Proceedings.

12TH JANUARY, 1853.—Monthly evening meeting, held at the Museum, Harrington-street; His Excellency Sir William Denison, President, in the chair.

After a ballot the following gentlemen were declared duly elected:—

A. T. Stuart, Esq., of Port Arthur.

J. F. Hull, Esq., of Tolosa.

A letter was read from the Colonial Secretary transmitting, for the Society's Library, papers and pamphlets on the Cultivation of Flax in Ireland, including the Annual Report, &c., for 1851 of the Royal Society for promoting the Growth of Flax in Ireland, and "the Flax Movement," by the Chevalier Claussen.

A letter was read transmitting, by command of the Lieutenant-Governor, the Second Volume of Magnetical and Meteorological Observations taken at the Observatory, Hobart Town; printed under the superintendence of Colonel Sabine, and forwarded by the British Government.

A letter was read transmitting, by command of His Excellency Sir William Denison, 16 volumes (half-bound in Russia leather) of Table Circulars and Priced Lists of 876 Contributors to the Exhibition of the Industry of All Nations in 1851, forwarded by Her Majesty's Commissioners.

Dr. Agnew presented a copy of "Directions for Collecting and Preserving Animals," &c., published by the Council of the Royal College of Surgeons, London.

The Secretary reported receipt, from the Agricultural and Horticultural Society of India, of Part 2, vol. 8, of their Journal, and that Copies of the Geological Report on the Gold-fields in Wellington and Bathurst, New South Wales, by Lieutenant-Colonel Sir T. L. Mitchell, F.G.S., and of the Pamphlet on the new genus of Sperm Whale *(Euphesetes)*, have been presented by James Mitchell, Esq., of Sydney, late of the Commissariat here.

The Secretary reported the following presentations to the Museum:—From Alexander M'Naughtan, Esq., several hundred specimens of land and sea shells from the Mauritius, Ceylon, Malay Archipelago, &c., many of them curiously mounted on stands by the Chinese; also of some very beautiful and delicate specimens of filagree work, executed in silver by

Chinese workmen; and that Mr. M'Naughtan had sent to the Society's Gardens two cases of plants from Canton.

Joseph Hone, Esq., presented upwards of twenty of the Promissory Notes forming part of the circulating medium in Van Diemen's Land in 1823-4-5 and 6, for sums varying from 3*d.* to half-a-dollar, payable on demand.

A spirit preparation of a bi-chephalous chick was presented by Mr. A. Kissock, of Liverpool-street.

Mr. Perkins presented a sample of small nuggetty gold from Bendigo.

Mr. H. Hull presented numerous small fragments of quartz with gold, collected by Mr. Douglas Hull at Specimen Hill, near Bendigo Creek, Victoria; also a coralline, gathered on the beach at Kelso, George Town.

From Mr. James Dickenson was received a collection of about fifty geological specimens, in duplicate, from Mount Alexander, Ballaarat, and Bendigo, accompanied with an explanatory paper.

From Mr. E. Jervis was received a bundle of spears and other weapons, obtained at New Ireland and the adjacent islands by officers of H.M.S. *Meander*.

His Excellency Sir William Denison presented a portion of the shell of the gigantic egg first discovered in Madagascar in 1850. Sir William also placed on the table for examination a perfect specimen of this huge egg, brought from Bourbon by the French merchantman *Desilles*, and temporarily left in His Excellency's possession. Three such eggs, together with some bones found associated with one of them in alluvium, were despatched in 1850 to Paris, and two of them reached their destination in safety in 1851. These two differed in shape, and that now exhibited here varies a little from both in form and dimensions. Sir William Denison described this egg as an ellipse of revolution, measuring through its long axis 12·4375 inches; in its short diameter 9·25 inches; round its long circumference 33·875 inches; and round its middle 29· inches: having a thickness of shell 0·15 inch, and capacity to contain (ascertained by actual measurement) 15 pints of water. The structure of the shell resembles in its interior surface that of the Dinornis, but on its exterior the markings approach more the flexuous striated aspect characteristic of the egg of the Emu. It has been estimated that the *Dinornis Giganteus* measured 9½ feet in height, and that this large extinct bird of Madagascar must have stood about 11 feet 10 inches. It has been most appropriately named *Æpyornis Maximus*.

The Secretary placed before the meeting a sample, from a parcel of 25 ozs., of spurious metal, recently purchased as genuine gold-dust by one of the Banks in this city at the current price of the day. The prevailing form is that of nuggets, from the size of a fine pin's head upwards, spherical or irregularly rounded, and more or less flattened, with projecting sharp points and ragged edges, in no case angular or crystalline, but having always a distinctly fused appearance; it is whiter, or a shade paler, than any of

the gold-dust to which we are accustomed; it is also harder, and has a chink (when pieces are rattled together), different from the heavy sound of the genuine native metal; it is also decidedly harder, and in specific gravity it differs in the proportion of about 15· to 19·, which, assuming the alloy to be zinc, would indicate a deterioration to the extent of about 80 grains in the ounce; and which at £4 2*s.*, the price in London, would make a difference of 13*s.* 8*d.* per ounce on the price realized, independently of a troublesome process of parting being involved. The usual tests for copper are, of course, useless as applied to this alloy; but when hammered out into thin leaves, and digested for twenty-four hours in sulphuric acid, it yields white flocculi of oxide of zinc when tested with ammonia.

The most striking and obvious characteristic of this spurious ore are its prevailing globular forms, and its whiteness and hardness, as compared with genuine gold-dust, with which all are now so familiar.

Andrew Clarke, Esq., Private Secretary, read a letter addressed to His Excellency, the President of this Institution, by the Secretary of the recently-instituted "Agri-Horticultural Society of the Punjab," requesting the establishment of communications and an interchange of seeds, &c., with the Royal Society of Van Diemen's Land.

Mr. Clarke also read a note from Mr. Courtenay, of Port Arthur, giving an account of a sudden rise of tide there to the height of 4 feet, where it remained about 5 minutes, and then as suddenly retired, about 20 minutes before 12 o'clock on Friday, 31st December last, thermometer being 71 degrees and barometer 29·352 inches. Mr. Clarke thought the phenomenon might be connected with submarine disturbance, perhaps with a recurrence of earthquake at New Zealand.

Mr. Milligan stated that about five minutes before eight o'clock on the evening of Sunday, 19th December last, he perceived five or six distinct shocks like those of earthquake, at Oyster Cove, D'Entrecasteaux's Channel. Each shock consisted of several oscillations, and they were repeated at intervals of one to two minutes. The oscillatory motion was east and west, and there were some peals of low muttering thunder, with a few dark cumuli close on the eastern horizon, and one or two faintly-seen flashes of lightning there. The vibratory motion was distinctly remarked by four persons at the same instant.

Conversations ensued on the various topics and objects before the meeting, in which most of the members joined.

The strangers present were Mr. Justice Barry, from Melbourne, and Professor Peet, of Grant's College, Bombay.

The thanks of the Society were voted unanimously for the various donations and communications, and the meeting broke up about the usual hour.

9TH FEBRUARY, 1853.—Monthly evening meeting; Robert Officer, Esq., a Vice-President, in the chair. The following gentlemen were ballotted for and duly elected Fellows of the Society:—His Honor Mr. Justice Barry, of Melbourne; George Anstey, Esq., Captain Hawkins, R.E., and Robert Walker, Esq., of Hobart Town.

The Secretary reported the following presentations to the Library:—From the Royal Geographical Society of London, through His Excellency Sir William Denison, "Anniversary Address at the Meeting of 24th May, 1852; by Sir R. I. Murchison." From Sir Wm. Hooker, and Dr. Joseph Hooker, F.R.S., sundry loose sheets consisting of "Scientific Excursions in New Holland, by Dr. Ludwig Leichhardt." "*Floræ Tasmaniæ Spicilegium*," with a plate of *Dacrydium Franklinii*;" "*Algæ Tasmanicæ*," &c.

From Walter Mantell, Esq., of New Zealand, through His Excellency Sir George Grey, "Notice of the Discovery of the *Notornis Mantelli*, in the Middle Island of New Zealand, by Walter Mantell."

From Thomas Dobson, Esq., of the High School, Professor Done's monthly "Isothermal Lines of the Globe," with three charts.

From Mr. Phineas Moss, of Hobart Town, "The Journal of a Naturalist."

The following presentations to the Museum were reported:—

From His Excellency C. J. Latrobe, Esq., through Mr. Ronald Gunn, of Launceston, a small collection of "Rock specimens from the immediate neighbourhood of good Sir John Franklin's last known winter quarters near Cape Riley, and from Port Leopold, in Prince Regent's Inlet."

From the Rev. J. H. Fisher, Vicar of Kirby Lonsdale, Westmoreland, through Mr. Thomas Moore, per *Derwentwater*, a valuable collection of rock specimens, with fossils from the Lias and Mountain Limestone, and Silurian and other fossils from Germany.

From Mr. H. Hull, a small collection of sea shells, corallines, and echini, made at Kelso, by Miss Tremlett.

From Mr. Alderman Reeves, of this city, a spirit preparation of a *Moloch horridus* (?) said to have been brought from Swan River.

From Mr. Curzon Allport a collection of English grasses and other plants carefully pressed, dried and named.

From Andrew Clarke, Esq., R.E., a neat model in wood of the bridge now in course of erection over the Derwent, near Dunrobin.

From C. O. Parsons, Esq., a specimen of black shale, capable of being used by carpenters as a coarse graphite for marking on wood, &c., and said to have been procured from strata near Bothwell.

From Mr. Milligan's private collection, two specimens of the Porcupine Fish of the colony—one a Diodon, and the other nearly allied.

The receipt of two cases of Mango Plants at the Society's Gardens, presented by B. Berthon, Esq., was reported.

The Secretary read a letter from Mr. R. C. Wood, of Singapore, to Mr. Dobson, of the High School, recognising in earthquakes and volcanic action the source of hurricane and other such violent disturbances, and giving a series of most interesting details of typhoons and storms which have

traversed the Indian Ocean, the Malay Archipelago, and the Polynesian Seas during the last year. Mr. Wood volunteers his assistance to the Society and to Mr. Dobson in further elucidating this important subject.

Dr. Bedford drew attention to Mr. Courtenay's report of a very sudden and remarkable rise and recession of the tide observed at Port Arthur on the 31st of December last, and stated that he noticed a similar occurrence on the same day at New Town Bay. Mr. Clarke and Mr. Dobson remarked that the surmise of the former of a probable recurrence of earthquake at New Zealand, founded upon this circumstance, had been verified by reports since published in the newspapers.

The Secretary read a note from Mr. S. K. Davie, at Oyster Cove, giving an account of a sudden rise of tide to the height of three feet perpendicularly when about half-flood, and of a recession as remarkable, followed by the ordinary rise and fall in its usual course, about noon on the 30th January last. The water is described as having approached in the manner of a *Bore.*

Mr. Dobson read a carefully drawn up paper, illustrated by diagrams and charts, showing the course of several Cyclones, which passed in a southerly and easterly direction over this and the neighbouring colonies during last winter, and the corresponding changes in atmospheric pressure and temperature, &c.

Conversations followed on the subjects introduced, in which many of the members present joined.

About half past nine o'clock a vote of thanks, proposed by Dr. Butler, having been unanimously passed for the various donations and for the papers read, the members soon after separated.

9TH MARCH, 1853.—Monthly evening meeting;—Joseph Hone, Esq., in the chair.

The following gentlemen were ballotted for and duly elected Fellows of the Society:—Professor John Peet, of Grant's College, Bombay; Dr. Boyd, of the High School, Hobart Town; Thomas Brown, Esq., of Hobart Town; Phillip Smith, Esq., of Syndall, Ross; John Bisdee, Esq., of Hutton Park; James Dunn, Esq., of Hobart Town; and Alfred A. Butler, Esq., of Hobart Town.

On the recommendation of the Council, the following gentlemen were elected Honorary Corresponding Members:—Joseph Dalton Hooker, Esq., M.D., F.R.S., &c.; John Gould, Esq., F.R.S., &c.; R. C. Wood, Esq., of Singapore.

The Secretary announced the following donations to the Library:—A complete set, 5 vols. and 6 parts, of the "Journal of the Indian Archipelago," from its commencement, presented by the Honourable Colonel Butterworth, C.B.;—a copy of "Leoni's Palladio," folio, published in 1742, with notes, by Inigo Jones—a rare and valuable work on Architecture, presented by J. D. Loch, Esq.; a Treatise on the Illumination of

Light-houses, by Sir D. Brewster, presented by Adam Jackson, Esq.; a Treatise on the Artificial Production of Fish, presented by Dr. Moore, of New Norfolk.

Dr. Moore placed before the meeting, for examination, specimens of Gold-dust brought by him from Fingal, where he saw it washed from the soil: it had the rough, nuggetty appearance characteristic of the gold hitherto obtained there. Dr. Moore presented specimens of indurated bluish-gray slate, thickly studded with cubes of iron *pyrites*, from the same locality.

Mr. H. Hull presented a small nugget of Gold from Fingal, weighing 18 grains.

Mr. Milligan submitted an assay of Tasmanian Gold-dust made by Samuel Thomas Abell and Co., of London, through the kindness of W. W. Saunders, Esq., of Lloyd's, which gives—

Gold	95·29
Silver	4·50
Copper	·19
Loss	·02
	100

Representing therefore a fineness of 22 carats 3½ grains; and after deducting loss in melting, and expences of melting, assaying, and brokerage, equal to a net value of 79*s.*, or 79*s.* 3*d.* per ounce.

The Secretary also submitted for inspection a massive nugget of gold from Mount Korong, Victoria,—weight 44 oz.

Fragments of quartz containing gold and pyrites of iron with gold interspersed, broken from a solid mass of auriferous quartz traversing the slate in the vicinity of "Specimen Hill" and "Sailors' Gulley," Victoria, were received from Mr. John Amos, who, with his brother and another partner, successfully worked the gold *in situ* for ten weeks, quarrying, blasting, and incinerating the quartz from which the precious metal was afterwards easily picked out.

Fragments of compact white quartz containing gold disseminated in grains, and deposited in drusy cavities and mixed with iron pyrites, together with specimens of drift gold arrested in an arenaceous conglomerate over soft clay slate, were received from Mr. William Robertson, of Macquarie-street.

Mr. John Abbott presented the skin of a nankin or ash-coloured duck recently shot at Muddy Plains, considered by some members an Albino variety, while others thought it a young specimen of Gould's *Leptotarsis Eytoni*, which it resembles a good deal in the form and colour of the head, neck, legs, and feet, but which had hitherto been only met with at the north of Australia.

Mr. Abbott, Dr. Agnew, and Mr. Propsting remarked on the unprecedented numbers in which the duck tribe have appeared along the coasts and throughout the length and breadth of Tasmania during the last few

months, and it was observed that the influx has been attributed to the fact of the birds having been disturbed and driven away from almost every river, creek, and lagoon of the south end of Australia; while reports state, on the other hand, that ducks are equally superabundant there as in Tasmania.

A letter from J. D. Loch, Esq., was read, transmitting for the Museum two large and elegant brass "Ghurrahs," or vessels used for holding water by the Hindoos, and procured at the "Holy City of Benares;" the ordinary jars used for the same purpose in India being made of porous red earthenware.

Mr. Loch also presented a long two-edged sword from India, with some remarks on the peculiar and dexterous manner with which a cut is made by those practised in its use.

The receipt of the skin of a white hawk, *Astur Novæ Hollandiæ*, (Vigor & Horsf.) was reported.

Mr. Milligan added to the collection the carapace of a small hawk's-bill turtle *(Chelonia imbricata)*, and a bottle of Manna, collected under the *Eucalypti* in the Government Domain at various times, from September last up to this date.

The receipt by the Superintendent of the Society's Gardens of two cases of plants, ex *Derwentwater*, through His Excellency Sir William Denison, containing 67 plants, of which 13 were dead; of one case, per *Derwentwater*, containing 24 plants, of which five were dead,—and of a packet containing 220 sorts of seeds, from Lieutenant Smith, R.N.; and of a case, per ship *Quito*, from Messrs. Backhouse and Son, of York, through Mr. G. W. Walker, containing 42 plants, of which 18 had perished, was announced.

The following varieties of Apple from the Society's Gardens were submitted for the opinion of members by Mr. Newman:—

1 New Hawthornden
2 St. Lawrence
3 Grey cider
4 Herefordshire pearmain
5 Old Hawthornden
6 Kerry pippin
7 Beachenwell
8 Spread-abroad cider
9 Ribston pippin
10 Alexander
11 ————
12 Lincolnshire Holland pippin
13 Cockle pippin
14 Reinette Française
15 Royal Russet
16 Mobs' Royal
17 Woodrick cider
18 Devonshire redstreak
19 Hughes' golden pippin
20 Newtown pippin
21 Nonpareil russet
22 Robinson's pippin
23 White Spanish reinette
24 Downton pippin
25 Early summer apple
26 Royal Jack cider
27 Caldwell's keeping
28 Scarlet nonpareil
29 Sturmer's pippin
30 Downton nonpareil
31 Pine-apple russet
32 Reinette du Canada
33 Desert apple (?)
34 Golden pippin
35 Golden nonpareil
36 Bradick's ditto
37 Siberian bitter-sweet cider
38 Franklin's pippin
39 Ireland's apple
40 Court of Wick
41 Rock pippin
42 Monk's codlin.

The Secretary then read the paper lately furnished by Mr. Dickenson to

the Society, explanatory of rock specimens from the gold districts of Victoria presented to the Museum by him, and specially descriptive of the geological characters of the Bendigo Gold-fields.

A vote of thanks having been passed to the various parties who had made donations and furnished communications to the meeting, the members separated a little before ten o'clock.

13TH APRIL, 1853.—Monthly evening meeting; His Excellency Sir W. T. Denison, President, in the Chair.

The following gentlemen were elected fellows of the Society:—Captain Hamilton, R.E.; Thomas Moore, Esq., of New Norfolk; R. H. Bland, Esq., of Melbourne.

The presentations to the Library were, "A Treatise on Flax Manufacture," from His Excellency Sir W. Denison. Fifteen numbers of the "Journal of the London Horticultural Society," from the Rev. J. Bishton, a copy of "Votes and Proceedings of the Legislative Council," in the first and second session of 1852, and of the Acts of Council passed in the first session, by order of the Hon. the Speaker. Eight volumes of "Shaw's Zoology," from Mr. Milligan.

The donations to the Museum were:—By Mr. Edward Macdowell, two boxes of Panoramic Views along the Rhine, in relief, with a description.

By John Abbott, Esq., two unusually large shells of the common Oyster, from the shoals on the margin of D'Entrecasteaux Channel, in the neighbourhood of his estate at Three Hut Point.

By A. B. Jones, Esq., seventeen coins, eight of silver, and nine of copper, amongst them one silver groat of Charles II., having on the *Obverse* the King's bust, in profile to the left, laureated, in a Roman Mantle, buttoned on the shoulder; and on the *Reverse*, 4 C's interlinked under a Crown, with Rose, Thistle, Fleur-de-Lis, and Harp in the quarters, dated 1679. One silver two-penny piece of Charles II., *Obverse* same as the preceding, and on the *Reverse* 2 C's interlinked under a Crown, date 1672. One silver penny of Charles II., *Obverse* same as the preceding; on the *Reverse* one C crowned, date 1672. One silver halfpenny of Charles I., having on either side a full-blown Rose, without name, date, or motto. One silver piece of Philip V. of Spain, date 1724. One silver piece, value 5 soldi Italian, of the Emperor Napoleon, date 1810. One silver (Ana?) piece, East Indian. One other silver piece, a fragment, (Dump). One Copper Guernsey penny, 1834. One Copper American cent. One Copper piece, Austrian. One copper piece of Sardinia, 1795. Three copper pieces, East Indian. One copper piece, value one centesimo, Lombardo-Venetian State, 1822. One Copper piece of Pius Septimus, 1802.

By Mr. Hugh Hull, a sample of magnetic Iron-sand, (said to have been found at Tolosa), and amongst it a fragment of a pink-coloured crystal, said to be amethyst.

By Mr. Adam Jackson, of Ross, a collection of fac-similes of some remarkable documents, and of autographs of many celebrated persons.

By Mr. Robert Pringle Stuart, A.P.M. of George Town, a very beautiful specimen of Iron Pyrites (*white* variety), arranged in a fasciated acicular or fibrous form, with a fragment of limestone from the quarry at "Middle Arm," on the Tamar River, where it is said to have been procured about 15 feet beneath the surface.

By Mr. W. G. Elliston, a good spirit preparation of portion of the *Glottis* of the *Larynx* of an Albatross.

By Lieutenant Young, H.E.I.C.S., the skin of a wild sheep from Thibet.

The Secretary placed on the table specimens of the five feet seam of Bituminous Coal, recently passed through by the Douglas River Coal Company at a depth of 188 feet from the surface.

This led to an animated discussion on the economic value of the several coal-fields of the island, and on the measures set afoot, or now in contemplation, for bringing coal from various of them into the market.

His Excellency the President stated that he had lately visited the Mersey and Don Rivers, and examined the deposit of coal there—that he had found the seam two feet six inches in thickness, dipping about one in ten, and that the coal it yields is of the finest quality—that in working it extensively the rapidity of the dip may create difficulties, and that shifts in the strata appear to prevail—that a tramroad nearly of the same length as that now in progress from Wabb's Harbour to the Douglas Coal Company's pits will be required, but that the Mersey affords every facility that could be desired for shipment of the coal when once brought down. The trial shaft now being sunk by Williams on the west side of the Mersey above the township has been carried down 150 to 200 feet, and there is yet no appearance of coal. *His Excellency inspected the beds of combustible* schist (Dysodile?) on the Mersey, and has sent a quantity of it to Sir Henry De La Beche, to have it examined at the Museum of Economic Geology, London. The practicability of forming a tramway from "Mount Nicholas," at Break-o'-Day, through St. Mary's Pass to George's River, so as to introduce the magnificent coal of that district into the market, was fully discussed; and considering the engineering difficulties to be overcome, and the great length of road unavoidably necessary, it appeared to be the impression that a sum of £35,000 at least would be absorbed before coal could be delivered at the place of shipment. His Excellency observed that the great thickness and position of the coal-seam on Mount Nicholas would give it vast advantages were the road once formed, as the coal would be worked and brought out by *adit*, and that there never could occur any embarrassment from water, the fall to the plains below being several hundred feet; and that both there and at St. Mary's Pass the circumstance of a rapid descent might be turned to account, so as to make the loaded waggons draw up by their descent the empty waggons on their return.

In reply to a remark made on the supposed failure of the beds of coal

now worked at Port Arthur, Sir W. Denison said that coal was known to exist at Salt Water River and Impression Bay, and that there is no good reason for believing the beds exhausted where the works now are, unless it be in the immediate vicinity of the present shafts.

The progress made with the tramway and the works upon the location granted to the Douglas River Coal Company on the East Coast, and the probability of the urgent and rapidly increasing demand for a superior fuel being shortly supplied from this source, fell also under discussion.

The meeting, after passing a vote of thanks to the several persons who had made donations, broke up about half-past nine o'clock.

11TH MAY, 1853.—Monthly Evening Meeting; His Excellency Sir W. T. Denison, President, in the chair.

The following gentlemen having been ballotted for were declared duly elected:—James M'Arthur, Esq., of Deloraine; D. T. Kilburn, Esq., Francis Marshall, Esq., of Hobart Town. Other nominations were made for the next ballot.

The following presentations were made—

To the Library, by Mr. Pringle Stuart, a pamphlet dated London 1709, entitled "A New Theory and Method whereby the True Longitude, &c. may be found." By George Keith, M.A., &c.

To the Museum, by Sir W. Denison, samples of a clay rock, coated with a bluish-green incrustation, and forwarded to His Excellency from Sorell, under the supposition that they contained copper. Upon examination with the microscope, the green colour is found by Dr. Butler to be due to a minute fungus spreading in continuous patches over the surface, penetrating into the crevices, and lining the natural cleavage of the rock. The green colour caused by this delicate fungus is apparent enough in certain situations upon the sandstone and compact clay rocks on the Brown's River Road and along D'Entrecasteaux's Channel.

By A. C. G. Ashton, the jaws of a fish of the shark tribe, obtained in the China Sea, akin to *Squalus cornubicus;* also the skin of a snake, not named, about nine feet in length, said to have been met with near Moreton Bay.

By Mr. Lodge, through Mr. Rolwegan, of Collins-street, a fragment of fossil wood, from Burwood, near Newcastle, New South Wales – part of a mass weighing about half a ton deposited in the Sydney Museum; also a piece of curiously crystallized quartz from Green Creek, about thirty miles from the Hanging Rock, New South Wales.

By Mr. Lloyd, of Bryn Estyn, a specimen of silicified wood, found in the surface soil by the side of his residence, and probably belonging to detritus of the sandstones and argillaceous beds over the coal-measures. In the vicinity of the coal-rocks the surface and the soil to a considerable depth are often observed to be replete with similar fragmentary pieces.

By Mrs. Belstead, through Mr. H. Hull, two well-preserved skins of the handsome "Tropic bird" of the South Sea and Indian Ocean (*Phaëton phœnicurus*, GMEL.), procured at Norfolk Island, which is one of its breeding places.

By Mr. Marcus Aitkin, a stuffed specimen of the spur-winged plover of Tasmania ("Wattled Pewit," *Lobivanellus lobatus*, GOULD), shot near Fingal. In the Museum there are also specimens shot near Oatlands by Mr. F. G. Anstey.

By Mr. Curzon Allport, two pieces of jet-like lignite broken from a fossilized tree imbedded in the bank of the River Derwent, near Cawthorn's, at Macquarie Plains—the principal portion of the trunk of the tree having been mineralized with silex.

Mr. Milligan stated that in the tertiary and post-tertiary strata forming the cliffs along the eastern side of the extensive estuary at Macquarie Harbour masses of fossilized wood are very frequent; that they are occasionally found partly converted into ferruginous sandstone, partly silicified, partly in the form of jet or dense lignite; that the woody tissue and resinous matter have in some instances been recognizable in the cavities of these mineral logs, and that they are almost always veined and dotted with white iron pyrites.

Sir William Denison drew attention to specimens of lignite deposited in the Museum, obtained by himself on the margin and in the channel of the Ouse River, near the bridge beyond Hamilton. His Excellency also reminded the meeting, that from Mr. Chilton's farm, near Hamilton, he had brought pieces from the symmetrical trunk of a silicified tree horizontally imbedded in the sandstone overlaying the coal-beds there.

Mr. Curzon Allport submitted to the meeting two samples of wheat—one having the aspect of "White Lammas," the other furnished with an unusually long-bearded ear and yielding an elongated coarse grain. This variety appears to have been reared as an experiment, but its history was not given, and it was not identified by any of the members present. Mr. C. Allport also produced a specimen of vesicular scoria or cinder, a product of the incineration of the wheat straw.

By the Rev. H. Millar, a good hand-specimen of compact white quartz richly interspersed with gold, from California; also a specimen of argillaceous rock replete with *fenestellæ*, and other marine remains characteristic of the paleozoic series with which the sections upon the Brown's River road near Cartwright's have made every one familiar, and which appears to be closely associated with the limestone flanking Mount Wellington and "The Dromedary," the ranges near Marlborough and the western mountains, and which again shows out at Fingal, on the Eastern Marshes, near Stanfield's, and again on Prosser's River, on Maria Island, and at East Bay Neck and Eagle Hawk Neck, &c. Mr. Millar's specimen was obtained near the Huon River, upon the estate of Mr. Kellaway.

Mr. Milligan contributed a mat of figured Tapa Cloth, remarkable for the distinctness of the colours employed and for the neatness and fidelity of the pattern.

An Esquimaux fishing canoe has been forwarded to the Reservoir at the Gardens by Mr. John Johnson, of the New Wharf. Mr. Johnson has also presented to the Museum paddles belonging to the canoe, with fishing spears and lines, and stout whaling lines made of the hide of the walrus: also a pair of Esquimaux snow shoes; a water bucket constructed of whalebone sewed with thongs of seal-skin, and carried by linked chains of ivory; an Esquimaux dress of deerskin; a coat-of-mail composed of plates of bone and ivory, secured with thongs of walrus hide, and intended for the protection of the body from the shoulders downwards; also a conical helmet of whalebone, tastefully edged and decorated with ivory, together with several water jars made of the skins of young seals.

The Secretary reported that the Council of the Society have forwarded, through the Colonial Government, to the Government at St. Helena, for cultivation there, a packet containing seeds of upwards of eighty species of trees, shrubs, and other ornamental plants indigenous to Tasmania. The Secretary read a note from Mr. Clarke, transmitting a copy of the *Nelson Examiner* of the 8th January, in which "a severe shock of earthquake" is reported to have occurred at Nelson, New Zealand, on Saturday, the 1st January, and drawing attention to the almost cotemporaneous occurrence of an unusual rise and sudden recession of tide at Port Arthur on the 31st December, 1852, as communicated to the Society in a note from Mr. Courtenay, at the meeting on the 12th of January last.

A paper was read by Mr. Thomas Moore, containing the remarks of a practical English geologist upon a series of specimens of rocks and minerals collected some years ago in various parts of Van Diemen's Land, and taken home by Mr. Moore for examination. From this paper it appears that *tin*, *zinc*, *silver*, and traces of *gold* were observed in the *killas* of St. Paul's Plains, the *Serpentine* of the Asbestos Hills, and the *syenitic granite* from St. Mary's Pass. Mr. Moore obligingly offered to revisit the precise localities referred to with the Secretary of the Society.

On the motion of Mr. P. Fraser, seconded by Mr. Hone, the thanks of the meeting were accorded to Mr. Moore for his valuable paper.

On the motion of Dr. Agnew, seconded by Mr. Crombie, a vote of thanks was also passed to the various persons who made donations to the Library and Museum.

The Secretary reported the receipt, per *Morning Star*, of the following Medals and Certificates, &c. for Tasmanian contributors to the Exhibition of the Industry of All Nations:—

Award of the Queen's Commissioners.

A Medal "for services," to Sir William Denison.
A Medal "for services," to Joseph Milligan.

Certificates of Prize Medals

Awarded by the Jurors to the following persons in Van Diemen's Land.

Sir W. Denison.
Capt. W. C. Hadden, R.E.
Rev. F. Brownrigg.
Henry Dowling.
A. M. Milligan.
Alex. M'Naughtan.
R. V. Hood.
W. Whitesides.
W. Fowler.
J. Milligan.

Certificates of Honourable Mention made by the Jurors.

Sir W. Denison, collection of produce.
W. Rout, for wax.
W. Watchorn, oils.
J. Boyd, marble from Maria Island.
Rev. E. Freeman, woods.
Lieutenant Smith, R.N., wattle gum.
M. Quin, collection of woods.
E. Tooth, malt.
P. Oakden, wools.
J. Milligan, collection of produce.
J. Walker, fine flour.
W. Murray, starch.
S. Moses, whalebone.
F. Lipscombe, a ham.
F. Lipscombe, flax.
J. Dixon, flax.
Hugh Hull, woods.
James Grant, wools.
Brown and Co., oils.
T. Button, tanning substances.

Exhibitors' Medals—Awards of the Jurors.

John Brown, Launceston.
W. Adcock, Hobart Town.
W. Strutt ,,
R. V. Hood ,,
F. Patterson ,,
H. Hull ,,
W. Hamilton ,,
L. Pearson ,,
W. Fowler ,,
G. Rolwegan ,,
W. Rout ,,
J. Boyd ,,
A. Fraser ,,
R. Cleburne ,,
Lieut. Smith ,,
W. Whitesides ,,
Douglas River Coal Company.
Philip Smith, Syndall.
R. Q. Kermode, Mona Vale.
J. E. Bicheno.
A. Walker, Norfolk Plains.
F. Lipscombe, Hobarton.
W. Champion ,,
Archdn. Davies ,,
R. Strachan ,,
G. Marshall, Pittwater.
Dr. Valentine, Campbelton.
T. Button, Launceston.
Mr. Robinson, Westbury.
G. Peck, Hobart Town.
Mr. Symonds ,,
Brown & Co. ,,
Jas. Thomson ,,
Mr. Haynes ,,
I. G. Reeves ,,
A. M'Naughtan ,,
W. S. Sharland, New Norfolk.
J. Barnard, Hobart Town.
Spt. Queen's Orphan Schools.
Mr. Crocker, Sorell.
Mrs. M'Kenzie, Blue Hills.
C. T. Smith, Hobart Town.
C. Ward ,,
Archdeacon Marriott, New Norfolk.
Mr. Tibbs, Hobart Town.
Mr. Wiseman ,,
W. Gunn, Launceston.
J. Walker, Hobart Town.
Mr. Armstrong, ,,
W. Murray ,,
S. Moses ,,
T. Y. Lowes ,,
J. Dixon, Skelton Castle.

Council of the Royal Society of Van Diemen's Land.

Exhibitors' Certificates.

Mrs. Burgess.
„ Fenton.
„ Sharland.
„ Steiglitz.
„ Mackenzie.
Sir W. Denison.
Mr. Dunn.
„ Quinn.
„ Robinson.
„ Barnard.
„ Brock.
„ C. T. Smith.
„ H. Clayton.
„ F. Patterson.
„ A. M. Milligan.
„ G. Marshall.
„ R. Strachan.
„ J. Brown.
„ Champion.
„ Pearson.
„ I. G. Reeves.
„ A. Fraser.
„ Hamilton.
„ W. Adcock.
„ Hart.
„ Marshall.
„ W. Gunn.
„ Lumsden.
„ R. Cleburne.
Inmates Queen's Orphan Schools.
Mr. Wiseman.
Archdeacon Marriott.
Mr. Fielding Browne.
Mr. Anderson.
Mr. Rolwegan.
„ A. Walker.
„ T. Y. Lowes.
„ Harper.
Archdeacon Davies.
Mr. J. Sly.
„ Regan.
„ C. Ward.
Dr. Valentine.
Mr. Jas. Thomson.
„ John Watson.
„ W. S. Sharland.
Messrs. Blackburn and Thomson.
Lieut. Akers, R.E.
Mr. W. Sharland.
„ George Kemp.
„ Reeves.
„ R. De Little.
„ T. Screen.
„ J. Haynes.
„ J. E. Bicheno.
„ J. Abbott.
„ Bonney.
„ F. Cox.
„ R. C. Flegg.
„ T. D. Jennings.
„ E. Symonds.
„ R. Q. Kermode.
„ W. Strutt.
„ Tibbs.
„ Philip Smith.
„ S. Moses.
„ George Peck.
„ J. Milligan.

Council of the Royal Society of Van Diemen's Land.

After inspecting the medals, &c., His Excellency the President left the chair, and the members separated soon after.

8TH JUNE, 1853.—Monthly Evening Meeting. In the absence of His Excellency the President and of the Vice-Presidents, the chair was occupied by James Barnard, Esq., a member of the Council of the Society.

The following gentlemen, having been proposed and ballotted for, were declared duly elected into the Society:—Robert Pringle Stuart, A.P.M. of George Town; George Carr Clarke, of Ellinthorpe Hall; Arthur Smith, of Ross; Pringle Whyte, of Glendhu; John Price, of Hobart Town; James Dixon, of Skelton Castle; and the Rev. Dr. Herman Hoeltzel, of Hobart Town.

The Secretary read a note from His Excellency Sir William Denison, transmitting for the Society's Library "The Journal of the Royal Geographical Society of London," Vol. 22, and "The Second Report of the Commissioners for the Exhibition of 1851."

A communication from William J. Hamilton, Esq., Secretary of the Geological Society of London, was read, acknowledging the receipt of Part 1, Vol. 2, of Papers and Proceedings of this Society.

A communication from Edward Solly, Esq., Secretary to the Society of Arts, London, was read, presenting the "Journal of the Society of Arts, &c.," No. 14, and soliciting interchanges.

The Secretary announced receipt of the "Journal of the Royal Institution of Great Britain," Part 2, and of the Report, with lists of members, officers, &c., for 1851.

Mr. Milligan announced receipt of two cases of books (Awards of the Juries), large and handsomely-bound volumes, of which one is ordered, by Her Majesty's Commissioners for the Exhibition of 1851, to be presented to Tasmanian Exhibitors; amongst them a volume (laid on the table) for the Royal Society of Van Diemen's Land.

Mr. Ronald C. Gunn forwarded for presentation to the Library of the Royal Society "Catalogue of the Specimens of Lizards in the collection of the British Museum."

The Rev. Mr. Cohen sent for the Museum two medals, one of Count Mœllendorf 1793, and one having on one side a head of Moses, the Jewish Lawgiver, with the leading words of the Decalogue on the reverse, in Hebrew.

Mr. Thomas Browne, of Macquarie-street, presented an Irish halfpenny of 1725, and an Indian copper coin.

Mr. Brock, of Macquarie-street, presented a two-real piece (silver) of New Grenada.

Mr. C. T. Smith contributed a *Gordius* in a bottle of water.

Mr. Samuel Moses presented a silk waistcoat once worn by the famous "Tom Thumb."

Mr. F. W. Newman presented a few of the grotesque seed vessels of *Trapa bicornis*, the kernel of which is eaten by the Chinese; also, from the Island of Formosa, a section of the pith of the Araliaceous plant, from which Rice Paper is cut by the Chinese.

Mr. Macnaughtan presented specimens of a fossiliferous clay, taken from

a depth of 240 feet by Z. Williams, at the Mersey River, and which will probably be found identical, in geological position, with the spiriferous clay-rock and limestone underlying the coal measures; also three cases of insects and three cases of shells, all in fine condition.

The Secretary reported receipt at the Society's Gardens of three cases of plants, from Messrs. Lee of Hammersmith, per *Abberton*. Out of 23 plants contained in the *first* case—chiefly camellias, rhododendrons, and azaleas—eight were found dead; out of a varied and choice assortment of 23 plants contained in the *second* case, sixteen were alive; and the *third*, containing, with some select sorts of rose, the newest and most choice varieties of fruit-trees—namely, apple, pear, plum, cherry, currant, gooseberry, and raspberry—are in so sickly a condition that few, if any, will survive.

The receipt of a case containing 24 plants, ex *Abberton*, from Captain Goldsmith, was reported. Of these, six only have survived—namely, 3 varieties of Camellia, 2 varieties of Francisca, and 1 Scutellaria.

The Secretary read a note presenting, in the name of the Hon. Colonel Butterworth, a case containing 33 plants from Singapore—namely, 7 *Nepenthes ampullaria*, 14 *Nepenthes Rafflesia*, 2 *Hypericum monogynum*, 4 *Euphorbium splendens*, 2 *Ixora coccinea*, 2 *Gardenia Fortuni*, 1 *Hoya Imperialis* (dead), and 1 *Arundina*, a fine Orchid—said by Mrs. Butterworth to thrive at an elevation of 2000 to 3000 feet at Mount Ophir.

A short paper by R. C. Gunn, Esq., F.L.S., was read upon the extent to which identity of vegetable forms is found to exist in the Islands of New Zealand and Tasmania, so far as may be gathered from Part 1 of the "Flora of New Zealand," by Jos. D. Hooker, M.D. R.N., F.R.S., &c.,—in which Mr. Gunn alludes to the remarkable fact that the two genera of plants, *Eucalyptus* and *Acacia*, which are so abundantly prevalent throughout the Australias as to give a character to its vegetation and landscape, are in New Zealand altogether absent.

The Secretary read the annexed report by W. J. Macquorn Rankine, Esq., C.E., F.R.S.E., F.R.S.S.A., &c., on the practicability and probable cost of establishing an Electric Telegraph between Hobart Town and Launceston, and thence to Cape Portland—to be continued to Melbourne, Geelong, and Adelaide on one hand, and to Sydney on the other.

The cost of the Hobart Town and Launceston line, it will be seen, is estimated at about £3500. Allowing for the alteration which has taken place in the price of labour and materials here, the actual cost would probably scarcely exceed £5000, practical facilities for construction being presented along the cleared margin of the main line of road. It is understood that there exists large tracts of naturally clear ground between Cape Portland and Launceston, along which no great difficulty would be experienced or expense incurred in suspending a wire free from chances of rupture. The difficulty of sinking the electric cable from island to island, between Cape Portland and Wilson's Promontory, would not be formidable; and for the rest, whatever its magnitude, the rapidly accumulating capital and vast resources of the adjoining colonies would be more than adequate.

Mr. Alexander Macnaughtan, who transmitted the Report to be submitted to the Society, gives the following extracts from the letter of a mercantile friend at home :—

"Mr. Rankine has been engaged in the laying of wires extensively here and in other parts of the kingdom.

"I can discover nothing at all impracticable in the Report, even with the limited knowledge at present possessed in the art of laying submarine cables. This mode of telegraphing is yet in its infancy; but so many scientific men are at work upon it, that we may reasonably expect a better and cheaper line of submarine communication will be shortly announced.

"Suppose the wires laid as enumerated, and take for example the steamer *Formosa*—she left Sydney on the 9th November, Victoria 16th, and Adelaide 19th, and arrived in England in time to send on her mail by the *Precursor*. By this means we had news from Adelaide to the 19th November published in the London *Times* on the 10th January—only 59 days (!!!) from Adelaide. Were the telegraph established, news from all the Australian ports might have been received to the same date.

"In America they have a telegraph from New Orleans to New York, a distance of 2700 miles—nearly as far as from New York to Liverpool; and by each steamer that arrives we have news from New Orleans up to the previous evening of the starting from New York.

"It has been pronounced practicable, and is in contemplation, to have a submarine telegraph from this country to America—from Orkney via Iceland and Greenland; and I believe it is only a matter of time, *the having* wires laid all the way from Britain to Australia."

Mr. Macnaughtan gives the following instances of the advantages to accrue from the electric telegraph :—

To Government—In communicating with the neighbouring Governments, with ships-of-war, military authorities, police, &c., throughout the colonies.

Post-office Department—Communicating arrivals and departures of mails, times fixed for despatch of mails, &c.

Banks—Communicating with all the branches on the same day on the regulation of their business, fixing Exchanges, transactions with Government and with other Banks—without the delays and loss often arising from the ordinary mode of postal communication.

Shipping—Communicating arrivals and departures of vessels, names of passengers, nature and amount of cargo, &c.

Merchants—Communicating messages expeditiously to correspondents and agents, and generally to facilitate the diffusion of commercial intelligence; and

The Public at large—The instantaneous diffusion, by "the magic minister to knowledge," of political, foreign, and general intelligence: discovering to one part of the world the requirements and necessities of another—operating as a detective of and deterrent from crime—diminishing the chances of surprise, and so lessening the probabilities and dangers of war, &c.

REPORT *on the Construction and probable Cost of a proposed* ELECTRIC TELEGRAPH *between Hobart Town and Launceston, Van Diemen's Land; with Remarks on a* SUBMARINE TELEGRAPH *between Van Diemen's Land and Australia—connected with Sydney, Melbourne, and Geelong.*

First—Construction of the proposed Hobart Town and Launceston Electric Telegraph.

When the length of the proposed line of Telegraph is, as in the present instance, considerable—compared with the number of stations which will probably be required—it is always desirable, if possible, to use a single wire only; for though the instruments required for commercial purposes on this system are more expensive than those which involve the laying of the two wires, this increased expense is very greatly exceeded by the saving in the cost of wires, both for construction and for repairs.

Single-wire telegraphs are used almost universally in the United States, and are now being introduced to a considerable extent into Britain.

I therefore recommend that, for the proposed Telegraph, a single wire should be used, and also that it should be of galvanized iron, of the size No. 8, and suspended from posts and trees, at a height of from 18 to 20 feet from the ground.

In very moist and foggy climates, in districts where it is difficult to find materials for posts, in localities where a suspended wire would be exposed to damage from storms or violence, and where repairs would be difficult of execution, and for lines of communication where the revenue is expected to be sufficient to warrant an additional investment of capital for the sake of durability, it may be preferable to use a copper wire, coated with gutta percha, and encased in an iron wire cord, the whole being buried in the earth; but in the present instance it does not appear to be necessary to have recourse to this more expensive mode of construction.

The posts ought to be of the hardest and most durable wood, which can be readily found in the locality: they should be not less than five inches in diameter at the butt end, and from three and a-half to four inches at the smaller end, and not less than twenty-two feet long.

They ought to be properly seasoned, roughly pointed at the lower end, and charred for about four feet up, and should be planted about three feet deep in the ground: where necessary, their stability may be increased by having stays of the same wire which is used for the Telegraph fixed to them, but care should be taken not to fix the stays too near the conducting wire.

The wire is fixed to the posts by supports, called insulators, which are of various kinds: as the whole efficiency of the telegraph depends on the completeness with which these insulators prevent the escape of the electric current from the wire to the posts, they ought to be of the best kind that can be procured. I recommend a contrivance, called in Britain Liddell's Insulator, originally used in America.

EXTRACTED FROM THE REGISTER OF DEATHS FOR THE DISTRICT OF HOBART TOWN, BY PERMISSION OF JOHN ABBOTT, ESQ., REGISTRAR-GENERAL.

		1842.													1843.												
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Epidemic, Endemic, and Contagious Diseases.	Influenza									1	2	1		2													
	Measles										2			2													
	Scarlatina									2	8	6	7	23	6	3	9	5	12	4	1	1	1	2		3	43
	Hooping Cough						1							1							1						4
	Croup	1				1				1				3		3						1	4	6			14
	Thrush																2	2									4
	Diarrhœa		2	1	2	1	1						4	11	4	1	8		5	4	4	4	5	10	6	9	60
	Dysentery	5	1	1	5		1			1	1	1	7	23		13	13	14	7	2	3	4		2			58
	Cholera		1											1		1											1
	Typhus														1				1								2
	Synochus		2	5	4	1	4	2		1		4		23	6	3	1	1	4	3	2	1		1	2		24
	Plague																								1		1
	Erysipelas																										
	Syphilis	1			1						1		3	3					6	2	2						
	Dropsy	1			1		1	1			2			9		1							2		4	2	19
	All other Diseases	26	23	28	26	27	19	20	29	27	26	26	22	299	41	46	36	18	47	26	18	34	35	36	26	23	384
		34	29	35	39	30	27	23	29	33	40	38	43	400	58	71	69	40	82	39	30	45	47	55	41	37	614

		1852.													1853.												
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Epidemic, Endemic, and Contagious Diseases.	Influenza					1						19	20	40	3	4	9	10	11	6	4	2	1				50
	Measles																										
	Scarlatina		2	2	2	3	3	7	3	4	1	1	1	29		1	1	4	27	37	44	49	32	22	13		230
	Hooping Cough				2	3								5													
	Croup		2	4	1			3	5	2			2	19	1		1		1	2	3	8	8	1			24
	Thrush																										
	Diarrhœa	3	6	17	17	15	2	8	4	3	10	7	5	97	2	9	13		5	1	6	8	5	5	5	2	61
	Dysentery	10	9	5			3	1	4	1		5	3	41	4	6	3		3	1	3	2	1		12		35
	Cholera	1		2				1						4													
	Typhus	1												1													
	Synochus	2		1	3	1	3	1	3		1	3	3	21		3		1	3	2	4	3	1				17
	Plague																										
	Erysipelas		1	2										3													
	Syphilis																										
	Dropsy	1	2	2	2	2	1	2	3	2	2	5	2	26	6	2	2	4		1	2	2	2	3	3	2	29
	All other Diseases	40	42	43	32	29	45	41	59	39	35	74	67	546	30	64	61	41	59	39	53	57	47	46	35	16	548
		58	64	78	59	54	57	64	81	51	49	114	103	832	45	89	90	60	109	89	119	131	97	77	68	20	994

The cheapest telegraphic instruments are those which make signals by the motions of light magnetic needles. The double-needle instrument generally used in Britain costs about £12, the single-needle instrument about £7, and the additional cost of an alarm-bell apparatus is about £5; but the double-needle instrument of course requires two wires; and the single-needle instrument, although extremely useful for transmitting a limited number of signals, such as those relative to the working of a railway, is too tedious in its operation to be adequate to the rapid transmission of news and commercial messages.

I therefore recommend the adoption of the electric-magnetic instrument used in America, and known as Morse's, which works with a single wire, and transmits messages by marking dots and strokes on strips of paper, for although this instrument costs about £45, the additional expense, at the moderate number of stations which will probably be required, will be much more than compensated for by the great efficiency and rapidity with which messages are transmitted by it.

Second.—Probable cost of the proposed Hobart Town and Launceston Electric Telegraph.

The instruments, insulators, and wire for the proposed telegraph must of course be sent from Britain; and it will be necessary to send in charge of them a skilful mechanic, who will superintend the erection, and instruct the workmen who may be engaged in Van Diemen's Land to assist him. It may be advisable also to send an Assistant along with the Inspector, to take his place in the event of his dying or being disabled. The passage money of this Inspector and his Assistant will form an item of preliminary expenditure.

The instruments will, as I have stated, cost in Britain about £45 each.

The cost of offices or station-houses can of course be estimated on the spot.

The insulators, of which thirty will be required in each mile, may be estimated at about 1*s.* 3*d.* each.

In the present fluctuating state of the British Iron Market (caused chiefly by the operations of speculators), it is difficult to form a precise estimate of the cost of the galvanized wire, or, indeed, of any other article of iron. The *present* price is 40*s.* a cwt. of the best quality, and I have inserted this in the annexed Estimate; but it may safely be anticipated that before the execution of the Telegraph an opportunity will occur of making a contract at about 20 per cent. lower, that is, about 32*s.* per cwt. I wish it, therefore, to be understood that, although I have estimated the wire at the present high price, I think it probable that the actual cost may prove to be about one-fifth part lower.

The weight of the wire per mile is 3½ cwt., but to allow for stays and other extras, I have estimated the quantity required at 4 cwt. per mile.

The posts, of which there will be thirty to the mile, can be estimated on the spot.

The same is the case with the cost of fitting-up the Telegraph, especially in the present fluctuating state of wages in Australia and Van Diemen's Land. I specify in the annexed Estimate the time occupied in fitting-up, on the supposition that the men employed, having been instructed by the Inspector, set out in parties of two—a principal fitter and a labourer or assistant,—each party with a horse and cart, to convey their materials and provisions if necessary, the road being understood to be a good one, and that each party take from three to four days to erect a mile of telegraph.

I leave, however, the rates of wages blank.

ESTIMATE.

Passage-money and expenses of Inspector and his Assistant ...			
Instruments for —— Stations at £45 each			
Station-houses or offices			
Conducting-wire and fittings—cost per mile.....			
Four cwt. No. 8 galvanized best charcoal iron wire, present price 40*s.*	£8	0	0
Freight, £5 per ton	1	0	0
Thirty insulators, at 1*s.* 3*d.* each	1	17	6
	£10	17	6
Thirty Posts, 22 to 24 feet long, 5 inches diameter at large end, and 3 to 4 inches at smaller, of hard and durable timber, seasoned, including labour and cartage.....			
Fitting up wire, fitter and assistant, four days, at			
Horse and Cart, 4 days, at			
Miscellaneous expenses			
One hundred and twenty miles of wire, at £			
	£		
Contingencies 10 per cent.			
Total..... ..... £			

The prospective fall in the price of wire in Britain, to which I have already referred, would diminish this estimate by about 32*s.* per mile, or £192 in all. For the reasons already mentioned, it is difficult to estimate the probable annual cost of repairs; 20*s.* per mile per annum may be looked upon as a reasonably safe estimate.

The salaries of the clerks to work the telegraph can only be estimated on the spot.

Third.—Remarks on a Submarine Telegraph from Van Diemen's Land to Australia, in connection with a line to Melbourne, Sydney, and Geelong.

At the eastern end of Bass's Straits, between Wilson's Promontory in Australia and Cape Portland in Van Diemen's Land, there extends a chain of islands which offer remarkable facilities for the laying a submarine telegraph, to communicate through Melbourne with Sydney and Geelong.

The submarine telegraphic cable for this purpose would cost at the present prices, including freight, about £100 per mile, and may probably be obtained for £80. It would consist of detached portions, stretching from island to island between Cape Portland and Wilson's Promontory, and also of two small portions, each about a mile or a mile and a half long, crossing the inlets on each side of Philip Island, which appears to be a better route from Wilson's Promontory to Melbourne than to follow the main land the whole way.

The total length of submarine telegraph required would be about 150 miles, which would cost, including freight, from £12,000 to £15,000 sterling for the cable.

The cost of laying would consist principally of the hire of a small steamboat for ten days or a fortnight.

The length of land-telegraph required in connection with this line would be as follows:—

	MILES.
Launceston to Cape Portland	100
Islands in the Straits, say	20
Wilson's Promontory, by Philip's Island, to Melbourne	180
Melbourne to Sydney	650
Melbourne to Geelong	60
	1010

In the event of its being found desirable to lay some portion of these lines under ground, a light telegraphic cable might be used, similar to a submarine cable, but of about one-fourth part of the weight.

The cost of this cable, delivered in Australia or Van Diemen's Land, may be estimated at about £25 per mile at existing prices.

(Signed) W. J. Macquorn Rankine,
C.E., F.R.S.E., F.R.S.S.A., &c.

59, St. Vincent-street, Glasgow,
February 1853.

[copy.]

Van Diemen's Land Electric Telegraph.

59, *St. Vincent-street, Glasgow,*
19*th February*, 1853.

Dear Sir,—Since writing my original report on this subject, and the letter which I subsequently addressed to you on the 10th instant, I have received information which enables me to fill up the blanks left for the cost of labour, and some other expenses, in my original Estimate.

The sums, however, which I have put down for these items in the Esti-

mate, which I annex, are of course subject to the uncertainty which attends the cost of labour and materials in Van Diemen's Land, and which can be best judged of by persons resident on the spot.

The following is the Estimate which I now submit to you:—

	£	*s.*	*d.*
Passage Money and other preliminary payments to Inspector and his Assistants	200	0	0
Four Instruments, at £45 each.....	180	0	0
Four Station Houses, say	180	0	0
	£560	0	0

Conducting Wire and Fittings.—Cost per Mile.

	£	*s.*	*d.*			
Wire, 4 cwt. at 40*s.* as per former Estimate...	8	0	0			
Freight, 4 cwt., at 5*s.*, as before	1	0	0			
Thirty Insulators, at 1*s.* 3*d.*, as before.....	1	17	6			
Cost, per mile, of materials to be sent from Britain, as before	10	17	6			
Thirty Posts, at 2*s.*	3	0	0			
Labour, 4 days, at 12s. .....£2 8 0 Ditto 4 days, at 6*s.* 1 4 0	3	12	0			
Carriage—4 days, horse, cart and driver, 15*s.*	3	0	0			
Inspection	1	10	0			
120 miles conducting wire, at £22 per mile				£2640	0	0
				£3200	0	0
Contingencies, 10 per cent.....				320	0	0
Total.....				£3520	0	0

I am, dear Sirs,

Yours faithfully,

(Signed) W. J. Macquorn Rankine.

P.S.—I beg leave to add a few remarks respecting the line of Telegraph which I suggested at the end of my Report, to Sydney, Melbourne, and Geelong.

A gentleman well acquainted with the navigation of Bass's Straits has suggested to me that by carrying the Submarine Telegraphic Cable across the western end of these Straits, from Cape Grim to King's Island and to Cape Otway, instead of across the eastern end, as I originally suggested, the advantages would be gained of having a sandy instead of a rocky bottom, and of placing Geelong on the main line instead of on a branch.

Against this must be set the advantages of the other route, in having several islets in its course, which would enable the cable to be sunk in short lengths.

The total lengths of land and submarine Telegraph respectively would be nearly the same by either route.

The preference must be determined by points of detail, which can be investigated in the event of there being a prospect of the carrying out of the scheme.

Yours faithfully,

(Signed) W. J. MACQUORN RANKINE.

[COPY.]

VAN DIEMEN'S LAND ELECTRIC TELEGRAPH.

59, *St. Vincent-street, Glasgow,*

10*th February*, 1853.

DEAR SIR,—Since reporting on this subject on the 29th ultimo, I have continued to make enquiries respecting the price of wire, and find it can now be had much lower than my original estimate of 40*s.* per cwt. I find that from information I have received to-day, that No. 8 galvanized telegraph wire, in quantities not less than ten tons, can now, and for three months hence, be delivered at Liverpool for £33 per ton; so that, including freight and other expences, its cost will probably not exceed £39 to £40 per ton. This will diminish the estimate of the cost of materials by about £1 per mile.

SUBMARINE TELEGRAPH.

I find from the number and extent of the islands in Bass's Straits, that the length of the submarine telegraph required to connect Van Diemen's Land with the Australian Continent would be only 120 miles, instead of 150 miles, as formerly calculated; the extent of land telegraph would be increased by a corresponding amount; so that the total length of telegraph between Launceston, Sydney, Melbourne and Geelong would be:—

	Miles.
Submarine.....	120
Land.....	1040
Total.....	1160

I am, dear Sir,

Yours faithfully,

(Signed) W. J. MACQUORN RANKINE.

A conversation ensued on the Report, in which Mr. Fraser, Capt. Young, Col. Last, Mr. Dobson, Mr. J. L. Burnett, Mr. Boot, &c., took part; the great advantages to the community of an Electric Telegraph being fully admitted, and the line from Cape Portland through the chain of islands in Bass's Straits to Wilson's Promontory being considered the best; while some doubts were expressed of the necessary capital and enterprise being found to carry out the project. It was observed by the Secretary, that magnetic wires are now being stretched over British

India – that, ere long, these will be connected with the European systems of Electric Telegraphs, and that the day is probably not far distant when a branch of the "Great Trunk Line" will be extended along the Malay Peninsula and through the Archipelago by Timor to North Australia, (where in all probability there may again be a British settlement formed), and thence onward by Western Australia and Adelaide to the gold regions of Victoria.

Mr. Kilburn exhibited his Stereoscope, and promised to reproduce it at next meeting. It is an instrument at once curious, interesting, and delightful to examine, and is a remarkable instance of the mastery of exact science, and as having been one of the many wonderful and valuable products of the Great Exhibition of 1851.

13TH JULY, 1853.—Monthly Evening Meeting; Robert Officer, Esq., a Vice-President, in the chair.

A ballot took place, when the following gentlemen were declared duly elected Fellows of the Society:—John Charles Blackett, of Auckland, New Zealand; Frederick Augustus Ducroz, of Launceston; Augustus Meyer Lochner, R.E., of Hobart Town; Charles Degraves, of Cascades; John F. Cox; James H. Burgess; Robert Lee, B.A., of Hobart Town; and on the recommendation of the Council, the Rev. J. H. Fisher, Vicar of Kirkby Lonsdale, Westmoreland, England, was elected an Honorary Corresponding Member.

The following presentations were made to the Library—By order of the Hon. the Speaker of the Legislative Council of Van Diemen's Land, one volume of "Votes and Proceedings" for the 2nd Session of 1852.—From Mr. Warren, of Argyle-street, one quarto volume in Latin on religious and moral subjects, printed in Black Letter, illuminated, without title-page, name of the author, place or date when printed—the manuscript portion bearing the date of 1472, and as the art of printing was not introduced into England till 1474, the press from which this book issued was probably German, and its date of publication one or more years antecedent to the time of its illumination.—From E. Hathaway, Esq., United States Consul, were received six very elaborate and valuable Charts of Winds and Currents prevailing in various seas throughout the World; by Lieut. Maury, of the American Navy.

Mr. Dobson remarked that Lieut. Maury made the N.E. and S.E. Trade Winds cross into opposite hemispheres, instead of maintaining the old theory of ascent near the Equator.

A copy of the "Reports of the Jurors," and an Exhibitor's Certificate from the Industrial Exhibition of 1851, for the Council of the Royal Society of Van Diemen's Land, were placed on the table.

The following donations were made the Museum:—From the Hon. Colonel Butterworth, C.B., a section nches in diameter and 2 feet in

length) of the trunk of the tree from which Gutta Percha is obtained, with specimens of the bark, twigs, and leaves, and a square box of gutta percha, made to contain the latter; also six painted, hollow wooden-balls, containing each a small stamped ingot of gold or silver, which are scattered by thousands amongst the populace on great State occasions at the Court of Bangkok—similar ingots fastened together in pairs with gold and silver threads, fancy flowers in gold and silver filagree work—rings, specimens of the modern gold coinage of the Kingdom of Siam,—forming, in fact, a portion of a series of presents recently forwarded to Colonel and Mrs. Butterworth by His Majesty Somdetch Phra Paramendr Maha Mongkeet, King of Siam, on the ceremony of his coronation and subsequent marriage to the young and amiable Phra Ong Chan Somanass Waddhanawaddy, "a princess of the highest dignity." From Miss Butterworth were received a collection of dried ferns made at Singapore; a pamphlet printed in Chinese; and a curious hair-comb, such as is commonly used by the Chinese.

Samuel Moses, Esq., presented a small collection of shells from the South Sea Islands, and also a diminutive gold ring, taken from the little finger of General Tom Thumb. From Miss Jackson, of Ross, was received a very large pearl, said to have been obtained from the common edible oyster of Tasmania.

Letters were read from James Mac Arthur, Esq., of Calstock, Deloraine, presenting a box of geological specimens from Barrowa Plains, Yass Plains, Braidwood, Manar, &c., New South Wales; together with a parcel of seed of a grass introduced and cultivated successfully for four years at Braidwood, New South Wales, by the late Dr. Anderson. Mr. Mac Arthur finds that it answers well at Deloraine, and thinks that it may prove a valuable addition to a hay crop. A packet has been sent to the Society's Gardens, and gentlemen desirous of giving it a trial may have seed by applying to the Secretary.

From Andrew Clarke, Esq., R.E., Surveyor-General, Victoria, was received a specimen of *tin ore* from that colony.

Mrs. Whitcomb sent a stuffed specimen of jackdaw (*Corvus monedula*, Linn.) mounted in a glazed case; also a few seeds indigenous to King George's Sound.

Dr. Turnbull presented a specimen of a fine compact pipe-clay, of a yellowish white colour, recently brought by him from his station in the Portland Bay district, Victoria.

From Mrs. Cox were received nine coins, of which seven are silver, one brass, and one copper, plated with silver; namely, 1 shilling of Geo. III. date 1787, in a perfect state of preservation; 1 sixpence, ditto, 1787, ditto; 1 twopenny silver piece ditto, 1780, ditto; 2 threepenny silver pieces ditto, 1762 and 1800, ditto; 1 silver groat, William and Mary, 1691; 1 silver coin, 1683 (?), lion rampant on one side, otherwise illegible; 1 brass coin, of Charles II., without date; 1 copper coin, legend and device totally illegible.

D. T. Kilburn, Esq., presented two framed Daguerreotype pictures of three Aborigines of Victoria, and mentioned the extreme difficulty experienced in getting them to sit a second time, as upon seeing their likenesses so suddenly and accurately fixed, they took him for nothing less than a sorcerer.

Mr. J. H. Burgess presented a series of moulds in plaster of Paris, from which casts of Tasmanian Aborigines were formerly taken.

A note was read from G. S. Davies, A.P.M. of Bothwell, transmitting a specimen of water-rat (*Hydromys chrysogaster*), caught in that neighbourhood.

Mr. Milligan gave the following measurements of the head, &c., of a shark caught a few months ago in Storm Bay, the jaws of which were exhibited at last meeting:—Width of the mouth from one commissure of the lips to the other, 18 inches; space between the upper lip and the extremity of the snout, 13 inches; space between the snout and the gills, 42 inches; girth round the head over the eyes, 39 inches; ditto round the neck and gills, 7 feet and 6 inches; length of the long segment or upper portion of the tail fin, 3 feet and 5 inches; ditto of the shorter tail fin, 2 feet and 7 inches; girth round at setting on of the tail, 1 foot and 8 inches; length of dorsal fin, 3 feet. The entire length of the enormous fish could not be correctly ascertained, in consequence of the head, tail, and fins only having been secured and brought to Hobart Town.

Two cases of plants have been received for the Society's Gardens, per *Senator*, from Messrs. Low & Co., of Clapton, London. Contents dead, four plants excepted.

Two cases Tasmanian, Australian, and Norfolk Island plants have been forwarded, per *Prince Regent*, to Messrs. Gibbs & Co., of Ariea, South America,—in all fifty plants,—with a view to procure in exchange plants from the table lands there, which in all probability would thrive well in this climate.

One case has been forwarded to John Smith, Esq., of Melbourne, containing thirty-seven exotics.

Dr. Crooke observed that he had been unable with the aid of the blow-pipe to obtain metallic tin from the ore sent from Victoria.

The Secretary stated that he had extracted from it, with difficulty, two very small globules; and exhibited, for the sake of comparison, specimens of sulphuret of tin, stream tin ore, and oxide of tin in veins in *killas* from Cornwall.

Dr. Officer drew attention to a similarity in the venation and structure of the leaves of the gutta percha tree upon the table, and in those of the *Ficus Indica*, a plant yielding an analogous product.

Dr. Agnew and others expressed doubts of the pearl presented this evening being a genuine production of a Tasmanian oyster, as hitherto they only had been met with of a very small size.

Dr. Officer undertook to sow upon a patch of clean soil a portion of the

grass-seed submitted to-night, to give it due attention, and to report the result. The Secretary mentioned having already confided packets of the seed to Captain Dixon, to be tried on the Isis; to Mr. G. Marshall, for trial at Noble Farm, Pittwater; and to Mr. James Whyte, to be tested at the Cross Marsh.

The following papers were read:—

A richly emblazoned autograph letter in the English language, dated "Royal Residence named Rajmanderri House, Grand Palace, Bangkok, Siam, 20th June, 1852." From the reigning King of Siam to the Hon. Colonel Butterworth and Lady, transmitting presents, &c., "according to ancient Royal custom," on the occasion of his Coronation and of his Marriage, &c. Also an English translation of a document drawn up by Siamese officers, entitled "an account of the most lamentable illness and death of her young and amiable Majesty the Queen Somanass Waddhana-waddy, the lawful Royal Consort of His Most Excellent and Gracious Majesty Somdetch Phra Paramendr Maha Mongkeet, the reigning King of Siam."

The autograph letter of His Siamese Majesty excited much surprise by its style, its correct mode of expression, and the liberality of sentiment and just appreciation of public principles of action which it evinced. Mr. Francis Smith thought the letter gave evidence of its having been written by a man of very great capacity. Dr. Officer understood that the present Sovereign of Siam had effected numerous and very great reforms in the administration of public affairs.

Mr. Milligan produced a communication from R. Kippist, Esq., of the Linnæan Society, touching botanical specimens sent home, the reading of which was postponed on account of the lateness of the hour.

The most important of the illustrated works recently received by the Society lay on the table. Part IV. of Gould's Birds of Asia; Part IV. of Gould's Mammals of Australia; Parts 10 to 15 of Reeves' Conchologia Iconica; Parts 2 and 3 of Dr. Hooker's Flora of New Zealand; and Part 3 of the Rhododendrons of Himalaya; all executed in the highest style of art.

Upon the motion of Henry Hopkins, Esq., seconded by Mr. Moss, the thanks of the Society were voted to the various persons who had made donations and communicated papers, and the meeting separated soon after nine o'clock.

10TH AUGUST, 1853.—Monthly Evening Meeting; Joseph Hone, Esq., in the chair.

The following gentlemen were elected into the Society:—C. J. Weedon, Launceston; Isaac Sherwin, of Sherwood, Bothwell; Adam Jackson, of Williamswood, Ross.

The presentations were, to the Library—"Fasciculi (6 sheets) of Proceedings of the Linnæan Society of London, from February 1851 to June 1852," from the Linnæan Society.

From the Society of Arts, London, four numbers of their weekly journal.

From Messrs. Orger and Meryon, London, a classified Index of the London Catalogue of Books published in Great Britain—1816 to 1851.

From Mr. Warren, of Argyle-street, the European Gazetteer, London, 1702. The Unhappiness of England as to its Trade, &c., London, 1701. The Works of Hildebrand Jacob, Esq., &c., London, 1735.

Mr. John Price presented to the Museum two stone hatchets, said to have been dug up from a depth of several feet at Norfolk Island; and a note on the subject, and on the tree producing the "blood fruit," was read.

Fossil shells, of the silurian series—obtained at the Mersey River, near the estuary—were presented from Mr. James Scott, of Launceston.

From Mr. H. F. Anstey was received a nugget of gold, imbedded in ferruginous conglomerate, from the M'Ivor Diggings.

Mr. J. D. Loch presented a round shield of bull's hide, embossed with points of brass, brought by him from Benares.

From Mr. Adam Jackson, of Ross, was received two promissory notes of the States of Maryland and Pennsylvania, for the sum of six shillings and one dollar, of very old date, with official signatures attached.

A note from Mr. J. F. Hues was read, transmitting for the Museum 10 silver coins of England and other countries, and 19 promissory notes (of private persons) formerly in circulation in Van Diemen's Land, together with the following list of the same:—

COINS.

One Shilling William III., 1699.	One Threepence George III., 1762.
One Sixpence George II., 1757.	One Ditto George II., 1740.
One Sixpence George III., 1787.	One Dump.
One (Spanish) Charles III., 1781.	One Quarter dollar.
One ditto Pistole Charles III., 1777.	One Ditto.

PROMISSORY NOTES.

One Dollar	William Barnes, 12th September, 1824.
One Shilling.....	Jocelyn Thomas, December 1825.
Sixpence	J. P. Deane, 1st January, 1823.
Two Dollars.....	A. Charlton, 6th July, 1823.
One Pound	J. T. Gellibrand, 1st March, 1827.
One Ditto.....	Ditto, 1st January, 1827.
One Dollar	W. Barnes, 27th September, 1824.
Sixpence	J. P. Deane, 1st July, 1823.
Five Shillings	J. Griffiths, 25th March, 1826.
Sixpence	W. Payton, 12th May, 1825.
Ditto.....	Richard Taylor, 31st March, 1826.
One Shilling.....	J. Haughton, 12th July, 1826.
Sixpence	J. Pugh, 22nd June, 1826.

One Shilling.....	J. Pugh, 18th July, 1826.
One Ditto.....	Ditto, 20th July, 1826.
One Ditto.....	J. Griffiths, 27th February, 1826.
One Ditto.....	J. Yeates, 5th April, 1824.
One Ditto.....	J. Haughton, 29th July, 1826.
Sixpence	Ditto, 24th July, 1826.

The following books, recently arrived from England, lay on the table for inspection—Reichenbach's Researches on the Dynamics of Magnetism, Electricity, Heat, Light, &c., in relation to Vital Forces. Badham's Funguses of England. Nereis Australis, by Wm. Henry Harvey, M.D., 2 parts. Zoology of H.M.S. *Erebus* and *Terror*, 15 parts. Six Ethnographical Maps, in 2 parts, by J. C. Prichard, M.D., F.R.S.

A letter from Mr. Bennett, Secretary to the Linnæan Society of London, was read, acknowledging Part 1 of Vol. 2 of "Papers and Proceedings of the Royal Society of Van Diemen's Land."

The Secretary drew attention to the attempts lately made in France to transpose the ova of salmon and trout, &c., to rivers in which they did not previously exist—the eminent success with which the experiments had been crowned, and the liberal encouragement and assistance afforded by the French Government to the execution of the project on a large scale. The Secretary then read the following article on the subject, taken from the *Perth Courier*:—

ARTIFICIAL PROPAGATION OF SALMON, TROUT, AND OTHER FISH.

We lately extracted an article from a metropolitan journal on the new mode of propagating salmon—invented, or at all events extensively and systematically practised, by two ingenious Frenchmen of the Vozges, which had been made the subject of a special report to the Minister of Agriculture and Commerce in August last. We have since received a copy of the report itself, which is interesting—both from the details it contains of the process followed, and from the evidence it affords of the attention which the French Government bestows on every scheme connected with the advancement of the national interests. Under the patronage of the latter, a sum of 30,000 francs was voted to the engineers of the canal which connects the Rhone with the Rhine, to form from its superfluous waters an artificial pond, with the requisite works for carrying out the new scheme on a large scale, where, within the first six months of its establishment, they had impregnated upwards of three millions of ova of different species, which had produced 1,683,200 living fish. On this fact being reported to the Minister of the Interior, M. Coste, a member of the Institute and an experienced naturalist, was appointed to visit the different establishments of the same nature situated in the Lagoons of the Adriatic, near the mouths of the Po, Adige, and Brenta, as well as the Camachio, where large conserves of delicious fish have existed for a long period—with the view of a general introduction of the system into all the suitable rivers of France.

The substance of M. Coste's report is, that not only the ova of the salmon, although carried from their native beds to great distances, preserve all their

qualities entire, but that the artificial means of incubation provided under the new system completes the process more quickly and more surely than when left to their natural course; in fact, two growths are obtained within the space of one ordinary breeding season. This double result enables the Government to make the scheme self-supporting, because the proprietors are ready to pay for the choice sorts of fish put at their disposal. The locality of the establishment at Huningue, upon the canal above mentioned, is then described, with the process of depositing the ova, as formerly given in our columns. A spring of remarkably clear water flows through a commonty of a few acres extent. In its course it divides itself into several smaller streams, into which the boxes are placed, with wire-cloth ends through which the water flows, leaving the ova and young fish in a constant running stream. This work M. Coste purposes to enlarge, substituting planks of wood laid lengthways in parallel divisions for the wire-cloth boxes, which are liable to choke up--enclosing the spring with a series of straight furrows, along which the water will precipitate itself. Certain obstructions like sluices are placed at intervals in these furrows, to regulate the current and to keep the water in proper condition for the object in view. These furrows extend along the meadow and empty themselves into a spacious basin, where the young spawn will be first received. Over this basin something like a greenhouse is to be erected, with shifting glass windows, to admit the sun and air. Attached to this will be an outhouse, or *laboratoire*, where a register of the weather, and observations on the natural history of the fish during their incubation and childhood, may be preserved.

When the period of infancy is passed, the next object is to provide ponds where the different species may have the means of attaining mature growth, or where experiments in crossing the breeds may be carried on. M. Coste proposes that a chain of fish-ponds should be dug along the banks of the canal, the land of which, for about fifteen metres on each side, belongs to Government. These ponds may be extended to any length, and communicate with each other by means of gates of wire or ironwork. When of sufficient growth to stand transportation, the canal with which these ponds communicate will be the natural channel through which the fish would be carried to the different rivers in France. This is to be effected by boxes attached by rings to rafts, the boxes to contain a sufficient quantity of water-plants to prevent the young fish being injured. These boxes can be detached from the raft at the openings to the fish-ponds, just as a waggon is left on a siding on a railway. The details of these operations we need not give, as they could not be well understood without diagrams. Suffice it, that the *personnel* of the bridges and roads are to do the whole work of the transmission of the fry from pond to pond, and along the canal; and that the yearly expense is calculated at no greater sum than 8,000f. after the first year. The report concludes with the result of M. Coste's experiments on the propagation of shell fish, equally successful with that of fresh water fish.

The subject is far from being entirely new in this country; for Mr. Young, who has charge of the Duke of Sutherland's rivers in the north,

has successfully bred salmon, taken after spawning, from one river to another; and the same has been done in other places. But what strikes us as noticeable in the above report is the evidence it affords of the readiness with which the Government in France, however constituted, applies itself to the encouragement of domestic industry upon the announcement of any discovery in science or the arts, which in our country would be left to private enterprise, and either carried on to private profit, or languish under the obstruction of "vested interests." In one "salmon seminary," in a province in France, last year, two engineers, from their own resources, raised 1,000,000 trouts, salmon, and mixed breed; what, then, might not be done by the wealthy proprietors of salmon fishings in the Tay, in the way of increased production of the finest species of that fish which frequents that river? Little can be done without combination; and the history of the Tay fishings affords proof that "coalitions" are as little relished on its banks in that branch of productive industry as in politics.

The Secretary read a long and interesting letter from R. Kippist, Esq., of the Linnæan Society of London, upon a collection of plants made at Macquarie Harbour by Mr. Milligan, and by him transmitted to the Linnæan Society.

The thanks of the Society were voted to the persons making donations and communications, and the members separated about nine o'clock.

14TH SEPTEMBER, 1853.—Monthly Evening Meeting; His Excellency Sir W. T. Denison, President, in the chair.

After a ballot the following gentlemen were declared duly elected into the Society:—John Leake, of Rosedale; James Richardson, of Hagley; T. L. Gellibrand, Henry Palmer, Alfred Wilkinson, and E. J. Dawes, of Hobart Town.

The presentations were as follows—From Dr. Kenworthy, a Treatise on the Microscope and Microscopic objects; a sample of grain gold intermixed with oxide of tin from the diggings at the Ovens, Victoria.

From Miss Butterworth, six specimens in duplicate of the decimal copper coinage of the East India Company—namely, cent, half-cent, and quarter-cent in circulation at Singapore.

From Mr. Gibson, of Circular Head, specimens of quartzose rock from the vicinity of the Black River there, of which large samples have been forwarded to England, under the supposition of its being auriferous.

From Mr. H. Hull, seeds of *Martynia fragrans*, from the Mauritius, for the Society's gardens.

From Mr. Dickenson, specimens of Micaceous Schist, veined with quartz, from the neighbourhood of Lake Dixon.

From Mr. Rolwegan, specimens of Sandstone, altered into a compact siliceous rock by igneous action, and having imbedded in its substance spherical bodies about three quarters of an inch in diameter, with a

papilla on one side of each, obtained from the flank of the range of hills on the west side of the Launceston road at Bagdad, upon Hayes' farm.

From Mr. Thomas Browne, of Macquarie-street, one East Indian Copper Coin.

From the Rev. Edward Freeman, of Brown's River, a specimen of Drift Wood cast up on the sea-beach there, upon which were fixed a congeries of conical ova-cells of a shell-fish—probably a *Murex* or *Fasciolaria*. On examination, the yolky contents of the cells were found more or less inspissated, without having made any advance towards organization.

From His Excellency Sir W. T. Denison, a packet containing 19 species of seeds from China for the Gardens.

From Francis Smith, Esq., Solicitor-General, a packet containing 120 species of Indian seeds for the Gardens.

A case containing 39 plants has been forwarded to Mr. Blackett at Auckland, for which a case of New Zealand plants is expected in return.

Sir W. Denison remarked in reference to the fragment of transmuted sandstone submitted, that specimens similarly altered had been brought by him from the neighbourhood of Hamilton, and he believed that it would in general be found that sedimentary strata in close proximity to eruptive rocks have been similarly transmuted. The Secretary observed that such is the case to a certain extent at Richmond, where a basaltic dyke has burst through and dislocated the coal strata, crossing the Coal River near Mr. Butcher's house; that it is not the case at Jerusalem, where a similar dyke intersects and displaces the coal and associated beds, without affecting their horizontality, at a distance not more than fifty yards from the adit level, whence coal was formerly worked out by the Government; and that no very obvious alteration of structure has taken place on the side of Ben Lomond, where the coal sandstones and shales have been elevated to a height of three thousand feet above the sea, and still rest on the igneous rocks in a nearly horizontal position, with their edges but slightly turned up, where they are in contact: the converse being the case at the South Cape coal-field, where contact with an erupted dyke has converted the shales into a striped, flinty-looking rock. Mr. W. Archer questioned the fact of the sandstones and coal on the side of Ben Lomond having been elevated to their present position, and ventured to think it possible that the sedimentary beds may have been deposited upon and against pre-existing igneous rocks, and that the edges, being upturned at the point of contact, may be wholly due to natural subsidence of the mass of the deposited matter. The Secretary supported his argument by stating that similar carboniferous rocks at the Schouten Island and at the Douglas River dip under the greenstone. His Excellency corroborated this, and said that at Schouten Island the edges of the coal beds had been found to abut against and to repose upon the granite, altogether unaltered in character and position, except that they are found to thin off near the junction. A conversation followed as to the age of the red sandstone, forming so marked a geological feature in the north-west,

extreme west, and south-west districts of Tasmania, and whether it bears any analogy to the *old red* or Devonian of the European system, a circumstance rendered more than doubtful in the opinion of Mr. Milligan,—first, from the non-discovery of the characteristic fossils, or indeed of any fossils in it hitherto; and, secondly, from its passing by degrees into a coarse ferruginous conglomerate, having amongst its components fragments of recent rocks.

The Secretary reported having recently received from Mr. James Macarthur, of Calstock, a small quantity of a fine pulverulent substance, washed by that gentleman from the combustible schist found at the Mersey (of which specimens have been repeatedly exhibited to the Society), which Mr. Archer had examined with a pocket microscope and pronounced to be resin. Mr. Archer described it as being in minute, smooth, flattened grains, giving the impression that it had exuded from the leaf or bark of the plant or tree by which it may have been produced, nearly of the size and form which it now possesses,—that it probably fell like small dust on the surface of the ground, where from its nature it would remain unaltered until swept by rain and other causes, intermixed with fine argillaceous particles into a lake or estuary where it would be deposited, and thus eventually form the thick beds in which it is now met with.

Dr. Agnew thought the point of its being of vegetable origin scarcely settled, and inquired its geological relation to the coal at the Mersey River.

Sir W. Denison stated that at one place it is elevated some 200 feet above the coal, and that it would probably be found to be a much more recent formation.

Mr. Milligan observed that the cliffs of incoherent sandstone forming the eastern margin of the estuary at Macquarie Harbour, which contain lignite of a jet-like aspect, and precisely similar to that obtained in the channel of the Derwent, near Cawthorn's, yield nodules of resin more or less perfect, and from which a peculiar fragrance is distinctly elicited by friction—these cliffs being beyond all question of a comparatively recent age.

The relative age, character, and qualities and structure of the different kinds of coals and lignites fell under observation, and a discussion of some interest arose upon the existing coniferæ, their respective habits and range in Tasmania, the size and value of their timber, and the appearance and mode of cultivation of the several genera and species Mr. Archdeacon Davies mentioned having sent to England several cases of *Arthrotaxis selaginoides*, but that the plants invariably perished on the voyage, and that he had more recently sent a case of the same to Sydney.

A member suggested the great difficulty generally experienced in cultivating the conifers of Tasmania. Mr. Archer informed the meeting that his attempts with them had usually been successful; and that he has now, in a thriving condition, in his garden at Cheshunt, (immediately at the foot of the Western Mountains), the following species:—*Arthrotaxis*

selaginoides, *A laxifolia*, *A cupressoides*, *Microcachrys tetragona*, *Pherosphæra Hookeriana*, *Callitris Australis*, *Phyllocladus asplenifolia*, *Podocarpus alpina*.

Mr. Kilburn submitted for inspection some most satisfactory results of trials which he is now making to obtain photographic pictures of public buildings, with landscapes, &c., by the Talbotype process.

Mr. Davies drew attention to the fact that great quantities of fish have of late been cast up at various points on the East Coast, killed, as has been reported, by a species of Fungus attacking and spreading round their gills; and also that immense masses of shrimps have recently been thrown up on the sea-shore near Swansea. Sir W. Denison observed that such phenomena were common during volcanic eruptions, and that certain striking irregularities noticed in the tides here a few months ago would lead to the belief that some great sub-marine commotion might be going on in our neighbourhood, a surmise strengthened by the contemporaneous occurrence of earthquake shocks at New Zealand.

Mr. Davies bore testimony to the accuracy of the report of a singularly sudden rise and recession of tide made to the Society a few months back by Dr. Edward Bedford, he having been on the spot at New Town at the time, and observed the fact.

Mr. Loehner confirmed the accuracy of the report made to the Society of the extraordinary rise and sudden recession of the tide at Port Arthur, about the 1st of January last.

Mr. W. Archer submitted for examination, and explained at some length, a series of drawings made by him of certain galls or tuberosities, with turret-like processes, upon twigs of the *Casuarina quadrivalvis*, laid before the Society a few months since by Dr. Officer, and of the insect contained, and promised to supply a description in writing for the next monthly meeting.

Mr. Archer drew attention to a small brown speck observable on the surface of Oranges brought here from Sydney this season, and to the fact that under each of these brown fungus-like scales he had found a minute living insect, little more than one-hundredth of an inch in diameter.

Mr. Archer also laid on the table a curiously convoluted and fantastic growth of a shoot of *Casuarina* for inspection.

A case of stuffed birds from the Himalaya ranges in India, together with skins of the Jackall, *Canis aureus*—a small feline animal, like the Garangan *Herpestes Javanicus*, with the head of a male of the Musk Deer, *Moschus moschiferus*, and skins of various species of squirrels lately purchased by the Society,—were open for inspection.

Some desultory conversation succeeded, when it was moved by Joseph Hone, Esq., and carried unanimously, "That the thanks of the Society be rendered to the various persons who have made donations."

His Excellency the President left the chair a little after nine o'clock, and by half-past the members had dispersed.

12TH OCTOBER, 1853.—Monthly Evening Meeting.

On the motion of H. Hull, Esq, the chair was taken by D. T. Kilburn Esq., in the absence of His Excellency the President, and the Vice-Presidents.

Upon a ballot for new members, the following gentlemen were declared duly elected:—W. J. Carroll, M. D.; Philip Ravenhill and Augustus Frederick Smith, 99th Regiment, Hobart Town; Alexander Clerke, M.L.C. of Mountford; James J. Bayles, of Rokeby; William Langdon, M.L.C. of Montacute; George Fordyce Story, M.D., of Grainge, Swanport; James Vautin and Lorenzo Lodge, of Hobart Town.

The following donations were made. For the Library—39 volumes (neatly bound) of the "Transactions of the Society of Arts of London," by George Carr Clarke, Esq., of Ellenthorpe Hall. One bound folio volume, being an attested "Fac-simile of Washington's Accounts," during the eventful period from June 1775 to June 1783, by E. Hathaway, Esq., U.S. Consul. "Jewish Calendar," by Phineas Moss, Esq. "Tasmanian Athenæum," No. 1, from the Editors. "Information regarding the Colony of Van Diemen's Land, intended for the use of Emigrants, &c.," from the Government Printer. "Journal of Society of Arts," from 20th May, 1835.

For the Museum—Specimens of thin seams of bituminous coal and associated fire-clay obtained from a shaft sunk to the depth of 100 feet at the Barrabool Hills, in the immediate vicinity of Geelong, forwarded by Robert Garrett, Esq., of Geelong, and John Roberts, Esq., of this city. It does not appear that coal-seams of a workable thickness have as yet been met with in the province of Victoria.

From Mrs. Arnold, samples of sand from Forest Creek, Victoria, containing numerous small crystals, supposed to be ruby, with specks of water-worn gold, &c.

From Captain Smith, of the Coal Mines, Tasman's Peninsula, samples of Algæ, cast up on Slopen Island, known to yield a pure and delicious jelly, to which purpose it has for years been applied.

From A. M. Lochner, Esq., three *Crania* of aborigines of New Zealand, New South Wales, and Tasmania, affording a good opportunity for contrasting the superior intellectual development of the first with the preponderating animal faculties of the latter.

Mr. Milligan added to the collection a dried specimen of *Diodon* from D'Entrecasteaux's Channel.

The following books, added to the library by purchase since last meeting, lay on the table for inspection:—"Wood's Practical Treatise on Railroads, &c.;" "Tredgold on the Steam Engine, Steam Navigation, and Construction of Steamboats, &c.," 2 vols., 4to; "Conchologia Iconica," of Reeve, Nos. 116 to 120—a work so accurately designed, and coloured with such fidelity, as to constitute in itself a collection of figures almost as useful as the most ample and varied cabinet of Conchology; also "Gould's Trochilidæ," parts 3 and 4; "Gould's Birds of Asia," parts 3 and 4—works finished in a style beyond all praise.

On the table were late numbers of the Edinburgh Review, Philosophical Journal, the Annals of Natural History, Hooker's Journal of Botany, Archive für Naturgeschichte, Turner's Fruitist and Florist, Geological Journal, &c. &c.

The Secretary read letters from A. Sprenger, Esq., Secretary to the Asiatic Society of Bengal, acknowledging receipt of "Papers and Proceedings of the Royal Society of Van Diemen's Land," and advising certain contributions made in return by that Society and by Mr. Blyth.

The Secretary read a Despatch from His Grace the Duke of Newcastle to His Excellency Sir William Denison, and a Report furnished to Her Majesty's Land and Emigration Commissioners, on the failure of the attempt made to introduce salmon and trout from England into Tasmania by means of spawn, shipped on board the "Columbus," in January 1852, by Dr. Boecius. This gentleman has undertaken, with the sanction of His Grace the Secretary of State for the Colonies, to make another effort to accomplish an object likely to prove so valuable to this country; and it had been resolved to ship spawn in October of this year, and to adopt every means to ensure success, which the probable causes of failure in the former trial would seem to render necessary.

Upon discussing the subject the opinion of the meeting appeared to be, that if the water which is to be supplied during the voyage to the spawn-tubs or smolt-tanks be conveyed in iron tanks, there is but too much reason to fear that the amount of metallic impregnation (notwithstanding the coating of varnish employed to protect the inner surface of the iron) will be such as to render the element unfit for the fish to survive in, and that death and decomposition must ensue, as in the attempt already made.

The Secretary laid before the meeting a note from Mr. Sherwin, recommending an inquiry into the origin, character, and progress of the epidemic diseases, Influenza and Scarlatina, which have lately prevailed, and which, in the case of the former, has affected and proved fatal to so many of the inferior animals.

On the motion of J. H. Moore, Esq., of New Norfolk, the thanks of the Society were accorded to the various persons making donations and for the papers produced. Some Indian correspondence was reserved for another meeting.

A member thought it desirable that greater publicity should be given to the fact that the Museum is now open to visitors daily, *Wednesdays excepted*, from 2 to 5 o'clock p.m.

The members separated about 10 o'clock.

9th NOVEMBER, 1853.—Monthly Evening Meeting; His Excellency Sir W. T. Denison, President, in the chair. The meeting was numerously attended.

The following gentlemen were ballotted for and duly elected into the Society:—The Rev. George Banks Smith, of Invermay; the Rev. Henry Plow Kane, of Launceston; the Rev. James Norman, of Launceston; William Stammers Button, Mayor of Launceston; William and Philip Barnes, of Trevallyn and Launceston; St. John E. Browne, William Campbell, William Cleveland, Henry St. John Brown, James Smith, Richard Green, Henry Norman Browne, and George Eddie, of Launceston; and Frederick Maitland Innes, of Patterson's Plains. Also W. A. Sandford, Colonial Secretary, Western Australia; Henry Butler Stoney, 99th Regiment; Charles D'Almeida Lempriere, of Brighton; Frederick Hall, John Forster and Isaac Wright, of Hobart Town.

The following presentations were made:—

To the Library—One 4to volume (3rd) of Magnetical and Meteorological Observations, taken at the Observatory, Hobart Town; forwarded by the British Government, and deposited with the Society by order of His Excellency.

Report on the Vegetation of the Colony of Victoria, by the Government Botanist there; printed, published, and forwarded hither by the Government, and transferred to the Society by Sir W. Denison.

One volume folio, dated London, 1618, entitled "The French Academie, in foure Bookes: 1. Institutions of Manners and Customs of all Estates. 2. Concerning the Soul and Body of Man. 3. A notable description of the whole World. 4. Christian Philosophie instructing the true and only means to Eternal Life. By Peter De La Primadelaye, Esquire, Lord of Barre, Chancellour and Steward of the French King's House." From Mr. Charles Peters, of Fingal, a book respectable for its age, and not more remarkable for the variety of its subject matter than the curious quaintness of its style.

Tasmanian Athenæum, No. 2, from the Editors.

Augustus F. Smith, Esq., of the 99th Regiment, presented for the Museum the model of a Telegraph Staff, with a sheet having four new codes of coloured signals displayed, and fully described upon it, invented by himself.

Peter Fraser, Esq., Colonial Treasurer, presented the well-preserved antlered head of a roe-buck (*Cervus capreolus*, LINN.), shot by himself in the north of Scotland.

George Whitcomb, Esq., presented a spirit preparation of the Spiny Lizard *(Moloch horridus)*, of Western Australia; together with a section of the stem of a plant, (probably a *Dracæna*), from the same locality, under the name of cabbage-tree.

A mixed collection of dried Ferns, Lichens, Algæ, and Corallines, made for the late Captain Matthew Forster, at Norfolk Island, was received from John Forster, Esq.

The Secretary submitted a specimen of partially lignitized wood from the shaft recently sunk at the head of Warwick-street, by Mr. Z. Williams, in search for coal. The specimen is part of a considerable mass obtained near the junction of the diluvial boulder formation (where it is about 25 feet thick), with the sandstone upon which it rests.

D. T. Kilburn, Esq., submitted for inspection a series of photographic views of public and other buildings in Hobart Town, taken on paper, which exhibited a marked improvement over those produced on a former occasion by the same gentleman. Mr. Kilburn stated that he intended to prosecute the art, so as still further to improve on the results he has obtained—that he would endeavour to obtain impressions upon glass, and that he would submit a short paper on the subject to an early meeting.

His Excellency Sir William Denison read an interesting paper on Drainage and Sewerage of Towns, with reference to their influence on the health of the inhabitants, more especially with regard to the probable connexion which exists between the present imperfectly drained state of Launceston and Hobart Town, and the late severe epidemic diseases which have prevailed in these towns.

Before the members separated, it was moved by Mr. Crombie, seconded by Mr. Edward Macdowell, supported by Dr. Bedford and others, and carried,—That it is desirable immediately to communicate to the municipal bodies of Hobart Town and Launceston the contents of the paper on drainage of towns, &c., and that it is expedient the same should be published with the least possible delay.

His Excellency also before rising read to the meeting a letter from the Astronomer Royal, Professor Airey, communicating the fact of six complete sets of meteorological instruments having been forwarded to the colony; that he (Sir William) intended to place one set to be worked at the Observatory here, and a second set at Port Arthur, and that any suggestions as to the best position and mode of bringing the other sets into operation would be thankfully received.

A vote of thanks having been unanimously accorded to the persons who brought donations and furnished papers and communications, the meeting, after discussions on the best means of affording to Hobart Town and Launceston an abundant supply of good water, and its importance in a sanitary point of view, broke up.

14TH DECEMBER, 1853.—Monthly Evening Meeting; Robert Officer, Esq., M.L.C., a Vice-President, in the chair.

The following gentlemen having been ballotted for were declared to be duly elected into the Society:—Anthony Fenn Kemp, of Mount Vernon; Charles M'Lachlan, John Robertson, William Crosby, and William Gellibrand, of Hobart Town; William Giblin, of New Town;

James Robertson, David Murray, P. S. Tomlins, and John Dowling, of Launceston; and J. S. Martin, Esq., Evandale.

The Secretary laid on the table a list of the four Members of Council who retire at the ensuing Annual General Meeting, and of four members recommended for election.

The following presentations were announced:—

From the Royal Geographical Society of London, Address at the Anniversary Meeting, held 23rd May, 1853, by Sir R. I. Murchison.

From Mr. L. Lodge, New Testament in Greek, with the Psalms of David in Greek and English, dated 1652. One volume (5th) of Aristotle's Philosophy, in Latin, dated 1579.

Tasmanian Athenæum, from the Editors, No. 3.

From His Excellency, Sir W. T. Denison, the Botanical Report of William Swainson, Esq., F.R.S., &c., laid on the table of the Legislative Council, Victoria, and printed by order. This Report was read by the Secretary. Mr. Swainson has divided the Eucalyptidæ into five new genera, and concludes that he will be able to establish at least 500 distinct species! Mr. Swainson considers the Casuarinæ "the true pines of Australia," and states that he has determined and named "more than 200 species" growing near Melbourne!

From Alexander McNaughtan, Esq., was received a valuable collection of shells from Singapore for the Museum, together with a case of tea-plants for the Botanical Gardens.

Lieutenant Smith, R.N., Gold Commissioner at Castlemaine, Victoria, sent a specimen of quartz containing gold from Barker's Creek, and of various crystals, &c., washed out on the "Jim Crow" ranges; also a collection of ornamental skin dresses worn by the Esquimaux.

P. L. Capewell, Esq., of Ballan, Victoria, sent a box of well-prepared and very interesting microscopic objects, comprehending sections of Tasmanian Spheriæ, a new parasitical plant taken from an Eucalyptus at Ballan,—*Sarcoptes Ovis*—the acarus of scab in sheep; silicified coniferous wood of Tasmania;—*Foraminiferæ*, from Holdfast Bay, South Australia;—*Foraminiferæ* and *Polythalmiæ*, from dredgings in the Ægean Sea, by Professor Ed. Forbes; Siliceous Spiculæ of Sponge from Lake Hindmarsh (fresh water); Sponge from Port Phillip Bay, having spiculæ similar to the last; Sponge from Holdfast Bay, South Australia, with remarkable spiculæ; Zoophyte from Great Barrier Reef; Parasite of the Satin Bower Bird; Echinococci, Cysts from the liver of a Merino sheep, South Australia. Mr. Capewell mentions having caught two specimens of *Dasyurus maculatus* near Ballan, and that others had been taken in the ranges, and that it is not therefore confined to Van Diemen's Land, as supposed.

The Rev. James Garrett, of West Tamar, sent a sample of clay from his neighbourhood, supposed to be auriferous.

Lieut. Smith, 99th Regt., presented two spears, or swords, edged with shark's teeth, used by the aborigines of Hope Island.

Mr. James Burnett, of Macquarie-street, presented a prepared skin of

the (male) King Lory Parrot (*Aprosmictus scapulatus*, GOULD), of New South Wales.

Captain Stoney, 99th Regt., presented the prepared skin of an Albatross, *Diomedea brachyura*, and two skins of the Cape Pigeon (*Daption Capensis*).

Mr. Hall, of Macquarie-street, sent a large double cocoa-nut, the seed-vessel of *Lodoicea Sechellarum*.

From Mr. Hugh Murray, of Guilford Hills, was received, through W. S. Sharland, Esq., M.L.C., one Silver Coin, dated 1735, stamped on one side with the Brazilian arms; motto and device partly illegible.

The Secretary laid before the meeting Returns of the number of Gold-digging Licences issued, and other information respecting the Gold Revenue, by Lieut. Smith, R.N.

The Secretary laid on the table two numbers of the New Zealand *Spectator*, containing interesting notices of fossil remains found on the cliffs and superficial deposits of blue clay, &c., at Awamoa, &c.*

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* Many of your readers may have read in the Papers and Proceedings of the Royal Society of Van Diemen's Land (a publication unequalled in interest in our Colonial Literature, until those of the New Zealand Society may be published), an abstract of a paper by Geoffory Saint Hilaire, on some bones and eggs of a gigantic bird, which he names Æpyornis maximus, found at Madagascar.

As we do not feel altogether satisfied at the manner in which this new discovery throws our own Moa into the shade, dislocating its mandibles, I will give you a few notes on the eggs of that ill-used biped, which you can publish if you think them of sufficient interest.

Last Christmas I camped at the mouth of the Awamoa, a small stream between Kakaunui and Oamaru, having found there a few weeks before the umus of the extinct aboriginal tribe of Waitaha, full of bones, stones, &c., and devoted a day to digging. The old surface in which the umus had been excavated was buried under a foot of alluvial deposit: beneath this the old sandy soil was blackened by the mixture of charcoal, large lumps of which were scattered among the chaotic mass. The primeval savages had evidently thrown back into the umu the remains of each feast, and lighted over it the fire to prepare the next. The disagreeable flavour which the scorched bones must have lent to each succeeding banquet was, we may hope, some slight punishment to them for exterminating the Moas. Their animal food seems to have consisted of Dinornis (very rare), Palapteryx, Notornis, Aptornis, Apteryx, Nestor, (Kaka or kea), Cormorants, Gulls, Ducks, and other small birds, dogs, a small rat, haliotis, fresh water unios, and other shell-fish, seals, porpoises, sharks, eels, and other fish: so that the bill of fare was varied enough. The bones of all were matted and locked together most intricately, large angular burnt stones (originally round boulders cracked by the fire), and a wet black sandy soil filling all interstices. Here and there we met relics of their dinner equipage, in the shape of large and small fragments of flint, totally different from any in the neighbourhood, and said by my respected friend, old Governor Railway, who formerly lived there, to come from Lake Hawea. Sometimes an ancient aborigine or his dog seemed to have retired to discuss a tit-bit in solitude, for embedded at intervals over the surface of the ancient kaika (whose former extent is well marked by the blackened subsoil) we found an odd bone or so: I think the dogs must have done this, as the bones were generally foot and toe bones, which would probably have

Two Meteorological Tables for October and November, constructed from observations made at Government House, by Messrs. H. Hull and F. S. Dobson, with the Aneroid and Syphon Barometers, the Sympiesometer and Thermometers, were placed before the meeting. Dr. Officer observed that

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fallen to their share. The only human manufacture we found was a small ball of baked clay, the work most likely of some ingenious young savage, stopped on the threshold of the invention of pottery by a vindictive tibia thrown at his head by his enraged parent, with a concise order to go egg hunting, and not waste his time that way;—which brings me to eggs again. Here and there among the stones and bones was a mass of fragments of egg shells, which, having been the first to discover them in your island, I at once recognized, but which the Maories declared to be pieces of skulls, for which, while with the tent poles (our digging implements) they turned them out every five minutes, they were vainly seeking. Of these (the eggshells) I made them collect every fragment which did not escape them in the black mud, and on a subsequent visit which they made for me, for I could not spare time to prosecute the search, they brought a further supply, reporting that they had thoroughly dug out all the ovens. I found it necessary to wash each fragment separately with a brush and water, brushing even the edges, so tenaciously did the black slime cling to them. There were several thousand fragments, from two inches square downwards—about half a gallon (I know not how otherwise to describe their quantity), of all sorts, thoroughly mixed.

After carefully sorting these I have with some little patience succeeded in joining in their original places fragments of about 20 eggs, of from 6 to 8 different species. Of some the whole number of pieces restored makes but a sorry figure, though large enough to give accurately the size of the egg, and far larger than any previously found.* But in three or four (consisting of from 100 to 200 fragments each) no calculation is required, so I can venture to give their dimensions as ascertained by a foot rule and measuring tape.

	Long Diam.	Short Diam.	Circumfer. Round Mid.
	in.	in.	in.
H. D. 1. roughly and sinuously furrowed, ends dotted.....	8	7	21
H. D., 2. White, enamelled, furrows long, small scattered round papillæ.....	10	7·2	21·6
H. D. 3. White, furrows short straight parallel and very regular, ends dotted...	9	7·4	22·2
H. D., 4. Buff and white; thickly, deeply, and singularly furrowed on one side, less so on the other, ends gradually plain.....	105	? 8	? 24

I could give you more examples, but I am not attempting a scientific essay, a task to which I feel thoroughly incompetent, and the above will restore us and our Moas to a little more respectable position in comparison with our huge Madagascar rival; besides, as there were no bones of the largest Dinornis in the ovens, and only one or two (?) of any Dinornis, we may fairly infer that its eggs are even totally absent, and that these are all of Palapteryx. I do not profess to be certain on this point, as I am not a scientific man, but ground my inference on the close correspondence of the

* The largest of these, about four inches long, I found at Rangatapu, N.I, six years ago: it is now in the British Museum.

the last month has been the driest November known in the colony for twenty years.

Captain Stoney exhibited a model (incomplete) of a lever bridge to be constructed of timber, in one arch, and recommended its applicability to

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number of skulls which I found there to that of the pelvis and bones of the extremities—of the former I have forty or fifty, some wonderfully perfect, and all, though differing in species, and in size from 8 or 9 inches to 4, referable to Owen's genus Palapteryx. In the figure of this, however, restored from former less complete specimens, the length is too great in proportion; and the mandible has not the depression in its upper outline shown in the restoration.

Your readers must not imagine that any of these eggs are perfect—the best of them wants at least an eighth of its surface. Farther, I think it very unlikely that any will ever be found under the same circumstances as those of the Awamoa, which shall not be more or less imperfect—for this reason: the ancient savage having cooked his egg—I think these were roasted - would, so soon, that is as it cooled, break off and throw aside sufficient of the shell to admit him to its interior, when pi or no pi he ate it, and threw the shell into the umu, when the abominable little ancestral imps seem to have taken the same delight in pelting it to smithereens that our civilized infants take in "shying" at bottles. Our only chance is a swamp, a sandhill, or a peatmoss, (from the last I intend to produce feathers, and perhaps even a Moa quill to write you some future "notes;") but the chances are great against an egg which may even have died a natural death in either of these being found complete, much greater against its being unbroken. And it may be very long before such another nest as the Ruamoa is found—many such there cannot be. Almost all of mine are partially taken to pieces and packed, but I will endeavour to send one so packed that it can be opened at Wellington for the benefit of those who may wish to see the eggs of other days. M. St. Hilare says the broken Æpyornithic (what a word!) egg can be restored, but does not seem very confident on the subject. I am certain that I could now replace all the fragments of a Moa's egg could I find them all, and should any of your subscribers, more fortunate than I, succeed in obtaining such a treasure, I will gladly, if forwarded to me through you, return the egg reconstructed by the next vessel: two or three hours would be sufficient.

Though we do not gain any great insight into the habits of the early inhabitants of these islands from this discovery of their buried traces, I think some points worthy of observation. Nothing can be inferred from the one rat; it might have got there by accident, but it is clear it was either rare in the district, or not then commonly used as food: I incline to the latter opinion. It is clear that the dog was not only known to them at a period earlier than its surmised importation, but was a not rare article of food, though in this district now only used in that capacity at Moeraki, where the howling of te Wakaemi's future dinners make the sleepless traveller wish them cooked.

Another theory of which this may assist in forming the basis is this—that in this country, admirably adapted as it is for a class settlement of Moas, the Palapteryx survived the Dinornis, the latter, which in its largest varieties abounded at the period of the formation of the turbary deposit at Waikawaiti, having become very scarce when the Waitaha came to forage in the neighbourhood.

Unlike the Rangatapu remains, there were among these no human bones whatever; cannibalism seems then to have followed the extinction or great diminution of the Moa,—but too much reliance must not be placed on the