

NOVEMBER, 1874.

The monthly evening meeting was held on Tuesday, the 10th November, T. Giblin, Esq., in the chair. A greater number of Fellows than usual were present, owing to the circumstance that Professor Harkness (of the American Transit of Venus expedition) had promised to offer a few remarks on the object of the expedition. Mr. Waldo and the other members of the American party were also present.

Messrs. W. V. Morriss and R. L. Davies, who had previously been nominated by the Council, were balloted for and declared duly elected Fellows of the Society.

The HON. SECRETARY (Dr. Agnew) submitted the usual returns for the past month, viz. :—

1. Visitors to Museum—1,665.
2. Ditto to Gardens—2,968.
3. Seeds sent from Gardens :—To the Royal Gardens, Kew—One packet blue gum seed. To Mr. Wm. Bull, London—One ditto. To Mr. E. B. Heyne, Adelaide—One ditto.
4. Plants and seeds received at Gardens :—From the Acclimatisation Society, Brisbane, Queensland—Fourteen packets seeds. From Mr. C. Hollinsdale, Hobart Town—Ninety-eight packets of imported seeds. From Mons. Ch. Huber, Hyères, France—Twelve packets seeds. From Mr. J. Latham, Hobart Town—Sixty-eight packets imported seeds. From Mons. J. Linden, Ghent, Belgium—One case of Plants, per Ethel, principally Palms and Orchids, of which about 40 were alive on arrival. From Baron von Müller—One packet of seeds. From Mr. R. M. Johnston, Launceston—Two specimens of *Gymnogramma*.
5. Time of leafing, flowering, &c., of a few standard plants in Botanic Gardens.
6. Books and Periodicals received.
7. Presentations to Museum.

*Meteorological Tables*—

1. Hobart Town, from F. Abbott, Esq.—Table and summary for October.
2. New Norfolk, from W. E. Shoobridge, Esq.—Table for October.
3. Port Arthur, from J. Coverdale, Esq.—Ditto.
4. From the Marine Board—King's Island : tables for July, August, and September. Swan Island : ditto for September and October.
5. From R. J. L. Ellery, Esq.—Monthly record of Observations taken at Melbourne Observatory on Meteorology, Terrestrial Magnetism, &c.

The presentations to the Museum were as follows :—

1. From Mr. J. W. Graves—a packet of musket ball-cartridges found in pulling down old St. David's Church.
2. From Mr. H. Otick—a Fossil (*Rhynconella*) from Maske by the sea, Yorkshire, England.
3. From the Salmon Commissioners—A Smolt (*Salmo salar*), said to have been caught at Sandy Bay.
4. From Sir Robert Officer—a young Brown Trout, caught from among a shoal proceeding down the race at the breeding ponds, River Plenty.
5. A Spear, Boomerang and Waddie, from Queensland.

6. From Mr. A. Simson—upwards of 180 specimens, comprising about 50 varieties, of Queensland shells, named.
7. From Mr. J. Dryam, Oatlands—a Wombat (*Phascolomys wombat*).
8. From Mr. Groombridge, per Mr. J. W. Graves, a Pied Cormorant (*Phalacrocorax melanoleucus*), shot at Brown's River.
9. From the Government of India—"Records of the Geological Survey of India, vol. 6, parts 1 to 4. "Memoirs" of ditto, vol. 1, part 1, vol. 4, parts 3, 4, vol. 10, part 1.
10. From Dr. Haast, Christchurch, New Zealand—"Researches and excavations at the Moa Bone Cave, Sumner, N.Z., 1872.

The SECRETARY read a letter from Mr. Trappes, Oyster Cove, suggesting the advisability of introducing the Falkland Island Tussac Grass into the colony, and referring to an article on the plant in the *Penny Magazine* (31st May, 1845). Mr. Abbott, Superintendent of the Gardens, informed the meeting that he did not consider the Tussac Grass likely to be of so much value as the Californian "Bunch Grass." Of this he expected a supply very shortly from the Agricultural Department of the American Government, and he hoped to have an opportunity of reporting upon it on an early occasion.

[The Tussac Grass was tried in the Gardens about five years ago, but was not found to succeed. A short but good notice of it appears in *Chambers's Encyclopaedia*.]

The SECRETARY called the attention of the members to a suggestion which had been made at the last meeting, to the effect that the Gardens might be kept open to a later hour in the evening. The Council had had the matter under consideration, and had obtained from the Superintendent of the Gardens all the information possible on the matter. It was found, however, that no change in the hour could be made, owing to the circumstance that no funds were at the disposal of the Council for payment of the extra attendants who would in that case be required. It was doubtful, too, if it would be prudent to have the Gardens open to a later hour. The Superintendent reported that the disgraceful practice of pilfering and destroying flowers had of late considerably increased, and he was certain, unless he had a very large amount of detective force, that these disreputable practices would be carried on to a much greater extent in the event of later hours being established. In connection with these thefts, it had also been noticed that they had been frequently perpetrated by persons who were well aware of the value of the property they were stealing, as it frequently happened that any particularly choice specimens were the first to suffer. He (the Secretary) might add, however, that the Council were fully alive to the necessity of putting a stop to these thefts, and were quite determined to prosecute in future, as severely as the law would permit, any person found guilty of such mischievous and shamefully dishonest conduct.

Mr. Morton ALLPORT read a paper, entitled "Further Notes on the Salmon Experiment."

Professor HARKNESS (agreeably to a request from the Council) offered some remarks on the approaching Transit of Venus. He explained the importance of determining the exact distance of the sun as a basis for working out many important calculations in astronomy, and described the general methods adopted for ascertaining this distance as well as certain modifications in some of the minor details which were to be employed by various Governments. By means of diagrams on a black-board he showed how the planes of the orbits of the Earth and Venus

intersected each other in certain lines or nodes, the varying position of these nodes leading at certain (calculated) epochs to such a conjunction of the planets as we shall have at the forthcoming transit. He demonstrated, in reference to these calculations, the importance of the great third law of Kepler which was to the effect that the "squares of the periodic times of any two planets are to each other in the same proportion as the cubes of their mean distances from the sun." This was expressed in algebraic formulae. He explained the importance of obtaining as large a base as possible, combined with extreme accuracy in its admeasurement, this base being the very foundation from which all the various angles were to be taken. The refined nicety required in taking these angles was shown by several results calculated by the Professor which proved if a human hair were placed at a distance of half-a-mile from the observer that a serious error would be the result if the line of observation were carried to the right edge of the hair instead of the left, or *vice versa*. A mistake of this magnitude however he thought they were not likely to perpetrate! Some of the phenomena more immediately connected with the Transit itself, such as "irradiation," the so called "black drop," &c., were illustrated and explained as far as the black-board would allow. The nature of the various instruments, telescopes, astronomical clock, &c., was briefly touched upon, as well as the great results which were expected from the almost continuous use of photographic illustrations during the entire Transit. By means of a globe the portions of the Earth from whence the Transit could be seen were shewn, and the localities best adapted for the observations pointed out. Mention was also made of Horrocks, Captain Cook, and other early observers. The learned Professor having spoken of these and other matters, alluded to the impossibility of giving anything but the faintest idea of the subject on this occasion. His time was very fully occupied and he had no leisure to prepare a paper or formal address. Much he could have wished to say was necessarily omitted as he had endeavoured to bring forward a few of those points only which he thought would be of general interest, rather than enter upon the more abstruse and scientific aspects of the subject.

Sir James Wilson, after referring to the great kindness of the learned Professor in devoting to the lecture just given, a portion of his time which was already so fully occupied, and congratulating the Fellows on having had the deeply interesting subject of the Transit brought before them in so clear and lucid a manner, proposed that the cordial thanks of the meeting should be given to Professer Harkness.

Mr. Justice Dobson seconded the motion, and after some remarks complimentary to the lecturer, referred to the great credit which had accrued to Captain Cook for his observations on the Transit in this Hemisphere, and hoped Professor Harkness in his turn might also be so favored in his observations as to gain a large share of renown similar to that which had been obtained by his great predecessor in these southern waters. (Applause.)

The motion having been put from the chair was carried by acclamation. The proceedings then terminated.