

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. cornnea*, 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.

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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.

Strangers:—Lord Alfred Churchill and Dr. Buck.

After a ballot, the following gentlemen were declared to be duly elected Fellows of the Society:—

Charles Toogood Downing, M. D., Francis Stanley Dobson, and F. G. Brock, of Hobart Town, Esquires.

The Secretary announced the receipt of the Journal (Part IV., vol. viii.) of the Agricultural and Horticultural Society of India from that Society.

Also of a copy of the “Tasmanian Almanack” for 1825, from Mr. E. Gresley, of H. M. Ordnance.

Also of a copy of the *Hortus Kewensis*, in 5 volumes, from Mr. Westcott, of Argyle-street.

The Secretary added to the collection of *Syngnathidæ* in the Museum, specimens of a *Hippocampus* from D'Entrecasteaux's Channel, which may probably prove to be a distinct and undescribed species.

Also a few specimens of a *Tetraodon*, from Oyster Cove, which is in all probability a new species; the individuals vary in length from the point of the beak to the tip of the tail from  $1\frac{1}{4}$  to  $1\frac{3}{4}$  inches, and the body, when inflated, forms a spheroid, is rough, with extremely fine prickles. The beak is sharp and projects slightly, and the tail, which is very slender, measures nearly one-third of the entire length of the fish.

Mr. Milligan also placed before the meeting a specimen of a felspathic rock, containing schorl and having a granitic structure, which forms the point of land south from Oyster Cove, where it sustains and protrudes through a long series of argillaceous sandstones, interstratified with which are thin beds of a finer deposit, in some of which *Serpulæ*, and in others forms resembling *Trilobite*, abound.

Mr. Milligan also submitted a series of Tasmanian *Haliotidæ*, illustrative of a paper on Australian Ear-shells, by Mr. Swainson, which was brought under the notice of the meeting.

His Excellency the President presented a copy of Maw and Company's Patterns of Encaustic Tiles. His Excellency also presented a printed pamphlet on “TRADE MUSEUMS, their Nature and Uses,” by Edward Solley, Esq., F.R.S. &c., Secretary of the Society of Arts, London, together with printed circulars from the same gentleman intimating his appointment to the charge of forming a Museum of raw and manufactured animal products, and soliciting contributions, accompanied with descriptions of source and localities, mode of collection and preparation, &c.

A printed circular letter from the director of the Royal Gardens at Kew, and of the Museum for vegetable substances, lately formed there, requesting similar aid and information in respect of plants and their various products, was read.

His Excellency then read the following note, dated 2nd February, 1854, from Sir W. J. Hooker:—“Sir,—The Earl of Clarendon having with great difficulty procured from Morocco perfectly fresh seeds of the Argan-tree (*Argania sideroxylon*), and placed a quantity of them at my disposal, I deem it my duty to distribute them, and to send them especially to those colonies of our own where the climate is suited to their growth and vigour. The husks are greedily eaten by cattle; the

nuts yield a valuable oil, and the wood is hard, and useful for many domestic purposes.

"I have the honor, &c. &c."

A quantity of seeds have been left at the Museum for distribution, and persons desirous of cultivating them, and disposed to furnish a report of their success or otherwise, may obtain a portion on application.

His Excellency laid upon the table a pamphlet by Professor Piazzi Smyth, "On Raising Water for the purposes of Irrigation in the Colonies."

Tables of Meteorological Observations made at Government House by Messrs. Hull and Dobson, for the three months ending 31st March last, were also laid before the meeting.

Sir William Denison then read a Report from Major Cotton, (embodying a brief Report from Mr. Sprent), upon the Trigonometrical Survey of Van Diemen's Land, now in progress. The original base line measured at Ralph's Bay extended to 20,181·635 feet, or nearly four miles; the line of verification which was subsequently measured at Norfolk Plains extended to 25745·7 feet; the length of this, computed from a series of 33 triangles, extending to a distance of more than 100 miles, being 25,746·0 feet, exhibits an approximation so close as to be scarcely credible, the difference being only about 3½ inches. His Excellency the President remarked that the correspondence was so remarkable as to have created in his mind, first, curiosity; and then, some doubt of the absolute accuracy of the calculations; and that to satisfy himself he had worked through the calculations and proved the accuracy of the results.

The observations at the main stations were taken by Mr. Sprent with a 12-inch altitude and azimuth instrument, and at the secondary stations with an 8-inch theodolite.

The rods used in the measurement of the base lines, 15 feet in length by 2 inches square, were made in 1849, in damp weather, of old Baltic fir, saturated with boiling oil, varnished, rolled in flannel, packed in saw-dust, in coffers 6 inches square, closed at the ends, but leaving room for the rods to expand. To the ends of the rods, which were supported centrally in the coffers by blocks of wood, were attached brass caps rising to the upper surface of the coffer, and bearing vernier scales, by which their lengths were determined to the 400th part of an inch, agreeable to the only standard measure then in the colony, a 4-feet steel measure divided into inches and fortioths. The rods have been measured from time to time since without exhibiting any appreciable difference. The original base line has been measured three times—once in 1849 and twice in 1851, and the length assumed is the mean of the two last, which differ only .85 feet from the first,—a discrepancy owing probably to the comparatively imperfect nature of the indicating scale, which at the time of the last measurements had been improved, so as to read with precision to the 5000th part of a foot. His Excellency the President observed that the colony already possessed upwards of thirty principal stations, whose relative position is absolutely determined within a few inches in any case,

and that it is intended during the ensuing summer to extend the triangulation along the west coast, and there to measure one or two fresh lines of verification, probably in the neighbourhood of Port Davey or Macquarie Harbour.

The Reports were accompanied with a diagram showing the triangles between upwards of thirty principal stations, extending from Ralph's Bay to Norfolk Plains, and there were appended tables of extracts from Field Books, and an elaborate series of results from local observations and from the system of triangulation.

Mr. Moore, of New Norfolk, exhibited two of the sewing machines patented by the Lancashire Sewing Machine Company, and sundry fragments of cloth were rapidly stitched together in a neat and substantial fashion in the presence of the members, most of whom closely inspected the mechanism of the automaton, which is calculated to do the work of about twenty ordinary hands.

A general discussion on subjects before the meeting ensued, when the members separated into conversational groups; the various instruments and apparatus submitted in connection with papers read were minutely examined,—His Excellency the President, Lord Alfred Churchill, Mr. MacNaughtan, Mr. Champ, Mr. Kilburn, and others taking a prominent part.

About ten o'clock the thanks of the Society were voted for the donations and papers submitted, and the President having then left, the members separated soon after.

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14TH JUNE, 1854.—Monthly meeting; His Excellency Sir W. T. Denison, President, in the chair.

The following members were present:—Drs. Agnew, Downing, Hall, Hoeltzel, Colonel Last, Capt. Hamilton, R. E., Capt. Stoney, Messrs. Barnard, A. Butler, F. Butler, R. Butler, W. Champ, Dobson, Henslowe, Hone, Hull, Kilburn, Lochner, R. E., Makeig, Matson, Moore, Moss, Perkins, Rolwegan, Tapfield, &c.

The following having been ballotted for were declared duly elected Fellows of the Society:—Charles Octavius Eardley-Wilmot, A.P.M., Sorell; Walter Davidson, of Riccarton; Charles James White, of Hobart Town, Esquires. Other candidates for membership were nominated.

The following donations were announced:—

To the Library.—By order of His Excellency Sir W. T. Denison, 1 quarto volume, (2nd) of Magnetical and Meteorological Observations taken at Toronto in 1843-4 and 5, and sent out by the British Government.

Also Transactions of the Royal Hawaiian Agricultural Society, vol. i. Part IV.

Journal of the Agricultural and Horticultural Society of India, vol viii. Part IV., from the Society at Calcutta.

From the Royal Institution of Great Britain:—

Annual Report for 1852.

Notices of Meetings from November 1852 to July 1853.