19TH APRIL, 1854.—Monthly Meeting; the chair was occupied by Joseph Hone, Esq.

The following gentlemen having been ballotted for were declared duly elected Fellows of the Society:—

John Michael Gould, Esq., of Hobart Town.
William Newman Shadwell Keen, Esq., ditto.
William Lempriere, Esq., ditto.
John Whyte, Esq., ditto.
Hugh Percy Sorell, Esq., ditto.
Alfred Selwyn, Esq., Government Geologist, Victoria.
William Sorell, Esq., of Melbourne.

The following gentlemen were, upon a recommendation from the Council, elected Corresponding Members of the Society.

John Joseph Bennett, Esq., F.R.S., F.L.S., &c., British Museum.
Edward Forbes, Esq., F.R.S., F.G.S., Botanical Professor, King's College, London.
Adam White, Esq., F.L.S., &c., British Museum,
Samuel Stutehbury, Esq., A.L.S., Government Geologist, New South Wales.

The following donations were made to the Library and Museum by R. H. Bland, Esq., of Melbourne:—

5 vols. Lamarck's Histoire des Mollusques, par MM., G. P. Deshayes and H. Milne Edwards.
2 ditto Sowerby's Genera of Shells.
1 vol. Sowerby's Conchological Manual.
1 ditto Swainson's Treatise on Shells and Shellfish.
1 ditto Schumacker's Essai d'un Nouveau Système des Habitation des Vers Testacées', &c.
1 ditto Moriss's Catalogue of British Fossils.
1 ditto Proceedings of Zoological Society of London.
6 parts (yearly) of ditto.
1 vol. Annals of Natural History.
1 ditto Hooker's Journal of Botany.
1 ditto Lindley's Introduction to Botany.
1 ditto ditto Synopsis of the British Flora.
1 ditto Organographie Vegetale, by De Candolle.
3 vols. (2nd, 3rd and 4th) De Candolle's Prodromus Syst. Natural. Regni Vegetabilis.
1 vol. Link's Elements of Philosophical Botany.
1 ditto Pamphlets on the Microscope, &c.
1 ditto Mrs. Gray's Molluscs, &c.

By Mr. P. S. Tomlins; Narrative of the Atrocities committed by Michael Howe and his associates, Bushrangers, in Van Diemen's Land;" printed and published at Hobart Town in 1818, and said to be the first book which issued from the Press of this colony.

By His Excellency Sir W. T. Denison, the 10th and 11th Tri-monthly Reports of Mr. Stutchbury, the Government Geologist and Mineralogist of New South Wales, with coloured plans, &c.

By His Excellency Charles Joseph La Trobe, Esq., the First General Report of Dr. Müller, Government Botanist of Victoria, together with the First Report of Mr. Selwyn, Government Geologist there.

By Andrew Clarke, Esq., Surveyor-General of Victoria, Mr. Selwyn's Report on the Coal Field at Cape Patterson, Victoria; also the First Mineralogical Report on the Gold Fields, by Mr. Selwyn, with plans and sections.

A letter was read from F. H. Henslowe, Esq., transmitting, by direction of the Hon. R. Dry, Esq., Speaker of the Legislative Council, one volume containing the Votes and Proceedings, and another the Acts, of the Legislature of Tasmania for the Session of 1853.

A letter was read from the Rev. D. Galer transmitting a small bible, one of a consignment curiously mutilated by insects, though soldered up apparently with the usual care in *tin* and enclosed in a deal case—a board from which, half eaten away on the inside, accompanied the book. Mr. Galer states that the case of books was sent out from England by the *William Woolley*, and that the cargo was sent ashore at the Mauritius while the vessel underwent repair, from which it would appear probable that the species of *Termites*, commonly known as the white ant, had there gained a footing in the wood, and afterwards, through some accidental aperture left in soldering up the tin, had found admission to the books, disclosing, however, on the box being opened here, no trace of itself save by its ravages.

The Secretary reported the despatch of five cases of plants, indigenous to these colonies, to London, in exchange for plants received or ordered.

Mr. Clarke forwarded to the Museum a rich specimen of native sulphuret of antimony, said to occur in granite near Heathcote, at the M'Ivor Diggings, Victoria; also a dried spike of a Liliaceous plant, from the Australian Alps, Gipps' Land, which may probably prove to be a new species of the genus *Milliganea*, lately founded by Dr. Hooker, upon specimens collected on Mount Sorell, and near the Gordon River, Macquarie Harbour, by Mr. Milligan, in 1846-7.

From Ronald C. Gunn, Esq., were received two specimens of the handsome Snail-shell of Tasmania, *Helix Launcestoniensis*, discovered by that gentleman in dense forests on the northern flank of the Ben Lomond range, and recently well figured by Reeve in his Conchologia Iconica.

Mr. Propsting presented the skin of the Diving Petrel, *(Puffinuria urinatrix*, Gould), drifted ashore near Muddy Plains.

From Mr. Belette, of Pittwater, was received the skin of an Owl, (*Strix castanops*, Gould), in good preservation.

From Mr. Bland, of Melbourne, were also received for the Museum samples of tin-ore from the Ovens Gold Field in the rough state, and as prepared for the London market; together with an ingot of the metal reduced from a portion of the ore. Mr. Bland also sent a specimen of the consolidated beach at the Island of

Ascension, mainly composed of finely comminuted shells; and also a small mummy-looking representation of the human form in a state of repose, covered from the breast downwards in front, and from the neck along the back to the heel with oriental characters and symbols, and presenting on the surface a semivitrified aspect. Mr. Bland obtained this specimen from one of the Sarcophagi on his visit to the Pyramids.

From Mr. Selwyn, of Melbourne, was received a valuable collection of fossil shells, from a geological formation of limited extent showing itself on the seacoast of Victoria, about forty miles below Williams Town, on the eastern or Brighton side. The fossils are identical in several instances with shells which occur in the cliffs between the Inglis River and Table Cape, on the north coast of Tasmania, described by Count Strzelecki as a raised beach, and resemble the fossils of the Paris basin and London clay. The following families are recognizable—*Cyprea* (several species), *Pleurotoma, Turbinella, Conus, Murex, Ranella, Typhis, Terebratula, Patella, Phorus, Turbo,* with *Dentalium, Serpulæ, Corals,* &c.

From the same locality Mr. Selwyn forwarded fragments of a fossil-wood imbedded in a siliceo-argillaceous matrix, and having some resemblance to the fossil *Casuarina* of Flinder's Island.

Mr. Milligan read the following estimate of the cost of forming a line of Electric Telegraph from Hobart Town to Launceston at the existing prices of labour and materials, furnished by Mr. M'Gowan, Director of the line from Melbourne to Williams Town, who also forwarded samples of the wire, insulators, &c., which are in use there: his estimate is £100 per mile, and he would undertake to find a contractor and give a guarantee that the line would be in operation within six months from the time of commencing. Short as the Melbourne line is, and only recently established, its convenience and value are becoming rapidly appreciated by the citizens there.

Estimated cost of constructing a line of Electric Telegraph between Launceston and Hobart Town.

Per Mile.	£	*s.*	*d.*
For thirty posts, including the expence of distributing on the route of the line	50	0	0
For labour in preparing and erecting	15	0	0
For one mile of No. 6 galvanized iron wire, metallically jointed	19	0	0
For labour in erecting	7	0	0
For thirty insulators (including prepared pins)	9	0	0
Total per mile	£100	0	0

Making provision for a full supply of instruments, batteries, &c., necessary to carry on the business of the line after its completion, say, for *six* stations, (including the two terminal stations), the expense would be, viz.—

	£	*s.*	*d.*
For six complete sets of Morse's recording Telegraph	210	0	0
For local insulated wires, battery, and instrument stands	140	0	0
For six local batteries, and two main batteries, on Grove's plan	150	0	0
Total cost of apparatus, &c., to work the line	£500	0	0

The foregoing estimates are based upon the current prices of labour and materials, and all incidental expenses are intended to be covered at the rates above stated. The person making this offer, or tender, being willing to undertake and fulfil a contract for the whole work at the prices named; also to have the proposed line completed, and in full operation, between Hobart Town and Launceston within *six* months from the date of commencement.

The posts to be formed of round timber, each twenty-five feet in length, and not less than *five* inches in diameter at the smallest end, with the bark removed. The bases of the posts to be well charred and covered with hot coal tar for at least five feet of their lengths, and to be firmly imbedded perpendicularly in the earth at least four and a half feet: the tops of the posts to be well bound with hoop iron. The insulators to be made of strongly glazed earthenware, and the pins on which they are placed to be of well seasoned stringy bark wood, boiled in a preparation of resin and gum shellac. The wire to be of the best quality of number six, galvanized, weighing six hundred pounds to the mile.

The whole of the work to be done in a thorough and durable manner.

(Signed) S. B. M'Gowran, *Superintendent,*

Electric Telegraph, Melbourne.

A note was read from H. Hull, Esq., giving an account of a shoal of microscopic crustaceans in mud taken from the pond at Tolosa, and exhibiting some rough pencil drawings of the objects as observed through his microscope. The meeting considered that minute and carefully drawn up descriptions, with accurate figures, for comparison with those of Australian and British Entomostracans, are important desiderata.

The Secretary read the following Report upon the machinery used, and the means adopted, for raising the box of treasure sunk in the Yarra last year by the upsetting of a boat;—forwarded to this Society by Mr. Clarke, the Surveyor-General of Victoria.

Richmond, 14th January, 1854.

Sir,—I have the honour to forward, in accordance with your request, a Report respecting the proceedings adopted by me in constructing the apparatus, and conducting the operations, for the recovery of the specie from the Yarra Yarra in July last.

Although the apparatus I am about to describe answered the purpose for which it was intended admirably, yet the principle was such that prevents me from recommending its general use, owing to a deficiency of parts, thereby causing increased risk and responsibility to the person who has the superintendence of the operations.

In preparing for the construction, I had two objects in view: 1st, Economy; 2ndly, Despatch,—time being of great importance.

Having in my possession an air pump cylinder which I had previously made use of in England, it occurred to me I might employ it for the recovery of the gold;

and, after making a short calculation, I felt convinced it would answer the purpose with proper management and attention.

This was the cause why I constructed it in the way I did, making what I consider an imperfect piece of machinery.

The whole consisted of a crab, chain, gutta percha tube, and bell, with the necessary supports for its suspension.

The crab was single purchase, the power gained being equal to about 6 to 1.

The chain was half-inch, and capable of sustaining a working load of three and a half tons.

The air pump consisted of a single cylinder of 7 inches diameter and 14 stroke, and was worked in the same way as an ordinary fire engine, the piston being a common packed one, had two valves passing through it opening downwards, which were immediately closed by two spiral springs on the completion of the up-stroke, after the air had passed through them in its ascent, and filled the cylinder, the piston forcing the whole contained within through the passage in the bed-plate and valve on the outside, which opened upwards, and preventing any air from escaping back again that had previously passed through into the gutta percha tube leading to the Bell.

The Bell was composed entirely of wrought iron boiler plates, rivetted together and corked, as an ordinary boiler would be, the plates being 1-4th of an inch in thickness at the upper part, increasing in thickness to the bottom ; the lower plate being 3-8ths, having in addition to the plate a wrought iron flat hoop rivetted all round to stiffen the edge. There was also another loose hoop about 15 inches from the bottom of the Bell, (the diameter being about 16 inches greater) ; to this hoop eight large pieces of cast iron were attached, each weighing about 150lbs. The hoop and weights were then connected by suspension rods to a cross bar placed edgeways upon the top of the Bell ; to this bar two rods were also connected which supported it, and four others forming a pyramid, to the apex of which a single block was attached, by means of which we were enabled to raise or lower the Bell to any height or depth by the winch placed at the contrary end of the pontoon. You will perceive by the above arrangement the weights employed to sink it had no connection whatever with the Bell, causing no strain whatever upon the rivets, or plates, of which it was composed.

Not having complete apparatus I laboured under great difficulties, and ran a very great risk of endangering the lives of those parties at work in the Bell. Its deficiency consisted, first, in having but one air-pump, which rendered it impossible to secure a continuous current of air, and in case of any breakage or derangement of the parts, the supply would be entirely cut off.

Secondly, in the thinness of the metal of which the Bell was composed, being obliged to attach large masses of iron to the hoop, near the bottom, to keep it steady, and sink it ; and not being able to make any but an uneven surface, caused considerable risk, from its liability to become entangled with the stumps, and various other substances with which we were continually coming in contact, thereby causing the risk to be even greater in this case than the former.

I may observe, in conclusion, that the plan adopted in exploring the river was by traversing it backward and forwards, at equal distances of two yards, for a distance of seventy yards from point of starting. I also beg to remark the work was carried on during the night by means of flambeaux, or torch light: the traffic on the river prevented operations being carried on during the day, which caused delay and much greater risk than otherwise would have been in carrying out my arrangements.

Trusting the imperfect outline I have given of the system, construction, and operations relating to the lost specie may be intelligible to you,

I am, &c. &c.,

JOHN GARNER JOHNSON.

Lieutenant Smith read a short paper on the application of the several Codes of Signals, of which he presented models and coloured designs lately to the Society.

A paper by W. Swainson, Esq., F.R.S., on certain undescribed amphibious volutes on the shores of Tasmania, was read by the Secretary. Mr. Swainson found three species in Mr. Milligan's collection, and considering them as forming a group intermediate between *Melampus* and *Pedipes*, he has placed them in a distinct and separate family, which from their habits he has named *Crenobates:* the species are named—*C. cornea*, from Oyster Cove, where it abounds at certain seasons; *C. parva*, same locality, one specimen; *C. solida*, from Flinders' Island, where it is occasionally found dead in great numbers on the beach, protected by the small islands on its southern and western side.

Mr. Swainson's paper contained also descriptions of three species of *Rhodostoma* (Australian), found in Mr. Milligan's collection of exotic shells; and was illustrated with accurate drawings of each of the shells described.

After various discussions on the several objects and subjects brought under notice, and a particularly animated conversation on the comparative cost and economic value of the Electric Telegraph, in which the Colonial Secretary, Dr. Butler, Capt. Hawkins, the Secretary, and others took an active part, the thanks of the meeting having been voted, on the motion of Mr. G. W. Walker, for the valuable contributions and donations made, the Chairman rose, and the members soon after separated.

10TH MAY, 1854.—Monthly meeting; His Excellency Sir W. T. Denison, President, in the chair.

The following members were present:—Drs. Agnew, Hall, M'Carthy, Smart, Colonel Last, Major Cotton, Captain Hawkins, R. E., Messrs. James Burnett, Francis Butler, W. T. N. Champ, Joseph Hone, Henry Hopkins, D. T. Kilburn, Alexander MacNaughtan, Thomas Moore, George Rolwegan, Chester Eardley-Wilmot.