ROYAL SOCIETY.

SEPTEMBER, 1866.

The monthly meeting of the Fellows was held, on Tuesday, 11th September, J. Barnard, Esq., in the chair.

S. Sheehy, Esq., who had been previously nominated by the Council, was, after a ballot, declared to be duly elected a Fellow of the Society.

The Secretary (Dr. Agnew) laid on the table the usual monthly returns, viz.:—

1. Visitors to Museum, 998.
2. Ditto to gardens, 1,561.
3. Plants and seeds received at gardens:—
   a. From Royal Horticultural Society, London, per Dr. Milligan, 46 papers flower seeds, of which 30 are new to the gardens, 60 papers vegetable seeds, 34 new to gardens, seeds of Nicotiana Wiegandeoides, new to gardens.
   b. From Messrs. Handaside and McMillan, Melbourne, 25 plants.
4. Plants supplied from gardens for the decoration of public places:—
   a. To New Norfolk Asylum, 161 plants.
   b. To Franklin Island, 52 plants.
   c. To Brickfield's Invalid Depôt, 40.
   d. To Port Arthur, 51.
5. Time of leafing, flowering, and fruiting of a few standard plants in Botanic gardens.
6. Books and periodicals received.
7. Minerals received per Ethel, from London.

Meteorological Returns:—

1. Hobart Town, from F. Abbott, Esq.
   a. Table for August.
   b. Summary of observations for ditto.
2. Port Arthur, from J. Boyd, Esq.
   a. Table for August.
   b. Reading of Government schooner's barometer for ditto.
3. Swansea, from Dr. Story.
   a. Table for July.
4. Westbury, from F. Belstead, Esq.
   a. Table for August.
5. From the Hon. the Col. Secretary.

Observations made at Pietermaritzberg, Natal, during the year 1865.

The Secretary read the usual analysis of the Observatory records, together with those of births, deaths, &c., for August, by E. Swarbreck Hall, Esq.

The following presentations to the Museum and Library were brought under the notice of the meeting:—

1. From Mr. A. M. Nicol, two Medals, struck in commemoration of the cessation of transportation to Tasmania, 1853.
2. From Mr. H. M. Hull, specimen of Fossil Wood from Southland, New Zealand. Terebratula (fossil), from ditto.
3. From Mr. M. Allport, a Lamprey, from Brown's River; a Grebe.
4. From Dr. Milligan, specimen of Tasmanite, with pamphlet by A. B. Church, Esq., B.A., Professor of Chemistry, Royal Agricultural College, Cirencester.
5. Report on the Geology and Mineralogy of the south-east district of

South Australia, by the Rev. J. E. T. Woods, F.R.G.S., &c., &c., from the author.

6. From J. J. Bennett, Esq., British Museum, 1 vol. of "The Works of Robert Brown," bound in cloth.

7. From the Royal Astronomical Society, Memoirs of the Society, vols. 9 to 34 inclusive. Monthly notices of the Society, vols. 8 to 18 inclusive.

The SECRETARY brought under the notice of the Fellows the very handsome donation of books from the Royal Astronomical Society (see presentations), which by supplementing those already in the library will complete our series of these valuable works from the very beginning of the Royal Astronomical Society in 1822. He further informed the meeting that in future all the publications of this society would be forwarded to us as issued.

Mr. M. ALLPORT moved, and Mr. GOULD seconded:—"That a special vote of thanks be accorded to the Royal Astronomical Society for their very liberal donation." The motion was unanimously agreed to.

Dr. AGNEW mentioned that the collection of minerals for which an order had been sent some time since to Mr. Tennant, of London, had arrived, and were in course of arrangement by Mr. Gould.

Mr. GOULD presented the society with a report upon the geological structure of the country near Ilfracombe, and in doing so made a few remarks on the leading points referred to in the report. He spoke hopefully of the prospect of making some combination of Pyroligneous Acid Works with others for reducing the iron ore by means of the charcoal produced in large quantities, and available at a low rate. He sketched out the leading characters of the various formations occurring in the district, pointing out the economic applications of which the Serpentine was susceptible, both as an ornamental building stone of great beauty and value, and as a source of sulphate of magnesia. And referring to the various iron ores of which he had exhibited specimens at the last meeting of the society read the following copy of a report received from Mr. Foord:—

Melbourne, 86 Elizabeth-street,
7th June, 1866.

SIR,—I have examined the sample of iron ore submitted for assay, and I now beg to report the following results:—

The external characters of this mineral are those of magnetite, or magnetic oxide of iron; it conforms pretty closely to the fibrous variety described by Dufresnoy. Hardness over 6°, gravity 4·98, streak black, obedient to the magnet, and susceptible of permanent magnetism.

Like most of the examples of this mineral it has the sesquioxide of iron somewhat in excess of the formula for magnetic oxide, this excess appears to exist in the sample, partly or wholly as limonite.

Protoxide of iron	30·547
Sesquioxide ditto	66·151
Together	96·698
Difference of alumina, silicic acid, and water	3·302
In parts	100·000

Preceding determinations were made by permanganate of potassium. The sample is free from other constituents such as are occasionally present in magnetite.

Metallic iron, per cent.	70·00
Existing as protoxide	23·76
Existing as sesquioxide	46·30
	70·06

If this mineral exists in quantity, and under circumstances otherwise favour-

able for economic treatment, its high per centage of iron, and its freedom from all obnoxious constituents will render it of great value for iron and steel manufacture.

Yours &c.,
GEORGE FOORD,
Chemist and Assayer.

C. Gould, Esq.,
Government Geologist for Tasmania.

Mr. Gould commented on the disposition of the iron ore in the course of two parallel lines, and remarked on the variations in its character according to the formation traversed. He also pointed out the identity of the Blue Hill Tier rocks with those largely developed at the great bend of the Gordon and in other parts of Western Tasmania, and the possibility of favorable conditions determining the existence of valuable minerals—this inference being supported by the known presence of copper and lead ores at Penguin Creek. He concluded by making a few remarks on the fossil species of Unio occurring on the banks of the Tamar.

In reference to the Trout ova taken from fish in the colony, Mr. M. Allport reported that in many the embryo fish were now visible under the microscope.

This was the more satisfactory as it would be conclusive evidence to all those to whom the ova had been forwarded that successful impregnation had taken place.

Mr. Abbott brought under the notice of the meeting a series of resultants derived from the 25 years' meteorological tables. He gave an extract from a table by Professor Dove, and compared the temperature of the various places therein enumerated with that of Hobart Town for the different seasons of the year, showing in a very striking manner the favorable character of the Tasmanian climate. He also read the following extract from a paper read by Mr. Glaisher before the British Meteorological Society:—

"The greatest mortality (from all causes) was coincident with a temperature of 30° to 35°, and the smallest 50° to 60°. The temperature of 65° to 70° being much more fatal than 55° to 60°."

It will be seen by the following that the temperature for Hobart Town coincides with that given by Mr. Glaisher as most favourable to health.

Hobart Town. Mean 54·45
Spring=53·99—Summer—61·95
Autumn=54·35—Winter—46·85

In conclusion Mr. Abbott drew the attention of the meeting to the very great amount of time and trouble required for copying and computing the abstract sheets of the 25 Years' Tables, for which he considered a special vote of thanks was due to Mr. Roblin, the Curator of the museum, and begged to move accordingly.

Mr. M. Allport had great pleasure in seconding, as he could testify to the very large amount of labour bestowed by Mr. Roblin upon the returns in question, and also to his readiness at all times to use his best endeavours in the interest of the society.

The motion was agreed to.

Discussion ensued in which Dr. Butler, Mr. Allport, Mr. Gould, Dr. Hall, Mr. Abbott and others took part, after which the usual vote of thanks to the authors of papers, and the donors of presentations having been passed, the meeting broke up.