

1904.

(SECOND SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

BOTANIC GARDENS AND DOMAINS.

(REPORT FOR THE YEAR 1903.)

Printed under No. 1 Report from Printing Committee, 27 September, 1904.

The Director of the Botanic Gardens to The Under Secretary,
Chief Secretary's Department.

Sir,

Botanic Gardens, Sydney, 30 April, 1904.

I have the honor to submit my report on this sub-department for the year 1903. The long drought broke in March, and the year, taken as a whole, was the best that we have had for many years. The good season has been by no means confined to the coastal districts. The work of grading the northern portion of the Lower Garden and reforming the roads continues, about 11,000 loads of filling having been carted on to the ground during the year. At the present rate of progress this great work cannot be completed before the end of 1905.

I have, &c.,

J. H. MAIDEN,

Director of Botanic Gardens, &c., and Officer-in-Charge, Centennial Park.

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BOTANIC GARDENS:

(MR. GEORGE HARWOOD, Superintendent.)

IN my last report I referred to the grading of the 5 acres added to the Botanic Gardens from the Inner Domain. This work involved the grading of perhaps double the area in the Lower Garden. Much of this has been done, and simultaneously with it, the top-dressing of the adjacent lawns in the Lower Garden was proceeded with. These lawns are on made ground, being composed of fine material dredged from the harbour about 1870. They have been sinking, and sinking irregularly, for many years. Accordingly while all the upset connected with the grading was taking place I determined to level these lawns also. The amount of material required has been enormous, the level having to be raised 6 inches and even more, with good soil; but the public will appreciate the improvement when it is finished. Lawn 18 was all but completed during the year, so that, as the work has been steadily pushed on northwards, only lawns 17 and 16 require to be done. About 11,000 loads of soil and filling have been carted on the ground during the year, in carrying out the works of which I speak. The work would have been formidable under any circumstances, but for the last eighteen months it has been carried out without any increased vote. The work will probably be a drag on current work for another twelve months. The public have been very patient while some of the paths have been remade and lawns enclosed, and work in other parts of the Garden has fallen into arrear. When the work is complete it will not only vastly improve the Garden, but I hope it will diminish the cost of maintenance; in this way I hope to overtake arrears and carry out further improvements.

Arrangement Ground.—The ground set apart for monocotyledonous plants (No. 9 on the plan) has been raised, and the rearrangement of beds completed.

Two portions of the dicotyledonous arrangement grounds, Nos. 13 and 14, have been newly laid out and planted.

Following are the Monocotyledonous Orders now available to students:—

(The order given is roughly that of the beds with respect to one another.)

Pandanaceæ.	Palmacæ.
Aroideæ	Liliacæ.
Amaryllidacææ.	Graminacææ.
Iridacææ.	Haemadoracææ.
Cyperacææ.	Scitaminacææ.
Juncacææ.	Commelinacææ.
Restiacææ.	Bromeliacææ; also Cycadacææ.

Following are the Dicotyledonous Orders now planted:—

Proteacææ.	Compositæ.
Leguminosææ.	Loganiacææ.
Crassulacææ.	Rubiaceææ.
Cucurbitacææ.	Euphorbiacææ.
Sapindacææ.	Urticacææ.
Candolleacææ.	Umbelliferææ.
Rhamnacææ.	Melastomacææ.
Goodeniacææ.†	Ficoideææ.
Caprifoliacææ.	Plumbaginacææ.

also the border devoted exclusively to medicinal plants.

The prevalence of nut-grass (*Cyperus rotundus*) has prevented the planting of the remainder of the Arrangement Ground during the year. It is a serious pest in coastal New South Wales, and the only way of dealing with it is by incessant labour, which has not been sufficiently available during the carrying out of the large amount of extra work already referred to. Only those who have had practical experience with this pest know the difficulty of coping with it.

Other Beds and Borders.—A new curved border, entirely devoted to roses, has been prepared and planted at south end of lawn No. 18.

Two new flower-beds have been made on lawn No. 22; one on lawn No. 17; and two on lawn No. 18.

In September His Excellency the Governor and Lady Rawson planted memorial trees in the border bounding the Garden and Government House Grounds. Early in October the Chief Secretary and Lady See planted memorial trees in the same border. The names of the four trees are:—Sir Harry Rawson (*Callitris calcarata*, the Black Cypress Pine), Lady Rawson (*Callitris cupressiformis*, The Port Jackson Pine), Sir John See (*Phœnix sylvestris*), Lady See (*Strelitzia Nicolai*).

Lawns.—In speaking of the extensive alterations still pending in the north-western portion of the Garden, I have referred to the lawns. Those in the vicinity of the sea-wall formed originally a perfectly flat surface, or nearly so. In consequence, rain did not readily run off them, and the trouble was accentuated by the undulations which formed during the process of settling of the material of which they were composed. The work now in process (and which has been going on for several years) provides for a gentle slope from the vicinity of the sea-wall to the rising ground which forms the natural amphitheatre broadly encircling, though at some distance, the graceful curve of Farm Cove. The appearance and the drainage of the lawns are alike improved.

Music.—During the year the strength of the Royal Australian Artillery band has been reduced from twenty-five to twelve. In consequence the quality of the musical performances has fallen off, but Band-master McCarthy still provides musical treats which are appreciated by very large numbers of people. They gave sixteen performances, on Wednesday afternoons, during the year.

Creeks and ponds.—The silt has been again removed from the pond in which is situated Cunningham's monument. The constant removal of silt from the creek and ponds necessitates much labour for which there is nothing to show. No doubt the only feasible method of dealing with the problem

problem will be the construction of silt-pits at the Outer Domain boundary, and the raising of the stone walls or banks which at present confine the creek. But the expenditure necessary cannot at present be incurred.

Rockeries.—The rockeries in the vicinity of Victoria Lodge have been rearranged and extended north-east to the coping wall of the boundary fence. Some unsightly trees have been removed, and the improvements here will be found to be considerable.

The rockery on the eastern side of the pond, near the Arrangement Grounds, has been remade and replanted.

Roads and Paths.—The drinking fountain near Victoria Lodge has been abolished (having been replaced by one in the Domain alongside), and the wide paths between the rockeries have been asphalted. This constitutes a part of the improvements in the vicinity of Victoria Lodge, already referred to under "Rockeries."

The road leading to the stables from the Outer Domain has been ballasted and fenced on each side.

Boundaries and Fences.—New fences and gates have been erected enclosing the Propagating Grounds. This gives increased facilities for working these grounds, and also affords considerable protection from interference with and pilfering of the plants.

Six hundred and twenty feet of dilapidated wire-fencing, which enclosed the Aviary paddocks, has been replaced with a neat iron railing.

Plant-houses.—A new span-roofed plant frame has been erected near the bush-houses.

A good display of Crotons has been made during the year. We have now about sixty kinds, a collection which I do not propose to largely increase in view of the crowded state of the hot-houses,

Departments of Agriculture and Forests.—In my capacity as Government Botanist I have received 317 papers from these Departments during the year. The subjects have, as usual, been of a varied character. For the Department of Agriculture I have contributed several articles to the *Agricultural Gazette*. For the Forest Department I have undertaken the *Forest Flora*. As I make separate reports to these Departments it is not necessary to dwell upon the work at this place.

Guide to Gardens.—The long-promised (and long-prepared) Guide to the Gardens has been issued during the year. It is a royal octavo of 108 pages, with a lithographed plan. It has been published at the nominal price of 6d., and the public demand for it shows that it will soon be out of print.

Water Supply.—A drinking fountain has been placed in a walk near the sea-wall, a little north of lawn No. 19. This is a fine bronze fountain which has been transferred from the Centennial Park because of the damage it received during the night-time by mischievous persons.

The drinking fountain near the Victoria Lodge, which was made of cement and which was badly broken, has been removed. In lieu of this a large fountain has been placed a few yards away in the Outer Domain, and opposite the gates leading into the Garden at this spot.

The Weather.—We had phenomenal tides late in May. On the 28th May it was 6 feet 4 or 5 inches. Anything above 6 feet is unusual in Sydney, and these tides did much damage to the Lower Garden, as the sea water flooded certain beds and an extensive stretch of lawn.

Changes in the Staff.—Appointments—W. Craigie, junior clerk; K. L. Voller, temporary junior clerk; and R. Tate, gardener. Retirement—H. J. Hudson, temporary junior clerk.

The grading and gazetting of the gardeners, labourers, and tradesmen was published in the *Government Gazette* of 13th March and 27th November, 1903.

Correspondence.—This shows a large increase, for the year just passed, over the letters registered and despatched during the previous twelve months. During 1903 we registered 5,008 letters, and despatched 3,609 letters and 394 post-cards—making a total of 4,001 communications despatched, and representing increases of 376 and 546 respectively over 1902.

SEEDS RECEIVED AND DESPATCHED.

Botanic Gardens.

Received:

Aburi, Gold Coast, West Africa.
 Antwerp, Belgium.
 Baroda, India.
 Berlin, Germany.
 Berne, Switzerland.
 Bonn, Germany.
 Budapesth, Hungary.
 Calcutta, India.
 Cambridge, England.
 Catania, Sicily.
 Christiania, Norway.
 Cracow, Austria.
 Dorpat, Russia.
 Dresden, Germany.
 Edinburgh, Scotland.
 Entebbe, Uganda, East Africa.
 Geneva, Switzerland.
 Gottingen, Germany.
 Griefswald, Germany.
 Groningen, Holland.
 Heidelberg, Baden, Germany.
 Jamaica, Botanic Department, West Indies
 Karlsruhe, Germany.
 Kew, England.
 Lagos, West Africa.]

Lausanne, Switzerland.
 Leyden, Holland.
 Liege, Belgium.
 Lille, France.
 Lyons, France (Faculté de Médecine)
 Madrid, Spain.
 Messina, Italy.
 Montpellier, France.
 Munich, Bavaria, Germany.
 Nantes, France.
 Peradeniya, Ceylon.
 Rouen, France.
 Saharanpur, India.
 Saigon, Cochin China.
 Santiago, Chili.
 Sapporo, Japan.
 Stockholm, Sweden.
 St. Petersburg, Russia.
 Tiflis, Caucasus, Russia.
 Tokio, Japan.
 Upsala, Sweden.
 Utrecht, Holland.
 Vienna, Austria.
 Wangeningen, Holland.
 Zurich, Switzerland.

Despatched.

Despatched.

Ballarat, Victoria.
Baroda, India.
Brisbane, Queensland.
Brussels, Belgium.
Calcutta, India.
Florence, Italy.
Hobart, Tasmania.
Kew, England.
Lucknow, India.
Melbourne, Victoria.

Munich, Bavaria, Germany.
Paris, France.
Saharanpur, India.
San Paulo, Brazil.
Santiago, Chili.
St. Petersburg, Russia.
Tiflis, Russia.
Trieste, Austria.
Yahoué, New Caledonia.

Other Botanical Establishments.*Received.*

Barbadoes Imperial Department of Agriculture, West Indies.
Franceschi, Dr., Santa Barbara, California.
Hanbury, Chevalier, The Gardens, La Mortola, Italy.
Morrison, Dr., Department of Agriculture, Perth, W.A.

Santiago, Ministerio de Industria, Chili.
State Nursery, Kamerunga, Cairns, Queensland.
Washington, D.C., Department of Agriculture, U.S.A.

Despatched.

Bathurst Experiment Farm, N.S.W.
Berkeley Experiment Station, California, U.S.A.
Bossche, M. van den, Tirlemont, Belgium.
Brisbane Acclimatization Gardens, Queensland.
Buysman, Dr., Middleburg, Holland.
Hawkesbury Agricultural College, N.S.W.

Noumea, Union Agricole Caledonienne.
Pera Bore Experiment Station, N.S.W.
Pretoria Department of Agriculture, Transvaal.
State Nursery, Kamerunga, Cairns, Queensland.
Washington, D.C., Department of Agriculture, U.S.A.
Wollongbar Experiment Farm, N.S.W.

Firms and Private Individuals.*Received.*

Anderson & Co., Sydney.
Gale, A., Sydney.
Herb, M., Naples, Italy.
Kinney, Abbot, Los Angeles, California.
Leary, E., Narrabri.

Perez, Dr. G. V., Teneriffe.
Sprenger, C., Vomero, Italy.
Travers, H. H., Wellington, New Zealand.
Zoological Gardens, Sydney.

Despatched:

Anderson & Co., Sydney.
Browne, Sylvester, Ninembah, Whittingham.
Cockayne, L., Christchurch, New Zealand.
Demcker, R., New Jersey, U.S.A.
Field, C. A., Chassarfield, via Condobolin.
Greene, Hon. G. H., M.L.C., Iandra, Grenfell.
Hunt, E. J., Glasgow.
Hussey, Mrs. W. J., Lick Observatory, Mt. Hamilton, California, U.S.A.
Johnson, R. G., Ingham, Queensland.
Lindeman, S. H., Gayndah, Queensland.
Martelli, Prof. M., Florence, Italy.
Sanders, F. & Co., St. Albans, England.
San Diego Park Improvement Committee, California, U.S.A.
Shepherd, P. L. C., & Co. Sydney.

Simpson, G. M., Stonehenge, New England.
Sprenger, C., Vomero, Naples, Italy.
Staer, J., Hornsby, N.S.W.
Stephen, A. E., Pacific Island Co., 60A Pitt-street, Sydney.
Travers, Henry H., Wellington, New Zealand.
Vilmorin, Andrieux & Cie., Paris.
Walpole, G., Dublin.
Watson, J. C., Young.
West, C. A. W., Transvaal.
White, C. A., General Cemetery, Johannesburg, South Africa.
Williams, W. H., Maryborough, Queensland.
Wodehouse, F. W., Radhanpur State, Bombay, India.
Woodroffe, A. E. V., Wyndham, Western Australia.
Yates, A. & Co., Sydney.

LIVING PLANTS RECEIVED AND DESPATCHED.*Received.*

Albury Botanic Gardens.
Ballarat Botanic Gardens.
Bonnefin, E. A., Mosman.
Britten, E., Ryde.
Brown, J. T., Potts Point.
Campbell, W. D., Perth, Western Australia.
Darlinghurst Gaol, Sydney.
Eaves, S. H., Brisbane.
Etheridge, W. H., Gloucester.
Gosford State Nursery, N.S.W.

Grime, Mrs., Murwillumbah,
Hay, Dr. John, Crow's Nest, North Sydney.
Hislop, Mr., Palace-street, Petersham.
Jackson, H. V., Board of Exports, Sydney.
M'Leod, A. E., Hermidale.
State Nursery, Kamerunga, Cairns, Queensland.
Tepper, J. G. O., Norwood, South Australia.
Western Lands Board, Castlereagh-street., Sydney.
Woodford, C. M., Solomon Islands.

Despatched:

Daw, F. J., Esperance, Western Australia.
Eaves, S. H., Brisbane.
Ede, R. H., Woodlark Island, New Guinea.
Fleming, W. M., M.P., Aberdeen.
Funk, Dr., Apia, Samoa.
Grimes, Mrs., Murwillumbah.
Hutchins, Rev. J. J., Raratonga.
Meagher, John, Wyalong.
New South Wales Deaf and Dumb Institution, Newtown.

O'Ferrall, Rev. W. C., Norfolk Island.
Rae, Arthur, Glenorie.
Staer, J. S., Hornsby.
Shepherd, P. L. C. & Co., Sydney.
Thomson, E. Deas., Elizabeth Bay.
Wagga Experiment Farm, Bomen, N.S.W.
Whechelo, H. M., Wellington.
Wood, W. H., North Sydney.

LIVING PLANTS DISTRIBUTED.

	Number of consignments.		Number of consignments.
Public Schools	204	R.C. Churches	51
Railway Stations	78	R.C. Convents	24
Gaols and Court Houses	25	Miscellaneous, includes Progress Associations, Municipal Councils, Public Roads, Military, and a few other Government Establishments, also a few private persons for experimental purposes, or by way of exchange	51
Police Stations	10		
Asylums and Hospitals	17		
Post Offices	4		
Colleges	7		
Parks and Reserves	6		
Charitable Institutions	17		
Cemeteries	2		
Water and Sewerage Board	10	Made up as follows:—	
Experimental Farms	8	Trees	22,534
Churches of England	25	Shrubs	20,463
Presbyterian Churches	8	Miscellaneous plants	25,333
Methodist Churches	8		
		Grand Total ..	68,336

[The greater number of these were despatched from the State Nursery, Campbelltown, direct.]

AVIARY.

AVIARY.

Deaths:

- | | |
|---|--|
| 2 Canaries (<i>Serinus canaria</i> , Linn.), Madeira. | 1 Spotted bower bird (<i>Chlamydodera maculata</i> , Gould); E. Australia. |
| 6 Sulphur-crested cockatoos (<i>Cacatua gymnopsis</i> , Sclater); N. and N.W., Australia. | 2 Red-billed liothrix (<i>Liothrix lutea</i> , Scop.); E. and S.E. Asia. |
| 2 Spotted silver finches (<i>Stagonopleurum guttata</i> , Shaw); E. and S.E. Australia. | 1 Aylesbury duck. |
| 4 Gold finches. | 1 Aylesbury drake. |
| 4 Chestnut-breasted finches (<i>Donacicola castaneothorax</i> , Gould); N. and N.E. Australia. | 1 Egyptian goose (<i>Chenalapex aegyptica</i> , Linn); Africa. |
| 1 Gouldian finch (<i>Poephila mirabilis</i> , var. <i>Gouldian</i>); N. and N.W. Australia. | 1 Golden spangled bantam (hen). |
| 1 Satin bower bird (<i>Ptilonorhynchus violaceus</i> , Viellot); E. and S.E. Australia. | 1 Pennant's parrakeet (<i>Platycercus elegans</i> , Gmelin); E. and S.E. Australia. |
| | 1 Warbling grass parrakeet (<i>Melopsittacus undulatus</i> , Shaw); Australia. |

Presented to the Australian Museum.

- 1 Golden pheasant hen (*Chrysolophus pictus*, Linn).

Stolen.

On the 6th October, 1903, at 6 a.m., the door of the cage containing thirty canaries was found forced open, and only two canaries remained in the cage, while seven more were caught during the day. It is probable that the thief was disturbed in his operations; but we lost a total of twenty-two canaries.

Escaped.

- 1 White-bellied Bronzewing (*Lophapaps leucogaster*), Gould; N.W. and Central Australia.

Caught by Aviary Keeper.

- 1 Satin bower bird, hen (*Ptilonorhynchus violaceus*, Viellot); 2 Sulphur-crested cockatoos (*Cacatua gymnopsis*, Sclater); E. and S.E. Australia. and S.W. Australia.

Purchased:

- | | |
|--|--|
| Janson, H., George-street, Sydney— | Tims, E. K., Station-street, Petersham—16 Canaries (<i>Serinus canaria</i> , Linn.); Madeira. |
| 4 canaries (<i>Serinus canaria</i> , Linn.); Madeira. | Whiffin, Arthur, 68 Stanley-street, Sydney—10 Canaries (<i>Serinus canaria</i> , Linn.); Madeira. |
| 8 Gold finches (<i>Cordullis elegans</i>); Europe. | Executors of the estate of the late W. H. Catlett—16 Gold fish. |
| 12 Gold fish. | |

Presentations:

- | | |
|---|--|
| Cadden, W., King and Clarence streets, Sydney | Punch, Mrs., 40 Walker-street, North Sydney. |
| Gale, Albert, Sebastopol-street, Stanmore. | Russell, H. R., Corunna-road, Petersham. |
| Green, M. T., Adelaide S.S.N. Co. | Weaver, Mrs., F. G., "Corsham," Strathfield. |
| Oliver, Alex., "Shelcote," Neutral Bay. | |

Four crested pigeons, *Goura carinata*, New Guinea, the property of Mr. J. Henniker Heaton, of London, were on view for seven months prior to their being sent to England. These handsome birds evoked much interest.

A native cat, measuring 37 inches long, was captured in a spring trap at the back of the Aviary on 25th June, and a young one was found dead in the Upper Garden on 28th October, 1903.

We have lost a number of fowls, ducks, and other small birds from time to time, and there is little doubt but that these native animals, probably the last of their race, are responsible for their destruction, and also for the complete extermination of the English blackbirds and thrushes, which for a number of years delighted visitors to the Gardens in the early morning.

NATIONAL HERBARIUM AND BOTANICAL MUSEUM.

(MR. E. BETCHE, Botanical Assistant; MISS S. HYNES, B.A., Second Botanical Assistant.)

Mr. Betché reports as follows:—"The botanical exploration of this State has been carried on by the Director and Collector in several extended journeys to the western plains and northern rivers, with the result of large additions to the Herbarium, and the discovery of several new species and varieties, mostly not yet described and published.

"The most noteworthy additions to the Flora of New South Wales from outside contributors have been received from the Hay district by Miss E. Officer. The south-west corner of this State is rather imperfectly represented in the Herbarium, and the abundance of well-collected and well-preserved specimens received from this source has been a material help in filling up this want. Miss Officer's contributions stand in marked contrast to those of many other correspondents who persist in sending worthless scraps, so that we have little or no advantage in return for the time spent in naming their specimens. In exchange with the other Australian States we received the greatest number of specimens from South and Western Australia, and from the latter State a large number of new species described by Mr. W. V. Fitzgerald.

"To make a definite statement about the strength of the Australian Herbarium, I counted the number of species for each State and find that the Flora of New South Wales is represented by 97 per cent. of all described species; of Victoria by 96 per cent., of Tasmania by 93 per cent., of extra-tropical South Australia by 85 per cent., of Queensland by 62 per cent., of North Australia by 46 per cent., of West Australia by 39 per cent.

"The figures given here cannot claim absolute accuracy, because apart from the unavoidable difference of opinion of different authors as to the extent of a species and a variety, all the Australian States, except perhaps Tasmania and Victoria, are botanically so imperfectly explored, that in some cases 10 per cent. and more will be added in the future to the present census. The figures given are also in some way misleading, for instance, we have a great many more West Australian than Queensland plants, though the former is represented by a much smaller percentage. The cause of this apparent contradiction is, that West Australia is remarkably rich in endemic plants, while Queensland has very

very many plants in common with New South Wales. We have a small number of Queensland plants and a large number of West Australian plants still undetermined in the Herbarium. This is not as it should be, but the current work increases year by year, and the staff remains the same, with the result that the work grows over our heads and some of the work must be left undone. We always hope to be able to work up the arrears in a slack time, but that time seems never to come, and we are pressed on by new work coming in.

"The most important additions to the Pacific Islands Herbarium received last year are a large collection of New Caledonian plants, chiefly type specimens of Vieillard, and a small number of orchids from Samoa and the New Hebrides, determined, and the new species described, by Mr. R. A. Rolfe, of Kew. The Herbarium is still very poor in the Phanerogamous Flora of New Zealand, with which interesting country we have not yet been able to open up a regular botanical exchange. The Norfolk and Lord Howe Islands are best represented,—I may say we have the flora of these islands almost perfect as far as described. Next follows New Pommern (New Britain), New Caledonia, Samoa, the Marshall Islands and other coral islands, but of most of the other large Melanesian Islands we have practically only the ubiquitous coast flora.

"The Exotic Herbarium has again been largely increased during the year. Though I cannot give the precise number of species of plants, in consultation with the second Assistant, Miss Hynes, who has been classifying and arranging the Exotic Herbarium (Phanerogams) almost from the beginning, we have come to the conclusion that 30,000 species would be the lowest estimate. The number of specimens received last year was 8,803, amongst them a collection of nearly 3,000 species of Mexican plants, about 25 per cent. of the Phanerogamous Flora of that country. Of course for all exotic specimens received Australian specimens have to be sent in return, a laborious work which is chiefly in the hands of the Second Assistant, and for which the collector chiefly supplies the material. The large Exotic Herbarium has proved invaluable on many occasions in the identification of cultivated plants, garden escapes and naturalised weeds sent for determination from this and other Australian States.

"The most important addition to the Museum is a collection of 362 specimens of gums and resins, the types referred to in the article 'Resinous and Gummy Substances,' in 'Spons' *Encyclopædia of Industrial Arts and Manufactures*.' These were obtained through the kind intermediary of Mr. E. M. Holmes, F.L.S., Curator of the Museums of the Pharmaceutical Society of Great Britain. Teratological and carpological specimens, the latter chiefly of Australian plants, are constantly arriving partly from outside contributions and partly drafted down from the new herbarium material."

Mr. Beteche and I have continued to devote a considerable amount of time to a census of the Plants of New South Wales (Phanerogams and Vascular Cryptogams), which is now nearly ready for the printer. Such a work is badly needed, and it is hoped that it will be found to embody the latest research, not only as affecting the completeness of the list, but also as regards modern nomenclature.

Mosses and Hepatics.—Mr. William Forsyth is in honorary charge of this section. A number of these plants was added to the Herbarium during the year, but other claims on Mr. Forsyth's time have not permitted him to devote that attention to the section during the year that he has done in past years.

Lichens.—Mr. E. Cheel, in honorary charge of this section, reports as follows:—

"The collection is steadily increasing, both as regards exotic as well as New South Wales species.

"We have received during the year one collection of Cryptogamæ Exsiccatae from Vienna, containing twenty species, including the series *Heterodea Muellerei*, Nyl., a species common in Port Jackson, and endemic to Australia, which was forwarded from our Herbarium last year. From Mr. G. Bell, New Zealand, five species of undetermined lichens were received.

"We are again indebted to Mr. J. Gregson for several interesting collections which have been gathered from Mount Wilson and also the Newcastle and Gloucester districts.

"Specimens have also been received from Messrs. J. H. Camfield, W. Forsyth, and J. L. Boorman;

"In November the Rev. W. W. Watts very generously handed over to me the whole of his collection of lichens, including twenty-seven species or varieties recorded by him in the *Proceedings of the Linnean Society of N.S.W.* for 1903. Wherever duplicates have been available I have incorporated them in the National Herbarium. Mr. W. Gardner, of Penshurst, has again favoured me with a small but interesting collection from Mount Kosciusko. In December I visited Eden and other localities in the vicinity of Twofold Bay, at my own expense, and made a fair collection of lichens, duplicates of which have also been incorporated in the collection."

Algæ.—Mr. A. H. S. Lucas, M.A., B.Sc., in honorary charge of this section, has continued to contribute a number of these plants to the Herbarium. A fair number have been received from other sources, chiefly in the way of exchange. Mr. Lucas has devoted much time to the classification of this collection, and although much remains to be done, yet the vast majority of the specimens are named, and conveniently available for reference.

Fungi.—Mr. A. Grant, in honorary charge of this section, has done much to enhance its interests during the year. He has determined all the fungi received, and has kept a watchful eye on the microfungi, which have made their appearance in the Gardens. Mr. Grant's notes for his report were destroyed in the fire which broke out in one of the potting-sheds on January 7th last, hence the general character of this notice.

Botanical Survey of the State.—I can only say that this very necessary work has been pushed on by the Collector and myself as far as other duties will permit. The list of described New South Wales species of Phanerogamous plants and Vascular Cryptogams not in the Herbarium is now so small that I may publish it in my next report, with a view of enlisting the aid of correspondents in Australia and other parts of the world.

While

While I, of course, give paramount attention to the flora of my own State, still we have much to learn as to the range of New South Wales species, and we are frequently finding in New South Wales plants hitherto only recorded from the other States. It is, therefore, necessary that every effort should be made to have a strong Australian herbarium.

List of Species described in New South Wales during 1903.—Following is a list of species (phanerogams and cryptogams) described in New South Wales during the year. It is compiled on the lines of the International Catalogue of Scientific Literature :—

- Baker, R[ichard] T[homas]*—
Symplocos [Styracæ] *Bauerleni*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (534) [5,400].
- Maiden J[oseph] H[enry] and E[rnst] B[etche]*—
Goodenia [Goodeniaceæ] *dimorpha*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (908) [5,400].
Goodenia [Goodeniaceæ] *dimorpha* Maiden et B[etche].
 Var. *angustifolia*, n. var.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (907, 908) [5,400].
Swainsona [Leguminosæ] *Greyana*, Lindl. Var. *bracteata*,
 n. var.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (905) [5,400].
Zieria [Rutaceæ] *Smithii*, Andr., var. *tomentosa*, n. var.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (904) [5,400].
- M. 5,400.
- Fitzgerald W[illiam] V[incent]*—
Leucopogon [Epaeridaceæ] *glaucofolius*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (104). [5,400].
Hensmania, gen. nov. [Liliaceæ]. [6,000].
Hensmania [Liliaceæ] *turbinata*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (105) [6,000].
Conostylis [Amaryllidaceæ] *Harperiana*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (106) [6,000].
Centrolepis [Centrolepidaceæ] *inconspicua*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (107) [6,000].
Restio [Restiaceæ] *stenostachyus*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (108) [6,000].
Cyathochaete [Cyperaceæ] *teretifolia*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (109) [6,000].
Schœnus [Cyperaceæ] *caespititius*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (110) [6,000].
Schœnus [Cyperaceæ] *lævigatus*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (111) [6,000].
Schœnus [Cyperaceæ] *laxus*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (111) [6,000].
Schœnus [Cyperaceæ] *Andrewsii*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (112) [6,000].
Hypolœna [Restiaceæ] *fasciculata*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (108) [6,000].
- M.
McAlpine, D[aniel]—
Coryneum [Fungi] *acaciæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (96) [7,700].
Cercospora [Fungi] *loranthi*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (96) [7,700].
Cylindrosporium [Fungi] *eucalypti*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (97) [7,700].
Rhabdospora [Fungi] *lobeliæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (559) [7,700].
Puccinia [Fungi] *flavescens*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (558) [7,700].
Schizotrichum, n. gen. [Fungi].
 Proc. Linn. Soc., N. S. Wales. 28-1903. (562) [7,700].
Schizotrichum [Fungi] *lobeliæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (562) [7,700].
Septoria [Fungi] *varia*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (561) [7,700].
Septoria [Fungi] *lagenophora*, n. sp.
- M.
McAlpine, D[aniel]—
 Proc. Linn. Soc., N. S. Wales. 28-1903. (561) [7,700].
Septoria [Fungi] *confluens*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (560) [7,700].
Septoria [Fungi] *Australiae*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (560) [7,700].
Massarinula [Fungi] *phyllodorum*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (555) [7,700].
Macrophoma [Fungi] *brunnea*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (555) [7,700].
Pestalozzia [Fungi] *citrina*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (556) [7,700].
Phyllosticta [Fungi] *correae*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (557) [7,700].
Phyllosticta *passifloræ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (557) [7,700].
Prosthemium [Fungi] *kentiae*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (557) [7,700].
Puccinia [Fungi] *calendule*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (558) [7,700].
Dimerium [Fungi] *orbiculatum*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (97) [7,700].
Glaeosporium [Fungi] *walteri*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (98) [7,700].
Hendersonia [Fungi] *grandespora*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (99) [7,700].
Septoria [Fungi] *perforans*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (100) [7,700].
Phoma [Fungi] *romulæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (100) [7,700].
Phoma [Fungi] *vittadinia*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (100) [7,700].
Septoria [Fungi] *thelymitræ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (101) [7,700].
Sphaerella [Fungi] *cassythæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (102) [7,700].
Ascochyta [Fungi] *arida*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (553) [7,700].
Camarosporium [Fungi] *oleariæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (554) [7,700].
Fusarium [Fungi] *gracile*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (554) [7,700].
Hendersonia [Fungi] *lobeliæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (554) [7,700].
Amerosporium [Fungi] *rhodospermum*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (94) [7,700].
Ascochyta [Fungi] *anthistirizæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (95) [7,700].
Ascochyta [Fungi] *cryptostemmæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (95) [7,700].
- M. 7,700.
Smith, R. Greig—
Bacterium [Bacteriaceæ] *persicæ*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (128) [7,700].
Bacterium [Bacteriaceæ] *pararabinum*, n. sp.
 Proc. Linn. Soc., N. S. Wales. 28-1903. (541) [7,700].

Publications by the Director and Staff and Coadjutors.—"The Critical Revision of the Genus *Eucalyptus*," referred to in my last report, was fairly launched during the year. Part I was issued in March. It consists of 47 pages, quarto, and plates 1-4; it contains some preliminary matter referring to the genus, and an account of *E. pilularis*, Sm., and its forms. Part II, issued in May, consists of pages 48-73, and plates 5-8. It deals with *E. obliqua*, L'Hér. Part III, issued in August, consists of pages 74-90, and plates 9-12. It deals with *E. calycogona*, Turcz. (*E. gracilis*, F.v.M. *partim*). The excellent lithographic plates by Miss Margaret Flockton, and the typography by the Government Printer, have been much admired. The work embodies much original research, and endeavours will be made to make it the standard for nomenclature of the genus.

"The Forest Flora," also a quarto work, has come into existence during the year. I have written it for the Forest Department, and the excellent plates are also by Miss Flockton. Part I was issued in February, and Part V in November. Each part has four plates, so that the portion issued during the year has twenty plates; there are also 125 pages of letterpress. Following are the trees dealt with in the parts issued during the year :—

Part I.—

- The Silky Oak (*Grevillea robusta*, A. Cunn.).
 The Rusty Fig (*Ficus rubiginosa*, Desf.).
 The Turpentine Tree (*Syncarpia laurifolia*, Ten.).
 The Narrow-leaved Pittosporum (*Pittosporum phylliræoides*, DC.).

Part II.—

Part II.—

- The Woolly Butt (*Eucalyptus longifolia*, Link and Otto).
 The Red Ash (*Alphitonia excelsa*, Reissek).
 The New South Wales Sassafras (*Doryphora sassafras*, Endl.).
 A Bitter Bark (*Alstonia constricta*, F.v.M.).

Part III.—

- The Red Cedar (*Cedrela australis*, F.v.M.).
 The Red Mahogany (*Eucalyptus resinifera*, Sm.).
 A She-Beech (*Cryptocarya obovata*, R.Br.).

Part IV.—

- The New South Wales Blue or Flooded Gum (*Eucalyptus saligna*, Sm.).
 The Brown or She-Pine (*Podocarpus elata*, R.Br.).
 The Broad-leaved Tea-tree (*Melaleuca leucadendron*, Linn.).
 The Quandong (*Fusanus acuminatus*, R.Br.).

Part V.—

- The Brush Box (*Tristania conferta*, R.Br.).
 A White Oak (*Lagunaria Patersonii*, D. Don).
 The Mountain Gum (*Eucalyptus goniocalyx*, F.v.M.).
 A Cupania (*Cupania anacardioides*, A. Rich.).

The following papers I read before the Linnean Society of New South Wales, viz. :—

“The Variability of Eucalyptus under cultivation.”—This paper, which is of a preliminary character, takes cognisance of all the species described by old and by modern authors from cultivated specimens. The descriptions of some of the species are difficult to obtain, but the author has rendered most of them conveniently available and expresses his opinion as to the species from which these cultivated forms have probably sprung. Some of the changes that species have undergone under cultivation the author attributes to the inherent tendency to variation in each species.

“Notes on the Botanic Gardens, No. 9,” (with Mr. Ernst Bettle).—*Goodenia dimorpha*, new species; *G. dimorpha*, var. *angustifolia*, new variety. Other new varieties are *Zieria Smithii*, Andr., var. *tomentosa*; *Cryptandra amara*, Sm., var. *longiflora*, F.v.M. ined. *Swainsona Greyana*, Lindl., var. *bracteata*. *Juncus filicaulis*, Fr. Buchenau, is new. *Ranunculus rivularis*, Banks and Sol., var. *inconspicuus*, Benth.; *Acacia trineura*, F.v.M.; *Schoenus sculptus*, Bæck; are recorded as new for New South Wales. Important critical notes are given on Monimiaceæ, Juncaceæ, and Scheuchzeriaceæ.

In the Linnean Society's Journal (N.S.W.) I also contributed an extensive “Flora of Norfolk Island,” embodying my investigations of some years.

“The Common Eucalyptus Flora of Tasmania and New South Wales”—(Report of the ninth meeting of the Australasian Association for the Advancement of Science, held at Hobart, 1902).—An endeavour is made, *inter alia*, to construct a complete list of the species of Eucalyptus of Tasmania.

For the tenth meeting held in Dunedin, in January, 1904, I contributed a paper “On Hybridisation in the genus Eucalyptus,” in which I definitely announce my adhesion to the view that hybridisation takes place naturally in this genus. My acquiescence in this opinion has been deliberate, for the mass of evidence that has come under my notice during the last few years makes the conclusion irresistible. I feel that realisation of this view throws a flood of light upon many of the puzzling aberrations of named forms that one finds in the Eucalyptus forests of this continent. This will impose a limit on the multiplication of names for forms, the problem being to ascertain the relation of the supposed hybrids to the forms which morphological evidence indicates as those from which they probably sprang. I look upon this realisation as an important step in my continuous Eucalyptus work of twenty years.

“On Eucalyptus odorata,” Behr. (*Trans. Roy. Soc., S.A.*, 1903).—An attempt to accurately define the forms of this somewhat puzzling species, and their range in South Australia and other States.

The paper “The Gum-top Stringybarks of Tasmania; a study in variation,” referred to in my last annual report as having been read before the Royal Society of Tasmania, was withdrawn by me in order that it might be printed in Part II of my “Critical Revision of the genus Eucalyptus,” under *E. obliqua*.

“On the identification of a species of Eucalyptus from the Phillipines” (*Proc. U.S. National Museum*, Vol. XXVI, No. 1,327).—The species in question is *E. Naudiniana*, F.v.M., previously only recorded from the Bismarck Archipelago (New Britain).

In the *Public Service Journal*, Sydney, I continued my “Biographical Notes concerning the Officers in charge of the Botanical Gardens,” dealing with—(3) Richard Cunningham; (4) James Anderson; (5) Allan Cunningham; (6) William Robertson; (7) John Kidd; (8) John Carne Bidwill. The series came to an end with this article, as it is not proposed to deal with living officers.

In the September issue were some supplementary notes concerning Charles Fraser, Richard Cunningham, and Allan Cunningham.

In the October issue I commenced a series of articles entitled “Chronological Notes concerning the Sydney Botanic Gardens and Domains.” No. 1—“The Governor's, or Government Garden prior to 1806” (October and November); No. 2—“The Superintendency of Charles Fraser” was begun in the December issue.

In the *Agricultural Gazette*.—George Caley, Botanical Collector in New South Wales, 1800-10; notes biographical and botanical.

Useful Australian Plants :—*Eragrostis nigra*, *Eragrostis tenella*, *Panicum helopus*.

Texan Timothy (a new grass from the United States).

Stock and Stringybark trees.

Some so-called fodder-plants not always edible.

Frauds in seed-selling.

NATIONAL HERBARIUM.

Specimens presented.

- Barnard, F. G. A., Kew, Victoria.
 Bell, Michael, National Park, near Sydney.
 Black, J. M., Norwood, South Australia.
 Brown, G. R., Port Macquarie.
 Camfield, Julius H., Sydney Botanic Gardens.
 Cullen, Hon. Dr. W. P., M.L.C., Mosman, Sydney.
 Ffrench, L. J., Coonamble, N.S.W.
 Funk, Dr. B., Apia, Samoa.
 Gregson, Jesse, Newcastle.
 Helms, R., Department of Agriculture, Sydney.
 Macarthur, Mrs., Clyde Pottery, Camperdown.
 Park-Wilson, J., Aneityum, New Hebrides.
 Schnee, Dr. Julius, Marshall Islands.
 Spencer, Professor Baldwin, M.A., F.R.S., The University, Melbourne.
 Swayne, Mrs. E., Rewa, Fiji.
 Taylor-Beckett, Dr., Christchurch, New Zealand.
 Technological Museum (The Curator), Sydney.
 Whibley, F. G., Niutao, Ellice Group.

Specimens purchased.

139 numbers of North African plants (Algerian Sahara).

Specimens exchanged.

Received.

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|---|---|---|
| <p><i>Australia.</i></p> <p>New South Wales—
 Belindigbar Experimental Farm, Grafton, The Manager.
 Hawkesbury Agricultural College, Richmond, The Principal.</p> <p>Queensland—
 Brisbane, The Government Botanist.</p> <p>Victoria—
 Melbourne Botanic Gardens, The Director.
 National Herbarium, Melbourne, The Curator.
 Williamson, H. B., Hawkesdale.</p> <p>Western Australia—
 Andrews, Cecil, Perth.
 Fitzgerald, W. V., Perth.
 Morrison, A., Department of Agriculture, Perth.
 Woodroffe, A. E. V., Wyndham.</p> <p>South Australia—
 Botanical Department, University of Adelaide, per Miss E. J. Benham.</p> <p><i>Europe.</i></p> <p>Austria—
 Vienna, K. K., Naturhistorisches Hof Museum.</p> <p>France, Dr. C.
 Flahault, Dr. C., Director de l' Institut Botanique Montpellier.
 Lignier, Professor C., University of Caen.
 Mouillefarine, Monsieur, Paris.</p> <p>Germany—
 Berlin Botanical Museum, The Director.
 Kneucker, A., Karlsruhe.
 Leonhardt, Otto, Nossen in S.</p> <p>Switzerland—
 Herbar Boissier, Chambésy.
 Chodat, R., University of Geneva.
 Director, Botanic Gardens, Zurich.</p> <p>Russia—
 Tiflis Botanic Garden, The Director.</p> | <p><i>India—</i>
 Madras, The Government Botanist.
 Royal Botanic Gardens, Sibpur, Calcutta, The Director.</p> <p><i>Ceylon—</i>
 Royal Botanic Gardens, Peradeniya, The Director.</p> <p><i>Java—</i>
 Buitenzorg Botanic Gardens, The Director.</p> <p><i>Japan—</i>
 Botanical Institute, Science College, Imperial University, Tokyo.</p> <p><i>Natal—</i>
 Botanic Garden, The Curator.</p> <p><i>Canada—</i>
 Fisher, G. L., St. Thomas, Ontario.</p> <p><i>Argentina Republic—</i>
 Museo Nacional de Buenos Aires, The Director.</p> <p><i>California—</i>
 Baker, C. F., Stanford University.</p> <p><i>Columbia, District of United States—</i>
 National Museum, Washington, Dr. Rose, Curator.</p> <p><i>Massachusetts—</i>
 Gray Herbarium of Harvard University, Cambridge, The Curator.</p> <p><i>Vermont—</i>
 University of Vermont, C. F. Pringle, Keeper of the Herbarium.</p> | <p><i>Asia.</i></p> <p><i>Africa.</i></p> <p><i>America.</i></p> <p><i>United States.</i></p> |
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Despatched.

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| <p><i>Australia.</i></p> <p>Victoria—
 McAlpine, D., Department of Agriculture, Melbourne.
 Melbourne Botanic Gardens, The Director.
 Williamson, H. B., Hawkesdale.</p> <p>Tasmania—
 Hobart Botanic Gardens, The Director.</p> <p>Western Australia—
 Fitzgerald, W. V., Perth.
 Goadby, B. T., Albany.</p> <p>South Australia—
 Adelaide University, Botanical Department, Miss E. J. Benham.
 Johncock, C. F., Morphett.</p> <p>New Caledonia—
 Noumea Museum, Curator.</p> <p><i>Europe.</i></p> <p>England—
 British Museum Natural History, London, S.W., The Keeper.
 Imperial Institute, London, The Director.</p> <p>Scotland—
 Bower, Professor F. C., Glasgow University.</p> <p>Austria—
 Vienna, K. K., Naturhistorisches Hof Museum.</p> <p>France—
 Bonaparte, Prince Roland, Paris.
 Gandoger, Professor Michael, Arnas, Villefranche, Rhone.
 Lignier, Professor, University of Caen.
 Mouillefarine, Monsieur, Paris.</p> <p>Germany—
 Buchenau, Professor, Bremen.
 Gross, Rud. Berlin.
 Leonhardt, Otto, Nossen in S.</p> | <p><i>Germany—continued—</i>
 Ruhland, Dr. W., Berlin.
 Schlechter, Rud. Berlin.
 Solereder, Professor H., Erlangen Botanic Gardens.</p> <p><i>Switzerland—</i>
 Curator, Herbar Boissier, Chambésy
 Chodat, Professor R., University of Geneva.
 Director, Botanic Gardens, Zurich.</p> <p><i>Japan—</i>
 Imperial University, Tokyo.</p> <p><i>Canada—</i>
 Fisher, G. L., St. Thomas, Ontario.</p> <p><i>Argentina Republic—</i>
 Museo Nacional Buenos Aires, The Director.</p> <p><i>Uruguay—</i>
 Archavaleta, Professor J., Museo Nacional, Montevideo.</p> <p><i>California—</i>
 Baker, C. F., Stanford University.</p> <p><i>Minnesota—</i>
 McMillan, Professor Conway, University of Minnesota, Minneapolis.</p> <p><i>Massachusetts—</i>
 The Curator, Gray Herbarium of Harvard University, Cambridge.</p> <p><i>New York—</i>
 Foxworthy, F. W., Cornell University, Ithaca.</p> <p><i>Vermont—</i>
 Pringle, Professor C. G., University of Vermont.</p> | <p><i>Asia.</i></p> <p><i>America.</i></p> <p><i>United States.</i></p> |
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BOTANICAL MUSEUM.

Specimens presented.

- Bell, Michael, National Park, near Sydney.
 Best, W., Port Macquarie.
 Burkill, I. H., Assistant Reporter on Economic Products to the Government of India, Calcutta.
 Burns, Philp, & Co., Sydney.
 Cadell, T., Coramba, New South Wales.
 Carvosso, Mrs., North Sydney.
 Chilian warship, "General Banquedano," in Port Jackson, The Commander.
 Corbett, P., Paldrumatta Bore, *via* Wilcannia.
 Crawford, A. R., Moona Plains, Walcha.
 Dick, James Adam, M.D., Randwick, Sydney.
 Docker, Mrs. Wilfred, Darlinghurst, Sydney.
 Etheridge, R., Australian Museum, Sydney.
 Funk, Dr. B., Apia, Samoa.
 Farlow, R. W., Agnes Banks, New South Wales.
 Gordon, H., Tuggerah Lakes.
 Holmes, E. M., Curator of the Museum of the Pharmaceutical Society of Great Britain, London.
 Johnston, A. A., Upper Bankstown.
 Jones, Mrs. Grace, Newtown, Sydney.
 Lovegrove, F., Peshurst.
 Markell & Co., Charles, Sydney.
 McLean, V., Department of Lands, Sydney.
 Nancarrow, H., Wellington, New South Wales.
 Niemann, J. H., Northern Territory, South Australia.
 O'Farrell, J. J., Eden, New South Wales.
 Parkinson, R. Ralum, Bismarck Archipelago.
 Park-Wilson, J., Aneityum, New Hebrides.
 Pope, W. P., Casino, New South Wales.
 Robertson, The Rev. H. A., Erromanga, New Hebrides, per Curator Australian Museum, Sydney.
 Rumsey, H. J., Barber's Creek, New South Wales.
 Spalding, Colonel W., Norfolk Island.
 Spencer, Professor Baldwin, Melbourne University.
 Stafford, L. M., Kajang, Selangor, Straits Settlements.
 Smith, A. B., Duri.
 Smith, G. R., Morpeth.
 Tate, Ralph, Sydney.
 Tingcombe, George, Roseville, near Sydney.
 Trebeck, P. C., Sydney.
 Thompson, W., Wee Elwah, Hillston.
 Walker, H. B., Town Hall, Charters Towers.
 White, H. G., Belltrees, Scone.
 Whibley, Frederick, Niutao, Ellice Group.
 Williams, Percy E., Hunter's Hill, near Sydney.
 Woodford, C. M., H.B.M., Deputy-Commissioner, Solomon Islands.
 Woodroffe, A. E. V., Wyndham, Western Australia.

Specimens purchased.

- One set of Nordlinger's timber sections—1,100 specimens.
 Types of the specimens referred to in the article entitled "Resinous and Gummy Substances" in Spon's "Encyclopædia of the Industrial Arts—Manufactured and Raw Commercial Products," Vol. II.

Specimens exchanged.

Received.

- Australian Museum, Sydney, New South Wales.
 Aburi Botanic Gardens, Gold Coast, Africa (The Curator).
 Barbadoes, West Indies, Imperial Department, The Commissioner.
 Belindigbar Experimental Farm, Grafton.
 Brisbane, The Government Botanist.
 Franceschi, Dr. F., Santa Barbara, California.
 Gandoger, Professor M., Arnas, Villefranche, Rhone, France.
 Gill, W., Conservator of Forests, Adelaide, South Australia.
 Hay, R. D., Forest Branch, Department of Lands, Sydney.
 Jamaica Botanic Gardens, W. Indies. The Director.
 Kamerunga State Nursery, Cairns, Queensland. The Manager.
 Singapore Botanic Gardens. The Director.
 Sapporo Botanic Gardens, Japan.
 Sydney Department of Agriculture. The Director.

Dispatched.

- Bower, Professor F. C., Glasgow University.
 Dixon, S., Pitt-street, Sydney.
 Sydney Australian Museum. The Curator.
 Wood, J. Medley, Natal Botanic Gardens, Durban, Africa.

PUBLICATIONS ACQUIRED BY GIFT AND PURCHASE.

BIOGRAPHY.

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105. The Broom Rapeseeds.
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95. How to grow a forest from seed.
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98. Inspection of feeding stuffs in 1902.
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100. The White Fly of Greenhouses.
101. Fungous Diseases and Spraying.
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220. Two unusual troubles of apple foliage.
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225. Control of rusty spot in cheese factories.
226. Raspberry-cane blight and Raspberry Yellows.
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228. San José Scale—Investigations iv.
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 137. Suggestions concerning Apple-culture.
 138. Experiments with Oats.
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 140. The Corn Crop.
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 56. Garden Vegetables.
 58. Fattening Steers.

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 50. The fertility of Oregon soils.
 70. Testing milk and cream.
 71. Stagnant water germs in milk.
 74. The cultivation of vegetables and notes on varieties.
 75. Insecticides and Fungicides.
 76. Leguminous Forage Plants.

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 62. An experiment in Ginseng culture.
 63. Losses in Manure.

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 87. Fowl Typhoid.
 88. The Forests of Rhode Island.
 90. Further experiments in top-dressing grass land.
 91. Bush Fruits.
 92. The Soy Bean.

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 98. Analyses of commercial fertilisers.
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GOVERNMENT DOMAINS.

(MR. JAMES JONES, Overseer.)

Amusements—Gymnasium.—The gymnasium seems to have answered the purpose for which it was established. The accidents reported have been very few. The ground beneath the children's swings, the horizontal and parallel bars, has been slightly excavated and the space filled in with tan bark, which considerably lessens the concussion when falling. The giant-strides and see-saws have undergone repairs and improvements which make them more durable and safer. The Police and the Ranger (a member of the police force) give special attention to this enclosure, so that there have been no cases of misconduct worth mentioning.

Music.—The band-stand has been moderately well occupied, and the musical performances have been well attended. On Wednesday afternoons the attendance generally reaches 5,000 or 6,000 persons, and on Sundays much more. On Sunday, 6th September, as the band finished playing, Mr. Jones counted 7,200 persons in one hour—4.30 to 5.30 p.m.—passing through St. Mary's gates, most of them on their way home from the band-stand, but many no doubt from the Gardens also. Good order has always been maintained during band performances.

The band-stand was used for musical performances on twenty week-days and sixteen Sundays during the year. Following is the list of the bands that took part:—

		Performances.
Royal Australian Military	(Wednesday)	19
2nd Regiment	(Saturday, 9th May)	1
Railway Military	(Sunday)	3
Irish Rifles	1
N.S.W. Government Tramway	1
Newtown	7
Marrickville Borough	1
Burwood District	1
Petersham	1
Salvation Army, City	1
Total		36

Landing

Landing Pavilion.—The temporary pavilion used for the official landing of the Governor-General in January, 1901, at the Inauguration of the Commonwealth, and which overlooked Farm Cove at its eastern side, was presented to the Municipality of Ashfield and re-erected in the local park. It was also used for the official landing of Their Royal Highnesses the Duke and Duchess of York.

Registrar-General's Office.—Plans have been prepared for the erection of a new Registrar-General's office in the yard opposite the old Government Architect's office. I view with anxiety the proposal to extend these buildings so that they may encroach into the Domain area, which should be for ever held sacred as a people's national park.

Roads and Paths.—The whole of the area of the roadway about Governor Bourke's statue from Macquarie-street gates to the north end of Richmond Terrace, and about half the whole length of Fig-tree road, has been broken up and remetalled with 2-inch hand-broken blue metal. The total area is about 3,000 square yards, and metal used about 340 tons.

A steam roller of 10 tons has been used for the first time in the Domain, to thoroughly consolidate the blue metal, and render the road suitable for immediate traffic. After the steam-roller the surface was dressed with blue-metal screenings, thus giving a perfectly regular and dry surface. I believe that an occasional oiling of these roads would tend to preserve the smooth surface, and be a great saving in wear and tear.

The asphalt incline on the Macquarie-Palmer road was roughed all over with quarry picks, and floated with boiling tar, which was immediately covered with blue-metal screenings to prevent horse-slipping and other accidents. The roughness, however, does not last long on account of the great traffic to and from Woollloomooloo.

Footpaths have been top-dressed with fine asphalt to the extent of 1,800 square yards, and about 2,000 square yards of tar painting has been accomplished.

Kerbing.—The Oak-tree road from St. Mary's entrance gates to Richmond Terrace has been kerbed on the upper side to the extent of 1,064 feet, with 6 in. x 14 in. hard Pyrmont sandstone, at a cost of 1s. 9d. per lineal foot. Total cost with gully and stop-stones, £96 11s. 8d.

The sloping grass edging on this side of the road was continually getting trampled upon, and broken out of line, and was generally unsightly. The kerbing is, therefore, a great improvement, and will save much expense for maintenance.

Railings and Fences.—The seven or eight grass-plots in front of Richmond Terrace, which were always trampled down, bare and unsightly, have been enclosed each with a neat one-rail fence, the patches of ground broken up and grassed, the edging defined by hardwood scantling, and the paths asphalted.

The new plantation in north-west corner near St. Mary's has been fenced in with old picket fence.

The triangular plantation at the junction of Upper and Lower Macquarie-roads, near Victoria Lodge, has been enclosed by a substantial iron hurdle fence 4 ft. 6 in. high, instead of the batten and barbed-wire fence heretofore so inefficient and so unsightly. Total length, 288 feet at 4s. 3d. per foot cost £61 4s.

A new 6-foot weatherboard fence has taken the place of the very old and rotten one partially enclosing Domain Lodge and Garden, and three new pairs of close-framed wooden gates have been supplied. This work was done by the Public Works Department.

Trees.—Having obtained the services of an expert telegraph pole and tree climber, a large amount of tree-pruning has been carried out. The old oak trees from Richmond Terrace to the Government Architect's yard have been carefully dealt with, the dead and superfluous wood removed, and the trees given a better shape. They are much improved in growth, and not nearly so much affected by the oak scale (*Asterodaspes quercicola*) as in other years. Many fig-trees have also been judiciously pruned into more compact forms, and made more safe for shade trees, as the ever-expanding branches are frequently dangerous to persons sitting or reposing underneath.

Some removals have taken place, viz., two *Banksias*, two *Pittosporums*, one *Casuarina*, and two white Poplars, as they were either blown down or so much damaged by wind they had to be removed. One *Pinus insignis* succumbed to the attacks of living grubs. Two large fig-trees, almost over-shadowing and injuring the Rosarium by their roots, were removed.

The Domain trees have now mostly grown to such proportions that regular annual pruning and thinning-out will be necessary.

It may be noticed that most trees here, particularly pines and fig-trees, grow most on the western side, thus requiring more pruning on that side to balance the tree and give it symmetrical shape.

Water and Weather.—This year commenced with very dry weather. Much watering was necessary to preserve the more valuable trees and shrubs, as well as flowering plants in enclosures. Grass fires were frequent and troublesome, mostly deliberately caused by boys for amusement, but sometimes through carelessness of men throwing away lighted matches.

In order to augment the supply of water a 3-inch iron fresh-water main was laid by the Public Works Department through the Domain to the Botanic Gardens gate, connecting with the old Busby's bore at Oxford-street, and thus affording a supply of water from the Centennial Park ponds and the Lachlan swamps. It has, however, not yet been used.

Drinking Fountain.—A new drinking fountain, imported from Glasgow at a cost of £47 10s., has been erected on a suitable and convenient corner of ground at Victoria Lodge, directly opposite the Garden gates—northern entrance. Cost of circular stone steps of hard freestone and fixing same, £20. Plumbers' work—providing all necessary piping and connections, new taps, and laying-on water, £20.

Lighting.—In this respect the Domain remains in the same condition as last year. The band-stand is still unavailable for music during the summer in fine-weather evenings, and darkness prevails towards Mrs. Macquarie's Chair, as in several other sections of the Domain. On account of the larger growths of trees which cast large shadows at night time, the Domain is not now nearly so well lighted as when the trees were younger and seemingly much further apart.

Swimming

Swimming Baths.—The first instalment of the new series of swimming baths to be erected on the eastern shores of the Outer Domain is now nearing completion.

The water space enclosed by Monier concrete piles and concrete walls measure 100 ft. by 80 ft., and has 10 feet of water on one side at low tide, while the front portion is quite shallow with slanting and deepening cement bottom, so that bathing can be safely practised at all times.

There are thirty-eight cubicles or dressing-boxes provided, fresh-water showers, lavatories, ticket office, store-room, and caretaker's room; all floors rendered in silicate pavement, and roofs covered with reddish-coloured earthenware tiles, giving the whole a very attractive appearance from land or water side.

Domain Seats and Painting.—Twenty-two additional park seats have been provided and are ready for fixing up in the most desirable places. In the early part of the year nearly all the seats and fences in the Domain, requiring such attention, were painted two coats, at a total cost of £55 15s. 2d. The band-stand also received attention in this respect from the Public Works Department. The "Domain Regulations" on three separate boards, one at each main entrance, have been re-written—black letters on a white ground—giving a clear legible appearance.

"*Keep to the Right.*"—Broad as the central avenue is, leading to the principal Botanic Garden entrance, namely 24 feet wide, it is so crowded on Sunday afternoons and band-days that people cannot get comfortably along unless the rule of the road is attended to. Enamelled notice-plates, bearing the words "Keep to the right," have been affixed to the lamp-posts dividing the up and down traffic.

Police.—During the last six months of the year the Domain has been fairly well looked after in respect to Police protection, as there are two or more constables on duty night and day.

One Police Constable has been appointed to act as Domain Ranger constantly during the day, and is relieved for meals and for night duty by others of the force, as may be arranged. The difference to observant visitors must be very marked. Card-sharps, confidence men, or betting characters are rarely, if ever, now found in the Domain. Suspicious, or apparently immoral persons, are quickly expelled, and diseased dogs are promptly removed. I am very thankful for the personal interest the late Inspector-General of Police and the Acting Inspector-General have taken in the welfare of the Domain.

Improvements.—The greatest improvement for some years has been the removal of the old and unsightly residences and enclosures connected with the old Woolloomooloo Baths.

Both Messrs. Farmer and Hellings' dwelling-houses and appurtenances have been entirely demolished, the old tumble-down picket and weatherboard fences removed, and the grounds on these eastern shores facing Woolloomooloo Bay have been made ready for improvements in the way of filling in, levelling up, improving slopes, and generally improving the landscape.

A footpath has been constructed along the edge of the cliffs overhanging the Public Baths and boat-houses, and a substantial fence alongside to prevent accidents and to assist in screening the baths from public view.

New Plantation.—A new shrubbery plantation has been formed in the north-west corner of the Domain, nearly opposite St. Mary's Cathedral, and the Fraser Fountain. This corner was but little frequented, except by undesirable visitors, who made it their camping ground by night as well as day. The sub-soil being of very inferior quality—mostly pipe-clay and ironstone boulders—had to be entirely removed and the space filled in with more suitable soil, some of which was purchased and some obtained for the carting only. The shrubs and flowering plants are now showing to advantage.

The wattle plantation has been sown down with mixed grass seeds between the trees, which now gives a nice green appearance, in preference to the reddish, bare-looking appearance which previously obtained.

Requirements.—The remarks on this subject in last year's report are still applicable. New working-sheds are still an absolute necessity. A workman's room is much needed, where the men could change their clothes and have meals, &c. An office and store-room is also necessary.

Changes in the Staff.—On the 30th of June last Mr. Finlay Mackay, who has acted as Domain Ranger and Bailiff for twenty-seven years, was granted six months' leave of absence, and on the 31st December retired on a small but well-earned pension.

Patrick Harkins retired after thirty-three years' faithful service as Labourer, and William Black, Carter, after twenty-one years' service. Both the latter received gratuities.

Inner Domain.—The gardens and grounds about Government House have been maintained, in conjunction with the Outer Domain, during the past six months of the year in a fair state of efficiency. Much labour and expense were incurred in putting the roads, plantations, gardens, and fences in perfect condition previous to the Governor-General's arrival in the month of March, and also during his residence there.

Since the 1st of July the grounds, &c., have been under the control of the Federal Government, but the same staff of employees and the same supervision is maintained as formerly. A number of horses and a few cattle have been allowed to graze over the grounds to keep down the superfluous growth of herbage and prevent the necessity of frequently mowing the long grass and eradicating weeds, &c.

GARDEN PALACE GROUNDS.

(J. H. CAMPFIELD, Overseer.)

Border adjoining Government House.—The border adjoining the Inner Domain, a length of 480 feet, has been prepared and planted. A large portion of the ground was trenched, the rock and roots of trees removed, and the ground levelled up with good soil. A large amount of the "soil" consisted of refuse material from city garbage, and the quantity of broken crockery and glass removed was extraordinary:

Other

Other Beds and Borders.—The planting of the Camellia bed has been completed, forty-eight plants being added to the existing collection.

A good-sized bed has been prepared and planted with a standard collection of Opuntias. In preparing the ground for the reception of the plants rock was soon met with, and blasting had to be resorted to, necessitating the removal of about forty loads of ballast, which was replaced with a similar number of loads of suitable soil, in which the plants are thriving satisfactorily.

Border No. 15, north of the rubbish enclosure, has been properly outlined, levelled, and cleaned. Six additional flower-beds have been prepared, the sub-soil taken out, and filled up with good loamy soil.

In a word, while, with the exception of the Opuntia bed, no very striking changes have taken place, a number of substantial improvements have been carried through which have already resulted in a marked improvement of the growth of the plants.

CENTENNIAL PARK.

(MR. W. FORSYTH, Overseer.)

Weather.—In my last report I gave an account of the excellent spring of 1902; the spring of 1903 quite equalled that of 1902 in favourableness, if it did not actually surpass it,—showers occurring at frequent intervals almost up to Christmas. The weather was also remarkably cool, consequently the growth in plant life was later than usual.

The rainfall registered in the Park for 1903 was 42.58 inches.

Tree-planting.—A considerable number of trees were planted during the past spring, and, with the exceptions of those to replace failures, all the year's plantings have been made in groups.

Near to the foot of the avenue of *Eucalyptus robusta*, Sm. (Swamp Mahogany), which was planted in 1901 alongside the large open surface drain, two plantations have been made—one, that on the pond side of the flat road, is composed entirely of *Acacia binervata*, DC., the other, on the opposite side of the same road, is planted with *Tristania conferta*, R.Br., mixed with *Acacia binervata*, so that the latter species, which is specially hardy in the Park, may, in some measure, protect the young plants of *Tristania*. Further along the same slope, in the direction of the Cleveland-street entrance, and not far from the outlet of "Busby's Bore" dam, a mixed group of *Casuarina quadrivalvis*, Labill., and *Casuarina Luehmanni*, R. T. Baker, has been planted. Through the wanton destruction by some persons, probably boys (see "Plants stolen"), not many of the species *Luehmanni* are left, the blanks having to be made up with the species *quadrivalvis*.

Alongside the ride near to the Randwick entrance gate, a group of *Casuarina glauca*, Sieb., has been planted, while near to the end of the embankment which separates dam No. 2 from No. 3 a group of *Eucalyptus botryoides*, Sm., has been planted; the latter site should give a sufficiency of moisture in the bottom suitable for this species.

All these trees are thriving well, *Casuarina glauca* and *Acacia binervata*, perhaps, excelling the others in the rate of growth.

The total number of trees planted this year is 282; of this number sixty-two represent replanting of failures and of places from which plants have been stolen. The names and numbers of the species are as follows:

<i>Acacia binervata</i> , DC.	91
<i>Casuarina glauca</i> , Sieb.	36
" <i>quadrivalvis</i> , Labill.	21
" <i>Luehmanni</i> , R. T. Baker	16
<i>Eucalyptus botryoides</i> , Sm.	32
Total	220
To replace failures, &c.—	
<i>Acacia binervata</i>	6
<i>Eucalyptus robusta</i> , Sm.	9
" <i>capitellata</i> , Sm.	1
" <i>microcorys</i>	3
" <i>megacarpa</i> , F.v.M.	2
<i>Ficus rubiginosa</i> , Desf.	16
" <i>macrophylla</i> , Desf.	8
" <i>Henneana</i> , Miq.	2
" <i>Cunninghamii</i> , Miq.	1
" <i>Bellingeri</i> , C. Moore	1
In "Queen's Park"—	
<i>Ficus rubiginosa</i> , Desf.	4
<i>Pinus pinea</i> , Linn.	3
" <i>insignis</i> , Dougl.	2

All the trees planted last year are thriving nicely, the only exception being, perhaps, *Eucalyptus microcorys* (Tallow-wood), the plants of which, although not failures, are not making the growth one would like to see. Plants of the genus *Eucalyptus* have suffered very much this spring from one of the common native coccids. Mr. Froggatt, Government Entomologist, has kindly determined this species as *Eriococcus coriaceus*, Maskell, and he adds "it makes a great mess of young trees in the bush, but seldom kills them, as it has so many enemies, but when cultivated may affect them more seriously."

This coccid confines itself to *Eucalyptus* and on plants of *E. obliqua*, *E. robusta*, and *E. tereticornis*, it has been very severe, but nearly all the young *Eucalypti* have suffered more or less from it. One fine young plant about 10 feet high, in an avenue of *E. obliqua*, was killed by it, and I have no doubt that if hand washing with a strong solution of Gishurst's compound had not been resorted to we would have lost many more plants.

Planting

Planting of Nymphaeas.—The Nymphaeas referred to in my last report, as having been planted, are growing well, and have flowered freely this spring.

Protection of Native Vegetation.—Further progress has been made with this work, and the enclosure of the knoll near the yard which, in my last report, I stated was partly done, has been completed, thereby protecting the indigenous vegetation from being trampled on and otherwise destroyed.

Native Flower Plantation.—This plantation is steadily increasing. A few plants died during the past year, and a number of species have been added. From plants cultivated here some desirable seeds have been collected, which will be useful to the Department for exchanges. The bamboo hedge reported on last year still continues to thrive and promises to form a feature of this part of the Park. Early in the year all the plants in this plantation were suitably labelled, thereby making it much more attractive and instructive to the public.

Roads and Paths.—As in 1902 about 60,000 square yards of asphalt roads and foot-paths have been patched where required, and floated with tar. The work of asphaltting the Grand Drive has not been proceeded with this year, funds having been devoted to the work of treating portions of the Drive with oil instead.

Treating Grand Drive with residual oil.—Early in 1903 an experiment was made with 1,000 gallons of oil (residual) on a portion of the Grand Drive, at a part where the surface was liable to break up in dry weather, to ascertain if the oil would in any way help to prevent the small stones from breaking loose on the surface. From the success which attended this trial it was resolved to carry the experiment further. Accordingly a portion of the drive which lies on the southern side of the Park, between Randwick gates and the Ranger's house, having a length of 29 chains, was treated as follows:—

This portion of the drive had worn down considerably, and it was found necessary to re-ballast almost the entire length. Consequently, the blue metal was picked up, thrown on one side, and sufficient ballast put in; so that the drive, which is 33 feet wide, would have, when completed and rolled down, a convexity of 9 inches; this convexity required a layer of ballast varying in depth from 6 inches in some parts to 12 inches in others. In the portions where it was considered desirable to give the road more "body" by adding fresh blue-metal, it was put immediately above the blinded ballast, and the metal which had been picked up was put back on the top, levelled, blinded, and rolled, then the road having been thus consolidated, was treated with oil.

It may be pointed out that 3 feet on each side of the road next to the kerb was not interfered with, these parts having been previously tarred, so that the actual road surface treated was 29 chains long by 27 feet wide. It may also be stated at this point, that 4 chains of the 29 were not picked up, fresh metal being simply put down on the road and blinded with the usual clay blinding. This part of the road was not a success when treated with the oil. The oil did not penetrate the clay properly, and wet weather coming on afterwards, the road became so muddy that some of the clay had to be scraped off in parts. This matter of the 4 chains does not affect the experiment as a whole.

Before putting the oil on the road it was heated sufficiently to render it thin, and thus easy to spread. It was applied by watering cans with the holes of the roses enlarged a little. The oiling of the first part of 15 chains was completed on the 25th of September, 1903, and the oil was applied at the rate of 1 gallon to $3\frac{1}{2}$ square yards of the road. This portion of the road was oiled a second time on the 12th December, 1903; the oil, on this application, averaged 1 gallon to every 4 square yards of the road. (It should be mentioned that between the two oilings, the 4 chains alluded to above, which had been treated with fresh blue-metal on the surface, received an additional oiling).

The remaining 14 chains of the drive, which completed the length of 29 chains, was oiled on the 12th December, 1903, at the rate of 1 gallon to every 3 square yards, and was oiled a second time on the 18th December, 1903, at the rate of 1 gallon to every $4\frac{1}{2}$ square yards.

At the present stage of the experiment one cannot give a decided opinion whether it will be a success or not. That the treatment with the oil has left a fine elastic surface on the road there is no doubt and the cost so far as it has gone is very much less than the cost of treating the Grand Drive with asphalt. Assuming the drive to be finished, metalled, and rolled, and ready for either a coat of asphalt or oil, the asphaltting would cost for labour and material about £15 per chain, while for oiling, giving two applications of oil, the cost for labour and material would be about £2 10s. per chain.

Along this part of the drive there is a considerable traffic in vehicles, which as a rule keeps to the centre of the road. This traffic in time naturally wears away the skin formed by the oil, and the whole success of the experiment now depends upon how often the oilings will have to be renewed, so that this skin may be kept intact. That, of course, can only be found out in time; at present one may safely give the following hints, which in our case have been found necessary, in the treating of roads with oil, viz.:—Give the road sufficient convexity to throw off any storm-water, have the road well consolidated either by rolling or by letting traffic run over it—the former is preferable—before oiling, and above all do not blind the metal with clay into which the oil cannot penetrate; in fact, it has been found that the débris from the freestone quarry contains sufficient binding properties when used in conjunction with oil.

The Ride.—The ride has not been closed during the past year, as it was not considered necessary to do so, and during the early spring it was top-dressed with 300 loads of rotted street sweepings.

Top-dressing Cricket-grounds.—About 100 loads of rotted street sweepings were applied to top-dress the fielding ground of the cricket wickets, the treatment of last year having been found to be highly beneficial.

Swearing-in Pavilion.—The temporary pavilion used for the swearing-in of the first Governor-General, in 1901, was removed during the year, having been presented to the Municipality of Concord for erection in the Mortlake Park.

Latrines.—It is regretted that the time is still inopportune for dealing with this important sanitary matter.

Plants Stolen.—During the last year the usual pilfering of flowers and plants has been going on, besides quantities of flowers which have been missed from time to time during the year. The following plants have been stolen, viz. :—

- 26 *Casuarina quadrivalvis*, Labill.
- 5 ,, *Luehmanni*, R. T. Baker.
- 19 Crysanthemums.
- 5 Carnations.
- 2 Roses.
- 2 *Ficus rubiginosa*, Desf.

besides a number of less important bedding plants.

Impoundings and Prosecutions.—A large number of stock still continue to stray into the Park, and the Senior Ranger reports :—467 head of stock were impounded during 1903, and there were thirteen police court prosecutions—twelve being for stock straying; the fines aggregating £5 19s.

Changes in the Staff.—J. Cuddy, Carter, has left the service, and William Doherty has been appointed.

STATE NURSERY, CAMPBELLTOWN.

(Mr. J. McEWEN, Superintendent.)

The Weather.—Again the year opened with very dry and hot weather, nearing the termination of the most severe drought known here for the last twenty years. The drought finally broke up in March, and fair to good rains fell at intervals till the end of the year. This enabled the Nursery work to be carried on in a highly satisfactory manner during the winter and spring months.

Distribution of Plants.—During the year the plants, bulbs, and tubers sent out numbered 61,141. The largest proportion of plants were packed here and sent from Campbelltown direct, and I believe all reached their destination in good order. Many were sent long distances by rail, coach, and steamer to public schools, churches and convents, police and railway stations.

The direct despatch of plants from the Nursery is an innovation. Not only is expense saved in freight from Campbelltown to the Botanic Gardens, and also the labour of double handling of the plants; but, more important still, the consignees receive their plants direct from the Nursery, *i.e.* in the freshest possible condition.

Seeds, &c., Received.—As usual in the month of April Mr. McEwen collected ample quantities of seeds and cuttings in the southern districts, and seeds and plants have also been received from the Botanic Gardens, Sydney, and other sources.

Arboretum.—This plantation is in good order, and has come through the drought well. The various species of *Ulmus*, *Fraxinus*, *Acer*, show good growth, and are proving their adaptability to the soil and climate.

Improvements.—No additions have been made to buildings during the year, but necessary repairs have been executed, and everything is in good order and condition.

Changes in the Staff.—One man (J. J. Johnson) resigned, and F. B. Moss has been appointed to replace him. In view of the new regulations giving all permanent men three weeks' holidays annually which equals the loss of the work of one man for three months in each year; also the fact that a temporary man is put on for five or six months during the busy season, I would beg to suggest that a permanent man be appointed, as we have always been too short handed to keep in order the 20 acres of ground in the Nursery.

GOVERNMENT HOUSE, SYDNEY.

(Mr. J. HELPS, Head Gardener.)

This is the Sydney residence of His Excellency the Governor-General. Referred to under "Inner Domain," p. 21.

CRANBROOK, ROSE BAY.

(Mr. E. N. WARD, Head Gardener.)

The Sydney residence of His Excellency the State Governor.

ADMIRALTY HOUSE, NORTH SYDNEY.

(Mr. A. WESTON, Gardener-in-Charge.)

The Sydney residence of His Excellency the Naval Commander-in-Chief.

HILL VIEW, SUTTON FOREST.

(Mr. R. A. PROUDFOOT, Gardener-in-Charge.)

The country residence of His Excellency the Governor.

I have nothing specially to report in regard to the gardening work of these establishments. The places have been creditably kept, and reflect credit on the respective staffs.

J. H. MAIDEN,
Director.