



THE
THIRD ANNUAL REPORT

OF THE

Acclimatisation Society of Victoria

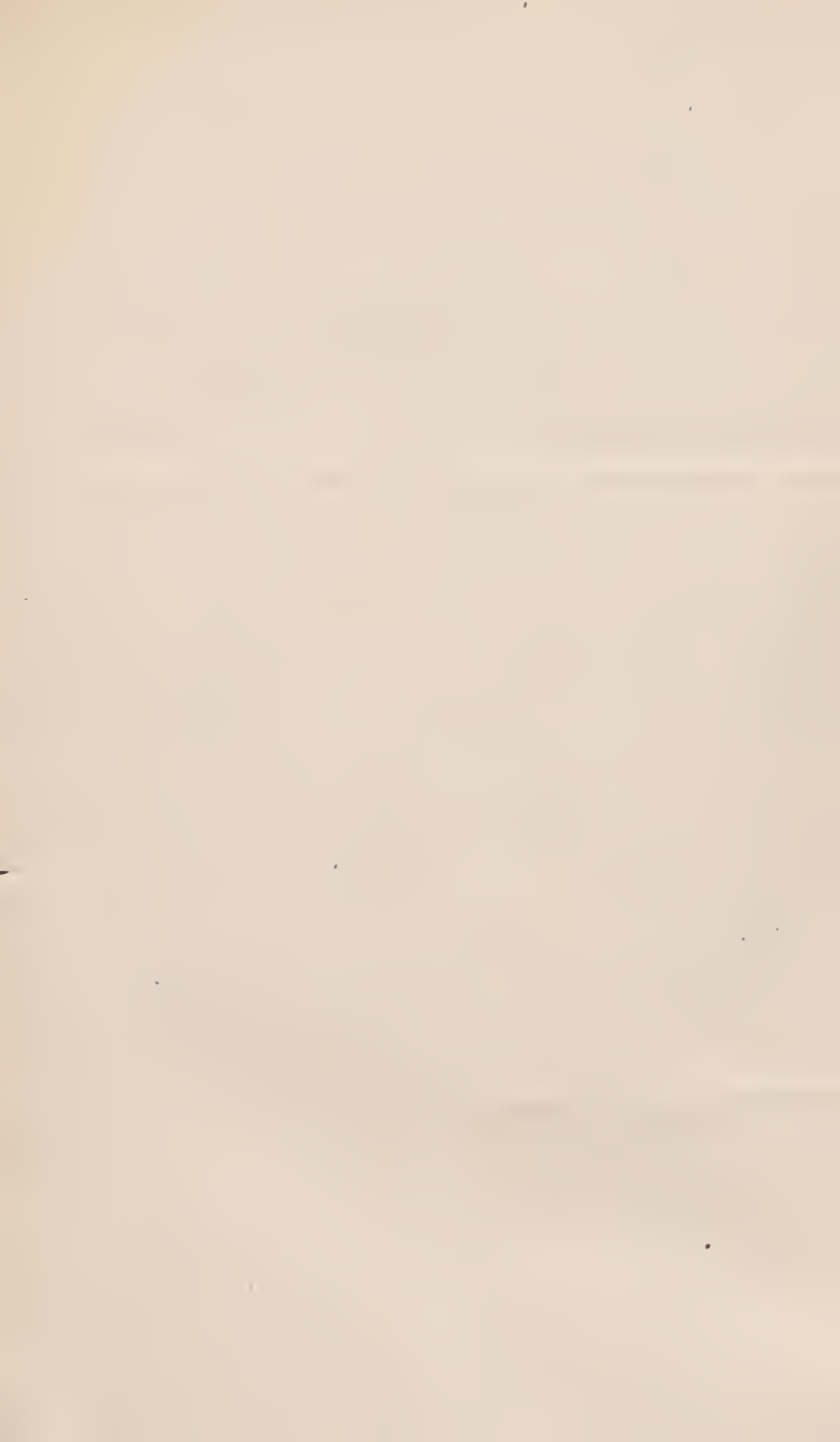
AS ADOPTED

At the Annual Meeting of the Society, held November 11th, 1861,
at the Society's Office, Melbourne,

TOGETHER WITH

PAPERS READ AT THE MONTHLY MEETINGS OF THE SOCIETY.

MELBOURNE:
WILSON & MACKINNON, PRINTERS, COLLINS STREET EAST.
1864.



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LIST OF THE OFFICERS
OF THE
ACCLIMATISATION SOCIETY.

PATRON.

HIS EXCELLENCY SIR C. H. DARLING, K.C.B

COUNCIL.

PRESIDENT.

HON. W. C. HAINES.

VICE-PRESIDENTS.

THOMAS BLACK, Esq., M.D., &c., &c.
FERDINAND MUELLER, Esq., M.D., F.R.S., &c., &c

COMMITTEE.

S. H. BINDON, Esq., M. A.
DR. JOSEPH BLACK.
D. S. CAMPBELL, Esq.
COMTE DE CASTELNAU.
H. J. CHAMBERS, Esq.
LIEUT.-COLONEL CHAMP.
G. S. LANG, Esq.
THOMAS LOADER, Esq.,
W. LYALL, Esq.

PROFESSOR M'COY.
DR. MADDEN.
HON. A. MICHIE, Q.C., M.L.A.
ALBERT PURCHAS, Esq.
A. R. C. SELWYN, Esq.
JAMES SMITH, Esq.
J. SPARKES, Esq.
H. E. WATTS, Esq.

HON. TREASURER.

T. J. SUMNER, Esq.

SOCIETY'S OFFICE.

No. 30, SWANSTON STREET.

SOCIETY'S DEPÔT.

ROYAL PARK.

MR. GEO. SPRIGG, *Secretary.*

REPORT OF THE COUNCIL,

FOR THE YEAR ENDING 31ST AUGUST, 1864.

The Council of the Acclimatisation Society of Victoria, in submitting to the Subscribers the Third Annual Report of their transactions, remind the Members that, owing to an alteration made at the last Annual Meeting, by which the commencement of the Society's year was made to date from September instead of July, this Report will be a record of what has been done during the last fourteen months, and the Council trust that a perusal of it will prove that much progress has been made, and many important results achieved.

The financial position of the Society is very satisfactory: a large increase has taken place in the private subscriptions, and the Council feel justified in accepting this fact as a proof of the growing interest felt in acclimatisation, and the increasing importance attached to it. The total receipts, including balance from last year, from all sources, has been £5,386 4s. 1d. The total expenditure, £4,689 19s. 2d., thus leaving a balance to the credit of the Society of £696 4s. 11d. The Council would observe, that of the amount placed as expended under the head of Purchase of Animals, the sum of £600 still remains in the hands of the agents abroad.

At the last Annual Meeting, as has been already mentioned, several changes were made in the Rules of the Society, the most important of which were the abolition of the office of Honorary Secretary, and the appointment of a second Vice-President. The post of Honorary Secretary was vacated by Mr. W. H. Archer, not however without a cordial vote of thanks having been conveyed to that gentleman by the Council, for the efficient manner in which he had fulfilled the duties of the office since the foundation of the Society. The additional Vice-Presidency was conferred upon Dr. Thomas Black, as an acknowledgment of the important services he has so constantly rendered to the cause of Acclimatisation.

The following changes have taken place in the composition of the Council. In December the Chief Secretary exercised the power conferred upon him by the Society's Rules, and appointed the Hon. A. Michie, Dr. T. Black, and Mr. W. Lyall, to represent the Government at the Council table. In January Mr. Embling resigned, and was replaced by Mr. D. S. Campbell. In February the Hon. T. T. A'Beckett resigned, and Mr. Loader was elected. In April Professor Halford and Mr. F. R. Godfrey resigned, and the Hon. W. C. Haines and Mr. H. E. Watts were elected; and in May the Hon. S. G. Henty retired, and Dr. Joseph Black was elected; and it now devolves upon this Meeting to confirm these appointments, and to elect three gentlemen to fill the vacancy in the Council caused by the retirement of Colonel Ross, Mr. G. W. Rusden, and Mr. Edw. Wilson. Since the last Annual Meeting there have been fifty-two Meetings of the Council, at which the attendance of Members has been as follows:—

Names.	No. Meetings held during the holding of office.	No. Meetings attended.
Hon. W. C. Haines...	27	4
Dr. Black ...	52	40
Dr. Mueller ...	52	30
Hon. T. T. A'Beckett ...	11	0
Mr. S. H. Bindon ...	52	30
Dr. J. Black ...	21	15
Comte de Castelnau ...	52	5
Mr. D. S. Campbell...	43	23
Mr. H. J. Chambers ...	52	14
Lieut.-Colonel Champ ...	52	26
Mr. Thomas Embling ...	8	1
Mr. F. R. Godfrey ...	20	9
Hon. S. G. Henty ...	20	0
Mr. T. Loader ...	38	9
Mr. W. Lyall ...	48	2
Professor McCoy ...	52	35
Dr. Madden ...	52	39
Hon. A. Michie ...	48	1
Mr. A. Purchas ...	52	31
Lieut. Colonel Ross ...	52	4
Mr. G. W. Rusden ...	47	27
Mr. J. Smith ...	52	26
Mr. T. J. Sumner ...	52	9
Mr. H. E. Watts ...	27	21
Mr. E. Wilson ...	46	43

Soon after the publication of the last Report, Mr. E. Wilson, the then President of the Society, returned to the Colony, and at once entered upon the active duties of his position. During his absence from the Council-table, he had not been unmindful of the interests of the Society, and he was enabled to inform the Council upon his return, that the establishment of the gazelle in the Colony had been promised by Sir Charles Nicholson, the acclimatisation of the edible crab by Mr. George McLeay, that of the nightingale and hedge-sparrow by Miss Burdett Coutts and Mrs. Brown, whilst Sir Daniel Cooper had already sent off a valuable shipment of birds, promising at the same time that these should be supplemented from time to time. Another important service rendered to the cause of acclimatisation has been the securing of a promise by the Lords of the Admiralty, that H.M. ships may in passing from one station to another, be rendered available for the purpose of conveying animals, provided that no expense be thrown upon the department. Another important work in acclimatisation was the preparation by the English Society of a set of questions, concerning the animal and vegetable productions of the various countries, a copy of which has been sent, through the agency of the Foreign and Colonial Offices, to all H.M. Consuls and Governors throughout the world. A copy of these questions was courteously laid before the Council by His Excellency Sir C. H. Darling, K.C.B., and a Committee, consisting of Dr. Mueller, Professor McCoy, and Dr. Madden, prepared the replies on behalf of the Society. The answers to these are now being arranged for publication in England, and when completed, cannot fail to be a serviceable guide to all Acclimatisation Societies in their labours.

The Council have long felt it very desirable to have some distinctive medal with which to reward services often of a most valuable character rendered to the Society, and to carry out this object, Mr. Wilson applied himself with characteristic energy. He succeeded in obtaining from several of the Banks a donation of £21 each, and there is every reason to believe that the other Banks will give the same amount towards this special fund. Since his return, he has been as active as ever in the prosecution of acclimatisation, and it is with unfeigned regret that the Council have to state, that in consequence of a complaint in his eyes, rendering necessary another visit to Europe, Mr. Wilson has, in spite of their earnest remonstrances, pressed upon the Council his resignation as President, which resignation the Council have most reluctantly accepted.

The Council nnanimously requested the Hon. W. C. Haines, to accept the Presideney, and they are glad to say that that gentleman has consented.

The Council record with much pleasure, that the gold medal of la Société Imperiale d'Acclimatation de France, for this year was conferred upon Mr. Wilson, as a recognition of his indefatigable labours in the cause of acclimatisation.

In passing the vote for the Society this year, the Legislative Assembly attached the condition that £650 should be raised by private contributions. In order to make an appeal to the general public, a circular was prepared,* setting forth in a concise manner, what the Society had accomplished during the short period of its existence, and what were its claims to public support. The response to this was of the most generous and gratifying kind. Subscriptions flowed in from all parts of the Colony, whilst the circular was printed *in extenso* in the transactions of the French Society, as also in *The Times* and *Field*, both which papers contained most flattering articles upon the detailed results of the Society's operations.

In reviewing the more prominent labours of the Conneil during the past year, a foremost place must be assigned to the introduction of the salmon, constituting as it does a fresh epoch in Australian acclimatisation, and conducing to results of which it is impossible to overestimate the importance. From the few ova that were retained in Victoria, it cannot be asserted with certainty, that salmon is yet established in the Colony, although sufficient has been done to show that there are no insuperable difficulties in the way ; whilst in Tasmania complete success has been attained. To Mr. J. A. Youl must be ascribed the lion's share of praise for the result, whilst these Colonies owe a debt of gratitude to Messrs. Money Wigram and Sons, for the princely generosity which placed the *Norfolk* at Mr. Youl's disposal, for the conveyance of the ova. The Council beg to record here the votes of thanks which they passed to those gentlemen, and to Captain Tonkin, upon the arrival of the *Norfolk* ; and also to Commauder Norman upon the successful trans-shipment of the ova to Tasmania.

"The Acclimatisation Society of Victoria takes this the earliest opportunity of recording its sense of the deep obligations which not only the Society, but the whole of the Anstralian Colonies are under to James A. Youl, Esq., for his constant and undaunted determina-

* See Appendix.

tion to introduce the salmon to these Colonies, and in congratulating him upon the brilliant success obtained from the experiment made on board the *Norfolk*, the Society wishes distinctly to ascribe that success to Mr. Youl's persevering, enlightened, and patriotic efforts."

"That in association with the very gratifying results now reported of the safe arrival of the salmon ova by the ship *Norfolk*, this Council desires to express its strong appreciation of the munificent conduct of Messrs. Money Wigram and Sons, in their donation of the large amount of space on board their vessel, and beg to congratulate that firm upon the hopeful prospects in one of the most interesting of experiments, and one fraught with vast importance to the Australian Colonies to which their liberality has so decidedly conduced."

"That the best thanks of the Council are due to Captain Tonkin and Mr. Carpenter, of the ship *Norfolk*, for the care taken, and the zeal exhibited in reference to the salmon ova on board that vessel, and the Council hereby expresses its conviction, that to that care no small portion of the gratifying success, now reported, may be attributable."

"The Council of the Acclimatisation Society desires to express to Commander Norman, of H.M.C.S.S. *Victoria*, its thorough appreciation of the skill, zeal, and intelligence with which he has so successfully accomplished the delicate and important duty of conveying the salmon ova to Tasmania, and beg herewith to present him with the best thanks of the Council as an acknowledgment of the valuable services rendered by him to Acclimatisation."

Another subject of congratulation is the introduction of the gouramier from the Mauritius. For this the Colony is indebted to Messrs. Joshua Brothers, by whose orders and at whose expense the attempt was made by Captain Beaton. Twenty-four of these desirable fish reached Melbourne alive, and there is every reason to hope these will establish the species in the Colony.

The other introductions have been as follows:—

5 Alpacas (from Sydney)	4 Chinese partridges
3 Sambar deer	9 English partridges
2 Hog deer	15 Ceylon partridges
2 Bara singha deer	8 Indian partridges
1 Formosa deer	80 Chinese quail
8 Spotted Axis deer	23 Tasmanian quail
4 Small Axis deer	8 Godwits
2 Moose deer	3 French fowls
10 English hares	4 Roman pigeons

2 White swans	20 Mainas
2 Crowned Goura pigeons	12 Powi birds
14 Carolina ducks	140 Java sparrows
2 Tree ducks	20 English siskins
5 Ceylon peafowl	40 English finches, various
9 Chinese pheasants	36 Tench.

During the past year there have been liberated—

AT PHILLIP ISLAND.

6 Hares	4 Chinese partridges
5 Cape pheasants	70 Chinese quail
8 English pheasants	23 Tasmanian quail
4 Indian pheasants	6 Starlings
8 Ceylon partridges	10 Algerine sand grouse
5 Indian partridges	6 Wild ducks

AT THE ROYAL PARK.

3 Hares	20 Greenfinches
20 Mainas	200 Java sparrows
6 Starlings	6 Blackbirds
60 English sparrows	20 Siskin finches
15 Yellowhammers	6 Powi birds
40 Chaffinches	3 Chinese pheasants

AT PENTRIDGE.

40 English sparrows.

AT ST. KILDA.

20 Chinese sparrows.

AT BALLAARAT.

25 English sparrows 20 Java sparrows.

AT BUNEEP.

13 Fallow deer.

This list will prove that the Council have not flagged in their labours during the past year; and, necessarily slow as the work of acclimatisation must be, yet with such a list of successes as this to show in the short space of fourteen months, the results of the Society's labours must soon begin to be manifest.

At the suggestion of Dr. Black a large number of Murray codfish have been procured during the past year, from the Murray, and placed in the Yan Yean reservoir, with a view to spread the supply of that valuable fish throughout the Colony.

The Council are glad to be able to report that the Cashmere goats which were removed to Maryborough at the suggestion of the same gentleman, have thriven and increased in number.

The flock of llama alpacas, the Council regret to say, have been decreased by death. Fluke has appeared amongst them, induced by the extraordinary wet weather experienced lately. Measures are now being adopted to secure the immediate removal of the survivors to the more congenial climate of the Gipps Land Ranges.

The experience of the last few years has determined the Council to materially alter the system hitherto pursued in regard to the animals at the Royal Park. It has been found that in some respects the Royal Park is unsuited to serve as a permanent place of acclimatisation, owing to the dampness of the soil, its confined situation, and the difficulties attending the construction of proper breeding-houses, especially for the birds. It has therefore been resolved that for the future the first and immediate object of the Society should be the distribution of the animals throughout the Colony. Under the new system, the Royal Park will be used merely as a temporary place of reception for animals on their first arrival in the Colony, until they are healthy and in sufficient numbers to be turned loose, with a reasonable hope of establishing the breed.

With respect to the future the Council have every reason to look forward with increased confidence. £500 has been voted specially for the introduction of some of the magnificent game birds of India, such as the Monal, Kaleege, Tragopan, and Pueras pheasants; the large Himalayan partridges, the floriken, the bustard, the rock pigeon, &c. &c. £400 has been reserved for further introduction of salmon and trout ova, in order that at as early a date as possible the streams of the Colony may be stocked with these delicious fish. It has also been determined with a portion of this sum to try the introduction of the salmon trout, grayling, perch, and charr; and the Council have requested the valuable assistance of Mr. J. A. Youl to assist them in carrying out these views. £300 has been sent home for the purpose of procuring in larger numbers the Angora goat; the experience which the Council has had with this goat leading them to look upon it as a valuable addition to the permanent wealth of the Colony; and to this sum Mr. W. G. McCullough of Maryborough laudably added £600 for a like introduction on his own account.

Within the last few months a committee has been appointed by the Council, "for the purpose of collecting and reporting upon all available information with reference to the varieties, the habits, the seasons, and the qualities of our marketable fishes, with a view to

their protection and increase, and the consequent development of the fishery trade in this country." A large amount of valuable information has been collected by this committee, this is now being condensed in the report which is being prepared; and before long the Council hope to be able to lay before the members a copy of that report.

During the past year monthly meetings of the Society have been held in Melbourne and suburbs, at which papers on various subjects have been read, in order to bring the objects of the Society more prominently before the public.

Following the example set by the Imperial Society of France, the Council determined to hold under their auspices an Exhibition of Dogs, and it is not now necessary to recall the success which attended their efforts; while it is satisfactory to add that financially the Exhibition was self-supporting, and that the funds of the Society were not in any way drawn upon.

The Council regret the almost total failure of Mr. Duffield's Alpaca experiment, from which so much good was expected, in spite of his energetic and enterprising efforts. The failure, however, is not such as to cause despair of final success. The causes of the mortality to which the alpacas were subjected are found to have arisen, first, from the great and exhausting hardships suffered by the animals during their passage hither; and, secondly, to their retention in the low, and damp soil in the neighbourhood of Melbourne. It is hoped that with greater care in the shipment, and with a wiser choice of a locality for their reception, the alpaca may yet be profitably acclimatised in Victoria; and the Council have much pleasure in reporting that Mr. Duffield, undaunted by his late ill success, is about to undertake a second attempt to introduce the alpaca into this Colony. *

In concluding this report of their proceedings of the past fourteen months, the Council must again record its sense of deep obligation to Dr. Thomas Black, whose great interest in and valuable services rendered to the Society continue undiminished. The Council are also greatly indebted to Professor McCoy, who in spite of the multifarious calls upon his time and attention has always rendered to this Society services of a valuable and scientific character. The Council would also present their best thanks to Messrs. Wilson Bros., of the Wimmera, and to Captain Skottowe of the R.M.S. *Northam*, to Captain Farquhar of the R.M.S. *Madras*,

* In Appendix.

to Captain Burne of the R.M.S. *Bombay*, to Captain Shinner of the *Lincolnshire*, to Mr. R. S. R. Fussell of Fouchou, to Mr. C. P. Layard of Colombo, to Mr. J. Weir of Point de Galle, to Mr. J. Sparkes of Melbourne, for valuable co-operation received in carrying out the objects of the Society, and to Mr. W. Godfrey and Mr. J. Spowers, for their services in auditing the Society's accounts. The Council have much pleasure in bearing testimony to the valuable assistance they have derived from many friends of the cause both in the Colony and abroad, as well as to the zeal and continued attention of their Secretary, Mr. Geo. Sprigg.

ACCLIMATISATION SOCIETY.

Dr.

From July 1st, 1863, to August 31st, 1864.

Cr.

	£	s.	d.		£	s.	d.
To Balance brought forward	279	9	6				
„ Cash received from Government	3,750	0	0				
„ „ Subscriptions and Donations	895	18	1				
„ „ Grazing Fees... ..	397	2	0				
„ „ Sale of Animals	93	14	6				
					£5,386	4	1
By Purchase of Animals							
„ Park Improvements							
„ Salaries and Wages							
„ Stores, Tools, and Contingencies							
„ Food and Forage							
„ Office Expenses							
„ Phillip Island Depot							
„ Expenses on Salmon							
„ Cash in hands of Bank... ..							
					£5,386	4	1

THEO. JNO. SUMNER, *Hon. Treasurer.*

We have examined and compared this Account with the Books (and Vouchers for the expenditure) and find the same to be correct. In the absence of Vouchers, we assume the amount stated to be received from Government to be correct.

WILLIAM GODFREY.

JAS. SPOWERS.

Nov. 4th, 1864.

LIFE MEMBERS.

All Members marked thus * pay their Annual Subscription also.

Aldworth and Co., Sandhurst	£10 10 0	Lyall, W., Frogmere	..	£10 10 0
Armitage, George, Ballarat	.. 10 10 0	Martin, Dr., Heidelberg	.. ..	10 10 0
Austin, Thomas, Barwon Park	.. 10 10 0	Mackenzie, Jehn, 70½ Queen	Street .. ..	.. 10 10 0
Bagot, C. N., Melbourne Club	.. 10 10 0	Mackinnon, L., "Argus" Office	Honorary.	
*Barkly, His Excellency Sir		Marshall, Captain, D. S., "A.	H. Badger"	.. ..
Henry, Mauritius	.. .. 21 0 0		Honorary	
*Bear, Hen. J.P., M.L.C., Queen		McGill, A., .. ..	.. 10 10 0	
Street .. ..	.. 21 0 0	McHattie, John, Phillip Island	.. 10 10 0	
*Bear, Thomas H., Heidelberg	.. 10 10 0	McMullen, J., Union Bank	.. 21 0 0	
*Black, Dr., Thomas Melbourne		Macintosh, Alexander, Green	Hills, Diggers Rest	.. .. 10 10 0
Club .. ..	.. 10 10 0	McMillan, A. Dargo, Gipps	Land .. ..	.. 10 10 0
Box, H., Little Collins Street		Melloy, W. T., Balmoral	.. 10 10 0	
West .. ..	.. 10 10 0	Mueller, Dr., Botanic Gardens	.. 10 10 0	
Bright Brothers, Messrs. & Co.,		Municipal Council of Ballarat		
Flinders Lane	.. .. 10 10 0	West .. ..	.. 20 0 0	
Brown, Lindsay, Garramadda,		Nicholson, Hon. W., 13, Flinders	Street West	.. .. 10 10 0
Wahgunyah .. ..	.. 10 10 0	*Nicholson, Germain, Cellins	Street East	.. .. 10 10 0
Catto, John, Newbridge, Loddon	10 10 0	*Pew, Hon. Thomas H., Haw-	thorne .. ..	.. 10 10 0
Chambers, H. J., St. Kilda	Honorary	Purchas, Albert, Kew	..	Honorary
Cooper, Sir Daniel, London	.. 37 2 0	*Restron, John R., Navarre	.. 10 10 0	
*Coppin, Hon. Geo., M.L.C.,		*Rutledge, William, Belfast	.. 10 10 0	
Cremorne .. ..	.. 10 10 0	*Salmon, J., E. S., and A. C. Bank	21 0 0	
Creswick, Borough Council of,	.. 10 10 0	Sargood, King & Sargood,	Flinders Street West	.. .. 10 10 0
*C. S. Officer, Mount Talbot	.. 10 10 0	Slimpsen, Robert, Winchelsea	.. 10 10 0	
*Dalgety & Co., Messrs., Little		Sloan, W. S., Fou Cheu, doles.	50 .. ..	.. 11 0 10
Collins Street .. ..	.. 10 10 0	*Spowers, Allan, "Argus" Office	10 10 0	
*Darling, His Excellency Sir		Stanbridge, W. E., Daylesford	.. 10 10 0	
Charles H., Toerak .. ..	.. 10 10 0	Staughton, S. T., Little Cellins	Street West	.. .. 10 10 0
*Docker, Rev. Joseph, Wangaratta	21 0 0	Strachan, J., Londen Chartered	Bank .. ..	.. 21 0 0
Eldridge, James, Oakleigh	.. 50 0 0	Sumner, T. J., 24, Flinders Lane	West .. ..	.. 10 10 0
*Falconer, J. J., Bank of Austral-		Taylor, Frederick, Melbourne	Club .. ..	.. 10 10 0
asia .. ..	.. 20 0 0	*Taylor, W., Overnewten, Keilor	10 10 0	
Firebrace, R. T., Heyfield,		Templeton, Hugh, Fitzroy	Honorary	
Gipps Land .. ..	.. 10 10 0	Ware, Joseph, Carranoot	.. 10 10 0	
Fussell, R. S. Fou Cheu		Wilson and Mackinnon, Cellins	Street East	.. .. 42 0 0
dolls. 50 .. ..	.. 11 0 10	*Wilson, Edward, "Argus" Office	21 0 0	
Glass, Hugh, 18, A'Beckett		Wilson, Samuel, Wimmera	.. 10 10 0	
Street .. ..	.. 21 0 0	Winter, James, Toolambra, Mur-	chisen .. ..	.. 10 10 0
*Haines, The Hon. W. C.,		Winter, Thomas, Lango Kal Kal	10 10 0	
Melbourne Club .. ..	.. 10 10 0			
*Henty, The Hon. S. G., M.L.C.,				
31, Market Street .. ..	.. 10 10 0			
*Hervey, The Hon. M., M.L.C.,				
Melbourne Club .. ..	.. 10 10 0			
*Hoffmann, W., Bush Back,				
Essendon .. ..	.. 25 0 0			
Jones, Lloyd, Avenel .. ..	.. 10 10 0			
*Joshua Bros., William Street	.. 10 10 0			
Kennedy, Hon. D., M.L.C.,				
Lansdowne Terrace, St. Kilda	10 10 0			
Learmenth, Thomas, Ercibdan-				
riley, Portland .. ..	.. 10 10 0			
Layard, C. P., Colombo ..	Honorary			

ANNUAL MEMBERS.

All Members marked thus * are Life Members also.

a'Beckett, T. T., Chancery Lane	£2	2	0	Clarke, W., and Sons, 86, Elizabeth Street	..	..	..	..	£2	2	0
Adeney, Wm., Chocelyn, Camperdown	..	..	..	..	..	..	..	..	2	2	0
Alves, John, 81, Elizabeth-st.	..	2	2	0	Clarke, W. J., Collins Street East	..	..	..	2	2	0
Anderson, Sharp, & Wrlght, Carron Timber Yard	..	..	..	..	Clarke, W. J., Sunbury	..	..	..	2	2	0
Anderson, R. S., Queen Street	..	2	2	0	Clough, J. H., & Co., Messrs., 113, Collins Street West	..	..	..	2	2	0
Bagot, H. C. Bourke Street West	..	2	2	0	Cooling, R. H., Bourke Street East	..	..	..	2	2	0
Baines, Edward, Little Collins Street West	..	..	..	..	Cooper, Horatio, St. Kilda	..	..	..	2	2	0
Band, M. H., Mount Bute	..	2	2	0	*Cooper, Sir Daniel, London	..	..	..	2	2	0
Baynton, Thomas, Kyneton	..	2	2	0	Crisp, Geo., Queen-Street	..	..	..	4	4	0
Beany, J. G., 154, Collins St. East	..	2	2	0	Cunningham and Macredie, Collins Street West	..	..	..	2	2	0
Bear, Hon. J. P., Queen Street	..	2	2	0	Cunningham, H., St. Heliers	..	..	..	2	2	0
Benn, John, 24, Flinders Lane West	..	..	..	..	Curcier and Adet, Market Street	..	..	..	2	2	0
Bindon, S. H., M.L.A., Temple Court	..	..	..	..	Currie, J. L., Cressy	..	..	..	2	2	0
Bland, R. H., Clunes	..	2	2	0	*Darling, His Excellency Sir Chas. H., Toorak	..	..	..	6	6	0
Black, Dr. Joseph, Bourke-street West	..	..	..	..	Degraves, Hon. W., M.L.C., Flinders Lane East	..	..	..	2	2	0
Bligh & Harbottle, Flinders Lane West	..	..	..	..	Denus, Wm., Cairo Plains Glenorchy	..	..	..	2	2	0
Bon, John, Wappan	..	2	2	0	Dill, George, "Argus" Office	..	..	..	2	2	0
Don, J. and W., Miller's Ponds, Merton	..	..	..	..	*Docker, Rev. Joseph, Wangaratta Drysdale, T. A., 112, Collins Street West	..	..	..	2	2	0
Brodribb, W. A., Brighton	..	2	2	0	Duerdin, J., Collins Street West	..	..	..	2	2	0
Brodribb, K. E., Chancery Lane	..	2	2	0	Eager, D., Pine Hills	..	..	..	5	0	0
Briscoe & Company, 11, Collins Street East	..	..	..	..	*Falconer, J. J., Bank of Australasia	..	..	..	2	2	0
Brosi, Richard, Benalla	..	2	2	0	Falk, P., & Co., 38, Little Collins Street West	..	..	..	2	2	0
Brown, Charles, 33, Bourke Street West	..	..	..	..	Ferguson and Moore, Flinders Lane East	..	..	..	2	2	0
Brown, G. G., Hall of Commerce	..	2	2	0	Findlay, James, Talangatta, Albury	..	..	..	2	2	0
Buchanan, Isaac, Roseneath, Gipps Land	..	..	..	..	Finlay, J., Emerald Hill	..	..	..	2	2	0
Buckley & Nunn, 27, Bourke St. East	..	..	..	..	Fisher, Richards & Co., 114, Collins Street West	..	..	..	2	2	0
Callender, J. & Co., 26, King St.	..	2	2	0	Fitzgerald, J., Lonsdale Street East	..	..	..	2	2	0
Campbell, D. S., Bank Place	..	2	2	0	Fleetwood, T. P., Little Collins Street West	..	..	..	2	2	0
Campbell, Colin, Buangor	..	2	2	0	Francis, J. G., M.L.A., 26, King Street	..	..	..	2	2	0
Carfrae, John, Victoria Parade	..	2	2	0	Fraser & Co., 14, Collins Street West	..	..	..	2	2	0
Carter and Watts, 70, Little Collins Street East	..	..	..	..	Fulton, Thomas, & Co., 129½, Flinders Street West	..	..	..	2	2	0
Carter, Ernest, 59, Russell Street	..	2	2	0	Gilles, L., Warranbool	..	..	..	2	2	0
Chanf, Colonel, William Street	..	2	2	0	Godfrey, F. R., Somerton	..	..	..	2	2	0
Chapman, H. S., New Zealand	..	2	2	0	Goldsborough, R., & Co., Bourke Street West	..	..	..	2	2	0
Charsley, Edward, 91, Chancery Lane	..	..	..	..			
Christie, F. C., Williamstown	..	2	2	0							
Clark, Richard, Benalla	..	2	2	0							
Clark, Walter, Glenarra, Bulla	..	2	2	0							

Graham, J., 97, Little Collins St., East	£2 2 0	Madden, Dr., Collins Street East	£2 2 0
Grant, Daniel, 58, Elizabeth St.	2 2 0	Martin, George, & Co., 25, Market Street	2 2 0
Grant, Robert, Switzerland ..	2 2 0	Martin, Dr., Heidelberg	4 4 0
Gray, W. W., Narut Nareeb ..	2 2 0	Mason and Firth, Flinders Lane West	2 2 0
Gurner, H. F., 102, Collins Street	2 2 0	Maxfield, James, Kilmore ..	2 2 0
Haigh Brothers, 58, Collins St. East	2 2 0	McCrae, A., Kilmore	2 2 0
*Haines, Hon. W. C., Melbourne Club	2 2 0	McCoy, Professor, University ..	2 2 0
Hamilton, William, Gleurnna, Broadford	2 2 0	McCracken, R., 120, Little Collins Street West	2 2 0
Harris, Nathaniel, & Co., 36, Elizabeth Street	2 2 0	McCulloch, Sellar & Co., Queen Street	2 2 0
Henty, Hon. James, M.L.C., 11, Little Collins Street West ..	2 2 0	McKenzie, A. Reedy Creek ..	2 2 0
Henty, Herbert James, 11, Little Collins Street West	2 2 0	McLeish, D., Gleumore, Yea ..	2 2 0
Henty, Henry, 11, Little Collins Street West	2 2 0	McNaughton, Love and Co., Flinders Lane East	2 2 0
*Henty, Hon. S. G., Market Street	2 2 0	Mickle, Hon. A., Temple Court ..	2 2 0
Hetherington, Charles, 8, Collins Street West	2 2 0	Mitchell and Bonneau, Elizabeth Street	2 2 0
Higgitt, Hon. W., M.L.C., Melbourne Club	2 2 0	Mitchell, Hon. W. H. F., M.L.C., Hawthorne	2 2 0
Higginbotham, Hon. Geo. M.L.A., Temple Court	2 2 0	Moore, S., Collins Street West ..	2 2 0
*Hoffmann, W., Bush Back, Essendon	2 2 0	Morris, James, Yan Yean ..	2 2 0
Hogg, E. J., Brookville, South Yarra	2 2 0	Morrison, A., Scotch College ..	2 2 0
House, Samuel, & Co., Queen Street	2 2 0	Murphy, E. J., Eldon Chambers	2 2 0
Howitt, A. W., Onco	2 2 0	Muttlebury, J. W., Queen Street	2 2 0
Hughes, C. W., Brighton	2 2 0	Nankivell, T. J., 3, Elizabeth St.	2 2 0
Halford, Prof., University ..	2 2 0	Napier, Thomas, Moonee Ponds	2 2 0
Jackson, Henry, Sandhurst ..	3 3 0	*Nicholson, Hon. W., St. Kilda ..	2 2 0
Jones, Henry, Birrum, Apsley ..	2 2 0	*Nicholson, Germain, 69, Collins Street East	2 2 0
Johnston, Hon. J. S., St. Kilda ..	2 2 0	Nordt, Heyde & Co., Collins St. West	2 2 0
Jones, Henry, Sandhurst ..	2 2 0	Nutt, R. W., William Street ..	2 2 0
Joshua, Bros., 46, William Street	2 2 0	Ogilvy, David, 65, Queen Street	2 2 0
Kerr, W. L., Killigworth ..	2 2 0	O'Neill, H., Brighton	2 2 0
Kew, Borough Council of ..	2 2 0	Parbury, Lamb & Co., Queen St.	2 2 0
Kilpatrick & Co., Collins Street West	2 2 0	Patersou, Ray, Palmer, & Co., 33, Flinders Lane West	2 2 0
Kulgit, A. H.	2 2 0	Patunoro, Gurney, "Argus" Office	2 2 0
Kong, Meng & Co., Little Bourke Street East	2 2 0	Pearson, John, Shadwell Park, Mortlake	2 2 0
Lang, G. S., St. Kilda	2 2 0	Phelps, J. J., Melbourne Club ..	2 2 0
Larnach, Bank of New South Wales, London	5 5 0	Piper, William, Benalla	2 2 0
Lempriere, C., Elizabeth Street ..	2 2 0	Politz & Co., Bourke Street West	2 2 0
Leroy, J.	2 2 0	*Power, Thomas H., Queen Street	2 2 0
Loader, Thomas, Elizabeth St. ..	2 2 0	Prost, Kohler & Co, 0, Elizabeth Street	2 2 0
Levy Bros., Bourke Street East ..	2 2 0	Pugh, Dr., 131, Collins St. East	2 2 0
Macfarlane, A., & Co., 13, Flinders Lane East	2 2 0	Ritchie, D., Blackwood, Penshurst	2 2 0
Mackintosh, A., Green Hills, Digger's Rest	2 2 0	Ritchie, J., Bordearra, Belfast ..	2 2 0
		Ritchie, H.	2 2 0
		Robertson, G. Warrock, Casterton	2 2 0
		Robinson, L., 37, Collins St. East	2 2 0
		Rolfe and Bailoy, Bourke Street West	2 2 0

Ross, Colonel, Melbourne Club ..	£2 2 0	Stevenson, L., and Sons, Flinders Lane East ..	£5 5 0
Ross, P. F., Collins Street West ..	2 2 0	Stevenson, John, Roads and Bridges Office ..	2 2 0
Rusden, G. W., Brighton ..	2 2 0	Strutt, C. E., Echuca ..	2 2 0
Russell, Thomas, Warrock, Roke-wood ..	2 2 0	Stutzer, J. J., "Argus" Office ..	2 2 0
Ryan and Hammond, Bourke St. West ..	2 2 0	Swan, William, Colcrane ..	2 2 0
*Salmon, J., E. S. & A. C. Bank ..	2 2 0	Taylor, Hon. Wm., Overnewton, Keilor ..	2 2 0
Sands and McDougall, Collins St. West ..	2 2 0	Terry, Leonard, William Street...	2 2 0
*Sargood, King and Sargood, 23, Flinders Street East ..	2 2 0	Thomas, Dr., Collins Street East ..	2 2 0
Schlostein, A., Flinders Lane West ..	2 2 0	Topp, Samuel & Co., Flinders Lane West ..	2 2 0
Schulkruff, A. W., 189, Elizabeth Street ..	2 2 0	Turnbull, R. & P., William Street ..	2 2 0
Selwyn, A. R. C., Brighton ..	2 2 0	Watson, G., Bourke Street West ..	4 4 0
Sharpe, H. L., 13, Elizabeth St. ..	2 2 0	Watts, H. E., Melbourne Club ..	2 2 0
Shaw, Thomas, Darlington ..	2 2 0	White, W. P., & Co. 10, Elizabeth street ..	2 2 0
Sherwin, John, Bradmore, Mer-rang ..	2 2 0	Williams, W., Spencer Street ..	2 2 0
Sloane, W. & Co. Collins Street West ..	2 2 0	Wilshin & Leighton, 7, Market Street ..	2 2 0
Smale, A. W., 105, Collins Street East ..	2 2 0	*Wilson, Edward, "Argus" Office ..	2 2 0
Sparkes, J., 5, Flinders St. East ..	2 2 0	Wilson, Dr., Summer Hill, Souerton ..	2 2 0
*Spowers, Allan, "Argus" Office ..	2 2 0	Wragge, George, 134, Collins Street East ..	2 2 0
Sprigg, W. G., 3, Flinders Lane East ..	2 2 0	Wyatt, Alfred, Temple Court ..	2 2 0
Stead Brothers, 43, Swanston St. ..	2 2 0	Youngusband and Co., 36, Elizabeth Street ..	2 2 0

DONATIONS.

Armstrong, —, Werribee ..	£1 0 0	Fraser, C. R. W., Kilmore ..	£1 1 0
Baker, —, Werribee ..	0 5 0	Gibbs, Henry, Whittlesea ..	1 1 0
Bamford, J., Swanston Street ..	1 1 0	Gibbs, S. M. ..	1 0 0
Baneroff, E., Flinders Lane East ..	1 0 0	Gotch, J. S., Collins Street West ..	1 1 0
Beauchamp and Roche, Collins Street East ..	1 1 0	Grant, Thomas, Gleuflgan ..	1 0 0
Bertram, —, Werribee ..	0 10 0	Hardy and Co. ..	0 10 0
Beveridge, A., Kilmore ..	1 0 0	Harvey, J., Little Collins Street West ..	1 1 0
Bunny, B. F., Temple Court ..	1 0 0	Howlt, Dr., Collins Street East ..	1 0 0
Butey, M., Bulla ..	0 10 0	Irvine, J. A., Flinders Street ..	1 0 0
Butler and Moss ..	0 10 0	Johnstone, G. and F., Collins Street West ..	0 10 0
Cameron, James, Merriang ..	0 10 0	Jones, —, Melton ..	0 5 0
Cobbledich, —, Werribee ..	0 10 0	Katzenstein, J., Flinders Lane West ..	1 1 0
Collie, J., Collins Street East ..	1 1 0	Krouheim and Co. ..	0 5 0
Corcoran, John, Tullamarine ..	1 0 0	Langlands Bros., Flinders Street West ..	1 1 0
Courtney, E., Temple Court ..	1 1 0	Levi, N., Collins Street West ..	1 1 0
Daly ..	1 1 0	Lodman, M., Bulla ..	1 0 0
Duncan, G., Derrin ..	1 0 0	Lord and Co., Collins Street West ..	1 1 0
Farron, Wm., Derrinut ..	0 5 0	MacGregor, D. R., Woodstock ..	0 10 0
Fellows, Thos. H., Temple Court ..	1 1 0	Macintosh, James, Oakland ..	1 0 0
Ford, W., and Co., Swanston Street ..	1 1 0		

Mathewson, J.,	£1 0 0	Ronald, Dr., Whittlesea	£1 0 0
McKenzie, J. M., Cloubmane, Kilmore	1 0 0	Ross, C. S., Collins Street West ..	0 10 0
McMahon, Thomas, Kororoit ..	0 10 0	Taylor, T. H.	1 0 0
Miller, Mrs., Yea	1 1 0	Towns, R., and Co., William Street	1 1 0
Newnham, —, Melton	0 10 0	Tulloch, W. F., Mount Cotteril ..	1 0 0
New, Rev. Isaac, Barkly Terrace..	1 1 0	Vaughan, Moule, and Seddon, Chancery Lane	1 1 0
Oliver, Thomas, Campbellfield ..	0 10 0	Watson and Sons, Little Collins Street East	1 1 0
Oswald and Inglis, Flinders Street West	1 0 0	Whitney, J., Swanston Street ..	1 1 0
Philps, P. S.	0 10 0	Wilson, Henry, Kilmore	1 0 0
Ray, Dr.	1 1 0	Wilton, John, Morang	1 1 0
Reynolds and English, Collins Street East	1 0 0	Wilson, W. S., Kororoit	1 0 0
Robertson, George, 69, Elizabeth Street	1 1 0	Young and Martin	1 1 0

HONORARY MEMBERS.

Beckx, Gustave, Flinders Lane West.	Landells, G. J., King Street.
Biagi, Giuseppe, William Street.	Macaulay, W., Singapore.
Blanchard, W., Collins Street West.	Michaelis, Moritz, Elizabeth Street.
Castelnau, Comte de, Apsley Place.	Mullick, Rajendro, Calcutta.
Chalmers, Dr., New Zealand.	Newnham, J. A., Flinders Street West.
Cooper, Ricardo, Queen Street.	Ploos Van Amstel, J. M., Collins St. West.
Damyon, James, Market Street.	Ramel, Monsieur, Paris.
Drouya, de Lhuys, Paris.	Rehl, Captain, R.M.S. "Bombay."
Fussell, R. S. R., Fou Chou.	Rentsch, Samuel, Flinders Street East.
Gillanders & Arbuthnot, Calcutta.	Robinson, J., Calcutta.
Godfrey, Captain, J. B., New Zealand.	Scholstein, Adolp., Flinders Lane West.
Graham, James, Little Collins Street East.	Sparkes, John, Flinders Street East.
Grote, Arthur, Calcutta.	Squire, Surgeon John, Dinapore.
Kohler, George, Elizabeth Street.	Were, J. B., Collins Street West.

THE RULES AND OBJECTS

OF THE

Acclimatisation Society of Victoria.

Objects of Society. 1. The objects of the Society shall be the introduction, acclimatisation, and domestication of all innocuous animals, birds, fishes, insects, and vegetables, whether useful or ornamental;—the perfection, propagation, and hybridisation of races newly introduced or already domesticated;—the spread of indigenous animals, &c., from parts of the colonies where they are already known, to other localities where they are not known;—the procuring, whether by purchase, gift, or exchange, of animals, &c., from Great Britain, the British colonies, and foreign countries;—the transmission of animals, &c., from the colony to England and foreign parts, in exchange for others sent thence to the Society;—the holding of periodical meetings, and the publication of reports and transactions, for the purpose of spreading knowledge of acclimatisation, and inquiry into the causes of success or failure;—the interchange of reports, &c., with kindred associations in other parts of the world, with the view, by correspondence and mutual good offices, of giving the widest possible scope to the project of acclimatisation;—the conferring rewards, honorary or intrinsically valuable, upon seafaring men, passengers from distant countries, and others who may render valuable services to the cause of acclimatisation.

Membership. 2. A Subscriber of two guineas or upwards annually shall be a Member of the Society; and contributors, within one year, of ten guineas or upwards shall be Life Members of the Society; and any person who may render special services to the Society, by contribution of stock or otherwise, shall be

eligible for life membership, and may be elected as such by the Council, or by any annual general meeting.

3. The annual subscription shall be payable on the 1st day of September in each year, and may be received by any Member of the Council, or the Collector, either of whom on receiving the same shall cause the person so subscribing to be enrolled a member accordingly.

4. All the property of the Society, of what nature and kind soever, shall vest in Trustees to be appointed by the Council, for the use, purposes, and benefit of the Society.

5. The Society shall be governed by a Council of eighteen Members, to include a President, two Vice-Presidents, and an Honorary Treasurer, three of whom (viz., those who have attended the fewest Meetings of the Council proportionately since their appointment) shall retire annually, but shall be eligible for re-election. Provided that if any sum of money be voted to the Society by Act of Parliament, or trusts conferred upon the Council by the Government, then it shall be lawful for the Chief Secretary for the time being to appoint, if he consider it expedient, any number of gentlemen, not exceeding three, to act as Members of the Council, and they shall have all the privileges as if otherwise duly elected; and further, to appoint one Co-Trustee, to act in conjunction with the Trustees for the time being of the Society. And provided further, that if the Melbourne Corporation, or any of the adjacent municipalities, shall decide upon expending any sum of money exceeding £100 in any one year, upon the grounds or for the objects of the Society, the Mayor of Melbourne or Chairman of such municipality shall be for such year a Member of the Council, and be at liberty to act in every respect as an ordinary member.

6. In case of a vacancy occurring by the death, resignation, or non-attendance of any Member of Council for the period of two months, the remaining Members may appoint another Member of the Society to be a Member of the Council in the place and stead of the deceased, or resigned, or absenting Member, and such new Member may act until the next annual general meeting. Provided that such vacancy shall not be supplied by the Council except after seven days' notice given

of the new Member to be proposed, and unless in the presence of at least seven Members of the Council.

Quarterly
Meetings
of the So-
ciety.

7. The Society shall hold periodical meetings, at which papers and other communications relating to the objects of the Society, and reports prepared by the Council, shall be received, and such discussions shall be encouraged as may be of value in propagating a knowledge of acclimatisation amongst the Members and the public. And such business generally shall be disposed of as may be brought under consideration by the Council or by any Member who shall have given seven days' previous notice thereof to the Secretary, or as a majority of two-thirds of the Members present shall see fit to entertain and consider; and each Member shall have the privilege of introducing two friends at such meetings.

Meetings of
Council.

8. The Council shall meet at least once a month, and three Members (of whom the President, one of the Vice-Presidents, or Honorary Treasurer shall be one,) shall form a quorum, and be capable of transacting the business of the Council, subject to such limitations as may be imposed by any bye-law of the Council, or rule, or resolution of the Society, which may be hereafter made.

Powers and
Duties of
Council.

9. The Council shall have the sole management of the affairs of the Society, and of the income and property thereof, for the uses, purposes, and benefit of the Society; and shall have the sole and exclusive right of appointing a President, Vice-Presidents, and Honorary Treasurer from amongst themselves or the other Members of the Society, and also of appointing paid servants, as a manager or secretary, collector, and such other officers, clerks, and labourers, and at such salaries as they may deem necessary, and of removing them if they shall think fit, and shall prescribe their respective duties. And such Council shall have power to consider and determine all matters, either directly or indirectly affecting the interests of the Society, and if they shall think fit so to do, shall bring the same under the notice of the Members of the Society, at any general or special meeting; and to make such bye-laws as they may deem necessary for the efficient management of the affairs and the promotion of the objects of the Society, and for the conduct of the business of the Council, provided the

same are not repugnant to these rules ; to appoint one or more sub-committees, for any purpose contemplated by these rules ; and generally to perform such acts as may be requisite to carry out the objects of the Society, which bye-laws are to be subject to ratification, or emendation, or rejection, by the next annual or special general meeting of the Society. And it shall be the duty of the Council to exercise the foregoing powers as occasion shall require, and to furnish reports of the proceedings at every periodical and annual meeting of the Society.

10. The Society shall have power to affiliate or associate itself with other Societies of kindred objects, and to found Branch Societies if desirable ; and the Council shall have power to carry out any arrangements for this purpose, and to furnish any monthly or other reports.

11. Minutes shall be made, in books kept for the purpose, of all the proceedings at the general and special meetings of the Members, and minutes shall also be made of the proceedings of the Council at their general and special meetings, and of the names of the Members attending the same, and such minutes shall be open to inspection by any Member of the Society at all reasonable times.

12. All subscriptions and other moneys payable to the Society shall be paid to the Treasurer, who shall forthwith place the same in a bank, to be named by the Council, to the credit of the Society ; and no sum shall be paid on account of the Society until the same shall have been ordered by the Council, and such order be duly entered in the book of the proceedings of the Council ; and all cheques shall be signed by the Treasurer as such, and be countersigned by the President, or one of the Vice-Presidents, or by some other Member of the Council delegated by the Council to act as such.

13. An annual meeting shall be held in November of each year, and the Council shall report their proceedings during the past year, and shall produce their accounts, duly audited, for publication if deemed desirable ; and the meeting shall elect new Members of Council to supply the vacancies therein. And notices of motion must be furnished to the Secretary one day previous to the holding of

such meeting, or such motions may be rejected by the Chairman.

Non-pay-
ment of
Subscrip-
tions.

14. All privileges of membership shall cease in case any Member shall be three months in arrear, subject, however, to his restoration on the payment of such subscription as aforesaid, accompanied by satisfactory explanation.

Special Meet-
ings of
Members.

15. Upon receiving a requisition in writing, signed by twelve or more Members of the Society, or upon a resolution of the Council, the President, or in his absence one of the Vice-Presidents, shall convene a special meeting of the Members, to be held within fifteen days of the receipt by him of such requisition or resolution. Provided always that such requisition and resolution, and the notices thereunder convening the meeting, shall specify the subject to be considered at such meeting, and that subject only shall be discussed at such meeting.

Honorary
Members.

16. The Council or any general meeting of the Society may admit, as Honorary Members, such ladies or gentlemen as may have distinguished themselves in connection with the objects of the Society, or in objects of a kindred nature.

Power to al-
ter Rules.

17. It shall be lawful for any annual or special meeting of the Society to alter, vary, or amend the rules; or to substitute another for any of the same; or to make any new rule which may be considered desirable; if and after a notice specifying the nature of such alteration, variation, amendment, substitution, or new rule, shall have been given to the Secretary fifteen days before the holding of such meeting. And such alteration, variation, amendment, substitution, or new rule, shall be valid if carried by a majority of not less than two-thirds of the Members present at such meeting.

PROCEEDINGS

AT THE

THIRD ANNUAL MEETING,

Held November 11th, 1864.

The Third Annual Meeting of the Acclimatisation Society of Victoria was held at their offices in Swanston-street, on Friday afternoon, November 11th. The attendance comprised most of those gentlemen who have distinguished themselves in connection with the subject of acclimatisation in Victoria. The chair was taken by His Excellency the Governor.

HIS EXCELLENCY said that in opening the proceedings of the third annual meeting of the society he had no intention of detaining them long from the practical business of the day. Were he to attempt a retrospective view of the proceedings of the society during the past year, he would be only relating facts with which the members were much better acquainted than he was; and as for the public, he should be only giving them an imperfect account of that which would be given with much more accuracy in detail by the report of the Council which would be published. Having had the opportunity of perusing the intended report, he was happy to find that he could congratulate the Society on the great improvement that might be said to have taken place in their position and prospects in every respect. He was glad to see, that their finances were satisfactory—that their list of subscribers was greatly enlarged, and that their correspondence with the various parts of the world in which they were interested was much amplified. The Society had also good reason to congratulate itself on the number of objects and proper subjects of acclimatisation introduced by them during the year, and also on the fact that its prospects altogether were of a highly encouraging character. All this must be most gratifying to the friends of acclimatisation, and the friends of the Society, as it was to himself. He had been an observer of the carefulness and assiduity with which

the Council had attended to their duties from week to week, and to the various subjects discussed. No doubt a great deal of the success of the Society was attributable to the confidence and assurance felt in the fact that the Council attended energetically to the advancement of the objects of the Society. He was well aware that among the most eminent of those who had done so much for the association must be recorded the name of their lato president, Mr. Edward Wilson, and he desired to state his concurrence with the sentiment expressed by the Council at the loss of so zealous and experienced a co-operator. At the same time, he congratulated the Society on having secured, as a successor to Mr. Wilson, a gentleman with so high a personal and public reputation as Mr. Haines. No doubt under his auspices, and the active exertions of Mr. Wilson, and such gentlemen as Dr. Black and others who had done so much, the Society would continue to flourish and command the respect of the public with an equal degree of success to that enjoyed during the past year. For himself, he had to thank the Council for having, in accordance with the request made by him at the last annual meeting, offered him ample information to be sent through Her Majesty's Government at home to the British Acclimatisation Society, as to the animals and vegetable objects in this colony which were likely to be suitable for acclimatisation in the mother country and Europe. According, also, to the expressed wish of the Society, he had requested of Her Majesty's Government that the Reports received from other colonies, and Her Majesty's diplomatic representatives abroad with the various Governments with which Her Majesty's Government was in communication, might be sent to this Society. As yet he had received no reply, but he had not the slightest doubt that if replies were not sent through the Government the Society would in due course receive them from the acclimatisation society at home. With these few observations he would call on the secretary to read the report.

The Secretary (Mr. Geo. Sprigg) then read the report. (See p. 5.)

On the motion of Mr. Stutzer, seconded by Mr. Steavenson, the report was adopted.

Dr. Madden moved that the election of the Hon. W. C. Haines, Dr. J. Black, Mr. D. S. Campbell, Mr. Thomas Loader, and Mr. H. E. Watts, as members of the Council, be confirmed.

The motion was seconded by Lieutenant-Colonel Champ, and carried.

Mr. Steavenson then moved, that Messrs. G. S. Lang, J. Sparkes, and A. R. C. Selwyn be elected to fill the vacant seats in the Council.

The motion was duly seconded, and carried.

Dr. T. Black moved an alteration in Rule XII., by which the exact day in November at which the annual meeting should take place might be fixed by the Council. His object was, he said, to secure, if possible, the presence of the Governor.

Lieutenant-Colonel Champ seconded the motion, which was agreed to.

Dr. T. Black said he was happy to state that the hares, quails, and pheasants at Phillip Island were all doing very well ; while the salmon at Badger's Creek were going on as prosperously as could be wished. As every one would be glad to hear of the progress and condition of the salmon in Tasmania, he begged to introduce the Hon. Dr. Officer, Speaker of the Legislative Assembly of Tasmania, who would probably give all information on the subject.

Dr. Officer, as indebted to the courtesy of the Society for the opportunity of being present at their annual meeting, could not but express his admiration at their labours of the past year, and his humble wishes for their continued success and usefulness. For him to speak in terms of eulogy of a Society which had made such a name in the world would be superfluous repetition ; but he was quite sure he had a few words of interest to say on the subject alluded to. He was very glad that all that could be said respecting the salmon and trout in Tasmania could be summed up in a very few words. Continued success had attended the treatment of the fish. It was quite true that incidents had been met with and actual alarm occasioned in the minds of those concerned ; but happily these had all been surmounted in the best way, and he was now able to report that both were in as healthy a condition as could be expected. Trout in their native country were almost more advanced than salmon, and those in Tasmania were, therefore, now more nearly approaching maturity. They were now really respectable little fishes ; extremely active, leaping at the fly, and greedily eating anything thrown to them in the shape of food. He was sure that in less than a year these trout would have begun to produce ova, and then after that as many fish could be sent to Victoria as were desired. It was an established fact, he believed, that trout began to deposit eggs when they were only a year old ; and as those in Tasmania were already six months old, there would doubtless be a large progeny by this time next year. The salmon were not so large as this, but they grew visibly daily and took all the food offered to them, and for a long time no really natural deaths had taken place. Some had been lost, but only from incidental causes. For instance,

a few were found to have got into the crevices of the box in which they were confined, and thus became incarcerated without the fact being known, and the consequence was some dozen or so perished in that way. With that exception he was not aware of any deaths. They were in a large and commodious pond, with an abundance of running crystal water, so that it was impossible to doubt that an abundant success would result. He heartily congratulated the society on the spirit they had displayed in uniting with Tasmania in effecting a second importation of salmon, and that they had appropriated the liberal sum of £400 for the purpose, and communicated with his excellent friend Mr. Youl, with a view to concert measures with him for obtaining an additional supply. He was not aware of the terms in which the partnership would be entered into—what part would be taken by Victoria and what by Tasmania, but he was sure both would go on as harmoniously as before. Whatever this Society might decide upon—whether they proposed to retain a large portion of the ova in this colony and try their hands at hatching here, or whether they sent the greater part over to Tasmanian care, those in Tasmania would be equally ready to meet Victorian wishes in all respects. Probably he might take the opportunity of offering a little advice on the subject of the fish, but it would be better to confide it to the Council rather than the Society generally, the former having, perhaps, the more practical knowledge. He was not aware that he could say more, but he should be happy to answer any questions.

His Excellency asked what were the number of the salmon.

Dr. Officer replied that they had been counted up to 3,000 or 4,000, but he did not think that was nearly the number. As to the trout, which were confined in a much smaller compartment, no more than 120 fish had been counted for a long time, but when they got larger and came out to feed, there were found to be upwards of 300. So with the salmon, he believed the number would be found larger than that originally calculated on. They had a wonderful art in concealing themselves. Frequently he had walked along the bank of the pond and not seen one, and another day they would be in shoals. They seemed to dart with the speed of lightning under any piece of stone, and so active and so vigilant were they, that he had no doubt they would be too quick for any enemy. No doubt, this time next year we should be catching them on their return trip from the ocean. Out of the whole number of ova, about 18,000 were found to have been never impregnated, and he understood that when they were sent out there were some fears on that score.

He might also state that the Tasmanian Government and Legislature had provided a further sum of £800 this year, which money was in the hands of the Salmon Commission. Money had been sent home to Mr. Youl some months ago for a second importation, and he was glad to find that Victoria was inclined to lend her aid, especially as increased experience promised greater success.

The Hon. W. C. Haines moved a vote of thanks to His Excellency for presiding. They all knew that His Excellency was always ready to lend his cordial assistance when efforts were being made to promote the welfare of this community; and, no doubt, his countenance lent to this meeting would have valuable effect in many ways, and as much as anything in recommending the Society to the people of the colony generally. He trusted the case would be so. He also moved that the thanks of the meeting be given to His Excellency for his kind consideration in asking that this Society should be furnished with the home reports from the various consuls in the different parts of the empire as to the productions, animal and vegetable, of the several countries. These would, no doubt, be of great value to the Council, and enable them to pursue their operations in the best and most advantageous mode. He felt he ought not to introduce any other subject, but would just take the opportunity of expressing his extreme regret at the calamity which deprived the colony of the services of Mr. Wilson. He trusted that that gentleman would be still able to render assistance to the cause of acclimatisation during the time he resided in England, and should be truly thankful if the nature of the calamity did not prevent such being done. As His Excellency had alluded to his (Mr. Haines's) appointment, he might express his feeling that he could only inadequately replace Mr. Wilson. What he could do he would do, and as now he had a little more leisure than he had enjoyed for many years, he would probably be able to do more than he might otherwise have done.

Dr. T. Black seconded the resolution, expressing a hope that His Excellency would often preside under similar circumstances.

His Excellency in acknowledging the compliment, said he wished he had done more to deserve it. He could only repeat what he had said once before, that he had so very little accurate acquaintance with any part of natural history—other pursuits having prevented his acquisition of much experience—that, though often tempted, he thought it best not to be present at their regular meetings.

The proceedings then concluded.

APPENDIX.

CIRCULAR ISSUED BY THE COUNCIL.

Certain circumstances connected with the passing of the vote for the Acclimatisation Society have led the Council to consider it desirable to state a few facts relating to their performance of the duties with which they have been charged.

The Estimates were laid upon the table of the Assembly on the 3rd February. On the 4th, sums amounting to £1,408,515 were voted. Amongst other items was that of £4,000 for the acclimatisation Society, the granting of which was coupled with a condition that £650 should be raised by private subscriptions.

From the responsibility of that condition the Council have no desire to shrink, feeling well aware that from the wide feeling of sympathy with their efforts, a demand can be met, which might have been fatal to almost any other institution receiving Government aid.

The debate on the vote, and the condition accompanying it, however, have led the Council to believe that their transactions are less fully understood than they would wish them to be, and the rapidity with which the Estimates were proceeded with took them so far by surprise as to have prevented them from providing the Government with such statement of their proceedings as would, they believe, have convinced the Legislature not only that the money voted was being well spent, but that no other public money is being expended to better advantage.

The acclimatisation, or rather the introduction and assimilation to a new set of conditions, of every good thing that the world contains, to a country so singularly adapted as Australia to a wide range of products, seems about as legitimate an enterprise as can be conceived.

The gathering together in good condition and in sufficient numbers to establish the species, foreign animals and plants, is necessarily a very slow and delicate process, and much time must obviously be expended before very decided results can be expected. Most of these animals breed only once a year, and their natural increase is therefore tardy, however eminently they may prove themselves adapted to their new home. But a brief outline of what is being done will be found not altogether barren of those results, for the fuller elaboration of which it is only reasonable to wait.

The inauguration of the Acclimatisation Society on its present footing is comparatively recent, as less than three years have elapsed since it was amalgamated with, and undertook the duties of, the Zoological Committee.

Since then, in consequence of the increasing number of animals, and the unhealthiness of the original site of the Zoological Gardens, an entirely new establishment has had to be formed at the Royal Park, involving a very heavy expenditure in fencing, planting, forming excavations for ponds, building superintendent's house, shelter sheds, pens, &c.

The herd of camels brought from India at an expense of £120 per head had become scattered, and were in a fair way of being annihilated, under the various exploratory expeditions. Such of them as could be saved have been collected at Mr. Wilson's station at the Wimmera, where they are now breeding regularly, and forming the nucleus of probably a large herd, available at some future day either for exploration or conveying the produce of remoter stations in the more arid districts.

The alpaca has been a constant source of interest with the Society. Mr. Duffield has been constantly advised with and encouraged in his great experiment, and has stated that but for the co-operative spirit exhibited by the Society, he should have probably transferred his energies to some other country. Meantime, the little flock of llamas and hybrids imported from England have been diligently cared for, and their health and adaptation to the country watched. They have been crossed with pure alpacas, and young ones of the second cross are now being dropped. Since landing their numbers have increased from 19 to 56.

The Angora goat is receiving great attention, and is likely to furnish a very valuable addition to the resources of our graziers, and of exports to our merchants. A considerable number of the best strain of blood has lately been presented by the Acclimatisation Society of France. Pure bred goats are now rapidly multiplying, and they are being crossed with the common goat in considerable numbers, four crosses being found to restore the original quality.

Associated with the Society, an enterprising gentleman at Maryborough has imported a flock of the Cashmere goat, with which he is now experimenting, affording an instance of the manner in which the Society is executing one of its principle functions, in inducing private enterprise to avail itself of the information and organization of the Society.

Various breeds of sheep have been introduced, and are being experimented with, some of them showing signs of a peculiar adaptability to a hot climate.

While devoting this amount of attention to such animals as the camel, the alpaca, the Angora goat, and the sheep, which may be considered as more immediately interesting to the mercantile and pastoral classes, the sportsman has not been forgotten. The fallow

deer, the Indian elk, the beautiful spotted axis deer, have been successfully imported, bred from, and turned loose at Wilson's Promontory, the Wimmera, the Sugarloaf, and the Bunyip. Numerous specimens of the hog deer of India, a beautiful deer from Manilla, and another from Formosa, are still in the possession of the Society, with a view to their multiplication and ultimate release; and fresh importations of the deer tribe are almost of weekly occurrence.

The hare has been sent to the Society by the Zoological Society of London, and has been turned out and is now breeding freely on Phillip Island.

Various breeds of pheasants, partridges, grouse, and quail have been introduced, and some have been liberated. Amongst those may be mentioned the Californian quail, which has bred after being liberated in the Botanical Gardens and Phillip Island, and the Algerine sand grouse, of which a considerable number have been imported, and which from their hardy nature and the similarity of their original climate may be considered highly adapted to this country.

The English wild duck has been imported, has multiplied very freely, and now visits the lagoon at the Botanical Gardens in nearly equal numbers to the indigenous water fowl.

The Egyptian goose has bred at the Royal Park and promises to be thoroughly acclimatised.

The wild pea fowl of Ceylon has thriven and bred in the charge of the Society, and can soon be set at liberty.

The white swan has been introduced in considerable numbers, has bred in the gardens of the Society, and is now distributed in various localities.

Various kinds of foreign doves and pigeons have been introduced and liberated.

The curassow has been obtained, and has bred in the aviaries at the Botanical Gardens.

Of the angler, and lover of fish diet, the Society has not been forgetful. At the recommendation of the Society, successive votes have been placed on the Estimates and passed towards assisting the spirited enterprise of the Tasmanian Government in the introduction of the king of fresh water fishes, the salmon. The gouramie, a fish which has been represented as the best fresh water pond fish in the world, is already in the possession of the Society, having been presented after many trials by a Melbourne firm, and, the difficulties of their introduction having now been overcome, the Society expects soon to obtain further supplies in considerable numbers.

The carp, tench, roach, and dace, as specimens of the not very valuable pond fishes of England, and the gold-fish, have been introduced and distributed in various localities favourable to their multiplication.

But as illustrating by a small success the wonderful results capable of attainment by acclimatisation if adopted on a proper

scale, the Council would refer to the fact of having introduced living specimens of the sea fishes of Europe in the shape of the grey mullet and the edible crab ; not indeed in numbers to justify a hope of establishing the breed, but amply suggestive of what will be done in the future.

In a country so subject as this to the ravages of insects, the case of the agriculturist has always been carefully considered. Hundreds of industrious farmers have even this year been ruined by the caterpillar, and similar visitations must necessarily be expected. The introduction of insect-destroying birds has therefore been carefully attended to, and with this has been combined an effort to surround our colonial residences with those interesting associations which constitute no slight portion of the charms with which the name of "home" is ever surrounded. The thrush, the blackbird, the skylark, the starling, the chaffinch, the sparrow, the Chinese sparrow, the Java sparrow, and a most active and interesting bird, the Indian mino, may now be considered thoroughly established, and are rapidly extending by natural means through the Colony. The goldfinch, the linnet, the greenfinch, the yellow hammer, the ortolan, the canary, the robin, and many kinds of the smaller birds of other countries are being accumulated in the aviaries of the Society, and many of them have already bred there.

The nightingale and the hedge-sparrow have been promised us by benevolent ladies at home, and the Queen herself has made an effort to supply us with the rook. To other liberal friends of the cause we are indebted for promises of the gazelle and the edible crab.

As a contribution of very particular interest to the cottager, the introduction of the Ligurian bee may be adduced, that insect being probably, from its industrious and wonderfully prolific properties, the most valuable in the world. This bee is multiplying with almost incredible rapidity, and will soon be accessible to all classes.

A widely extended correspondence and a system of kindly interchange are knitting us in interesting relations with kindred societies in all parts of the world. And to gentlemen in England, France, India, Ceylon, and China, the Society is in particular under deep obligations.

The very great distances at which the operations of the Society have to be carried on, and the difficulty of getting placed in communication with the right class of persons and institutions calculated to aid the enterprise, should argue in favour of a steady persistence of effort, protracted probably over many years, and should show the false policy of any ill-considered interruption of a great national scheme.

The British Government has recently been induced to take up the project of Acclimatisation with an amount of consideration altogether without precedent, the Foreign and Colonial Offices having recently sent to British emissaries in all countries in the

world, a series of questions as to the various desirable natural products of each country, and the Admiralty has issued a circular to all commanders of H.M. ships, directing them to render every service in their power to the cause of Acclimatisation, in the conveyance of specimens.

In almost every colony in these seas Acclimatisation Societies have been founded, most of them paying that of Victoria the compliment of taking it as their model; and with Sydney, Hobart Town, Adelaide, Brisbane, Auckland, Lyttleton, and Dunedin, the Melbourne Society is thus brought into friendly and frequent communication. A French man of war is at the time of the preparation of this statement engaged in bringing the Society specimens of the yâk, the ostrich, and other animals.

There is something so attractive, and at the same time so novel, in the very nature of Acclimatisation, that paragraphs referring to the proceedings of the Society attain a circulation more general than almost any other subject in English and foreign newspapers, and such notices are calculated greatly to interest strangers in the progress of the Colony.

Even the very disasters and deaths inseparable from this kind of experiment are not without their uses, as many interesting specimens have been contributed to the National Museum, from the collection of the Society.

The Council of the Society is composed of gentlemen who have no personal object to serve. They attend the weekly meetings at the cost of considerable valuable time taken from their business hours, and the reports of their meetings will show that the attendance is such as no other non-commercial body in the Colony can boast of.

The Council think that in this brief enumeration of facts they may consider that "results" have been obtained sufficient to carry conviction to any unprejudiced mind, to show how impolitic it would be to allow their proceedings to be rashly or wantonly interfered with, and to justify them in expressing a doubt whether any other public money is as advantageously expended in regard to the future as that portion with which they have been entrusted.

From the very novelty of the project of systematic acclimatisation, and from the almost illimitable range of the objects with which it seeks to deal, a fertile topic is afforded to the sneers of the thoughtless and the misrepresentations of the ill-informed. But in seeking to stock this country with new, useful, and beautiful things, to add to our national wealth, to suggest new forms for our colonial industries, to provide for manly sports, which will lead the Australian youth to seek their recreation on the river's bank and mountain side rather than in the café and casino, to surround every homestead and the path of every wayfarer with new forms of interest and beauty, and to add new elements to the food of the entire people, the Council conceive that they are engaged in a work

sufficiently noble to secure the sympathies of every good man. And of parents in particular, they would ask, what may not be made of this fine Colony, when the seed this Society is now diligently seeking to sow shall have had time to fructify in a complete harvest?

LETTER FROM MR. DUFFIELD.

Melbourne Club, Oct. 18.

“Mr. President and Gentlemen of the Council of the Acclimatisation Society,—I leave Melbourne for Europe by the mail of the 26th inst. I would not do so without first communicating with you on the subject of the undertaking with which I am connected, and asking from you a continuance of the interest you, as a body, have ever shown in the work we are engaged in. The introduction of the alpacas in Victoria has become of late more beset with difficulties than ever. The public, impatient of success, have grown sceptical on the value of the alpaca; and the losses and disasters we have already suffered, as well as yourselves, have thrown a wet blanket on our enterprise. Notwithstanding those disasters, it is our intention to carry out our designs, and I ask you for your support in doing so. The Government has promised to submit a proposition to the Legislative Assembly for helping us with a subsidy of £10 a head for each animal we may introduce, provided the number do not exceed 1,000. I expect that proposition will be discussed during my absence, and I ask you to watch its discussion, so as that at least it shall have fair play. I might appeal to you on account of what we have already done, as well as on account of the promises which have been made to us by no less than three different Administrations at three different times, none of which have been kept, owing to political changes, but which we were led to act upon and did act upon them in doing a great public work. I prefer, however, to enlist your sympathies for our future operations, the more as it is our intention to carry them out on a larger scale than we intended at first. We believe that to ensure a permanent footing for the alpaca in this colony, it will be necessary to farm our flocks ourselves, to form our own alpaca stations, and bear the labour and responsibility of demonstrating that this animal can be established in Victoria as one of the enduring sources of its wealth. To do this will demand considerable money, and a large amount of valuable time. I have asked that the Government should deal with us in this our endeavour to plant a new industry in the colony in the spirit of the Land Act, which grants long leases of land to growers of cucumbers and the cultivation of flax. If the public and the press support us, I believe that the Legislature of the colony will vindicate its own policy, and place ours at least on an equal level with those other undertakings. I ask you, as individuals, and

in your collective capacity, to help in doing this. We have already collected 600 alpacas within 150 miles of the port of shipment. They will thus be prepared for the privations and risks of the sea voyage; but we shall not ship them or make one further move in the matter until the promises of the Government have been ratified by the Parliament. If the Parliament deals with us in a liberal spirit—if the offer of a subsidy is confirmed without any niggardly restrictions, as I believe it will be—I shall then hope to renew my connection with the colony and your Society under more prosperous circumstances than those which have attended our past labours.

“ I have, &c.,

(Signed)

“ A. J. DUFFIELD.

“ P.S.—I may state that our agents in Melbourne are Messrs. Clough and Co., with whom we have every reason to be satisfied, and that they will act for me, I believe, with all requisite attention, during the period of my absence.”

REPLY.

“ Melbourne, October 25.

“ To A. J. Duffield, Esq.

“ Dear Sir,—On the part of the Council of the Acclimatisation Society, I beg to acknowledge the receipt of your communication, dated the 18th inst., announcing your intended departure for England. The Council is glad to hear from you that, in spite of the disasters and discouragements which you have met with in carrying out your great undertaking, having for its object the introduction of the alpaca into Australia, you are still disposed to persevere in your enterprise, provided that the Government of Victoria carry out the promises made to you by themselves and their predecessors. The Council look forward with great interest to your return to the colony with another flock of alpacas; and it confidently believes that, upon the new footing you give to the undertaking, namely, by the forming of an alpaca station, managed upon your own responsibility, the next attempt will be successful; and that you will live to earn the fruits of your long and patient devotion to the cause of the alpaca. Conceiving the acclimatisation of the alpaca to be of the highest value to the colony, and believing, in spite of past failures, that by greater care in the selection and transport of the animals, and by the choice of a more congenial locality for their reception on their arrival in the colony, the animal may and will be successfully acclimatised in Victoria, the Council will, on its part, cheerfully render you all the assistance in its power towards the accomplishment of your object. With my sincere wishes for your future success,

“ I am, &c.

(Signed)

“ THOMAS BLACK, Vice-President.”

COTTON AND ITS CULTIVATION IN PERU.

Read by A. J. DUFFIELD, Esq., at a Meeting held March 30, 1864.

Some ten years ago a friend of mine dug out of an ancient tomb in Antioquia, New Granada, a massive gold plate, which was carved in strange figures, the centre figure being a hippopotamus. That relic of past ages is a direct proof of the theory of Prescott and others, that the civilization of the Aztecs, the Mexicans, the Muisca, the people of the great interior kingdom of Cundinamarca, as well, perhaps, of the early settlements on the shores of the Great Titicaca lake, came from the Nile. That gold plate was wrapped in a piece of cotton cloth, the workmanship of which was as regular, if not as fine, as any made in Manchester at the present day. I also have examined many of these mural monuments of early Incarial times, and taken from them finely-wrought and brilliantly-dyed cotton-cloths, as well as those string chronicles of early days called quipus, by means of which the Peruvians handed down their history among themselves. These quipus, of many colours and tangled knots, were also made of the finest cotton threads, proving that, centuries ago, cotton growing and cotton manufactures were among the mechanical arts of the children of the sun, and that they brought them to a perfection not surpassed by modern skill or science. Peru is the native soil of one of the finest cotton trees in the world, the length and brilliancy of whose staple have never been surpassed. The members of the royal family, priests, and great officers of state, the Coyas, the Amautas, the Curacas, the Quipucamayus, and the Mamaeunas of ancient Peru, were as much indebted for their white robes as, Pliny tells us, were the Egyptian priests to the snowy blossoms of a shrub, and both seem to have been equally skilled in making them. But though great natural forests of cotton abounded, as they still abound, in some parts of Upper and Lower Peru, the cultivation of cotton was carried on to a large extent around the chief centres of population—in Caxahmarca, the sacred valleys of Cuzco and Pachacamac, and along the western coast from the Loa to the Guayaquil. I have travelled over many miles of these old cotton plantations, and examined the splendid, scientific methods adopted for keeping up a plentiful irrigation, without which, on that otherwise barren coast, cultivation of any kind would have been impossible. And while those now dried-up channels, and that hard unyielding soil, are an everlasting disgrace to the gold-grubbing, selfish Spaniards, who blotted out a thousand peaceful scenes, yet, though in ruins, they speak to us wise and lofty words. They say plainly enough—Had the Incas possessed Australia as long as we have, it would by this time have been irrigated from Carpentaria to its opposite extremity, and no form of slavery or oppression exist in making it so. The rivers and creeks of the land would not be, as at present, so many thieves, running off with the fresh water to the sea, but guardians of

it, conducting it to quiet lakes, and preserving it for the service of man, never allowing it to become his master, much less his oppressor and destroyer. Thus the works of the old Incas follow them, and testify that not unto themselves only but unto us they ministered of things belonging unto peace. In those early times, certainly as much as five centuries ago, cotton was cultivated in Portobello, and spun in Guanaehani, in Cuba, and Jamaica. The Indians of Uraba were clothed in cotton. Yucatan, Guatemala, Santa Marta, Venezuela, and the Sierra Nevadas—Quito and Cundinamarca, were famous for their cotton plantations and cotton fabries. Indeed, as far as the old kingdoms of Moxos and the Gran Chaco, even unto Tlaxcala, this raw material was largely cultivated, though it chiefly grew spontaneously. That is, from 16 deg. N. to 36 deg. S. latitude, cotton trees supplied clothing to a hundred millions of our race. No doubt to the cotton tree which yields a splendid yearly harvest for twenty years, together with the remarkable rainless climate peculiar to the Peruvian coast, so suitable to the cultivation of this delicate fibre, are to be attributed the extent and excellence of those once celebrated cotton fields. But though no devastating rain there ever sweeps away the crops, or fierce hurricanes destroy the fruits of the field, although along the whole coast of Peru the atmosphere is almost uniformly in a state of repose, yet the mildness of the elements above-ground is frightfully counterbalanced by their subterranean fury, therefore it must not be supposed that the Peruvian planter had no enemy to encounter, no exertion to put forth, if he would reap a profitable harvest. The effects of earthquakes on the fertility of the soil are so great, that in many cases after very violent shocks the most luxuriant lands have become barren wastes, and for several years afterwards yielded no thriving vegetation. All kinds of grain appear to be susceptible to the changes produced by earthquakes, and if any great commotion takes place beneath a field in full bloom the whole crop will wither in a few days. And with respect to the plantations of the interior, as well as those on the coast of the Caribbean Sea, difficulties and dangers had to be overcome of even greater magnitude than prevailed on the Pacific shores. So that hard work, perseverance, skill, and foresight, were required to keep those sources of wealth from destruction. But now those once mighty fields of floretted snow are either burnt up or become lairs of the jaguar. We have heard of a cotton famine at home producing disease, pestilence, and death. Men have been made to feel that the insanity begotten of greed in depending on one source alone for the supply of a material involving life or death to millions was to have its reward, and that the iniquity of enslaving men in order to make that supply a more exact or accurate commercial transaction was to be overtaken by a terrible avenging Nemesis. We still hear of Lancashire distress, and the protracted strife in America. As yet we do not know whether cotton is again to be king, and his throne to be again planted on the necks of millions of men, women, and

children. We may hope that such will not be the case, and therefore I thought that the subject of cotton-cultivation in Peru, and the probable restoration of those once vast plantations, would be worth at least your hearing. We are informed by the last mail, through *The Times* of Jan. 14, that the cultivation of cotton in Peru is now being carried on to a great extent. The shipments made to England this year are more than three times what they were in 1860, and next year the export will be much larger. In 1860 there were exported 10,000 cwt. ; in 1862, 15,000 cwt. ; and in 1863 there had already been shipped 31,500 cwt. It is said, from the area of land now planted with cotton throughout Peru, the export of 1864 should be 60,000 cwt. A small quantity from the eastern parts of Peru has been sent down the Amazons, but the expense attending this route is as yet too great to encourage exportation to any great extent. Now I know that even 60,000 cwt. are but a few threads in comparison with what is needed by the 28 millions of spindles of England, to say nothing of those of France. But there can be no doubt that this free-grown cotton will extend its supplies till the old plantations of the Incas are restored, and these, added to those of British India, not only make the cotton supply inexhaustible, but cotton slaves as great an impossibility as a slave chain round a white man's wrist. The cultivation of cotton then in Peru, one of its original sources, is, though of no local interest to us, of intense interest to those who watch over the cultivation of the earth's surface. I believe that the azequias, or canals of the old Incas, will be restored, and that they will fructify millions of acres of free-grown cotton. I believe that the Meta and the Amazons, the Plata and the Magdalena, will soon bear down their free streams many thousand bales of free-grown cotton every year. I believe that the amazing ocean of cotton trees which stretches from the confines of Atacama to the foot of the Andes will soon be made to yield their wealth to us. I believe all this, because I have seen it partially accomplished ; and because science, in the hands of practical men, is every day convincing the world more and more that to replenish the earth and subdue it is the service which the Creator requires at the hand of man, and the only service by which the earth shall yield her increase, and the "centuries behind" us their fruits of peace. It is owing to such societies as this that cotton cultivation has been pushed forward with such proud success, not only in Peru and the East Indies, but these colonies also ; and I have ventured to broach this subject to you, who are labouring in the same cause, though not from the same pressure of circumstances, that you may be encouraged, take heart, and keep to your work, undismayed by any failure, undaunted by any sneer.

SILK CULTURE.

Read by J. J. STUTZER, Esq., at a Meeting held May 25, 1864.

I have the honour to submit to the attention of the society a few brief observations as to the practicability of utilizing the labour of the inmates of our benevolent and reformatory institutions in conjunction with the introduction of new industries. The object of these remarks is two-fold—first, to attempt making the institutions to some extent self-supporting, and diminishing their heavy cost to the community; and secondly, to secure a certain amount of cheap labour, which will render practicable the introduction of those new means of developing the productive resources of Australia, which in many cases are left untried solely owing to the present excessive rate of wages. Though the present average income of each Australian is probably even now greater than anywhere else in the world, it is considerably less than it has been, and may be expected to suffer a further diminution. Whenever a serious strain upon the national resources shall be felt a hurried economy will have to be enforced. It will be found that hundreds of thousands of pounds will have been wasted in the course of years in the maintenance of prisoners, lunatics, paupers, and destitute children, which might have been saved had the objects of this expenditure been steadily employed in working out their own support. On the Continent, especially under the French and Dutch Governments, the benevolent and reformatory establishments are made, by judicious management, to be to a great extent self-supporting. That at Mettray, a reformatory school for boys, is especially remarkable. At the Breda establishment the cost of each inmate is, or was, about £6 per head. In the north of Holland, on the loose sandy heaths of Overyssel and Groningen, pauper agricultural colonies have been established for half a century, and have succeeded in bringing into cultivation large tracts of land originally worthless, at the same time that the average cost per man has been under 3s. a week. When we come to Australia we find their cost to be in some places double, in others treble, that of similar establishments in Europe. At the Imperial convict establishment of Port Arthur, were the labour of 500 men under vigorous discipline has been always available, its money value is under £3,000 a year. At the Queen's Orphan Asylum, at Hobart Town, which maintains an average of 460 children, the cost was for a long time above £11,000, or at the rate of £26 per head. At the Randwick Asylum, near Sydney, which is much better managed, the cost is still £20 per head. I will not take up your time by multiplying examples, but at once proceed to what I consider as a remedy, confining myself to schools. The great obstacle to the industrial employment of children is the excessive time which is given to book learning. A boy or girl of say 10 years old averages six hours in school, and will probably, if he or she want to get up their lessons, have a couple more hours in the evening. This is about as much

as working a young man continuously 12 hours a day, the result of which is tersely expressed in an old university saying—four hours a day study are four hours, and four more are eight, and four more are four. Four hours a day are as much as ever a child under 12 can give to study with advantage. And this the more, because I am speaking now of schools intended for the operative classes alone, where if the children learn to read, write, and spell well, with the rudiments of geography, and a knowledge of arithmetic up to compound division, they take with them all that they are ever likely to retain in after life. The large amount of spare time which thus becomes disposable should be given to out-door industrial employment. It is all right and proper to give boys and girls an hour or more of play in a day, but it is quite a mistake to suppose that children like only what may be called purposeless play. A boy likes nothing so well as a couple of hours or more of driving cattle, herding cows, tending sheep, cutting wood; he likes the sense of dignity which his employment gives him, and looks on it as a promotion. Girls like tending rabbits or feeding poultry quite as well as they do a mere game at romps. Now when industrial employment is given, as it often nominally is, it is almost always indoors. The children, wearied with lessons, are condemned to be wearied still more with tailoring, cobbling, and stitching, and the result is, that the money value of their work is next to nothing. A few sharp boys occasionally, but rarely, pick up a little artizan knowledge, and thereby go to swell the overgrown city populations, which only make the Australian colonies, like tadpoles, all head, while the farmers are crying out for labour and cannot get it. I beg, therefore, to suggest that wherever new industrial establishments, reformatory schools, and the like shall be henceforward established, it shall be made a *sine quâ non* to have in contiguity to them a tract of land sufficiently large to answer not only as a model farm, but to neutralize a very large proportion of the costs of the establishment. The manner in which the children can be employed may be as follows:—After three hours' schooling, from 8 to 11, they can have an hour's play, and then dine. After dinner they can have an hour's indoor employment or amusement, and then should work from two to three hours in the field. The boys are perfectly able to dig the drains for thorough drainage. There should be a large dairy attached, for milk forms a chief part of the consumption, and while the boys can milk the cows the girls should make the butter and cheese. Both boys and girls should work in the gardens, which should be large enough to supply abundance of vegetables. Such a system would supply the establishment with milk, butter, cheese, and vegetables, and where there is an ample supply of these a great deal of the meat can be dispensed with; at least ninth-tenths of the people of Europe never touch meat, and are just as healthy as the Australians. In conclusion, I come to the subject of the applicability of such a plan to the introduction of new agricultural industries. There are very many

most valuable products which almost every one acknowledges to be valuable, such as hemp, flax, olives, mulberries, &c., but which are kept waiting for years solely on account of the dearness of labour. The agricultural training above recommended would supply this labour. Even a wealthy individual might reasonably object to risk and lose £500 in an experiment intended only for his country's benefit, but such a loss once in a way would not matter much to an establishment supported by the nation. This especially applies to the new industry with which I am best acquainted, and therefore naturally prefer to touch on, the cultivation of silk. The stumbling-block to Australia growing silk in immense quantities has been, and is, the utterly baseless belief that it requires an unusual quantity of specially trained labour. I call this idea utterly baseless, and so says Sir John Young at Sydney, whose practical experience as Governor of the Ionian Islands has been unusually large. He says: "It is a product which involves very little labour; it is committed to young people and to females; in fact the girls of the villages look upon silk as their own peculiar province, and as given them for their own profit and for their own dress. It only occupies 35 or 40 days' labour in the course of the year; and as it is carried on in buildings, it is not exposed to the climate in the same way that many other kinds of cultivation are." A production which occupies only 35 days in the year, and is worked by young girls, certainly should not be excluded from Australia on the score of dearness of labour. But at any rate, this does not apply to it when grown in industrial schools. An acre of land planted with mulberries, for which the month's occupation is supplied gratuitously, is worth permanently at least £50 per annum. Apply this on a large scale, and, combined with other similar resources, you not only create for these institutions constant lucrative endowments, relieving the Government of great expense, but train up a large number of the waste population to a certain knowledge of special employments, which they will ultimately diffuse up and down the length and breadth of Australia.

THE GAME BIRDS OF INDIA.

Read by H. E. WATTS, Esq., at a Meeting held June 22, 1864.

Of all countries there is none which, in my opinion, offers a more promising field for the labours of our Acclimatisation Society than our great Eastern dependency of India. This is pre-eminently the great market for animals in the Eastern world, from which we have to derive what supplies we require, to stock the comparatively scanty and barren lands of Australia. The facilities which already exist for the interchange of productions are greater than those between this continent and any other part of the world. The distance which separates us is comparatively a short one—the communication is frequent, easy, and regular. The steamers of the

Peninsular and Oriental Company have reduced the voyage to one month between Calcutta and Melbourne ; and the completion of the great Indian system of railways, now rapidly approaching, has practically made the hitherto almost unknown interior and the hilly country as accessible to us as the seaports. The enterprise and energy of our fellow-countrymen have been developing at a marvellous rate, all the splendid and various natural resources of this magnificent country ; and it may be said, indeed, that it is only in these last few years that we have really entered into possession of the noble heritage left to us by the valour and wisdom of our early Indian conquerors and statesmen. Possessed of almost every variety of climate and soil within her wide bounds, the peculiar value of India to this country lies in the fact that a large proportion of her territory bears a close analogy in soil and climate to Australia. The animals which are natural to this region may, therefore, fairly be presumed to be adapted to become denizens also of our continent. For the purposes of our present inquiry, India may be roughly divided into three principal climatic regions—the purely tropical districts of the south and the sea-coasts—the dry, temperate plains of the north and of the central table-land, and the region of snow and ice in the great mountain ranges which form the northern and eastern boundary of our empire. Within bounds so wide, India contains natural productions the most diverse and opposite—animals of the true tropical character, with others of pure alpine habit—the tiger and the elephant, as well as the chamois and the snow-grouse. Nay, sometimes, even under the same parallel, we shall find the most singular assemblage of varied natural forms—oaks, beeches, pines, and rhododendrons, on the hill tops ; the bamboo, the mango, and the banana, in the valleys—the degrees of elevation producing the same climatic effects as degrees of latitude in other countries. But it will be impossible, within the limits prescribed to me, that I should be able to give you even a sketch of the vast natural treasures of our Indian empire. I have to do, this evening, only with Indian birds, and among Indian birds, only with those of the gallinaceous order. Of all birds, these may claim to stand in the very first rank, both from their beauty of form and plumage, and their usefulness to man. They are also by far the most interesting to the acclimatiser, from the readiness with which they adapt themselves to changes of climate, and their capacity for domestication. Indeed, if the science of acclimatisation required any arguments in its defence, they would be sufficiently furnished in the examples of what man has done, at various times, with the birds of the gallinaceous order. The turkey and the domestic fowl are among the most precious trophies of acclimatisation. The pheasant, the capercaillie, and the ptarmigan, in the British Islands, are instances of the success with which the game-birds of one country may be trained to inhabit another. Nay, I need not go out of Victoria to find an illustration of the ease with which game-birds may be acclimatised. I am informed that on one

estate alone, their have been killed, in honourable sport, no fewer than *sixty* cock-pheasants during the present season. Who can doubt, indeed, the fitness of this colony to entertain within its bounds, and to naturalize on Australian ground, almost all the members of the great gallinaceous family? Nor is their any class of animals so easily acclimatised. We have only to remember what was the original country of our domestic cocks and hens, of our turkeys and pheasants, to be convinced that nearly all the birds of this family are capable of thriving even in a climate opposed to their natural one. With this, by way of preface, I will now proceed to make mention of such of the game-birds of India as I believe are most valuable to this country, either as objects of sport, for their qualities as food, or as interesting and beautiful ornaments of the silent and dreary Australian bush. I will begin with a bird which the verdict of all Indian sportsmen and epicures invariably places at the head of the game-birds of India: I mean the floriken, which is a kind of small and more elegant bustard, inhabiting the plains of India at the base of the Himalayas, with a tolerably wide distribution over the dry, sandy districts of the interior and the north-west. The floriken is a bird of shy habits, and would, perhaps, be difficult to cage, unless previously domesticated. But he is worth all the attention which the Acclimatisation Society can bestow upon him, and once introduced here, would certainly thrive in the same region with our native bustard or wild turkey. Of partridges, there are some half dozen different varieties in India, all of which are more or less desirable for this country. Each of the three great Indian regions has its special kinds; but for us, of course, the most valuable would be those which inhabit the dry plains of the interior, or the upland valleys of moderate elevation. Of these, the black partridge (of which there are two solitary males already in the Acclimatisation Society's collection) is perhaps the best bird for our purposes, being excellent for the table, hardy, and affording capital sport. The *chukore*, or red-leg partridge, whose habitat is a colder region than that of the black partridge, extending northward even to Cashmere, and the lower ranges of the Himalayas, is equally good for the table, but is, perhaps, less prized by the sportsman. The grey partridge of Bengal is comparatively worthless, and should be left alone. Of the other partridges proper, there are the two rarer varieties, which are only found at considerable elevations—the *curria*, which is of a rich chestnut brown colour; and the *lerwa*, or Nepal grouse, which is a splendid game-bird, and of delicious flavour. The two latter are inhabitants of a cold mountainous region, but would probably thrive in our Gipps Land ranges. There is also an Indian wood-partridge, which roosts on trees, and the Thibet partridge (*perdix Hodgsonii*), which would be the most difficult of all to procure. Among the birds not strictly belonging to the natural genus *perdix*, but which are vulgarly classed as partridges, I may mention the painted spur-fowl of

the Indian ghauts (*galla-perdix lunulosa*), which is very handsome, and of fine flavour. There is also its congener, the kokutree (*gallo-perdix spuliceus*). But by far the noblest of all the partridge kind is the *Kouk-durra*, or snow-partridge of the Himalayas (*tetrao-gallus Himalayensis*), which is five times the size of the common English bird, and of most exquisite flavour. Imagine a partridge as big as a turkey-hen! The *kouk-durra* is of a uniform sober grey colour, the feathers edged with reddish brown. It is not often met with by the Indian sportsman, being an inhabitant of the mountainous slopes of northern Cashmere, the Kohistan, and the higher levels of the Himalaya. It is, however, to be found in the valley of Koonawur, just behind our hill-sanatorium of Simla, where it might be procured with some little trouble. Mr. Vigne, the traveller, carried some of these noble partridges to England, and speaks of them as tolerably well able to endure the hardships of a sea voyage. Another of these giant partridges is *tetrao-gallus Caspius*, called by the Persians *kef-i-derra* or the royal partridge, which inhabits the mountainous region lying south of the Caspian, and eastward to Afghanistan. Of quails, there are several varieties in India, but it seems to me that there are none better than those of our own country. Some of the Indian varieties might be found, however, on trial, to have qualities which would make them a desirable importation for this colony. Of the rarer birds, which partake of the partridge and quail character, the Thibetan sand-grouse (*syrrhaptes Tibetanus*) might be introduced; as well as the *see-see*, or sand-partridge of Nepal and Persia (*ammo-perdix Bonhami*), which is said to be most excellent game. Of the francolins, there is the beautiful *Ithaginis cruentus*, or blood-coloured francolin, of the Nepal hills. There is also the Afghan bustard (*otis Macqueeni*) as well as *otis houbara*, both of which are declared to be exceedingly good for the table. These birds might probably be procurable *via* Kurrachee and Bombay. The so-called rock-pigeon of India, which is rather a kind of partridge (*Pterocles exustus* and *Pt. fasciatus*) is very common in all the dry, sandy districts of the interior. They afford good sport, and are excellent eating, and ought to be admirably well adapted for the warmer parts of this colony. Coming to the pheasant tribe, we find in the mountains of India some of the most beautiful of all the members of this beautiful and interesting family. If there is one bird more than another, indeed, which demands the immediate attention of the Acclimatisation Society, and which is worthy of all the expense and trouble we can bestow on it, it is the Himalayan pheasant, in all its many varieties. There is the *Khaleej* pheasant which has been lately introduced with success into England; the *pueras*, which is one of the most common about Almorah and the valley of the Doon; the brown Nepal pheasant, the Sylhet pheasant, three feet long, of a glossy velvet black colour—the *Muthoora*, or Chittagong pheasant, also of very large size. Of another genus are the *cheer* (*lophophorus Wallichii*); the *jewari*, or

western horned pheasant (*ceriornis melanocephalus*), found on the slopes of the north-western Himalayas, and easily domesticated. The Nepalese pueras is among the most beautiful of all. There is also the tragopan, or singular horned pheasant (*phasianus satyrus*), which is a most valuable and interesting creature, besides many varieties of *ceriornis*. But king of all pheasants, and by far the most gorgeous member of this family, is the famous *monal*, or Impeyan pheasant (*lophophorus Impeyanus*), whose name signifies the "bird of gold" in its native country. It is not possible by any description to convey any idea of the exquisite hues of this beautiful bird. Its colour is a dark purple, changing into green and gold. It is as big as a hen turkey, of most tender and delicate flesh, and easily domesticated. Unquestionably it is the most valuable of all the Hymalayan birds for the purposes of the acclimatiser, and I trust that it will not be long before our society is able to exhibit some specimens of it in the Royal Park. I have already exceeded my allotted bounds, and will say no more than to urge upon the immediate attention of the society the peculiar claims of the game-birds of India to be added to the scanty list of the game-birds of Australia. There is scarcely any of the birds I have here mentioned which could not be adapted to some part or other of this colony, and I believe that they are worth all the money which we can possibly expend in their introduction.

SOME ACCOUNT OF THE QUININE-YIELDING CHINCHONÆ.

Read by A. J. DUFFIELD, Esq., at a Meeting held July 19, 1864.

There is perhaps no drug which has rendered greater service to man than the febrifugal alkaloid known as quinine, or Peruvian bark; and among the many noble results of the art of acclimatisation may be reckoned that of transplanting chinchona, or quinine-yielding trees, from Peru to Java by the Dutch, and still more successfully to India by ourselves. Quinine is a word derived from the compound Quichua word "quina-quina," which signifies bark of bark; the word quina was corrupted by the Spaniards into china, which still retains its place among homeopaths, but in Peru it is now called casearilla, which also means bark. About two centuries and a half ago, when the name of Jesuit was suggestive of all that is chivalrous in apostolic Christianity, there lay stretched on a bed in a monastery at Malacotas, a district in Peru some 300 miles south of the equator, a member of that order suffering the terrible agonies of tertiana. Very likely the Jesuit father had cured many diseases, and healed many wounds of the Indians of that region, for Jesuits then were masters of many noble arts; and so when he needed help and sympathy in his misery it came in the form of gratitude from these people, who revealed to him the secret of this precious bark. A few years later, the Countess de Chinchona, the wife of the Viceroy of

Peru, lay sick of a fever in Lima, and there was sent, also from Malacotas, a parcel of quina-quina to the Countess's physician, with instructions for its use. It was prescribed for her, and the result was a perfect cure. In 1640 the Countess returned to Europe, carrying with her a quantity of this most precious remedy. Hence it came to be called Jesuits' bark by some, and Countess's bark or Countess's powder by others. It was the Countess who first introduced it to the Old World, and in her honour Linnæus named the genus which yields it, *chinchona*. The fame of it spread throughout the world; it performed miracles, and among them may be reckoned the planting of patristic Christianity in China. A century and a half ago there was hardly a province in China where a Catholic church did not exist—there was a church within the precincts of the Celestial palace itself—and all those churches may be said to have been built on Peruvian bark. The Emperor's life had been saved by it, and in gratitude to the French Jesuits who introduced it to China, the Emperor allowed them to build as many churches as they pleased throughout the empire. Of course, the usual difficulties arose against the new agent of such mighty cures. France, Spain, Rome, and England, united their noted medical men in its condemnation; and among the common people it was sufficient for the Protestant to deery a thing which the Jesuits patronized. After much angry disputation, and many experiments, the final discovery of quinine, and the completion of its chemical history, was made by the French chemists, Pelletier and Caventon, in 1820. Further discoveries were made nine years later by Pelletier, and the organic constituents of *chinchona* bark found to be—quina, *chinchonia*, *aricina*, *quinidia*, *chinchonidia*, quinic acid, tannic acid, kinovic acid, *chinchona* red, a yellow colouring matter, a green fatty matter, starch, gum, and lignin. I wish all the others had been as easily understood as the last two or three, but I am not responsible for those learned terms. I need not describe quinine, or say anything of its usefulness, or the multitude of circumstances under which it is applied. They are well known. The zone of the *chinchona* extends from 10 deg. N. to 17 deg. S. latitude, following the bend of the Andes, and describing a line of probably nearly 2000 miles. I have seen them at the sources of the Meta, about 8 deg. N.; also on the great Quindio ranges, and they have been specially observed at their extreme southern end by Mr. Markham, a young and ardent traveller, who was employed by the Indian Government to transplant them from their principal native regions to the Neilgherry hills. It is to Mr. Markham's report we are indebted for a minute and able description of these trees, and the localities where their most valuable species are to be found. They flourish in a cool and equable temperature, on the slopes and in the valleys and ravines of the mountains, never descending below an elevation of 2,500ft., and ascending as high as 9000 ft. above the sea level. The *chinchonas*, when in good soil and under favourable circumstances, become large forest trees—at the

upper limit they become mere shrubs. The leaves are of every variety of shape and size ; the flowers are small, and hang in clusters, like lilacs, generally of a deep rose colour, but those of the species *mierantha* are entirely white, and they are most deliciously fragrant. The species of *chinchona* are numerous, probably about 20, but there are only some five which yield the bark of commerce. These, to call them by their English names, are the red, the crown, the earthagena, the grey, and the yellow bark ; and they are found in five distinct regions of South America. Humboldt tells us in his *Aspects of Nature* that they grow on mica, slate, and gneiss, from 6 to 8000 ft. above the level of the sea, with a mean temperature between 60 deg. and 65 deg. Fah. He has seen them grow to a height of from 53 ft. to 64 ft., and these young trees, not more than 18 in. in circumference. "This beautiful tree," he says, "is adorned with leaves above 5 in. long, and 2 in. broad, growing in dense forests, and seems always to aspire to rise above its neighbours." One cannot help thinking that it has the power of selecting its associates, for it is always found in close proximity to the groined arches of the fern tree, the graceful traceries of the arborescent passion flowers, and the allied genera of these which form the splendid architecture of the eternal forest. A century and a half after its introduction to Europe, so great had been the destruction of these trees by the bark cutters, that fears were then entertained of their complete destruction, and these fears were but too well grounded, for some of the species are now very rare, and the most valuable of all may be said to be extinct. This is owing to the reckless manner of collecting the bark, which is stripped from the tree, and the tree being left standing, of course it soon perishes altogether. In some districts the Government is able to prevent this wholesale slaughter, by compelling the *cascailleros* to fell the tree after stripping it ; this secures its reproduction ; but I believe the greater portion of bark exported from Peru and Bolivia, particularly the latter, and which is the better of the two, is stripped from trees left standing and to perish. It was partly owing to this consideration, and the desire to place the inestimable remedy in the hands of the millions who live in fever-infested regions, that as early as 1839 it was pressed on the English Government by Dr. Royle to plant the *Neilgherries* with quinine-bearing trees, and by Dr. Weddell, who accompanied the scientific expedition of the Count de Castelnau, and to whom alone we owe our knowledge of the *chinchonæ* of Upper Peru and Bolivia, who urged the introduction of these plants into the French colonies. Ten years ago the Dutch began their *chinchona* plantations in Batavia, and have now some 10,000 plants. Nearly 25 years elapsed before the Indian Government took any effectual means to carry out the great benevolent idea of Dr. Royle, and then it was that Lieutenant Markham was sent to South America to collect *chinchona* seeds and slips, and carry them to India. This he did in 1860, and the total number of healthy plants conveyed by him and planted in 1862 was 13,700. But

before that, in 1854, the Indian Government had begged from the Java plantations some of their cuttings, which were most liberally given. Owing to the superiority of climate, the Indian Government up to 1862 had succeeded seven times better than the Dutch, and in that year there were actually planted out on the Neilgherry Hills more than 72,000 plants of 11 different species of this invaluable tree. Unfortunately, the principal part of the Dutch plantation is useless, being formed of the worthless species of the *C. Pahudiana*; but they are remedying their mistakes, and making great progress. Chinchona cultivation is also fairly started in Ceylon, and I have no doubt that in process of time a plantation of 150 acres of the chinchona there will be more profitable than one double the size of coffee. Thus, while three or four earnest, but high-minded men, have toiled and passed through the troubles of hunger and thirst, the sword and nakedness, and the perils of the sea, to do a work which only the law of their own natures imposed upon them, and the reward for which is only what some esteem as empty fame—the world has been blessed, some of its useless soil made fruitful, its naked hills made to laugh and sing, and myriads of men and women, whose lot of life is to labour in fever-smitten swamps, are provided with a power to defeat an insidious enemy which rests not till it has them in the grasp of an agonizing death. These are some of the triumphs of the art of acclimatisation, which give lustre to its labours, and might and dignity to its name.

ENGLAND'S DEBT TO ACCLIMATISERS.

Read by JAMES SMITH, Esq., at a Meeting held July 19, 1864.

I think it may not be unserviceable to remind those who regard acclimatisation as the new-fangled hobby of a few crochety enthusiasts, that it has been practised in England for a period of 1200 years—dating from the time at which the first wheat was sown in her soil—and that, up to the commencement of the sixteenth century, at which period great efforts seem to have been made for the introduction of exotic flowers, fruits, and vegetables, the mother country was singularly destitute of all these; her population subsisting, as some of the early settlers of this colony did, upon beef, mutton, and damper. Indeed, there is a striking similarity between the condition of England in the dawn of her civilization and that of Australia at the present time. She was both a pastoral and a gold-producing country; and her exports consisted of gold, silver, tin, copper, wool, and horses. Not to pursue this parallel further, however, I will at once proceed to point out what acclimatisation has done for England in regard to fruits, flowers, and esculents. The very rose which we adopt as a national emblem, and profess to consider so purely English, is an alien, and was brought over from France, Flanders, and Italy. The honeysuckle which garlands the hedgerows and overruns the

porch of the peasant, came originally from North America ; while the lavender which the farmer's wife deposits among her snow-white napery in the household linen-chest, is a native of the south of Europe. So, too, are the rosemary, the mignonette, the lily, and the pink. English shrubberies are indebted to Hungary for the "golden tresses" of the laburnum, to Portugal for the laurel, to Italy for the bay tree, and to the Levant for the weeping willow. The common daffodil, "that comes before the swallows' dare," is of Italian lineage, the wild foxglove is a denizen of the Canary Isles, and the passion-flower, with its sacred symbols, is a native of South America. In fact, if you were to strip our English flower gardens, green lanes, woods, and meadows of their exotic decorations, you would rob them of half their beauty, and English descriptive poetry of half its charm. To the best of my belief, England does not possess so much as one indigenous vegetable; and, until the time of the Tudors, what little garden stuff her searbutic population did consume was imported from the Netherlands. You may remember that Shakspeare makes Sir Andrew Aguecheek account for the dulness of his mind by observing, "I am a great eater of beef, and I believe that does harm to my wit;" and, in the absence of any succulent vegetables, his excessive consumption of animal food is not at all surprising. Nor, considering their very restricted range of diet, can we feel much surprise at Queen Elizabeth's robust maids of honour making such heavy meals of bread, beef, and beer, as they are reported to have done. About this time, however, it seems to have occurred to our beef-eating, beer-bemused, and slow-witted fore-fathers, that it would be cheaper to import garden seeds than vegetables, and more wholesome to eat newly-cut cabbages, than to feed upon such half-rotten garbage as was brought over from Holland, in the holds of broad-bottomed and slow-sailing luggers; and having once opened their minds to this conviction, they began to cast their eyes over the four quarters of the world in search of vegetables. So, in course of time, they procured brocoli, beans, and cauliflowers from Greece; peas from Spain; carrots and celery from Flanders; asparagus and kidney beans from Asia; lettuce, artichokes, and cabbage from Holland; parsley from Egypt; and potatoes from South America; and thenceforth the kitchen garden formed as indispensable an appurtenance to the mansion and the manor-house as the pleasure, the buttery-hatch, or the bowling-green. Of indigenous fruits, also, Old England was lamentably destitute. All she could boast of was a few crude berries, growing wild upon brambles; for I am doubtful whether even the crab was native to her soil. Most of the fruits which now flourish in her gardens, hot-houses, and orchards (none of which fruits, by the way, are said, upon the authority of Mr. Hawthorne, to be comparable in flavour with an American turnip), were introduced between the years 1520 and 1600. Italy sent her the mulberry; Syria the apple and the plum; Portugal the grape; Persia the nectarine and peach; Flanders the gooseberry, the finer descriptions of cherry, and the strawberry; Greece the currant and the apricot; Austria the

quinee ; Spain the pomegranate, and the "oranges and lemons," so popularly associated with "the bells of St. Clement's ;" and North America the raspberry and the walnut. It was early in the same century, too, that England borrowed from the Netherlands, and planted in her southern counties, the most beautiful, and, withal, the most useful, of all creepers—the hop plant. Imagine the condition of the people of England without bitter beer !—and without the means of brewing it, unless by the employment of obnoxious and unpalatable drugs ! The beverage which has immortalized the names of Bass and Allsop, which has been the means of strewing the summit of the Rhigi and the slopes of the Pyramids with the vitreous evidences of John Bull's ubiquity ; which has made the tropical heat of an East Indian summer endurable ; which has imparted its own briskness and sparkle to Australian picnics ; and which has given Englishmen of the nineteenth century the new sensation which Xerxes ineffectually sighed for—this beverage, I say, is one of the fruits of acclimatisation, and must be taken credit for accordingly. Fully to appreciate what this beneficent agency has accomplished for the mother country, we have only to picture one of her counties denuded of every natural feature which has been borrowed from abroad. Take the county of Kent, for example, and obliterate from its surface those lovely hop gardens, with their "long-drawn aisles" overrun with a living tracery of green and gold ; those leafy orchards, glowing with their ruddy fruitage ; those rippling fields of yellowing wheat ; those picturesque hedge rows of hazel ; those stately gardens at Knowle, Cobham, and Penshurst ; those echequered masses of colour which beautify every cottager's patch of homely flowers ; and the face of the country would be not merely transformed, but deformed. It would be as unlike the Kent of to-day as a noble fresco would be unlike its former self, after having received a thin coat of whitewash. I leave to other and to abler hands the task of showing what acclimatisation has done for England in so far as the animal kingdom is concerned ; for the subject is a wide one, and is entitled to more skilful treatment than I am qualified to bestow upon it. I have confined my attention to one particular only ; and I have selected this theme because it appears to me that we ought to derive encouragement here, from the knowledge of what our forefathers accomplished elsewhere, under circumstances especially unfavourable to the work ; for I need not remind you, that in the sixteenth century the means of communication between the different countries of the world were few in number, tedious in operation, and liable to all sorts of obstructions. The timid scruples, sordid suspicions, and jealous fears of one nation, frequently prohibited or impeded the exportation of such seeds or plants as were likely to prove beneficial to another ; and all foreigners were looked upon as hateful rivals or natural enemies, whom it was lawful to defraud in time of peace, and to plunder and pauperize in time of war. If the stupid and barbarous policy is not wholly exploded, it is, at any rate,

discouraged by the more enlightened citizens of the more civilized nations of the world in our time ; and hence the work of acclimatisation is comparatively easy, and a gratifying reciprocity of feeling and effort is exhibited by its friends, in different countries. In applying ourselves to the work in this colony, we may be animated by such a retrospective glance as that which I have taken at what has been effected in this way, with a view to multiply the means of subsistence and the modes of enjoyment, as well as to augment the attractiveness of the natural scenery and the charms of social life, in England. Coming into the inheritance of these things, both as a matter of custom and right, as such of us did who were born there, we are very apt to take it for granted that they existed from time immemorial, and to think no more of them than we do of the common blessings of light and air. But when we find, upon inquiry and reflection, that the energy, the enterprise, and the forethought of acclimatisers in the sixteenth century mainly contributed to make England the picturesquc garden which it is in the nineteenth, we may not unreasonably ask ourselves whether it is not in our power to confer similar obligations upon those who are to come after us in Australia. When we are invited to make some little sacrifices of time and money for posterity, we should reject as a malignant insult the sneering rejoinder of "What has posterity done for us?" The question which each generation has to propose to itself under such circumstances is this, What have preceding generations done for our own? And if any man will deliberately sit down and compute the sum of his obligations—the magnificence of the inheritance he enjoys—the legacy bequeathed to him in art, literature, and science by the illustrious dead ;—if he will take into account the inventions which have virtually trebled the term of his existence—which have multiplied his delights and mitigated his sufferings—which have given the day labourer of to-day the command of comforts and enjoyments inaccessible to the most powerful monarchs two centuries ago—which have made life infinitely happier and more beautiful for all, than it was formerly possible to be to the most favoured children of fortune— if he will honestly calculate this debt, "the long result of time," he will be startled by its magnitude, and will feel that nothing but the basest ingratitude or the most degrading selfishness could influence him in refusing to bestow upon posterity the slender pittance it may be in his power to offer, not in requital, but in acknowledgement, of what he owes to those who have departed "to join the majority."

THE CULTIVATION OF THE MULBERRY.

Read by A. MARTELLI, Esq., at a Meeting held September 15, 1864.

“From a ploughed field is not only springing up wheat, but the entire civilization of a country.”—LAMARTINE.

Mr. President, Ladies, and Gentlemen,—I would crave your indulgence and attention to this paper on the cultivation of the mulberry, as it is one of great importance to the future welfare of the colony. In support of this remark I may mention that in two provinces of Northern Italy, viz., Piedmont and Lombardy, with an area of about twenty-five millions of acres, that after supplying the home market, the annual value of raw silk and cocoons exported amounts to upwards of six millions sterling. It will be no exaggeration to foresee that Victoria, with a surface of sixty millions of acres, a soil and climate better adapted if anything than that of the North of Italy for the production of Silk, will be in a position, in a few years, with a properly directed movement, to export more than twelve millions worth of silk and cocoons annually. The obstacle to this great success is however not confined to silk alone. The great evil of all countries is the listlessness that pervades the monied classes in all matters relating to agricultural interests, and it is against this apathy that we should endeavour to fight, by setting an example of activity to the poorer classes of the community, and by raising up an intelligent body of men fitted to carry out the projects designed for the furtherance of the cultivation of the soil. Complaint is useless where work is necessary to build up the future greatness of a country. Give a just direction to agricultural progress, specially by promoting the more industrious cultures, amongst which that of silk may be considered as one of the greatest sources of riches to a country, by the large returns on the distribution of a comparatively small capital amongst the labouring classes, and you will have been worthily assisting in the great work of the erection of the edifice of social happiness and well-being. It will now be necessary to bring under your notice some principles of vegetable physiology, in order that we may draw deductions from them for the practical cultivation of the mulberry. Every tree that grows draws the elements of its existence from the decomposition of mineral and organic substances, by the action of the atmosphere and the dampness of the soil in which it is planted. This is done not only by the exterior roots, but also by the leaves and the skin of the younger branches, Nature beneficently providing the trunk of the tree with a thicker skin to withstand the rigour of the elements. There exists such harmony in the provisions for the growth of trees, that the leaves and roots are working simultaneously in the absorption of the principles necessary for the perfection of their vegetation. Those principles materially aid in the circulation of the sap, which is very rapid in the summer and under favourable circumstances, but it is nearly suspended during the winter months, and the powers of the tree recruited and strengthened for the pro-

duction of vegetation during the next season. There are two saps continually ascending and descending. The ascending saps pass through the wood and give nutriment to the branches and leaves, and the descending ones pass through the skin to the roots, and produce new wood from season to season as the tree grows older. The preservation of the leaves is not so necessary to the existence of a tree as its roots, as from these it derives its principal support and nourishment; it will therefore be gathered from these remarks, that it is impossible to propagate mulberry trees for silk culture by cuttings, but that they must be raised naturally from seeds in order that perfect roots may be formed for the sustenance of the tree in the future periods of its existence, and when it shall be necessary to gather its leaves for the education of the precious worm. As the grand object of the cultivation of the mulberry tree is to fit it for the production of leaves in the least possible time, nothing must be neglected by its cultivator to attain that object, not so much by the expenditure of a large amount of capital as an assiduous study of the necessities of the plant, as no tree in the world yields so large a return to its propagator as this one. The good quality of the ground is certainly of great importance to the prosperity of the tree; but the judicious pruning and training of its branches is of far greater moment, and the excuse of the bad cultivator as to the indifferent quality of the soil only tends to betray his ignorance of the art of cultivating the mulberry. The time for pruning and training the branches greatly depends on the climate and the situation in which the trees are placed. From great experience in the cultivation of the mulberry, I am convinced that the establishment of plantations of these trees will yield large returns, and be of great benefit not only to the agriculturist but to the whole community. The demand for silk produced from the worms fed upon the leaves of the mulberry is always increasing, and I cannot foresee any but the most beneficial results in its general adoption in this country. In the composition of the leaves of the mulberry tree there are five different substances, viz., solid or fibrous, colouring matter, water, and saccharine and resinous or silky matters. The three first substances are not absolutely necessary for the life of the silk-worm. The saccharine matter nourishes and aids in the formation of the animal, and the resinous matter imbibed by the worm from the leaves is accumulated and purified by its peculiar organisation, and collected in the two reservoirs of the worm, to be discharged afterwards through its mouth in the form of silk. The yield of silk will be found in accordance with the presence of more or less of the saccharine and resinous matters in the leaves on which the worm is fed. For instance, the silk produced by the leaves of the black mulberry, which are hard, rough and tenacious, and which was the principal food of worms in the warm countries of Europe, (such as Greece, Spain, Sicily, Calabria, &c.,) is abundant, the thread strong, but very coarse. The worms fed on leaves of the white

mulberry (which has been planted on elevated situations and exposed to a dry wind) produce abundance of silk, strong, very pure, and of very fine quality. It is almost unnecessary to state that the less nutriment there is in the leaves the greater will be the quantity required to perfectly develop the worm. The result is that the worm that is fed on leaves which possess great nutritive power will grow large, and produce less silk than that which is fed on those containing a large amount of resinous matter, although not attaining the same size, as the former is liable to become sick, and its productive powers put out of order. Of the white mulberry there are many varieties, but of these the following 16 are in general use in Italy for grafting stocks, viz. :—1. *A foglie nervose* ; 2. *Bathiany* ; 3. *Columbassa* ; 4. *Flava* ; 5. *Giazzola a foglia doppia* ; 6. *Integrifolia* ; 7. *Latifolia* ; 8. *Macrophylla* : 9. *Macrophylla grisea* ; 10. *Mascula pedemontana* ; 11. *Ovalifolia fructibus albidis* ; 12. *Piramidale* ; 13. *Roseo di Lombardia* ; 14. *Rosca lavigata* ; 15. *Rouillardi* ; 16. *Vainissi*. For sowing, two are principally used, viz., *Morrettiana* and *commun alba*. Of those used for grafting the three most generally in favour are the *Giazzola a foglia doppia*, *Mascula pedemontana*, and the *Roseo di Lombardia*, as being more rich in saccharine and resinous matters, and containing less water, &c., than the others. From experiments made with 100 oz. of the fresh gathered leaves of each of these varieties, the yield after being properly dried was found as follows : *Roseo di Lombardia*, 30 oz. ; *Giazzola a foglia doppia*, 31 oz. ; and *Mascula pedemontana*, 36 oz. Another variety of mulberry, the *Multicaulis*, that was imported from the Island of Luzon, is also very much used for the early education of the silk-worm, but owing to its large leaves it is not adapted to all climates, although it is a splendid stock to graft on any other variety, and well fitted for the formation of hedges, and is excellent food for the very young worms. Having called attention to the physiological principles and different varieties of the white mulberry in greatest repute, I shall endeavour to give directions towards making plantations of this valuable tree. First—With respect to the selection of the ground. A spot of ground should be selected in a situation sheltered from the south wind, dug to the depth of 18 in., and afterwards mixed with a little stable manure, and the surface made perfectly level. Secondly—With regard to the method of sowing the mulberry. The best time for sowing in this climate will be found between the middle of March and the middle of May. The objection I have to spring sowing in the case of the mulberry is the long drought and prevalent hot winds of the Australian summer, which would require a vast amount of attention and diligence in watering the seedlings. The winter rains, on the contrary, may be easily prevented from injuring the young plants by covering them with straw ; but the choice of season is a matter which may very safely be left to the intelligence of the farmer. A suitable spot being fixed upon and prepared for the reception of the seed, the surface of it should be laid out in beds

about 3 ft. wide, sufficient space being left between each for the passage of a man. The seed should be steeped in water for about 24 hours before sowing, to accelerate its tendency to germinate, and afterwards well mixed with about one-third part of dry sand. This mixture is then to be sown broadcast over the beds, the earth carefully raked over it, and gently patted down with the back of a spade. If the soil is rather hard, a little cut straw sprinkled over it will tend to remedy this defect. If the season is wet with cold nights, it will be found beneficial to prepare a blanket or canvas to be thrown over the ground already sown, supported by pegs, to protect the seeds and young plants from the inclemency of the weather. In the absence of rain, they must be watered with a hand watering-can; and in the event of too much rain, protected with straw or in the manner above stated. As a matter of course, no weeds must be allowed to remain in the beds. Thirdly—The mode of transplanting. The young plants after attaining an age of from 18 to 24 months, may be transplanted to a proper nursery, or in ground prepared for the formation of hedges, according to the following directions. For the nursery it will be necessary to cut longitudinal trenches 15 in. deep by 15 in. wide. The bottom of the trenches should be covered with dead branches to the depth of 2 in. or 3 in., and afterwards filled in with earth nearly to the level of the former surface, for the reception of the roots of the young plants. These plants have generally a fusiform root from which a piece of about 2 in. must be cut off. The plants so prepared should be laid on the surface of the ground in the trench in such a fashion that their upper portions should be supported by the unbroken ground, and the lower portion covered in with some of the earth taken from the trench, which must be slightly compressed with the hand; on this should be placed a layer of stable manure, and finally the remaining portion of the earth taken out of the trench. After the young plants have been set according to these directions, the tops of them should be cut to within six inches of the ground, for the purpose of increasing the strength of the young plant. All the suckers springing up from the plant must be removed except the two strongest, which should be left for the purpose of giving support to the foot of the tree, and when they have gained sufficient strength they should be banked up with earth all round. The distance at which the plants are to be set should be in accordance with the fertility of the soil, but they may be set at a general average of 3 ft. from the lines and 15 in. from each other. No care, trouble, or expense must be spared to keep the ground well moved round the foot of the mulberry, in order to maintain the humidity of the soil so necessary for the production of the vegetation of the tree. Most cultivators are aware that loose earth will retain its natural moisture for a longer period than that which is compressed; it would therefore, be advantageous to the growth of the tree to move the surface of the earth with a rake, in order that the rays of the sun might penetrate to its roots. Heat and humidity are the most

effectual natural agents in the rapid development of vegetation, more especially with regard to the mulberry, which is indigenous to warm climates. In seasons of drought it will be necessary to irrigate the ground along the trenches, and a few days afterwards to rake it over to admit the penetration of the heat, which had been nearly destroyed by the previous irrigation, because the evaporation of the water is creating cold. These directions may perhaps appear minute to persons unacquainted with the great importance of the matter, but I consider they are essential to the successful rearing of the young plants, and if they grow well and prosperous the first year they will be fit to be grafted in the second, and the graft will usually spring up a young tree in the course of the next season. I would not trespass on your patience by extending this paper to any greater length; I shall therefore reserve my remarks on the formation of hedges, the education of the trees, and the rules necessary for pruning, &c., for the next paper that I shall have the honour to bring before you on this subject.

THE FISHERIES OF VICTORIA.

Read by G. S. LANG, Esq., at a Meeting held September 15, 1864.

The object of my present paper is to show how, and how far, our fisheries may be elevated into one of the great industries of the colony. I shall commence simply by a few remarks on the present fish supply of Melbourne.

BAY-FISHING.

From the information already collected as to a very limited portion of the coasts and seas within easy reach of Melbourne, it is established that the supply of fish is practically unlimited. In Port Philip Bay there is an area of over 700 square miles, with coast line of about 130 miles, well supplied with fish; and in Western Port Bay about 300 square miles, one immense fishing-ground, and still more plentifully supplied with better fish, and with a coast line of 120 miles, including French and Philip Islands. Both bays are landlocked, and in every way favourable for fishing. The following are the descriptions of fish found in these bays:—Schnapper, from 2lb. to 20lb., and even 30lb.; roek-eod, flathead, garfish, whiting, silver-fish, mullet, gurnet, ling, perch, mackarel, butter-fish, 10lb. to 20lb.; salmon-trout, white salmon, bream, plaice, flounders and king-fish, also crayfish, shrimps, and oysters. It is very difficult to form even a near approximation to the number of boats and men engaged in fishing. There are 316 licences issued for tents and huts for fishing, and allowing only one boat for each licence, and two and

a-half men for each boat, this will give 790 men. There are thus, it appears, almost at our doors an unlimited supply of fish, plenty of men and boats to catch them, and a large population anxious to purchase; yet the public cannot be supplied except at enormous prices, while the fishermen often cannot sell their fish at all, and then at prices they can barely exist upon. The reason is, that the fishermen have no capital beyond their boats and nets, and are at the mercy of one or two middlemen who keep the trade in their own hands, and fix their own price. If another buyer interferes, they raise the price till he is forced to retire, and then at once lower it to the old scale, tabooing any refractory fisherman, and not buying from him at all, while he is unable to take his fish to Melbourne, and most probably would not find a purchaser if he did. Capital will, no doubt, remedy this to a very great extent in time; but fishermen as a body, are always poor (perhaps because men cease to be fishermen when they rise above poverty), and a remedy that will protect them without preventing the introduction of capital, should be at once applied, and render unnecessary such an association as they have formed, with rules as unnecessarily severe as those of the ancient guilds—enough to destroy any industry. The first step is to establish a fish-market, not only with retail stalls, but with licensed salesmen, conducting business in the same way as at Billingsgate, to whom any boat can safely consign its fish; and there is little doubt that the salesmen would find it their interest to combine with the poorer fishermen in removing the present difficulty, by establishing conveyances for their fish, even if coaches were not laid on for the profit of the carriage, which they most probably would be. It would also be a great boon to the fishermen if certain portions of land in suitable localities were marked off as fishery reserves, and fishermen were allowed to purchase, at a fixed price, sufficient for a house, garden, and nets, after occupying it a certain time, say two years. The land would seldom be of much value for any other purpose, and it would benefit the public most materially, by encouraging men with families to establish themselves permanently as fishermen.

DEEP-SEA FISHING.

The colony will never have anything approaching the full advantage of our fishery resources until capital is applied on a large scale to the deep-sea fishing; and that will be only when the fishing-ground is proved of sufficient extent and there are sufficient capitalists whom the investment would suit. First, the Fishing-grounds.—Besides the Western Port and Port Philip bays, where an ample supply is to be had during the summer months, there are fishing-grounds outside which will yield not only an equally ample supply during the winter months, when fish generally leave the bays for deep water, but supply for an extensive export trade. Besides the snapper fishing at Queenscliff, which now yields during the summer about 250 tons of

schnapper alone, there is a bank outside where they can be caught at all times of the year. There is also one immense bank extending S. and E. from the eastern entrance of Western Port swarming with schnapper, rock-cod, and other fine fish, that would of itself, even as far as now known, supply a large fishery. It has been ascertained that the banks extending to the eastward of King's Island, Rabbit Island, and Corner Inlet, besides soles, butter-fish, jew-fish, and others, abound in flounders of large size and of the finest quality; and as the Straits average less than forty-five fathoms, and with much sand and shell bottom, most favourable for trawling, we only require proper boats to give us as ample a supply in winter as in summer. In a strait between such rocky coasts as this and Van Diemen's land, with islands cropping up in every direction, there must be extensive areas of rocky and broken ground below water, giving both food and shelter, and forming banks for winter fishing as richly stocked as that to the eastward of Western Port. In the Straits the kingfish and barracouta are in large shoals, and might be caught in quantities infinitely greater than at present. Again, on the south and east of Van Diemen's Land there is a bank covered by the waters of the cold Southern Ocean, cold enough for the finest quality of fish, with which it swarms, and of sufficient extent to supply all the Australian colonies over and over again. This bank is known to extend from twenty-five to thirty miles from the end of Maria Island to Tasman's Peninsula—how much further is unknown. It abounds with trumpeter, running up to sixty and eighty pounds; arbonca, also a large fish, rock-cod, schnappers, flounders, and many other fish of fine quality. This bank is as near Melbourne as the banks that supply London with fresh cod, and traversed by every steamer passing between Hobart Town and Melbourne, so that it is almost as much a Melbourne as a Hobart Town fishing-ground. We have, in fact, sufficient data to prove that the deep waters off the coast are teeming with life. Fish have been found everywhere; and the entire bottom, where sounded, is mixed with shells and seaweed, and where the food is the months will be there to eat it. How universally animal life is disseminated in these seas was proved by the wreck of a French whaler, which came ashore to the east and west of Portland in 1848. She left Adelaide to fill up, and was never heard of for years, when she came ashore in pieces, the wood exposed to the water being covered deeply with muscles, &c., while the broken parts were perfectly fresh, showing that she had lain in still water till moved by some current or very deep commotion of the water, on to ground within reach of the surface waves. There is, in fact, every reason to believe that we have under the waters as extensive a field for the profitable exertion of our energies as we have on the land, though hitherto left as utterly useless and unprofitable as were our pastures before a white man trod upon them. Second, the Capitalists.—These will be of two descriptions—first, individuals or companies with consider-

able capital, say £3,000 and upwards, who will have one or more stations ashore, with every appliance for curing as well as fishing; and second, single fishing vessels, which will confine themselves to fishing, selling their fish as far as possible in the Melbourne market, and the remainder to the curers, unless when they can cure on board. The body of the fishing fleet will consist of such single vessels, fitted out by a few individuals, as in the Newfoundland and Scotch fisheries. The cost of a thirty-ton vessel with trawl, well, &c., would be about £400 or £500, and there are many in this community whom such an investment would suit—men in various capacities, who have accumulated money beyond the requirements of their business, which they have now great difficulty in investing profitably. Mining has proved too much of a lottery for most prudent men; agriculture requires personal superintendence, and has generally proved ruinous at least to those not brought up to it; squatting requires too much capital; ordinary shares giving too small a profit. Whereas, a sound fishing-smack, fitted out by a few partners under the Limited Liability Act, insured, and under a skilful master, part owner, would be not only a safe but a profitable investment. Second, the pioneers in establishing a national deep-sea fishery must encounter considerable risk and many difficulties, so that a company such as I have alluded to, and such as is now actually being formed, would be much more suitable for the enterprise than one individual. As this preliminary loss was incurred by me twenty years ago, I shall give the result of my dearly-bought experience for the benefit of these second pioneers. On arriving here in 1841, I had been struck by the fact that there was no article to exchange for the enormous quantities of sugar, tea, and rice, &c., imported from the East; and, further, I learned that the East India Company had for years found a most profitable market for a large quantity of Newfoundland cod, in Mauritius, India, China, and the Phillipines, &c., and had given up the trade only on account of the very long voyage then usual, during which the fish became unsaleable. Having partners to manage my sheep stations, I determined to establish a deep-sea fishery, and addressed a memorial to Lieutenant-Governor La Trobe, pointing out these facts, and the advantages that would arise to the colony. The Government almost at once granted me a squatting licence at the mouth of the Yarra, where I established what I intended should be my head station. I set to work with a body of Scotch Highland fishermen and curers, and, before the season ended, proved to my satisfaction that the supply of schnapper was unlimited, and so cheaply cured that a most extensive and profitable export to the places above-mentioned could be established. The men then offered to hire the boats, and fish for the Melbourne market during the winter, and I agreed, for the sake of keeping them together; but this at once brought them into collision with the other fishermen, and led to my giving up the scheme altogether. These men did not object to the deep-sea fishing, but declared that no gentleman or company had any right to interfere

in supplying Melbourne, and refused to supply any hawker who bought from the "company's" boats, and as my boats could not guarantee a constant supply, my men were stopped. To meet this I established a depôt in Melbourne, and put one of their own countrymen to manage it, but instead of confining himself to his own business, when he did very well he turned it into a general store. On my return from a long exploring voyage I found everything paralyzed; a regular war by the fishermen generally against my men, burning and cutting nets, setting boats adrift, &c.; the men were so interrupted that they demanded daily wages, and the hawkers demanded to be guaranteed a supply, while considerable liabilities had been incurred in the store, and its contents distributed on credit to all the Highlanders in Melbourne. The crisis of 1843 coming, I wound up the fishery and went to the bush, but not before I had ascertained to my perfect satisfaction that there was an opening for a great national fishery. I would suggest that this pioneer fishing company should establish at first, not ten, as they propose, but two stations—one at Queenscliff and the other at the eastern entrance of Western Port or near it; each, of course, supplied with row boats, seines, set nets, drift nets, crab pots, &c.; also appliances for salting, drying, and smoking, and in due time preserving fish in tins—the modern substitute for salting. Each station should have one, or perhaps two, trawling cutters, or, rather, fore-and-aft schooners, as being more easily handled, and first-rate sea-boats, so as to hold their own in any weather. They would thus be able to employ their men in almost any weather, in any wind, and at all seasons, either inside or outside the Heads, and, in case of a large take, could always secure the surplus. In the schnapper fishing, alone, they would have a stand-bye that would secure them a profit; the hawkers and salesmen now object to this fish on account of its weight in proportion to the profit upon it, and only the smaller sizes are acceptable. Now these are not suitable for salting, but a company could keep the curers and preservers in tins going with the large fish, sending the smaller to Melbourne with the general take; in the same way, when the cutter is not trawling she can lay-to on the banks and fill herself with schnapper and rock-cod, either to cure on board or preserve on shore, besides keeping the men employed in the winter when fish have left the bay for the deep water. They should strictly confine themselves to their own particular business on the sea and the beach; they must certainly establish a means of rapid communication with the railway, but even that they should do by contract, if there is no public conveyance; sell the fresh fish in the public market, and the rest through an agent, until the business is in full working order, when they may extend it as they please, and more particularly and legitimately by curing the fish caught by other boats. Let them be content at first with plain bush buildings; they are cheap, and will serve for years. Companies generally neglect their men; it is a great mistake in any business, but more particularly in a fishery, as it is

of vital importance to retain men acquainted with the fishing grounds, tides, and currents. House them comfortably, and give them the best of rations. Give the single men a comfortable barrack, with a cook to look after it, so that they may always be certain of a comfortable meal and dry clothes on coming ashore; they will thus secure the willing services of the best men to be had. A company so begun and prudently conducted will, I have no doubt, not only prove most profitable to the parties engaged but to the colony generally.

It is not the business of the Government to force this or any other industry into existence, but as the fishing grounds are at our doors, most bounteously stocked by nature, while there are both capital and men ready to be employed upon them, it is the legitimate province of the Governments of Victoria and Tasmania to clear the way by a survey of the coasts and straits. Private individuals cannot be expected to spend their capital in making discoveries which at once become public property, as fishing banks inevitably do. Where labour is so high it is of great importance to have the men constantly employed, but until the different banks are laid down they cannot be so. The trawlers cannot work in anything like a heavy sea, but if they knew of a bank in their neighbourhood they could, with the deep-sea line, as long as the vessel could hold her own, actually fill the vessel instead of lying-to idle. The survey of the bank off Tasman's Peninsula alone would well repay the expense of employing a sixty-ton vessel, which would be quite sufficient. There is no doubt that most of the fish come into the bays in summer to spawn, and it is most desirable that both Governments should strictly enforce a close time, and regulate the size of the mesh in all nets, trawlers included, as the wanton destruction now is most sinful.

I hope when the Society has the means that the Council will turn their attention to the introduction of the cod and the herring. Lieut. Maury, in his "Physical Geography of the Ocean," mentions that on the portion of the southern states of America touched by the Gulf stream on its way northwards, the fish are of bright colour but poor quality, and that these southern states are supplied by rail from the states further north, whose coasts are washed by the cold current which flows south from the Arctic Ocean inside of the Gulf stream. It appears from Maury's chart of these seas (No. IX. Sea-drift and Whales) that the whole of the south coast of New Holland is bathed by the waters of the cold Antarctic, so that fish of the finest kind will retain their good qualities. The cod is not only a good fish of itself, superior to any of ours, but the salt-fish of commerce, and if established in these seas, would greatly facilitate the formation of an export trade, and, I think, quite as worthy of attention as the salmon. The roe is so exceedingly minute, that more than nine millions have been counted in one fish; being so fine, it would be laid among the moss in pieces, and one box might contain twelve millions of roe. The sea-water would be sufficiently cold during a great portion of the voyage, certainly after

reaching eighteen degrees south, and as one cask per day of iced sea-water would be ample for a box of cod and one of herring, it appears to me that it is well worthy of an early trial. But whether we introduce cod and herring or not, there is no doubt of the fact that we have fish of such quantity and of such quality, that it only requires that capital and labour be applied with ordinary prudence and sagacity to make our fisheries one of the great interests of the colonies.

MEMORANDUM No. 44.

M

ADMIRALTY,

10th October, 1863.

(Assistance to be rendered to the Acclimatisation Society.)

My Lords Commissioners of the Admiralty, having had under their consideration the important question of Acclimatisation, are pleased to direct that so far as is consistent with the requirements of the public service, and upon the distinct understanding that no expense whatever is incurred, every facility is to be given by the Commanding Officers of Her Majesty's ships and vessels to any accredited agent of the Acclimatisation Society, who may apply to them through any of Her Majesty's Foreign Ministers or Consuls, or through the Governor of any of Her Majesty's Colonies, for the transport of specimens.

The annexed copy of a circular addressed by permission of the Secretaries of State for Foreign Affairs and for the Colonies to Her Majesty's Foreign Ministers and Consuls and Colonial Governors, in various parts of the world, will explain the objects which the Society has in view.

By Command of their Lordships,

C. PAGET.

To all Flag Officers, Captains, Commanders-in-Chief, and Commanding Officers of Her Majesty's Ships and Vessels.

LIST OF ANIMALS

IN THE ROYAL PARK AND BOTANICAL GARDENS, MELBOURNE.

22 Camels at Wimmera	9 Silver pheasants	5 Ground doves
Llama alpacas	6 English pheasants	7 Grey Indian doves
5 Pure alpacas	2 Black Indian part- ridges	9 Green Indian doves
11 Ceylon elks	3 Guernsey partridges	3 Manilla doves
12 Axis deer	4 Ceylon partridges	2 Brazil doves
20 Hog deer	2 Madagascar quail	12 Emus
2 Manilla deer	6 Chinese quail	1 Native companion
2 Barmahya deer	5 Indian quail	12 Black swans
2 Formosa deer	8 Grohorts	1 Mallee hen
4 Brahmin cows	2 Algerine sand grouse	2 Native bustards
1 Chinese buffalo	12 White swans	3 Curlews
24 Cashmere goats	4 Canadian geese	2 Eagle hawks
13 Angora goats	13 Egyptian geese	2 Small hawks
50 Half-bred do.	9 Chinese geese	3 Owls
50 Common goats	2 Cape Barren geese	2 Laughing jackasses
30 Sheep	50 English wild ducks	30 Magpies
17 Silver grey rabbits	1 Mandarin duck	2 Grey African parrots
4 Chinchillas	2 Bahama ducks	4 Indian game fowls
2 St. Bernard dogs	13 Carolina ducks	2 Houdin fowls
3 Kangaroos	8 Call ducks	4 Padua fowls
8 Wallaby	3 Mountain ducks	2 Gascon fowls
4 Opossums	2 Tree ducks	15 Bantams
2 Monkeys	5 Wood ducks	6 Common fowls
1 Agouti	2 Macaws	3 Cardinal birds
4 Indian porcupines	9 Wonga pigeons	6 Indian finches
2 Moorhukes	12 Fancy pigeons	6 Reckhampton finches
5 Curassows	6 Bronze wing pigeons	12 Linnets
9 Ceylon wild peafowl	1 Crested pigeon	16 Canaries
5 English peafowl	11 Turtle doves	
4 Golden pheasants		6 Hives Ligurian bees

ANIMALS LIBERATED.

AT THE BOTANICAL GARDENS.

18 Canaries	6 California quail	4 English robins
13 Blackbirds	60 English wild ducks	8 Turtle doves
24 Thrushes	35 Java sparrows	50 Mino birds

AT PHILLIP ISLAND.

6 Hares	4 Chinese partridges	5 Pheasants
5 Cape pheasants	70 Chinese quail	6 Skylarks
8 English pheasants	23 Tasmanian quail	6 California quail
4 Indian pheasants	6 Starlings	4 Thrushes
8 Ceylon partridges	10 Algerine sand grouse	4 Blackbirds
5 Indian partridges	6 Wild ducks	1 Pair white swans

AT SANDSTONE AND CHURCHILL ISLANDS.

4 Pheasants		4 Skylarks		4 Thrushes
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AT YARRA BEND.

6 Thrushes		4 Skylarks
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NEAR SYDNEY.

9 Thrushes		4 Skylarks		10 Blackbirds
		AT SUOARLOAF HILL.		
5 Ceylon elk				3 Axis deer

AT WILSON'S PROMONTORY.

4 Axis deer

AT THE ROYAL PARK.

3 Hares	|	40 Chaffinches	|	20 Siskin finches
20 Mainas	|	2 Thrushes	|	6 Powi birds
6 Starlings	|	20 Greenfinches	|	3 Chinese pheasants
60 English sparrows	|	200 Java sparrows	|	6 Black birds
15 Yellowhammers	|	6 Blackbirds	|	

AT PENTRIDGE.

40 English sparrows

AT ST. KILDA.

20 Chinese sparrows

AT BALLAARAT.

25 English sparrows		20 Java sparrows
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AT BUNEEP.

13 Fallow deer

ANIMALS SENT AWAY.

TO LONDON.

4 Kangaroos		3 Talegallas		36 Lowry parrots
5 Mountain ducks	|	26 Waterhens	|	2 Opossums
200 Murray codfish	|	4 Kangaroo rats	|	22 Wonga pigeons
22 Black swans	|	9 Wombats	|	31 Bronze-wing pigeons
20 Australian quail	|	2 Cranes	|	2 Wild ducks
14 Eagle hawks	|	2 Wood ducks	|	3 Swamp magpies
85 Magpies	|	2 Kangaroo dogs	|	7 Land rails
4 Rosella parrots	|	4 Echidna	|	4 Sugar squirrels
6 King parrots	|	26 Laughing jackasses	|	3 Coots
6 Cockatoos	|	40 Shell parrots	|	Some Yarra fish
5 Dingos	|		|	

TO PARIS.

20 Emcus	|	3 Curlews	|	2 Bronze-wing pigeons
22 Kangaroos	|	1 Native crane	|	8 Goatsuckers
12 Black swans	|	8 Murray turtles	|	2 Native companions
3 Cape Barren geose	|	2 Wombats	|	14 Rockhampton finches
1 South Australian wombat	|	17 Australian quail	|	1 Iguana
4 Native geose	|	4 Laughing jackasses	|	4 Opossums

TO ST. PETERSBURG.

2 Kangaroos		2 Laughing jackasses		3 Emcus
3 Black swans		2 Wallabies		

TO AMSTERDAM.

3 Water hens		6 Australian quail
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TO ROTTERDAM.

2 Cape Barren geose		2 Water hens
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TO HAMBURGH.

2 Wonga pigeons		2 Bronze-wing pigeons		2 Kangaroo rats
2 Black swans				

TO COLOONE.

2 Black swans	|	2 Curlews	|	2 Water hens
2 Black geose	|		|	

TO COPENHAGEN.

2 Black swans

TO CALCUTTA.		
24 Black swans	15 Rosella parrots	6 Bronze-wing pigeons
12 Emous	10 Kangaroos	6 Laughing jackasses
2 Eagles	4 Opossums	20 Shell parrots
6 White cockatoos	1 Dingo	52 Magpies
7 King parrots	1 Wombat	
TO MAURITIUS.		
2 Black swans	2 Eagle hawks	2 Magpies
1 Kangaroo	9 Fowls	2 Laughing jackasses
2 Cape Barren geese		
TO BOURBON.		
8 Black swans		
TO SICILY.		
6 Black swans	|	14 Native Ducks
TO RANGOON.		
6 Black Swans		
TO JAVA.		
2 Black swans	2 Capo Barren geese	1 Kangaroo
TO BURTEZONO.		
2 Black swans	2 Capo Barren geese	1 Kangaroo
TO SYDNEY.		
2 Angora goats	6 English wild ducks	4 Larks
2 Brush kangaroos	1 Mallee hen	4 Starlings
1 Silver pheasant	10 Blackbirds	2 Ortolans
2 Canadian geese	10 Thrushes	2 Sparrows
TO ADELAIDE.		
1 Angora goat	2 Thrushes	2 Silver pheasants
2 Blackbirds	3 English pheasants	
TO HOBART TOWN.		
1 Angora goat		9 Native bears
TO NEW ZEALAND.		
3 Thrushes	6 Magpies	4 Opossums







F. 370.
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