ROYAL SOCIETY.

JUNE, 1871.

The monthly evening meeting of the Society was held on Tuesday, 13th June, Justin McC. Browne, Esq., in the chair.

William A. Kermode, Esq., of Mona Vale, who had previously been nominated by the Council, was after a ballot declared duly elected a Fellow of the Society.

The SECRETARY laid on the table the following returns for the month of May:—

1. Visitors to Museum, 775.
2. Ditto to Gardens, 2315.
3. Plants received at Gardens:—From Dr. Schomburgh, Director of Botanic Gardens, Adelaide, 29 Plants. From J. Miller, Esq., Mayor of Port Elizabeth, Cape, per J. W. Graves, Esq., a collection of Bulbs from South Africa.
4. Plants sent from Gardens. To M. J. Linden, Brussels, 5 large Fern Trees.
5. Tench supplied. To Rev. Canon Sharpe, 24 Tench, for Bathurst, N. S. Wales.
6. Times of leafing, flowering, &c., of a few standard plants in Botanic Gardens.
7. Books and Periodicals received.
8. Presentations to Museum.

Meteorological Returns.

1. Hobart Town, from F. Abbott, Esq., Table, &c., May.
2. Westbury, from F. Belstead, Esq., Ditto.
3. Swansea, from Dr. Story, Ditto for April.
4. Melbourne, from R. L. J. Ellery, Esq., Notes for April.
5. Sydney, from H. C. Russell, Esq., B. A., Printed tables for March.

The SECRETARY read the following:—

The presentations to the Museum and Library were as follow:—

1. From Master F. G. Bailey—A few very beautiful Butterflies from Ceylon; a purse made by natives of Ceylon, the material of which the article is manufactured being paper prepared in such a manner as to be readily mistaken for leather.
2. From Mr. Alexander Reid, Ratho—An albino variety of the common Quail.
3. From Mr. Blacklow, Brighton—A wedgetailed Eagle *(Aquila fucosa)*.
4. From Dr. Huston—A Paradise Duck.
5. From Sir R. Officer—A Rail *(Rallus pectoralis)* from New Norfolk.
6. From Mr. F. S. Edgar—The shell of a large Turtle.
7. From Master C. Allport, four copper coins and tokens.
8. From Captain Gourlay, two very fine specimens of shells of the Pearl Oyster, measuring 9½ inches in length, by 8½ inches in width.

[In a note which accompanied this presentation Captain Gourlay stated that the shells were, he believed, brought from the Solomon Island Group, in the Pacific. A cargo of 70 tons of these shells was sold in Sydney about three months ago, and fetched about £150 per ton; the pearl being considered superior to any previously taken to that port.]

9. From Mr. J. W. Graves, a photographic copy of the deed of conveyance of Franklin Island, by Lady Franklin, in favour of the Tasmanian Acclimatisation Society.

10. From the author, Mr. M. Allport, a short History of the introduction of the Salmonidæ to Tasmania, being a paper read before the Zoological Society of London.
11. From Mr. Justin Browne, Journals of House of Commons, 1644.

Mr. BROWNE remarked that he presented these papers both because they were, he thought, new to the colony, and had reference to a period of great historical interest. Mention is made of Lieutenant-General Cromwell, Lord Fairfax, and other characters. The original resolutions as to the supply of armour, arms, and ammunition to the army, raising of troops and loan money may be noticed, with many other matters of interest to the student of the history of the day.

Mr. DAVIES fully agreed with Mr. Browne in thinking these parliamentary papers possessed very great interest, and thought the Society was much indebted for a presentation of such value. He took this opportunity also of proposing that the photograph of the deed of gift from Lady Franklin (Presentation No. 9) should be framed and hung up in the Museum as a memento of a lady who had done so much in the interest of the Society, both during her residence amongst us, and long subsequent to her departure.

Mr. GOULD cordially seconded. He thought we could not do too much to indicate our appreciation of such a friend as Lady Franklin had always shown herself to be to the cause of science in Tasmania.

The motion was unanimously agreed to.

A paper by Mr. F. ABBOTT, Superintendent of the Society's Gardens, on the Sugar Beet lately grown by him was read. Discussion ensued when it was suggested that Mr. Abbott might further extend the notice of the root by making observations on its cultivation, value of crop, its immunity or otherwise from the attacks of insects which are so fatal to the Turnip, or Brassica tribe.

Mr. ABBOTT undertook to do so, and Mr. Davies promised to give the paper as much publicity as possible in *The Mercury*.

It will be recollected that information on this subject has already been laid before the Society by Mr. Barnard and Mr. J. Walker. By the former in reference chiefly to the extraction of sugar by private individuals, and in an inexpensive manner in New South Wales; by the latter as to the mode of extracting alcohol and sugar on a large scale in extensive manufactories in England and on the Continent. (See Monthly Notices for June and August, 1869, and July, 1870.)

The SECRETARY read the following communication on the growth and preparation of cork-wood (for which the Society is indebted to Mr. Justin Browne) from Mr. W. H. Reynolds, of Otago, who had been formerly extensively engaged at home in the cork trade :—

"The Cork Tree is grown chiefly in the provinces of Catalonia, Estremadura, and Andalusia in Spain; in Alemtejo, Estremadura, and Beira in Portugal; in the south of France, the island of Sicily, and Algeria in Africa. The tree is naturally of slow growth, but grows faster in rich and sandy, than in rocky soils; the best cork, however, is procured from trees grown in the latter. When from 12 to 18 feet high, the trunk, including the cork, generally measures about one foot diameter. At about this stage the tree may be stripped of the cork. The first strip is useless as an article of trade, and can only be utilised as a material for the floats of fishing nets. Cork may be stripped without detriment to the tree, and the proper time for the operation in Europe is between the end of April and the beginning of October. The tree possesses a bark under the cork, and care must be taken in stripping not to take off or materially injure this under bark. The only tool used in stripping is an American axe having a straight handle of the ordinary

thickness, the end of which requires to be cut to the shape of a wedge. A ring is cut with the axe round the foot and top of the trunk of the tree, and then straight lines are cut along the whole trunk at a distance from each other of about two feet, so as to connect the two rings ; this done the wedge is inserted in the straight line towards either the top or the bottom ring, and the cork-wood is gently pressed off. In the case of a small tree, say, of one foot diameter, with much care it will come off in one piece.

"The tree also produces cork on its branches, which may be stripped in the same way whenever they (the branches) reach one foot in diameter. After the tree is stripped nothing is to be done to it. When the cork-wood is taken off the under bark is of the colour of the human skin, but gradually gets darker until it becomes the colour of chocolate, and sometimes of dark lead. No sooner is the tree stripped of the cork-wood than it again puts forth its functions to acquire a new inner bark and form a new covering of cork. The cork *(Epiphlœum)* is formed between this new and the old bark, and takes from six to ten years before it is ready again for stripping, that is, until it reaches the thickness of about an inch. By examining the head of a common wine cork, lines are distinctly visible, between each of these lines indicates one year's growth. The older the trees are the better the cork gets ; being of slower growth it is less spongy, and firmer in texture than that procured from young trees.

"The Cork Tree grows to a large size, and like the English oak is a long liver. Cases have been known where one tree, including its branches, has yielded nearly half a ton of cork-wood.

"In Spain and Portugal the cork forests have been planted. The acorns, so soon as they drop from the trees, begin to sprout ; they should be put in the ground as soon as they fall. The young trees do not like transplanting.

"After the second and following crops of cork-wood are stripped from the trees the sheets or planks of cork ought to be laid on the ground for about a week or so, bark upwards, as if the inside is exposed to a hot sun for the first few days after stripped it is likely to curl and crack when straightened. Up to some 40 years ago all cork-wood was subjected to fire within a week or two after stripping. The object of this was to burn off the outer bark *(Epidermis)* and soften the texture, but of late years it has been submitted to a steaming process which softens the cork and improves the texture. The bark is then scraped off with a tool almost similar to a three-cornered ship's scraper ; this done, the cork is faced, sorted into different qualities, and packed in bundles ; it is then ready for the market. The firm of Thomas Reynolds and Sons, in their several manufactories in Spain and Portugal, during the height of the season, had occasionally in their employ between 1200 and 1500 hands.

"The value of cork-wood varies very considerably, ranging from about £8 to £150 per ton. The best description is obtained chiefly from the forests in Spain and the south of France. That obtained from Portugal is of quicker growth, and consequently more spongy. The quantity obtained from Sicily and Africa some 21 years ago was very trifling ; the quality, however, was good. Of late years the duty on made corks has been taken off in England, consequently, large manufactories have been established in France, Spain, and Portugal for supplying England with the corks instead of the cork-wood."

On discussion several members expressed a doubt if a tree which required a growth of 25 to 30 years before becoming useful could or would be planted with a view to profit. On the other hand, it is to be recollected that after the first returns are obtained the process of stripping

may be continued every eight or ten years for several centuries, and that the quality of the bark, instead of becoming deteriorated, improves according to the age of the tree.

Mr. Justin Browne read, as supplementary to some former publications by the Society on silk culture, the following remarks on the management of the mulberry tree in China and Japan :—"In China mulberry trees grow on the hills in places unsuitable for ordinary agricultural purposes. A temperate and cool climate produces the best silks. The *Morus alba* contains in the greatest proportion both the nutritive and silk forming substances. The *Morus multicaulis* produces in greater abundance a large leaf, which may be given to the worms in their earlier stages, but, being watery, is not so nourishing as the smaller leaf of the *Morus alba*, which has more resinous or silk-forming quality. Mulberry trees grown in temperate or comparatively cold climates produce more substantial leaves than those grown in tropical countries. A soil of humid gravel and sand is best. The tree if planted in rows should be two yards distant, and the rows four or five yards apart. Stripping should be deferred till the tree is three years old ; it may then be thinned and pruned to the extent of four-fifths of the leaves. Avoid tearing off needlessly leaves and young branches, which bleed the tree. A young tree will yield five or six pounds of leaves ; in eight or ten years from thirty to forty pounds per tree. The value of young leaves is 4s. per cwt., and in their prime 10s. per cwt. In Japan mulberry trees are planted along the borders of the fields, sometimes in rows across them at such intervals from each other as not to interfere with the other crops. In one district large fields are planted on ridges in lines at a distance of over 2 feet from each other, the ridges being more than 3 feet apart ; as a rule the tree is kept in a dwarf state, the stumps being only 10 to 18 inches above ground. Sometimes they are allowed to attain a height of 4 or 5 feet, especially when grown in the middle of a field, the few full-grown trees seen were in the vicinity of dwellings. The Japanese state that dwarf trees produce leaves softer and better adapted for feeding silk worms, they say also that trees raised from suckers or layers are preferred, because they yield large leaves and a small quantity of fruit, while trees raised from seed yield plenty of fruit and small leaves. The Japanese manure their trees several times in each year, and use manure prepared from a liquor from the rice plants."

The usual votes of thanks to the authors of papers, and the donors of presentations having been passed, the meeting terminated.