed account of experiments performed, with *formulæ* and tables, for the use of persons dealing in bullion, &c.

Sir William Denison exhibited the mode of taking the specific gravity of gold, and determining its value practically.

On the table lay the following Fruits from the Society's Gardens for the opinion of members:—

Apples.

1 Red quarrenden
2 Sam Young
3 Ribstone pippin
4 Herefordshire pearmain
5 Lincolnshire Holland pippin
6 Kingston black apple
7 Hawthorndean
8 Robinson's pippin
9 Wellington
10 Sturmer's pippin
11 Franklin's do
12 Gravestein
13 Devonshire redstreak
14 Rock pippin
15 Nonpareil russet
16 Ireland's apple
17 Hugh's Golden pippin
18 Reinette du Canada
19 Cockle pippin
20 Kentish do
21 Downton nonpareil
22 Yellow Newtown pippin
23 Norfolk beaufin
24 Lawrence
25 Nonsuch
26 White Spanish reinette

Apples

27 Alexander
28 Orange pearmain
29 Golden pippin
30 Bradick's nonpareil
171 Claygate pearmain, Lee
17 Golden nonpareil
18 Ditto Camden
20 Court of Wick pippin
21 Cornish gilliflower
16 Queen Charlotte
28 Downton's pippin

Pears.

31 Beurré
32 Passion de Portugal
33 Brown Beurré
34 Maria Louisa
35
36 Summer Bergamot
37 Autumn do
38 Louisa Bon of Jersey
39 Summer Bon Crétien
40 Ditto, *var*:
41 Winter nellis
42 Mank's codlin

About ten o'clock the thanks of the Society having been voted to His Excellency for the important paper produced, and to the parties making donations, the members separated.

12TH MAY, 1852.—Monthly meeting; Robert Officer, Esq., a Vice-President, in the chair.

The following gentlemen were ballotted for and elected Fellows:—The Hon. H. S. Chapman, Esq., Colonial Secretary, Deputy Inspector-General, Arch. Shauks, Esq., M.D., Principal Medical Officer, and John Atkinson, Esq., of Illaroo, near Launceston.

The Hon. Colonel Butterworth, C.B., Governor of the Incorporated Settlements of Prince of Wales's Island, Singapore, Malacca, &c., was elected an Honorary Member of the Society.

The following presentations were made:—From Messrs. Orger and Meryon, of London, the London Catalogue, &c., of Books published in Great Britain from 1814 to 1846. From James Grant, Esq., of Tullochgorum, Report on the Judicial Establishments of New South Wales and Van Diemen's Land, by Commissioner Bigge; printed by order of the House of Commons, in 1823. From the New Zealand Society a printed copy of their Rules. From the Linnæan Society of London, a *Fasciculus* of their Proceedings in continuation to January 1851.

The Secretary read letters from the Geological Society of London, acknowledging the receipt of the 1st vol. of "Papers and Proceedings" of this Society, and also of mineralogical specimens forwarded through the Industrial Exhibition.

A letter read from the New Zealand Society requesting a copy of this Society's "Papers and Proceedings."

A letter was read from John M. Young, Esq., of Liverpool-street, presenting to the Society two shells of a tortoise peculiar to New South Wales, (*Chelonia Novæ Hollandiæ*), together with four of its eggs, obtained on the margin of a waterhole about the source of the Wimmera, at the foot of the Grampian Hills, Port Phillip.

The following note from J. R. Kenworthy, Esq., was read by the Secretary, giving the details of a careful analysis of two samples of gold from Mount Alexander and Fingal, by which it appears that the former yielded about 93 per cent. of pure gold, while the latter only gave 79 of the precious metal in a state of purity.

"*Cambock, 7th May*, 1852.

"MY DEAR SIR,—In consequence of a report reaching me to the effect that some of the Fingal gold had realized a price in Hobart Town some 6*s.* an ounce above that obtained at Mount Alexander, I was induced to analyze a portion obtained by Archdeacon Davies on the spot, and which was presented to me by that gentleman. I had, however, previously resolved in my own mind to make the examination, arising from the peculiar green tint which the Fingal gold presents to the eye, and which is altogether wanting in the Mount Alexander gold,—the latter being of that beautiful rich yellow colour so characteristic of gold in its pure state.

he quantity I had to operate upon amounted to 42 grains, which yielded, after a very careful analysis—

Pure gold	33	grains.
,, silver	3	,,
,, unknown metal	5	,,
,, trace of iron and loss	1	,,
	42	

" I then operated upon the same quantity of gold, viz., 42 grains, procured at the Mount Alexander diggings, and which was also obtained by the party who brought it direct. The result was as follows:—

Pure gold	39	grains.
,, silver	2	,,
,, trace of iron and loss	1	,,
	42	grains.

" In both samples I detect iron, though in very minute quantities: copper was altogether absent. The *unknown metal*, as met with in the Fingal gold, was a source of great annoyance to me in my operations: no sooner was a given quantity of that metal released than it formed a *positive* element, and, a galvanic current being thus set up, by the law which influences electrolytic action, was conveyed to the undissolved gold, which again formed the negative metal, and was soon covered with it, and so effectually as to put a stop to all further action. I was therefore compelled occasionally to take out of the solution the pieces of undissolved gold, and remove the spurious metal, which attached itself with so much firmness as to require considerable force. The small quantity I was thus enabled to collect I immersed in boiling concentrated nitric acid, but which had no action upon it whatever. Some two years ago I recollect dissolving some old gold which formed portions of broken up trinkets, and which constitutes the very worst description of gold, yielding a very small per centage indeed of the precious metal. On that occasion the baser metals, as they became free, were deposited just in the same way, costing much trouble, and creating no little vexation, in consequence of so much time unnecessarily taken up.

" I forward for your inspection, and that of the members generally, the two samples of gold. You will have no difficulty in discovering both to be in a state of great purity, which may be exhibited to still greater advantage by simply pressing upon small portions of the samples by means of the blade of a clasp or other knife.

" The relative value of the two specimens of gold is so apparent, that it behoves purchasers to ascertain first the *fields* from whence it was collected; for be assured the gold buyers in England will soon ascertain the richness of the one as compared with the other.

" I am of opinion, however, that the gold of Fingal will not compensate the parties for working; notwithstanding, on this point, I know many will, and do, differ from me.

" My dear Sir,

" Most faithfully yours,

" J. Milligan, Esq." " James Ryley Kenworthy.

His Excellency Sir W. Denison sent to the meeting four samples of dressed flax, of which three are the growth of 1852, forwarded for the purpose by Captain Dixon, of Skelton Castle, on whose estate it was produced.

A specimen of the combustible schist (*Dysodile ?*) from the Mersey River, forwarded some time ago to Lieut. Clarke by Mr. Wheeler, of Port Sorell, presented.

Mr. Hull placed on the table a fossil shell (*Spirifer*) from Tolosa, with its spiral appendages very perfectly preserved. Mr. H. submitted to the meeting a detailed statement of the behaviour of an Aneroid Barometer (one of the best in possession of His Excellency Sir W. Denison), during an ascent of Mount Wellington on the 8th instant, by which the elevation of the mountain was made to agree with that fixed for it by Count Strzelecki.

Discussions followed, and a paper (part of a series) was read by Thomas Dobson, Esq., of the High School, on the Origin and Direction of Storms and Hurricanes, and their connexion with active Volcanoes and Earthquakes, and the recognized chains of volcanic action, illustrated with Maps and Diagrams.

The thanks of the Society were voted to Mr. Dobson, and to the persons sending communications, specimens, and books, and the meeting broke up a little before ten o'clock.

9th June, 1852.—Monthly meeting; Joseph Hone, Esq., Senior Member of Council, in the chair.

The following gentlemen were ballotted for and duly elected Fellows of the Society:—Lieutenant-Colonel Charles Brownlow Cumberland, of H. M. 96th Regiment; Rev. Thomas Reibey, of Entally; Rev. Alexander Cairnduff, of Hobart Town; Charles Arthur, Esq., P.M. of Longford; James Compton Gregson, Esq., Chairman of Quarter Sessions, Launceston; George Turnbull, Esq., of Hobart Town; and Algernon Burdett Jones, Esq., Coroner for Buckingham.

The Secretary read a letter from His Excellency Colonel Butterworth acknowledging his election as an Honorary Member, accompanied with a few numbers of the Journal of the Indian Archipelago and Eastern Asia, published at Singapore under the auspices of His Excellency, and promising to procure the series complete for the Society's Library, &c.

The Rev. T. J. Ewing presented to the Society's Library a copy of the "Icones Avium" of Gould, a supplementary work executed in the splendid style characteristic of the author.

Mr. Westcott, of Argyle-street, forwarded for the Library a copy of the now scarce work, Bent's "Tasmanian Almanac" for 1827.

From His Excellency Sir William Denison was received a treatise on the Aneroid Barometer, by Edward J. Dent, F.R.A.S., &c. Also a specimen of auriferous quartz, said to have been found near Ironstone Creek, in the Huon District.

From the Rev. Dr. Lillie were received two ancient silver coins,—one mutilated and illegible, the other an English shilling, having on its obverse the bust of the Sovereign "full-faced, crowned *in Parliament robes, with the chain of the Order*," and the words EDWARD VI. D.G.A.G.L. & F.R.A.Z. HIB. REX.; and on the reverse the motto "POSUI DEUM ADJUTOREM MEUM," with the armorial bearings of England and France. This is probably one of the coins struck about 1552, when Edward undertook the reformation of the then excessively debased currency, and is remarkable as being one of the last upon which the sovereign appears in full face.

Mr. Hugh Hull presented an American silver coin, a half-dime, value 5 cents: also a small specimen of gold in quartz from the Bendigo diggings, Victoria.

From Henry Durance Cartwright, Esq., of Hong Kong, was received a chest of medicinal teas similar to those sent to the Great Industrial Exhibition of 1851, and referred to in the proceedings of the Society for September last. They appear to be puffed and sold by the Chinese much in the way our quack medicines are vended. Mr. Cartwright's remarks are—

"*Kan Luh*, (also called 'Noon Tea,' because prepared at twelve o'clock on the fifth day of the fifth month), cures constipation and wind, stops pain, and removes colds, and may be taken with advantage by male and female, old and young, excepting only women in pregnancy.

"*Lung tse* tea, dispels heaviness of mind, dryness in the mouth, and constipation, dissolves glutinous spittle, and enlivens the spirits.

"*Shin keah* tea, cures 'all kinds of disorders,' but if the medicines, of which a list follows, are taken at the same time, then the diseases (mentioned also in the list) will be more speedily cured.

"The other one or two chops are merely shop puffs, stating that such and such a shop, in such and such a street, of Souchon, or some other place, sells tea of the kind in present package of an indescribably good quality, sparing no pains to get the best materials compounded in the most skilful manner. All these 'teas' are mixed with different kinds of drugs, and are on a par with our quack medicines. There is nothing whatever to be learned from them, except that puffing humbugging quacks and the requisite number of gullible fools for their support exist in China as elsewhere."

Mr. Rolwegan, of Collins-street, presented a specimen of gold with quartz brought by himself from Friar's Creek diggings, Victoria, together with specimens of clay containing rounded pieces of gold imbedded, and fragments of crystallized quartz, and of schorl from the same locality.

Mr. S. Moses presented two good shells of a very pretty and not common species of *Ricinula*, said to have been obtained at Madagascar.

Mr. Thomas Browne, of Macquarie-street, presented three nodules of pyrites of iron from Satellite Island, in D'Entrecasteux Channel, where they occur embedded in great number in blue argillaceous strata, the geological position of which is not determined.

Mr. M'Naughtan has presented to the Society's Gardens a packet containing 110 varieties of seeds from the Cape of Good Hope.

Captain Goldsmith presented a fine specimen of gold upon an indurated ferruginous clay, brought by himself from Central America, where it was obtained at an elevation of about 3000 feet, in 13° North.

From Dr. Forbes, R.N., of New Zealand, was received, through the Hon. R. Dry, Esq., a box of geological specimens, chiefly from the Middle Islands of New Zealand; together with two spirit preparations of snakes from the Cape of Good Hope. The geological specimens represent the primary transition, carboniferous, tertiary (fossiliferous), and volcanic groups of rocks, and include several varieties of lignite and coal of an inferior description. The following list accompanied the specimens:—

"List of a small collection of Rocks and Fossils, chiefly from the Middle Island of New Zealand.

No. 1. *Coal from Preservation Harbour.*—S. W. coast of New Zealand, associated rocks, trap, sandstone, shales, coarse quartzoze grit: no limestone or fossils yet found.

— 2. *Mica schist* with garnets.—Dusky Bay.

— 3. *Granitic Gneiss* with garnet. Breaksea Sound.

— 4. *Granitic Rock* with masses of hornblende. Ditto.

— 5. Ditto ditto. Ditto.

— 6. *Nephrite*, Poluamoo of the natives. Milford Haven.

— 7. *Serpentine* passing into ditto. Ditto.

— 8. *Limestone*, carb. lime. associated with trap. Ditto.

— 9. *Coal and associated rocks, Mapaeve Bay.* A coarse granitic rock forms the axis of elevation, fossiliferous sandstones and limestones, grit and shales lay in contact with coal-seams, overlaid by a deposit of quartz gravel, pieces of which are found imbedded in the coal.

— 10. *Clay slate*, forming nearly the whole of the south side of Cook's Straits, traversed by veins of quartz.

— 11. *Serpentine* erupted through the above.

— 12. *Silicified vegetable clay*, from chalky limestone, south of Cape Campbell.

— 13. *Claystone porphyry*, forming summit of Mount Pleasant, (1800 feet.) Port Cooper, Banks's Peninsula.

— 14. *Volcanic Tuff*, laying between ranges of basaltic pillars. Port Cooper, Quail Island.

— 15. *Amygdaloidal Trap.* Quail Island, with crystals of Mesole.

No. 16. *Crystals of Mesole*, from Quail Island.
— 17. Fossils from tertiary blue clay. Eastern flank of Mount Grey, 10 miles inland, 300 feet above present sea level, occurring in numerous beds of about 18 inches to 2 feet thick, alternating with sandstones and arenaceous clays.
— 18. *Lignite* from eastern flank of Mount Grey.
— 19. *Silicified wood* from bed of river, Port Cooper Plains.
— 20. *Hornblende Rock*, Otago Harbour.
— 21. & 22. } *Carbonate of Lime* injected in veins and masses through clay-slate. Otago Harbour.
— 23. *Lignite* from Saddle Hill, Dunedin, (Otago District).
— 24. *Obsidian* from Taupo, Volcanic District, North Island.
— 25. *Concretionary deposit* from Hot Springs, ditto.
— 26. *Obsidian* from the Island of Ascension.

" The whole of the Southern and almost all of the Middle Islands of New Zealand are of primary formation; the only sedimentary rocks which are found are in the neighbourhood of the carboniferous deposits which occur, so far as is yet known, in five localities—viz.: *Massacre Bay*, *Mutanou*, north end of Port Cooper Plains; *Saddle Hill*, Dunedin; *Molyneux River* and *Preservation Harbour*. With the exception of the last, all the specimens tried have been found to be very inferior, being only varieties of lignite and anthracite, and the Preservation coal has but the faintest traces of bituminous matter. The prevailing rocks of these two islands are *Granite*, and granitic rocks of various kinds. Gneiss, mica-slate, clay-slate, hornblende rock, serpentine, nephrite, porphyritic rocks, greenstone, and other traps, (including basalt and amygdaloids), quartz rock, and immense deposits of gravel on the plains, composed chiefly of water-worn quartz in pebbles: the Northern Island has also one or two carboniferous deposits, but of the same inferior quality as the others. The centre of the island is in an active volcanic state.

" H.M.S. *Bramble*, " Charles Forbes.

" Hobart Town, May 29th."

The Secretary read a letter from Andrew Clarke, Esq., Private Secretary, expressing the regret of His Excellency the President at not being able to be present at the meeting, and communicating a Despatch from Sir William Denison to the Governor-General, Sir Charles Fitz Roy, requesting that instructions might be given to the Government Geological Surveyors to collect in the course of their researches duplicate specimens of Australian rocks and minerals for the purpose of being placed in the Museum of the Royal Society of Van Diemen's Land, with the Despatch of Sir Charles Fitz Roy in reply, intimating that the instruction had been issued as desired, and that the Committee of the Australian Museum at Sydney had kindly undertaken to see them forwarded.

Mr. Milligan reported receipt (through Ronald Gunn, Esq.) of a paper by the Rev. R. L. King, B.A., of Sydney, upon *Daphniadæ* of New South

Wales, with carefully executed figures and descriptions of several new species.

An able paper on the relation between earthquakes, volcanic action, and hurricanes, designed as a pendant to the paper produced on the same subject last month, was read by Thomas Dobson, Esq., of the High School.

Discussions on earthquakes and volcanoes followed, in which Mr. Mitchell and others took part. Mr. Hort stated that the earthquake of 1848, in New Zealand, was accompanied night after night with a most brilliant display of auroral lights, and that a season of excessively stormy weather succeeded. Captain Goldsmith's long experience on the Coast of America did not allow him, he said, to conclude that volcanic eruptions are usually or necessarily accompanied with, or followed by, high winds and stormy weather.

The thanks of the meeting to the persons making donations, and for the papers read, proposed by Mr. Hathaway and seconded by Mr. Hopkins, were voted.

Mr. Hort drew attention to the great interest so constantly manifested by Sir William Denison in the welfare of this Society and the promotion of its objects; and, instancing the communications between His Excellency and the Governor-General read to night, moved that a vote of thanks be passed to His Excellency, which, being seconded by Captain Goldsmith, was carried unanimously, and the meeting broke up about half-past nine.

14th July, 1852.—Monthly meeting; His Excellency Sir William Denison, President, in the chair.

The following gentlemen were ballotted for and elected into the Society:—The Rev. G. Clarke, of Brisbane-street, Hobart Town; the Rev. S. B. Fookes, of Impression Bay; James Sprent, Esq.; Marcus Aitkin, Esq., of Glen Esk; W. K. Hawkes, Esq., of Franklin Village; George Stevenson, Esq., and John Swan, Esq., junior, of Hobart Town. W. W. Saunders, Esq., F.L.S., &c., of Lloyd's, London, was elected an Honorary Corresponding Member of the Society.

A note from the Private Secretary was read forwarding for deposit in the Library of the Royal Society, by desire of His Excellency Sir W. T. Denison, and according to instructions received from the British Government, the following volumes, printed under the superintendence of Lieutenant-Colonel E. Sabine:—"Magnetical and Meteorological Observations at the Cape of Good Hope;" "Magnetical and Meteorological Observations at Hobart Town, Van Diemen's Land."

From the Rev. T. J. Ewing, of New Town, was received Part 2 of Gould's "Icones Avium."

Henry Hopkins, Esq., presented in the name of the author, "Southey on Wool."

From Henry Boase Tonkin, Esq., was received "A Treatise on Primary Geology," by H. S. Boase; and "Transactions of the Geological Society of Cornwall," vol. 4.

A note was read from Alexander M'Naughtan, Esq., presenting to the Museum two Leopard skins (set up by Mr. Propsting), and two Kaffre Karosses.

From Marcus Aitkin, Esq., were received three copper coins and the cranium of a Wild Boar from India.

A note from Mr. H. Hull, presenting, in the name of his father, George Hull, Esq., of Tolosa, specimens of auriferous rocks obtained at the Bendigo diggings, Victoria; comprising talcose slates, milky and transparent quartz greenish clay-slate intermixed and veined with quartz, and the same interspersed with gold, &c.

From Mr. Hawkes was received a valuable collection of dried *Sphericæ* obtained at Franklin Village, and amongst them two specimens in which the *stipes* of the fungus had forced its way through the *chrysalis;* the sporule from which it sprung having apparently failed to germinate so early as is usual, and thus arrested the growth and destroyed the vitality of the insect at a later stage of transformation than ordinary.

From Mr. E. Gresley; one *mil-rea* note of the Imperial or National Treasury of Brazil (inconvertible,) issued at a nominal value of one dollar, and now depreciated 50 per cent.; with three silver coins, one of Joannes V. of Portugal, date illegible,—one a shilling of Queen Ann, dated 1707, having on the Reverse side the shields of England, Scotland, Ireland, and France, separately, with a rose and plume of feathers alternately intervening, indicative of the Mines in the West of England and in Wales, from which the silver forming the coinage was then derived,—the third, a shilling of Geo. II., dated 1746, with the word Lima under the laureat head of the sovereign, which is said to distinguish the coins struck of silver captured by the privateers "Prince Frederick" and "Duke."

Mr. Propsting presented a stuffed specimen of the white-headed Stilt of Australia (*Himantopus leucocephalus.*—Gould), shot in April last at the South Arm. Although Gould gives it an extensive range, and quotes New South Wales, Western Australia, and South Australia as its habitat, nothing is said of its having been met with in Tasmania: this is probably, therefore, the first instance on record of its appearance here, and it is worth remarking that the month referred to was one of heavy and continued rains, with a comparatively high temperature at the close of a warm summer, assimilating the climate to that of a more northern latitude.

The Secretary placed on the table a specimen of coal from the seam lately intersected in the shaft sunk on Mr. Swan's property at New Town; also specimens of a naturally formed tissue, having the appearance of brown paper, obtained early in April last in the dried up bed of a rivulet in the dense forest, near St. Mary's Pass, on the east coast of Tasmania.

A note read from Ludwig Becker, Esq., M.D., transmitting for the Museum of the Royal Society specimens of fossil bones of various diminutive animals from the clay and lime in the middle tertiary formation obtained at Weisenau, in the vicinity of Mayence, with two teeth of the *Equus primigenius*—antidiluvian horse, from Yorkshire.

The Secretary read a letter from Sir H. Ellis, Principal Librarian of the British Museum, acknowledging the receipt of articles transferred from the department of Tasmanian Contributions in the Exhibition of the Industry of all Nations to the National Museum.

Report of receipts and despatch of plants, &c., at the Society's Gardens, read. Received two cases per "Maggie," from Canton, through A. M'Naughtan, Esq., containing 50 plants, of which 32 were alive; also a box of seeds containing 60 species. One case per "Lady Franklin," from Norfolk Island, containing 400 pine plants; one box of valuable Cape bulbs from His Excellency Sir W. T. Denison, of which, though they appear to have been packed in July 1850, about 60 specimens of Amaryllids are likely to do well. One box containing 34 species of Cape Bulbs from His Excellency Sir W. T. Denison, chiefly of *Amaryllis*, *Watsonia*, *Babiana*, *Tritonia*, *Antholyza*, *Ixia*, and *Sparaxis*. Despatched per "Aurora," to Sydney Botanic Gardens, one case containing 400 Norfolk Island pines. Per "Maggie," to Canton, one case with 47 species of plants, and one case containing 45 specimens to J. Marjoribanks, Esq.; case to be returned with plants indigenous to China. Per "Middleton," to London, to Stephen Kennards, Esq., one case containing 29 native plants; the case to be returned with plants *ordered*. To Messrs. Lee, Hammersmith, one case containing 40 plants—*Araucaria excelsa;* three ditto—*Araucaria Cunninghamii;* the case to be returned with fruit trees, as ordered. Per "Flying Fish," to Geelong, one case containing 42 plants, to J. Wallace, Esq.

The Secretary read a short paper by Mr. Graves, forwarded through Ronald C. Gunn, Esq., upon a marl bed opened and worked by Mr. Hodgson, near "Black Charley's Opening," (Parson's Pass), on the Richmond Road to Brushy Plains—its properties and presumed applicability to certain processes of woollen manufacture in the place of Fuller's-earth.

Mr. Milligan read a letter from Mr. Bennet, Secretary to the Linnæan

Society of London, acknowledging in handsome terms the various donations made to their Museum from the Tasmanian Contributions to the Exhibition of the Industry of all Nations, and concluding thus:—

"The catalogue of the specimens exhibited from Van Diemen's Land, of which you kindly transmitted us a copy, was on all hands admitted to be the most clearly arranged, and the most explanatory, of all the catalogues of objects furnished to the Exhibition."

The Secretary also read an extract from a note by Mr. Kippist, of the Linnæan Society of London, expressive of the unbounded admiration excited amongst Botanists by the examination of the collection of Tasmanian *Algæ*, sent home to the Exhibition by Mrs. Sharland, of New Norfolk.

Mr. Milligan also read the following extracts from letters received by him from W. W. Saunders, Esq., of Lloyd's, London, who aided Professor Lindley and Dr. Royle, &c., in examining and reporting upon the timbers shown at the Great Exhibition, in which favourable mention is made of the beauty of the ornamental woods from Tasmania, and some important remarks made on the value of Australian ship-building timbers.

"28*th April*, 1851.

"I hear from my friend Dr. Lindley, who is now taking an active part in the Great Exhibition, arranging with Dr. Royle the vegetable products, that certain veneers, sent from Hobart Town, are especially beautiful, and likely to be much used: he also reports very favourably on the beauty of some other of the Tasmanian woods.

* * * * *

"Being much interested in the shipping of this country, and an active member of the Society for the Classification of Ships, called 'Lloyd's Register of Shipping,' I have frequent opportunity of seeing the various woods used in ship-building, and ascertaining their merits. During the last four years we have had several examples of ships built in our Australian Colonies, which I think very well of as regards the timber, feeling that, eventually, some of the best woods will prove worthy of being admitted into the ships of the highest grade. At present, the better class of woods are only admitted to stand A 1 for ten years, and are placed, for want of experience in them, on the footing of hard woods from Brazil and elsewhere."

"29*th November*, 1851.

"Since I last wrote to you I have been almost entirely employed in my leisure hours in the study of woods in aid of the Jury on Raw Products at the Great Exhibition, and in reporting upon the splendid collection of woods exhibited by the East India Company. This has much improved my acquaintance with woods, and given me an opportunity of examining some most interesting kinds from Van Diemen's Land, contributed by several gentlemen, and yourself among the number. These have been very much admired, and the more beautiful ones cannot fail of becoming

favourites for ornamental furniture. My idea of forming a general descriptive catalogue of woods meets with approbation here, and I shall apply my best energies to it as time and opportunity may permit.

* * * * *

" A wood called Iron-bark, a species of *Eucalyptus*, has lately been placed as first-class among the ship-building woods. This puts it on a par with English oak, teak, saul, &c., and will much raise its value here. This is the first of the Australian woods which has received this high character, although I feel that some others will be equally classed when better known. Iron bark is of great density (sp: gr: 1050), very close-grained and hard, and the imports have been from Sydney. The blue gum from Van Diemen's Land is a very remarkable wood, and, should it prove strong and durable, will be of great use in ship-building. The best information on this particular wood will be of much importance, and I should have much pleasure, if evidence were in its favour, to try and bring its merits forward here, and get it classed higher.

" What is the botanic name of the tree yielding this wood? Is it *Eucalyptus Piperita* or *E. globulus*, as both are said to be the producers of blue gum?

" Believe me,

" Yours truly,

" W. Wilson Saunders.

" J. Milligan, Esq."

Andrew Clarke, Esq., Private Secretary, then read the Instructions prepared by Dr. Boccius for the care and management of the tub of salmon and trout spawn, shipped per " Columbus" for this colony by Her Majesty's Government; the report sent in by the Master, Captain Smith, upon his arrival here; and a report drawn up by J. L. Burnett, Esq., after having examined the spawn tub and its contents, &c. Mr. Burnett recommends that the spawn should be shipped and sent off as early as possible in December, so as to make its passage through the warm latitudes before the *ova* are hatched, and that a separate tub should be prepared beforehand into which the young fry may be removed when they make their appearance, in order to avoid the bad effects of the putrescence which must arise from the decay of a portion of the spawn, where many thousands of *ova* are placed for breeding out within such narrow limits as those afforded by the *spawn* tubs.

Discussions followed. Thanks of the Society were ordered to be given to Captain Smith, of the " Columbus" for the great care, attention, and zeal displayed by him in his late endeavour to bring out salmon spawn alive to this colony.

11TH AUGUST, 1852.—Monthly meeting: On the motion of Mr. D'Arch, Joseph Hone, Esq., senior Member of Council, took the chair.

The following gentlemen were ballotted for and elected into the Society: Simeon Lord, Esq., of Boa Vista, Avoca; James G. Francis, Esq., and Mayo Smith, Esq., of Hobart Town.

The Secretary reported receipt of the following entomological treatises from the author, W. W. Saunders, Esq , F.L.S., &c., of London, for presentation to the Society, "On some new species of *Erycina*, with coloured plates. Description of the *Chrysomelidæ* of Australia, &c.," with coloured plates, parts 1 and 2. "On Australian Longicorn Beetles," with coloured plates. "On Insects injurious to the Cotton Plant," with figures. "On the Genus *Pleomorpha*." Also parts 1 and 2 of "Insecta Saundersiana," by Francis Walker, F.L.S.

Abraham Hort, Esq., presented to the Library a Grammar of the New Zealand Language, "By the Rev. R. Maunsell."

From Peter Fraser, Esq., were received skins of the following Game Birds of Europe, shot by himself:—Black Grouse, male and female, *Tetrao tetrix* (Linn:); Red Grouse, male, *Lagopus Scoticus* (Lath:); Ptarmigan (adult, winter plumage) *Lagopus mutus* (Leach.); Golden Plover (winter plumage) *Charadrius pluvialis* (Linn:); Wood Pigeon, *Columba palumbus* (Linn:).

Mr. Morton Allport presented a collection of eggs of Tasmanian Birds, and Mrs. Allport sent a fine specimen of the curious and delicate tubular shell of *Aspergillum Javanicum*, together with a marine product found on the beach at Kerguelen's Land eight years ago; probably one of the varieties of *Holothuria*, from several of which the "trepang" of commerce is prepared in warmer latitudes.

From Dr. Crowther were received skins of the White Hawk of Tasmania, and of the large Tree Lizard of Port Phillip.

The Secretary submitted specimens of gold in smooth flattened pieces embedded in a Breccia, composed of angular fragments of clay-schist and quartz, with an argillaceous cement, from the Victoria Diggings.

Also specimens of a ferruginous amygdaloid, found embedded in the basalt forming the point which projects into the Derwent from the Government farm, at the extremity of the Domain. The rock there is a vesicular basalt, having its cells for the most part filled with spheroidal and almond-like forms of iron ore. The cliffs opposed to the sea have a very distinct columnar character and vertical position, resting upon amorphous basalt, which stretches in mass under the waters of the Estuary.

Receipt at the Society's Gardens of a case of New Zealand plants, presented by H. S. Chapman, Esq., Colonial Secretary, reported.

A series of carefully-executed coloured drawings of Tasmanian Orchids, with the organs of fructification, dissected and delineated with great nicety,

by William Archer, Esq., junr., M.L.C., were exhibited to the meeting, and elicited general admiration.

From Francis Stieglitz, Esq., of Lewis Hill, was received a rich specimen of Hematitic iron ore, procured on the confines of the granitic tract of country near Capt. Hepburn's estate, on St. Paul's Plains.

From Dr. Officer was received a box containing an extensive and valuable collection of specimens of rocks and minerals from South Australia.

A varied assortment of bows and arrows, spears, spear-heads having brass points, and other fishing gear, with mocassins and gloves of tanned seal-skin, and articles of personal adornment, obtained to the north of the Aleutian Isles, from aborigines in a canoe, by a whaling vessel cruising in the seas near Behring's Straits, were added to the collection.

Mr. Milligan presented a "waddie" and six hunting spears of the aborigines of Tasmania, measuring ten to fifteen feet in length, and made of a tall straight-grained *Leptospermum* "tea-tree" of the colony.

The Secretary read letters from Dr. Kenworthy, giving the details of a second very careful analysis of Fingal gold, whereby it appears that 198 grains of the washed gold of that district yielded, of pure gold 173 grains—of silver, 24 grains—quartz, &c., 1 grain; the mean of which, and Dr. Kenworthy's first assay, would give 82·972 per cent. of pure gold, and about $9\frac{3}{8}$ per cent. of silver, or $398\frac{1}{4}$ grains of gold with $46\frac{1}{3}$ of silver in the ounce, the value of which, at the Mint price, would amount to above 71*s.* per ounce.

From 54 grains of Turon gold Dr. Kenworthy obtained 48 grains of pure gold, and $4\frac{1}{2}$ grains of silver, which is at the rate of 88·888 of gold, and 8·833 of silver per cent., and of 426·66 grains of gold and 40 grains of silver to the ounce, and would, at the Mint price, give a value to the Turon gold of 76*s.* 1*d.* per ounce; while the Mount Alexander gold, judging also from the assays made here, ought, at the Mint price, to realize more than 79*s.* per ounce.

A Tabular Statement of the fall of rain at Cambock, Evandale, the residence of Dr. Kenworthy, for each month during 1849–50 and 51, and first half of 1852, was laid before the meeting.

The Secretary read the following paper, transmitted through His Excellency Sir W. T. Denison, President, by J. C. Bidwell, Esq., Commissioner of Crown Lands in New South Wales, on the best mode of introducing the Salmon, Sturgeon, Herring, &c., into the rivers and seas of Tasmania.

"*Sydney*, 12*th June*, 1852.

"Sir,—I have frequently observed notices in the newspapers of proposals to introduce the Salmon into Van Diemen's Land, and I trust to the interest Your Excellency has shown in the matter for being excused the liberty I take in addressing you on the subject. I would write to Mr. Alfred Denison, at Carsides, for a note of introduction, but that I might be obliged to leave Sydney before it arrived, and it is the less necessary, as I do not wish to occupy any of your valuable time in acknowledging this communication: my purpose will be fully served if my scheme can be used to the benefit of your colony. I should have written on the subject long ago, but that I have suffered a very long and severe illness, which, until very lately, has for many months prevented my making even the most trifling exertion. I originally thought of means of introducing Salmon into the Southern Hemisphere for the benefit of New Zealand, in which colony I always felt great interest, some time before I ever saw any notice of the Tasmanian movement for the same purpose. I was just now reminded of the matter by seeing in the papers a copy of a letter from some person in Scotland who proposes to send out full-grown Salmon for the purpose of stocking your rivers, a scheme which I do not think offers any great prospect of success.

"I am, Sir,

"Your very obedient Servant,

"His Excellency Sir W. Denison, "J. C. Bidwell.

"Governor, Van Diemen's Land."

"*Notes on the Establishment of the Salmon and other Fish in the Rivers of Tasmania and New Zealand.*

"When formerly travelling in New Zealand and admiring its noble rivers, I could not help lamenting that they should be so scantily stocked with fish, and I was gradually led to speculate on the best means of supplying the deficiency by the introduction of the Salmon and other valuable fish from the rivers of Europe. I first thought of drying the impregnated spawn, and I believe there is a chance of success by this method. The introduction of adult fish, which I have lately seen recommended in the newspapers, I have never considered a practicable means of stocking the rivers, because I do not believe that any of the salmon family will breed in absolute confinement; and if the imported fish were turned loose in the rivers, the chances against their depositing their spawn in safety would be very great indeed, even if the number of individuals introduced could be great enough to allow a reasonable chance of the sexes meeting at the spawning places. On mentioning the subject of the introduction of fish from foreign countries to the late Earl of Derby, he informed me that he had been extremely unsuccessful in his attempts to breed exotic fish in England, and I do not think that there is an instance of any fish not belonging to the *Cyprinidæ* having been successfully established as colonists in any country;

but I believe the want of success may have arisen almost entirely from the small number of individuals, which, if imported alive, it would be at any time possible to turn loose, and that if thousands could be liberated at once, the chances would be in favour of any predacious fish establishing itself in a new river in any suitable climate. Now to do this it would be necessary to bring and hatch the spawn, and I think that by packing spawn in ice there would be no difficulty in preserving its vitality for a much longer time than would be required. It is not probable that the vitality of fish spawn would be destroyed even by freezing; but by merely packing it in ice there would be no danger of actual freezing, as the ice would always be in a melting state.

" The expense would not be great, as it is found quite possible to pack ice on board ship in such a manner that so small a quantity as ten tons may be carried from America to Canton. It would be necessary to secure the services of some person, who would feel a personal interest in the success of the undertaking, to collect spawn in England, and stow it in some ice-house in London until the vessel which was to carry it should be ready to receive the store of ice. It would be desirable that small ponds should be formed in readiness to receive and hatch the spawn on arrival. These ponds should be made on the side of the river intended to be stocked, or in a small tributary; they should communicate with one another, and the bottoms should be of mud, sand or gravel, so that the fry might choose that which best suited them; a fringe of small water plants might be of great importance to the success of the experiment, as little fish frequently hover under the leaves. The entrances should be guarded by gauze screens, to prevent the exit of the fry, as well as the entrance of enemies. It would be advisable to feed the young fry in these ponds with blood, and very finely pounded flesh or fish, until they have acquired some strength: perhaps the best rule would be to keep them in confinement so long as they appear to increase in size under the treatment, and then to allow them to take their chance in the open stream.

" One advantage attending this method of proceeding would be, that several kinds of fish might be introduced at the same time with a very small addition to the expense. The sturgeon and sterlet would be most valuable introductions, and I suppose the spawn might be procured without much difficulty by way of St. Petersburg. From his well-known liberality in all matters connected with science, I have no doubt that His Imperial Majesty the Emperor of Russia would, if necessary, give his assistance in forwarding the experiment.

" I think it quite probable that, by means of artificially impregnated spawn, the best fish of the European seas may be established on the Australian coasts; and I would particularly recommend that the herring should be made a subject of experiment, as its establishment would be even of more importance than that of the salmon itself.

" Crabs and lobsters might also be tried in properly secured salt-water ponds.

"I would willingly enlarge on this subject, as it has frequently been pleasing matter of speculation to me, but I am only now recovering from a very long and dangerous illness, and am too weak to sit long at a writing table.

"J. C. Bidwell."

About half-past nine o'clock, on the motion of Mr. Hort, seconded by Mr. Hathaway, the thanks of the Society were unanimously accorded to the persons making donations and written communications, and the meeting broke up.

8th September, 1852.—Monthly meeting: Joseph Hone, Esq., in the chair.

The following new members were declared duly elected after a ballot:—John Lyne, Esq., of Swanport, and Alexander Stewart, Esq., of Launceston; the Rev. R. L. King, of Sydney, was elected a Corresponding Member.

Mr. Hone presented to the Museum a round Nodule of White Pyrites of Iron, having a stellated surface, obtained at Mount Alexander.

Mr. Boot presented an interesting coloured statistical chart of the Great Exhibition of 1851, by Sir Joseph Paxton, from which it appears that the total of monies taken at the doors and from all sources by the Commissioners was £505,107 5*s.* 7*d.*: that the greatest number of persons in the building at any one time was on the 7th of October, at 2 p.m., when there were 109,915 present: that 166 Council Medals and 2876 Prize Medals were awarded; and that honourable mention was made of 2042 out of 17,000 exhibitors.

The Secretary announced the award of 12 and receipt of 10 Prize Medals for the following persons in Van Diemen's Land;—

Class IV.—His Excellency Sir W. T. Denison,—Collection of Produce.
Class IV.—The Rev. F. Brownrigg,—Ornamental Woods.
Class III.—Dean, Dray and Dean,—Wheat.
Class XVII.—Mr. Henry Dowling,—Printing.
Class III.—Mr. A. M. Milligan,—Biscuit. Made by Mr. Dean of Launceston.
Class IV.—Mr. Fowler,—Ornamental Woods.
„ Captain Hadden, R.E.,—Ditto.
„ Mr. R. V. Hood,—Ditto.
„ Mr. A. Mac Naughtan,—Ditto.
Class III.—M'Pherson and Francis,*—Wheat.

* The finest sample of wheat exhibited from Tasmania, the medal for which was handed to Mr. Francis, senior, on his application in London.

Class IV.—Mr. J. Milligan,—Collection of Produce.
„ —Mr. Whitesides,—Ornamental Woods.

The Prize Medals submitted for inspection.

Honourable mention has also been made of the following exhibitors from Tasmania:—

Sir W. Denison—Collection of Produce.
F. Lipscombe—Ham.
E. Tooth—Malt.
J. Walker—Flour.
James Grant—Wool.
Brown & Co.—Oils.
T. Button—Tanning Substances.
J. Dixon—Flax.
Rev. Ed. Freeman—Woods.
H. Hull—Ditto.
F. Lipscombe—Flax.
J. Milligan—Collection of Produce.
W. Murray—Starch.
S. Moses—Whalebone.
P. Oakden—Wool.
Quinn—Collection of Woods.
W. Rout—Wax.
Lieut. Smith—Gum (Wattle.)
W. Watchorn—Tallow.
J. Boyd—Marble, from Maria Island.

A collection of skins (upwards of fifty) of English Birds received from Chester Eardley-Wilmot, Esq., for the Museum, a few of which, having been set up by Mr. Propsting, were upon the table;—amongst them the Thrush, Robin, Swift, Linnets, Larks, Sparrows, the Bullfinch, Golden Crested Wren, Nightingale, &c.

The Superintendent of the Society's Gardens reported despatch of a case of Forest Trees and Shrubs to the Rev. S. B. Fookes, at Tasman's Peninsula.

A note read from Mr. W. Young, of Portland Bay, transmitting for the Museum an iron bar or truncheon, curiously encrusted with sand and shells, &c., picked up amongst the rocks at Circular Head.

The Secretary placed on the table the jaws of two species of Shark, taken in the neighbouring seas; also specimens of Fluor Spar (crystallized), and of an elegant mineral, probably a variety of Wavellite, from Cape Grim, Van Diemen's Land, where they occur in Basalt,—the latter in small white spherical forms, having a stellated structure; also a specimen of coral from the beach at Falmouth, and several specimens of *Unio* (sp?) the fresh water muscle of Tasmania, from the bed and margin of the Elizabeth River, at Campbell Town.

Mr. Milligan also submitted for examination a new and very beautiful species of *Petromyzon*—Lamprey, probably marine, recently taken at the mouth of a creek at Oyster Cove, in D'Entreeasteaux Channel: it measures twenty-two and a-half inches in length, and is a little thicker than a man's thumb—there are two dorsal crests or fin-like processes, but no pectoral or ventral fins; the rays in the dorsal fins are soft, and the posterior one is not continued so as to meet the narrow border which edges the tail. There are, as usual, seven spiracles on each side, very distinct, the uppermost being an inch distant from the eye, which is about an inch from the mouth, and covered with a fold of skin. This lamprey has a greyish lead colour, with a bluish green, or nearly sea-green band running along each side of its back, from the back of the head to the tail fin; each of the dorsal fins have a setting, as it were, of sea-green, and are delicately edged with the same tint. Upon the back of the head, about an inch from the mouth, there is a small papilla, in which there is the aperture of a fine tube passing inwards; the jaws are represented by semicircular rings of bone, terminating, in the case of the lower, in a minutely serrated edge, and in that of the upper in four conical sharp teeth,—the two outer largest, and standing forwards and downwards,—the two inner finely acuminated, and standing downwards and backwards; the top of the piston-like tongue appears in the middle, surmounted with dental plates, and having a tubercle in the centre. The *Petromyzon marinum* (a spotted European species, which only visits the fresh water in early spring), is said to form a delicious dish for the table. Persons meeting with the present species would do well to ascertain its qualities and value for the market.

The following note, read from Mr. W. Archer, M.L.C., accompanying drawings of microscopic organisms observed in the naturally formed "brown paper," obtained in April last, from the dried channel of a rivulet, amongst the Syenitic ranges near Falmouth, on the East coast.

"*Cheshunt*, 10*th July*, 1852.

"My dear Sir,—As I cannot get back to Hobart Town in time for the monthly meeting of the Royal Society, I send you sketches of a few of the forms observed in your "brown paper," which I take to be a mass of dried *confervæ*. What the other forms are I know not, but they are extremely small, (I am sorry that I have not measured them); some, however, are like a species of *Navicula*. I will tell you more about them when I reach Hobart Town, and place them under my highest powers.

"I send you part of a blade of grass, with a small fungus upon it, very common at this season.

"Believe me,

"Yours very truly,

"Joseph Milligan, Esq." "William Archer.

A communication from the Colonial Secretary, covering copy of a Despatch from Sir J. Pakington to the Lieutenant-Governor, with printed papers respecting the Society of Arts, London, and requesting the co-operation of the Royal Society of Van Diemen's Land, was read. After some observations by members, it was referred to the Council of the Society, with a request that a Report be prepared and brought up at a subsequent meeting.

The thanks of the Society having been voted for the various donations and written communications, the chairman rose, and the members generally left by half-past nine.

13TH OCTOBER, 1852.—Monthly meeting; the chair was occupied by the senior member of the Council, Joseph Hone, Esq.

Mr. Coote, of Liverpool-street, was elected a member.

The following presentations were made to the Library of the Society:—By order of Lieutenant-Governor Sir W. Denison, books forwarded by the Government of India, 1 vol. folio, plates, "Palms of British India;" 1 vol. 4to. "*Icones Plantarum Asiaticarum;*" 1 vol. 8vo. large, "*Notulæ ad Plantas Asiaticas,*" from the Posthumous Papers of William Griffiths, F.L.S., bequeathed to the Hon. East India Company, at whose expense they have been printed. Also the following books and documents from Aaron H. Palmer, Esq., of the city of Washington, U. S., accompanied by a letter read to the meeting. A Report to Congress on the Commerce and Navigation of the United States for 1851, by the Secretary of the Treasury. A Report of the Commissioners of Patents to the House of Representatives for 1849; also the "Patent Laws," and "Information to Persons having Business to transact at the Patent Office of the United States." A Report of the Commissioners of Indian Affairs, transmitted with the Message of the President of the first session of Congress, 1851. Abstract of the *Seventh Census* of the United States, 1850. Memorial by Alfred Guthrie, Practical Engineer, to the Senate and House of Representatives, on the Causes of Explosion of Steam Boilers; ordered to be printed 6th Feb., 1852. Report by the Secretary of the Navy to the President of the United States, 1851. Report on Liberia, presented to the Senate of the United States by Daniel Webster, 14th Sept., 1850. Sketches of Liberia, by J. W. Lugenbeel. Annual Report (35th) of the American Colonization Society. The Coast Survey of the United States, 1851. Also from Mr. Rodd, of Hobart Town, a Treatise on the Cultivation and Preparation of Flax; and from Mr. J. G. Winter, a Pamphlet "On the Importance of Bone Dust as

a Manure." From Mr. M. Allport, "Present (1829) State of Van Diemen's Land: by H. Widowson;" and from Dr. Moore, of New Norfolk, "the Parliamentary Gazetteer of England and Wales," in 13 volumes, of which the first three have been received.

A communication from the Honorary Secretary of the Asiatic Society of Bengal read; acknowledging receipt of the Society's Journal, expressing a desire to exchange specimens in natural history, the products of India and Tasmania, and intimating that instructions had been given to the Curator at once to prepare a collection of such specimens as are likely to prove interesting to the Royal Society of Van Diemen's Land.

Acknowledgments from the Hon. the Colonial Secretary, Sydney, and from the Secretary to the Australian Subscription Library, of the last number of this Society's Journal; together with a note from G. E. Turner, Honorary Secretary to the Australian Museum Committee, laid before the meeting.

A note read from John Lyne, Esq., on the construction of low wooden bridges over rapid streams which rise to a great height, recommending a platform inclined to the stream at a certain angle, which would bear submersion without damage, and allow drift-wood, &c., to pass over.

A note read from H. Maclaine, Esq., of Spring Bay, accompanying a sample of chalybeate water from "a natural fountain" in that neighbourhood, submitted for examination.

The Secretary read a note from J. D. Loch, Esq., presenting to the Museum a neat model, with paddles, &c., complete, of the "Masoolah boat," celebrated for the ease and safety with which it conveys goods and passengers through the heavy surf at Madras.

The Secretary placed before the meeting two fresh specimens of *Native Bread*, taken by himself out of the ground, where they were contiguous, but unattached, to the roots of a young *Eucalyptus*, in a soil consisting chiefly of white clay with sand, upon a low hill near the sea, in the vicinity of Oyster Cove.

Mr. S. Moses presented a small collection of sea-shells from Adelaide and Swan River, comprising specimens of *Cyprea*, *Nerita*, *Natica*, *Turbo*, and *Conus*.

Mr. Dobson, of the High School, exhibited drawings of *Delphinapterus Peronii*, taken in lat. 41° S. long. 9° E., which differs materially, he says, from that which appears in the Zoology of the *Erebus* and *Terror;* also a sketch of a nondescript ray-like form of fish observed by Captain Mackellar, of the *Pacifico*, on the 5th July, 1852, in lat. 8° 34′ N. and long. 136° 46′ W., apparently "ten feet long, and in shape like a bat," said to have "swam round and about the vessel for several hours during a dead calm," to have a blue colour below, and to have been accompanied by several pilot-fishes.

The Secretary submitted from Dr. Officer several branches and twigs of she-oak (*Casuarina quadrivalvis*) disfigured, (and in some places encircled), with tuberosities on the bark, in the centre of each of which spring (from the inner bark and at right angles to the wood below) small round turret-like processes, half an inch to an inch in length, slightly tapering to an obtuse point. These processes proved to be hollow, and, where they are in contact with the wood, have a cup-like form, within which is found a flattened round soft body, having a long acicular process, corresponding to the hollow interior of the turret-like projection already described. The internal substance of this soft body is a thick fluid of a sanguineous and grumous character, and externally it is surrounded with fine cottony matter. The little turrets are obviously developed by the stimulus arising from the progress of transformation in the insect, and they sometimes carry with them a portion of the bark as they break through the protuberances mentioned. The insect is said to be common on the *Casuarina* here, and on enquiry it is found to manifest itself so far north as Salt Pan Plains: probably it may exist throughout the island. Two specimens of a very small snake from Port Phillip, and probably undescribed, were also presented by Dr. Officer. They are a little thicker than sewing twine, about six inches in length, and delicately marked along the sides with lines of black points upon a nearly white ground colour.

Dr. Moore, of New Norfolk, presented to the Museum a leaden musket ball, picked up by himself on the field of Waterloo, on 30th of August, 1841.

Mr. John Abbott presented an interesting series of fresh-water shells, collected by Charles Abbott, Esq., in the vicinity of Calcutta. Also a congeries of whitish conical ova-cells, hermetically sealed and fringed round the edge of their base, and attached to a common centre at their apices. On being opened each sac was found filled with embryo shells, belonging to a *Murex* or *Fasciolaria*. The specimen was obtained on the sea-beach, near George Town.

From Mr. Glover, junr., of Sorell, were received the skins of two small rat-like animals, apparently about twice the size of the common mouse, having an elongated head and snout, with dentition like that of *Antechinus* or *Myrmecobius* (Waterh): broad, short, naked ears, and a rather long tail, moderately clothed with fine hairs to the very tip. The fur is of a leaden hue, but is exteriorly a greyish black along the back, and ashy and greyish white along the belly. The animals were recently obtained alive from crevices and holes in rocky ground, and died while in confinement.

Specimens of fossils and rocks from Mr. Gardner lay upon the table.

A paper was read by James Barnard, Esq., on the Seventh Census of the United States of America.

A large oil painting of Mount Wellington, taken from Mount

Nelson, by Mr. Buhl, a German artist, resident here, was exhibited, which has been allowed by competent judges to possess considerable merit in colouring and in the management of a deep foreground, and to realize with remarkable fidelity the characteristic features of the trees and general conditions of the forest ground of Tasmania. This painting has been sold for £25, and is to be shipped immediately to England.

The thanks of the Society were voted, as usual, for the various donations and for the papers read.

Mr. Hone left the chair about half-past nine o'clock, and the members soon after withdrew.

10TH NOVEMBER, 1852.—Monthly meeting; the chair was occupied by Joseph Hone, Esq., senior Member of Council.

W. T. N. Champ, Esq., elected a Fellow of the Society.

The following presentations to the Museum and Gardens announced: From J. Mitchell, Esq., of Sydney, late of the Commissariat here, a skeleton of the Porcupine Ant-eater (*Echidna setosa*) of Tasmania,—the cranium of a Wallabee, with other bones,—also a packet of seeds of Australian Plants, comprising 38 species.

From H. F. Anstey, Esq., M.L.C., a specimen of Australian Goshawk (*Astur approximans*), shot at Anstey Barton.

From Alexander M'Naughtan, Esq., a sample of washed nuggetty gold, obtained at Turon River, New South Wales.

From Mr. Milligan, a specimen from California of gold minutely disseminated in half coherent rock, consisting of amorphous quartz with decomposed felspar finely divided; internally, the mass has a granular appearance, while the worn exterior has the aspect of gold nearly solid.

On the table were specimens of washed gold from California, with small nuggetty gold of Tasmania for comparison.

A note read from Chester Eardley-Wilmot, Esq., presenting a diminutive fish (not named) in spirits, found by Captain Harmsworth, of the *Derwent*, adherent to a nautilus, taken in crossing the Tropics.

The Secretary read extracts from a note by R. C. Gunn, Esq., reporting the arrival at Launceston of a long series of Reeves's *Conchologia Iconica* for the Society; and remarking that a shrubby tree, belonging to a new genus of *Diosmeæ*, discovered by Mr. Milligan upon the banks of the Franklin River in 1842, has been described by Mr. Kippist under the name *Acradenia Franklineæ;* and that a low-growing but showy-flowering *Richea*, discovered at Mount Sorell, at Macquarie Harbour, in 1846, has been

described by Meissner as *R. Milliganii.* The former, as it flowers freely and is very fragrant, is an acquisition to a shrubbery or arboretum; and the latter, if introduced, would be a pretty and striking variety in our flower borders.

A note from J. B. Davis, Esq., of Shelton, in Staffordshire, England, read, soliciting contributions of *Crania* of Aborigines of Tasmania, Australia, New Zealand, and the Oceanic Islands, to aid him in bringing out an important work on Ethnology. Mr. Milligan will be glad to forward any well authenticated specimens of Crania which may be entrusted to him for Mr. Davis.

A notice read from the Rev. R. L. King, of Sydney, containing notices of Australian Entromostracans, supplementary to his paper on *Daphniadæ.*

The attention of the meeting was drawn to the recent interesting experiments of Professor Otto, of the Hamburgh Botanic Gardens, upon the remarkable evolution of heat during the expansion of the flowers of the *Victoria Regia*, in one of which a thermometer placed in a newly-opened flower rose 35° above the temperature of the water in which the plant flowered!

A discussion followed on the "Sports" to which plants are subject, with reference to the astonishing results of M. Fabre's experiments on certain species of *Ægilops*; from which it appears that careful selection and continued cultivation of this grass during twelve successive years produced a gradual approximation to and final identification with Wheat.

The Secretary observed that a paragraph had appeared in some of the English papers announcing the arrival at Manchester, per Canal from Liverpool, of an "Enormous Plank," 144 feet in length, 20 inches in breadth, and 6 inches in thickness, said to be "African Oak;" but which is doubtless the plank of "Blue Gum" cut at Long Bay, in D'Entrecasteaux Channel, intended for the Great Exhibition, and which, in consequence of its being too long to be shipped by any of the ordinary vessels from this port to London, was subsequently forwarded by the *Emigrant*, and landed at Liverpool long after the Exhibition had been closed.

On the motion of Lieut.-Colonel Last, the thanks of the Society were voted to the persons who made donations and communications, and the meeting broke up.

8th December, 1852.—Monthly meeting; Joseph Hone, Esq., senior Member of Council, in the chair.

On the recommendation of the Council, A. H. Palmer, Esq., of Washington, U. S., was ballotted for and elected a Corresponding Member of the Society.

The following presentations to the Library were announced:—Catalogue of Books belonging to the Royal Geographical Society of London, from that Society, through His Excellency Sir W. T. Denison. The "Gold-digger's Magazine," No. 2, from Mr. J. Bonwick, of Melbourne; and the last 10 Parts of the Parliamentary Gazetteer, from Dr. Moore, of New Norfolk.

The following donations were made to the Museum:—From the Hon. Colonel Butterworth, two samples of Gutta Percha, in the form of thin cloth or paper,—coarse and fine; the former resembling common brown paper, manufactured by a Chinese artist at Singapore—the latter in quality like fine linen, made in England, and both admirably adapted for waterproof wrapping, linings, &c. From A. B. Jones, Esq., a beautiful specimen, cast ashore at Sandy Bay, of the Butterfly Gurnard of Tasmanian Seas (*Trigla polyommata*), figured by Richardson, from specimens sent home by the late Mr. Lempriere. From Arthur Smith, Esq., a fine piece of opalized wood (the so-called *Banksia*), from the vicinity of Ross. From W. T. N. Champ, Esq., a bundle of barbed spears made of hardwood, and of light arrows of cane and bamboo, said to have been obtained at New Guinea. From Captain Addison, of High-street, spirit preparations of the following:—3 Flying Fishes, *Exocetus volitans;* 2 Sucking Fishes, *Echeneis remora? Scolopendra*, &c. &c. Also the jaws, tail, and back-bone (imperfect) of a shark caught in the tropical Pacific, which, when taken, measured eighteen feet in length. Also a pair of horns of the common Antelope of India, *Antilopa cervicapra.* Also upwards of sixty Hindoo coins, said to have been found in excavating a foundation upon a mound near the Ganges, about 250 miles beyond Calcutta; the place having been some centuries under water.

Mr. Milligan added to the collection the following specimens:—the pretty parasitic morel-fungus, *Cyttaria Gunnii*, abounding on the Tasmanian myrtle-tree, *Fagus Cunninghamii*, in the dense umbrageous forests to the westward in early summer, and which was freely eaten by the Aborigines in their wild state. (It is curious to remark that similar *fungi* occur plentifully on the Antarctic Beeches, which form the dank illimitable forests of Tierra del Fuego, and that there also they constitute an important article of food for the barbarous natives; and it is deserving of notice that here, in the glens and ravines near the summits of a few of the high mountains between Lake St. Clair and Macquarie Harbour, a beech-tree (*Fagus Gunnii*—Hooker) has been found very closely resembling *Fagus Antarctica*, of the gloomy and humid forests of the southern extremity of America.)—Mr. Darwin observes, "I found a second species on another species of beech (probably *F. obliqua*) in Chile." A *Cyttaria* was also found upon the *Fagus Gunnii* at Macquarie Harbour by Mr. Milligan in 1847: it appears

likely, therefore, that each *Fagus* owns a distinct species of this parasitic fungus);—an edible fungus (not named) somewhat resembling in form, but superior in flavour to and different in character from the common mushroom, and sparingly met with in the dry forest soils on the eastern districts of Tasmania towards the close of summer and before the rains set in;—a *Zylaria*-looking black fungus taken from the trunk of a tree in dense forests at Macquarie Harbour;—a coral-looking lichen, probably a *Cymomyce*, growing in dense tufts on peaty ground in humid, exposed and elevated situations throughout the Island;—also a bright scarlet-tipped lichen (*Cymomyce* sp. ?) from the summit of a mountain range near Macquarie Harbour; and also some additional specimens of the elegant *Gorgonia Australis*, fished up from a depth of three to five fathoms in D'Entrecasteaux Channel.

A short notice of the forests of dead trees in the Lake Country and other Districts of Tasmania, with conjectures on the probable cause of their destruction, by Mr. F. Stanley Dobson, was read.

The Secretary read an interesting paper on Australian Entomostracans by the Rev. R. L. King, of Sydney, supplementary to a paper recently furnished by this gentleman on the same subject.

Captain J. H. Kay, R.N. F.R.S., read an elaborate paper on the Latitude and Longitude of the Observatory at Hobart Town, a point of the highest practical importance when considered in relation to the Trigonometrical Survey of this Island, now in progress.

After discussions on subjects before the meeting, it was resolved, on the motion of S. Moses, Esq., "that the thanks of the Society be rendered for the various donations and for the papers read," and the members separated.