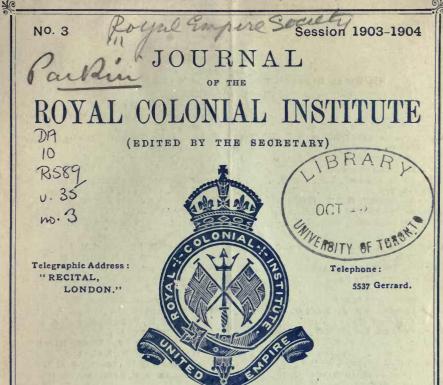
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FEBRUARY 1904

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"To provide a place of meeting for all gentlemen connected with the Colonies and British India, and others taking an interest in Colonial and Indian affairs; to establish a Reading Room and Library, in which recent and authentic intelligence upon Colonial and Indian subjects may be constantly available, and a Museum for the collection and exhibition of Colonial and Indian productions; to facilitate interchange of experiences amongst persons representing all the Dependencies of Great Britain; to afford opportunities for the reading of Papers, and for holding Discussions upon Colonial and Indian subjects generally; and to undertake scientific, literary, and statistical investigations in connection with the British Empire. But no Paper shall be read or any discussion be permitted to take place, tending to give to the Institute a party character." (Rule I.)

There are two classes of Fellows (who must be British subjects), Resident and Non-Resident, both elected by the Council on the nomination of two Fellows, one of whom at least must sign on personal knowledge. The former pay an entrance fee of £3, and an annual subscription of £2; the latter an entrance fee of £1 1s., and an annual subscription of £1 1s. (which is increased to £2 when in the United Kingdom for three months). Resident Fellows can compound for the annual subscription by the payment of £20, or, after five years' annual subscription of £2, on payment of £15; and Non-Resident Fellows can compound for the Non-Resident annual subscription on payment of £10.

The privileges of Fellows whose subscriptions are not in arrear include the use of the Institute building, which comprises Reading, Writing, and Smoking Rooms, Library, Newspaper Room, &c. Books may be borrowed—subject to the Library Regulations—and the Correspondence of Fellows may be addressed to the care of the Institute. All Fellows, whether residing in England or the Colonies, have the Journal and the annual volume of Proceedings forwarded to them. Fellows are entitled to be present at the Evening Meetings, and to introduce one visitor; to be present at the Annual Conversazione, and to introduce a lady. The Institute is open on weekdays from 10 A.M. to 8 F.M., except during August and September, when it closes at 6 F.M.

JOURNAL OF THE ROYAL COLONIAL INSTITUTE.

THE Journal of the Royal Colonial Institute, the first issue of which appeared on December 1, 1890, and was numbered part i., vol. xxii., is an official record of the transactions of the Institute. It is published on the first of each month from December to July inclusive, in advance of and in addition to the annual volume of Proceedings, and contains reports of Papers and discussions, elections of Fellows, donations to the Library, notices of new books presented to the Library, and official announcements of the Institute.

The Journal is sent to each Fellow, thus assuring a circulation throughout the British Empire of 4,750 copies a month, or about 38,000 copies a year.

A limited number of suitable advertisements will be inserted on terms which may be had on application to Messrs. G. Street & Co., Limited, 8 Serle Street Lincoln's Inn, London, W.C., 30 Cornhill, London, E.C., and 164 Piccadilly, London, W.

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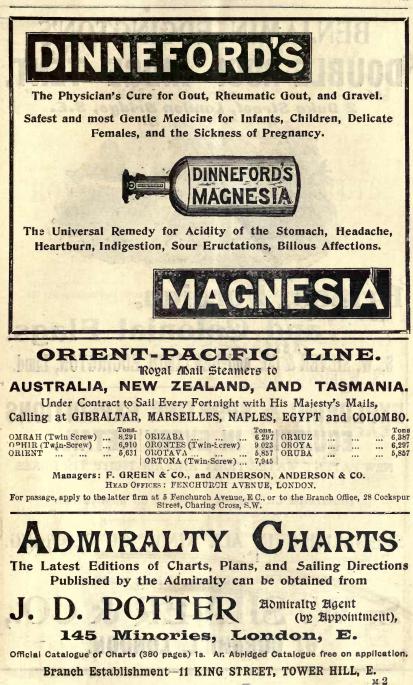
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JOURNAL

OF THE

ROYAL COLONIAL INSTITUTE

No. 3. SESSION 1903-1904

FEBRUARY 1904

All communications to be addressed to the Secretary, Royal Colonial Institute, Northumberland Avenue, London.

PROCEEDINGS.

THIRD ORDINARY GENERAL MEETING.

THE THIRD Ordinary General Meeting of the Session was held at the Whitehall Rooms, Hôtel Métropole, on Tuesday, January 12, 1904, when a Paper on "Australia as a Food Producing Country" was read by Charles C. Lance, Commercial Agent for the Government of New South Wales.

Sir Westby B. Perceval, K.C.M.G., a member of the Council of the Institute, presided.

Amongst those present were the following :--

MESSRS, J. B. AKEROYD, A. J. ALEXANDER, W. HARVEY ARMSTRONG, A. E. ASPINALL, MRS. ASPINWALL, A. REID BAIRD, A. S. BAIRD, MISS BAIRD, MR. ALBERT BARRETT, MR. AND MRS. T. D. BEIGHTON, MESSRS. H. F. BILLINGHURST, J. F. BINKS, H. J. MITCHELL BIRKETT, MRS. J. G. BLACK, MESSRS. C. T. BLAKE-WAY, H. F. BLISS, A. J. BUCKINGHAM, J. E. BURBANK, MISSES BUTLER, MESSRS J. O. BYRNE, H. C. CAMERON, J. R. CHALMERS, D. G. CHICHESTER, A. MCCOSH J. CLARK, F. CLENCH, MISS D. CLOUD, MESSRS. J. COATES, S. A. COCKBURN, W CONIGAN, T. CONIGAN, MR. AND MRS. B. F. CONIGATE, MR. AND MRS. E. P COOKE, MR. W. F. COURTHOPE, MISSES CRAVEN, MESSRS. J. T. CRITCHELL, W. S

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The Minutes of the Last Ordinary General Meeting were read and confirmed, and it was announced that since that Meeting 23 Fellows had been elected, viz., 8 Resident and 15 Non-Resident.

Resident Fellows :--

Gillmore T. Carter, John Wm. Gordon, Sholto Hare, F.R.G.S., John Kitching, Francis Hastings Medhurst, Captain Jepson G. Mignon, Major Arthur T. Moore, R.E., Frederick A. Robinson, A.Inst.C.E., M.I.M.E.

Non-Resident Fellows :---

Walter S. Carew (New Zealand), Hon. John George Fraser M.L.C. (Orange River Colony), Selig Hillman (Cape Colony), Wolf Hillman (Cape Colony), Harry A. Ludlow (Sierra Leone), Colonel Frank Makin (South Australia), Guy St. John Makin (South Australia), Charles E. Parker (Transvaal), Herbert G. Pearce (Rhodesia), Harry Prowse (Natal), Joseph W. Rogers (Western Australia), Athelstan J. H. Saw, M.A., M.D. (Western Australia), Frank Spence (Fiji), Charles S. Wallis, M.B., C.M. (South Australia), Frank Walsh (Cape Colony).

It was also announced that Donations to the Library of books, maps, &c., had been received from the various Governments of the Colonies and India, Societies, and public bodies both in the United Kingdom and the Colonies, and from Fellows of the Institute and, others.

The names of Mr. F. H. Dangar on behalf of the Council, and Mr. H. F. Billinghurst on behalf of the Fellows were submitted and approved as Auditors of the Accounts for the past year in accordance with Rule 48.

The CHAIRMAN : I desire on behalf of the Council to express the deep sense of the loss they have sustained in the death of one of their Colleagues, the Hon. John Tudhope, whose intimate acquaintance with South Africa was of much value to them. The Council have passed a vote of condolence which has been sent to the family, and I am sure you will all join with the Council in the regret they feel at the loss of this distinguished member. I now call on the reader of the Paper, Mr. Charles C. Lance, Commercial Agent for the Government of New South Wales, to read his Paper on :—

AUSTRALIA AS A FOOD PRODUCING COUNTRY.

THE great interest which has recently been awakened in the subject of the food-producing capabilities of the Empire, seems to justify the contribution of a Paper on the resources of Australia in this direction, more especially as considerable misapprehension appears to exist in certain directions in regard to it.

The harrowing tales of loss and suffering through the long continued drought (now happily ended) have created an exaggerated impression upon the public mind in this country, and the idea oftenprevails that every portion of Australia has been held so firmly in the grip of this dread monster, as to seriously impair the claim of the Commonwealth to be regarded as a reliable source of food supplies.

I have no desire to make light of the effect of that calamitous visitation, but wish to present it in its proper proportion, in order that a fairer estimate may be formed in this regard, before proceeding to lay before you a statement of the achievements and potentialities of this vast region.

The two points that require to be emphasised are :--

1. The drought has been unprecedented in the history of the , white population of Australia.

2. The harrowing statements in regard to it have referred chiefly to the region in the west of New South Wales and Queensland, and central portion of South Australia, where more or less dry conditions are expected to prevail, and where wool-growing is the chief industry.

The Southern and Eastern littoral of Australia have had comparatively dry times, equally unprecedented in many parts, but nothing in the nature of devastation has been experienced, and the production of exportable food surpluses has never entirely ceased.

I submit that the temporary arrest of agricultural production occurs, at more or less lengthy intervals, in well-nigh every country in the world, and drought is not the only factor. Those who have travelled through England this past autumn will know the tale of ruin so pathetically told by rotting and ungarnered crops and flooded lands. The choice between suffering from being too much in the sun, or too much under a cloud, is a matter of taste. There is this to be said in favour of a drought, that its lessons may be learnt, and its effect to some extent provided against, whilst the beneficial rest given to the land enhances its productiveness in the immediate future. And speaking of Australia generally, one thing that weighs heavily in its favour is the pregnant fact that it has no winter, as it is understood in this country, or in North America. This perhaps means nothing for the growing of wheat, but it means much in the raising of stock for meat purposes, and the production of butter-two very important items of export. Given sufficient moisture, grass will grow more or less at all times, and stock and dairy cattle may graze in the open all the year round, whilst in many districts two fodder crops are often raised.

The exportable food products of Australia are at present raised in South Australia, Victoria, New South Wales, Queensland and Tasmania. Western Australia has no place in this category, but there are potential areas on the South-Western coast, which in course of time will, at least, supply many of the needs of the gold fields communities, and thus release for external export some of the products that find their way there from the Eastern States.

But in a huge continent like Australia with an area of 2,972,906 square miles—26 times greater than that of Great Britain—and covering 32 degrees of latitude and 40 of longitude,—extending from Tasmania in 48 degrees South, with a climate not unlike that of England, to Northern Queensland in 11° South, with a climate similar to that of India—a great diversity of soil, climate, and production must of necessity be experienced.

Thus in Queensland we have principally meat, sugar, and a small but growing production of butter. In New South Wales, meat, wheat, butter, wine and sugar. In Victoria, butter, wheat, meat, wine and fruit. In South Australia, wheat, meat, wine, fruit and butter in a small but increasing quantity. In Tasmania, the only important item of food export is fruit of the European descriptions.

During the past four years (1903 being not yet available) the total exports of the items of meat, butter, wheat and flour, fruit and wine, were valued at :---

€5,566,000	in	1899.	£7,594,000	in	1901.
£6,610,000	,,	1900.	£4,733,000	"	1902.

This latter year makes a more presentable figure than the jeremiads of critics would have led us to expect; nevertheless, it fell as far short of its predecessor as I hope it will also do of 1904, which is already testifying to the marvellous recuperative powers of the Island Continent.

As indicating the importance to Great Britain of this source of supply, it may be stated that the value of food imports into Great Britain from Australia were, during :---

1899	£5,079,988	. 1901	. £5,492,313
1900	5,276,272	1902	. 3,550,933

It will be observed that although the total sent to Great Britain in 1901 was the largest recorded, it did not bear so great a proportion to our total exports as in previous years, which is accounted for, chiefly, by the market for our products that sprang up in South Africa.

Having disposed of these preliminary generalities, I now propose to deal with each principal Australian food industry, and to endeavour to show its present position, and the prospects of its extension in the light of the potentiality of the country itself, and of the probable competition from other sources for the export trade.

MEAT.

Sir Edmund Barton once said, in reply to a Canadian claimant, that if Canada was the Empire's baker, Australia was the butcher; the figure was picturesque, but it would have been more correct to have used the term Australasia, for in this claim New Zealand cannot be left out of consideration. Nevertheless, the meat export from the Commonwealth has reached considerable dimensions, having been valued at $\pounds 2,500,000$ in 1901.

It is to the introduction of refrigeration that we owe this great .

development, and to Australia (and more particularly New South Wales) belongs the honour of having pioneered this boon for the world. The initial experiments were made in Sydney by Eugène Nicolle and the late Hon. T. S. Mort, the latter giving his life and fortune to the enterprise. His prophetic motto was, "There shall be no more waste," the significance of which may be realised from the fact that, prior to the introduction of refrigeration, the boiling down of surplus sheep for tallow was, in many districts, regarded as the only profitable proceeding. If there were time, the romance of Pioneer Mort and Engineer Nicolle would be worth the telling. How, away back in the sixties, in the Blue Mountain village of Hartley, they experimented with machines for the production of cold by the compression of gases, for which English patents were obtained in 1873. How, in 1879, the first ship, the Northam, was loaded with frozen meat, the insulation for which was tallow. How the machinery broke down, and the melting of the tallow deprived the meat of its necessary insulation. How others, profiting by these mistakes, achieved success, and in 1880 brought from Australia in the Strathleven, and delivered in London in saleable condition. the first cargo of frozen meat. Such is the story of the original defeat of time and temperature in the carriage of fresh food products across the world; and it is also interesting to note that the first ton of artificial ice was made in Geelong, Victoria, by one Dr. Jas. Harrison. Thus, if Australia had done naught else in the world, she would deserve something at the hands of those who realise the value, to the old world, of the fresh products of the new.

The refrigeration of food is a growth of scarcely twenty years, and yet it has probably brought about the greatest revolution of modern times. Such revolutions come quietly, and those who are influenced the most by them often do not stop to contemplate their far-reaching effects, or focus the changes brought about. To many, the luxury of an ice-chest, or the questionable blessing of iced drinks, form the sum of their knowledge of the influence of refrigeration. The housekeeper, who can buy apples nearly all the year round in England, does not care to know that she does so by reason of the fact that, in California, millions of bushels of the crop, picked in September, are stored in cold chambers till the following February, and gradually fed to meet the requirements of this market ; or that the refrigerated holds of the Australian Mail steamers are full of this choice fruit from March to June.' The fact that the English apple crop has failed is only known through the medium of newspaper paragraphs. The wealthy, who eat

peaches and apricots at Christmas, perhaps think that they do so by virtue of the hot-house, whereas in reality it is the cold-house that has smiled upon them, in the shape of the refrigerated holds of the South African Mail steamers. The striving millions who can buy meat that was denied to them twenty years ago, aye, or even ten years ago, may be forgiven for not staying to realise to what they owe this boon. They may be pardoned for not knowing that the meat has been frozen-for, indeed. I fear that very often they are not told! The artisan who now finds fresh butter on his daily menu, probably does not think that he owes it largely to refrigeration, which not only makes the production of butter possible in the hottest climates, but brings it in perfect condition across the melting tracks of the Equator. But if the consumer can tell us this tale, the producer can treat us to a romance-a romance of the changing of the face of Nature; of hitherto unprofitable forests felled to create pasturage for sheep and cows, and of irrigation schemes, and smiling orchards, made feasible by the ability to transport the produce across the world. Without speaking of other countries, it is safe to say that refrigeration has provided the greatest modern stimulus to the development of Australia and New Zealand. Wanting it, "Australia as a food producing country" would have been resolved into a question of what could be done in wheat-growing, or a statement as to its capacity to feed itself. Wanting refrigeration, Mr. Chamberlain's scheme for preferential trade would have been impossible, or at least shorn of its far-reaching significance. In a word, refrigeration has equalised climate, and annihilated distance, has revolutionised modern life, and may yet be the most potent factor in the Federation of the Empire!

It was in 1891 that Australia reached the high-water mark in the possession of sheep and cattle, in which year there were 106¹/₃ million sheep, and over 11 million horned cattle. Successive years of drought have very seriously reduced these figures, and it is probable that they would not at the present time stand at much more than half that.

Such however is the marvellous recuperative powers of the country, that since the break of the drought it is estimated that the sheep in New South Wales alone have increased by four millions, and shipments of meat have been resumed upon a considerable scale.

Ever since the frozen meat industry has been firmly established in this country, the Australian flocks and herds have been under adverse conditions, and a return to the normal will bring about a striking development in it. A better knowledge of the requirements of this trade as regards breed and quality, preparation and distribution upon the markets, increased transport facilities in Australia and from Australia, are all potent factors which have not yet had the opportunity of full play in the Australian trade.

And then of course instantly arises the question, What will be the effect upon the market? Can larger supplies be absorbed at a price that will be profitable to the producers? It is to Great Britain that we must look for the chief market, and indeed it is very largely the object of this Paper to show the position of Australia as a food producer in relation to the Empire. The market that exists in South Africa cannot be regarded as permanently large, and a return to normal conditions in that war-swept country, will bring about a great measure of self-sufficiency in the matter of meat. The high duties and restrictive regulations which exist on the Continent of Europe practically place those markets beyond immediate consideration.

The British Isles stand already at the top of the list of meat consumption per head of population in Europe; Australasia itself and the United States being the only greater in the world.

The approximate figures are :---

Great Britain . . . 115 lbs. per inhabitant per annum. United States . . . 150 ,, , , , , , , , , , Australasia 264 ,, , , , , , , , , , , ,

In France the consumption is said to be 77 lbs. per head, and in Germany 64 lbs. But in Great Britain, the ability to obtain cheap meat led to a steady increase, until last year, when a rise in price consequent upon the decreased Australian production, and the restrictions on American imports, brought about a reduction in consumption. The question is, can it again increase, and to what extent?

We have large figures to work upon all round, for even 2 lbs. increase of consumption per head of population per annum in Great Britain would give an enhanced market of one million sterling to the producer, and the ordinary consumption of the naturally increased population gives $\frac{1}{2}$ million sterling per annum, with a probable decrease of home supplies. It is not unlikely that the annual imported meat bill of Great Britain will in five years time have gone up by five millions sterling, and the point is, who is to supply it? Every year the shipments from Argentina increase by leaps and bounds, and there are other countries in South America to come

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on, whilst Siberia and Hungary have already made a start. The United States may in time be wanting more of its supplies at home, but hitherto with the exception of 1902, its shipments to Great Britain have shown steady increase.

In 1902 the total imported British meat bill amounted to \pounds 47,000,000, of which nearly \pounds 9,000,000 worth came from within the Empire. That Australia, which possesses such a large proportion of sheep and cattle per head of population, can increase her contribution by several millions sterling within the next few years I am convinced; the question is, Can she stand the competition from outside countries? And by this I do not mean within the Empire, for I decline to regard any one of the "five free nations" as other than "friendly rivals."

I have sufficient faith in Australia and Australians to believe that we can hold our own in spite of our distance from the old world, but I do not propose to assert that a little family preference would be unacceptable, to "make assurance doubly sure!" But we must lay to heart the lesson of the drought, for the great essential of success is regularity of supply, and unfailing excellence of quality. We must also use every endeavour in this, and other industries, to save expense between the producer and the consumer. There will be no fortunes for the producers, for it is the history of every great productive development that it, sooner or later, through competition, comes down to the level of yielding a moderate margin of profit.

I believe that we must be prepared for the necessity of, ere long, facing much lower prices on this market, but I would hazard the opinion that, if put to it, Australia can raise mutton and beef at 1*d*. per lb. on the station, which would enable it to be landed here at under $2\frac{1}{4}d$. per lb. But although there is some market for merino mutton, I have come to the conclusion that, to ensure permanent success, we cannot treat the industry as merely a means of disposing of an intermittent surplus of merino flocks, and that it is necessary to breed what are suitable for the market, and be at some pains to perfect their condition.

Closer settlement will probably do something in this direction, and it is interesting to note the trend of recent years towards a reduction of the number of large flocks, and an increase in the number of smaller ones. The big squatter will probably continue to be the most successful, in certain districts, as a wool-grower, but I believe the smaller man will do better as a meat producer, and that whilst the districts further inland will be confined to merino wool-growing, the raising of, at least a proportion, of crossbreds for meat, will be found more lucrative in the sub-coastal districts. I am aware that this is debateable ground, and I trust that we may have valuable discussion on this important question.

Queensland is chiefly concerned in the production of beef, and in 1901 the value of the export had reached the satisfactory figure of \pounds 1,178,851. It is safe to say that no country in the world offers greater advantages for the raising of cattle than Queensland, the ravages of Texas fever notwithstanding. For several years this was a very serious matter, and whole districts were devastated, but experience has shown that, dreadful as the calamity has been, it is of a less permanent character than was at one time feared. The ticks certainly remain, but the cattle are either largely rendered immune, or else the virulence of the fever is abated, for the most seriously infected districts are becoming restocked. The opinion is now very generally held that, with fair seasons and cattle in good condition, the tick is not to be regarded with such dire apprehension.

Considerable extension of the beef export industry may be looked for from the Northern Territory of South Australia. The recently launched Eastern and African Cold Storage Supply Company, Ltd., has acquired 20,000 square miles of land which is said to be rich in unfailing pasture and well-watered, the rainfall being sixty-two inches per annum. Refrigerating works and slaughtering yards are being erected on the western shore of the Gulf of Carpentaria, which will be several days nearer Europe than any other meat shipping port in Australia. The projected railway through South Australia to Port Darwin would open up a large area of cattle-raising country.

Competition in frozen beef has not been, and does not appear likely to become, so severe as is the case with mutton. There is no reason to doubt the ability of Queensland to hold her own in the market, for I would make bold to say that no country in the world can produce finer beef. The chilled beef from America commands higher prices, for it must be admitted that up to the present the freezing of beef has not led to the same satisfactory results as has attended mutton.

But the inherent good quality of Australian grass-fed beef is admitted, and there is always the lope that improved methods of defrosting will obtain, if indeed, it should not be possible, with the increasing speed of steamers and greater experience, to reverse the verdict given against the feasibility of sending it chilled.

But whilst it is true that nothing equals grass-fed meat, it is also true that dependence upon grazing seriously risks the all-important desideratum of regularity in supply, and the question arises, Cannot our cattle fatteners do something to minimise this by the growth of fodder? In America, stall feeding is very largely resorted to, and in the Argentine Republic, lucerne is grown for this purpose. By such means our competitors improve quality and equalise supplies; what can we do in this direction to maintain our position?

IRRIGATION.

And this brings me to the consideration of a very important question in connection with the development of Australia as a food supplying country, viz., irrigation, which is now beginning to attract serious attention.

Last year the New South Wales Government passed an Act providing for the expenditure of £200,000 per annum on smaller public works under trusts, and since then seventy-five tanks, bores, dams, &c., have been completed, and 100 similar works are in course of construction. Schemes for the utilisation of the water from the rivers have met with a considerable measure of success. notably at Mildura and Renmark on the Murray, and now several far more comprehensive ventures are being initiated for the Goulburn Valley in Victoria, and Riverina in New South Wales, which might bring water to an irrigable area of something like eight million acres, and accomplish the actual irrigation of over one million acres of the best land in Australia. The idea is to enable a small portion of each holding to be irrigated, and thus supplement the rainfall of normal seasons, and prevent loss in drought years. But though the benefit resulting from such schemes will be great, the opportunities for their initiation are confined within limits which, in a large country like Australia, will appear comparatively narrow, and the great far-reaching question is, are there adequate means of making more productive, that vast area of land lying to the west of Queensland and New South Wales, and the central portion of South Australia, and comprising perhaps 250,000 square miles? The rainfall in this country varies from seven to twenty inches per annum, and it is used for the production of wool, or as cattle runs for the breeding of "stores," and in good seasons will in certain portions, yield mutton for export. Is the filling of this rôle its ultimate destiny? To assist in forming an opinion upon this great question I would like to place before you a few facts in regard to the artesian water supply of that region, for although opinions have been expressed that much can be done by surface irrigation schemes, the artesian supply is of vital interest. In 1879, Mr.

Russell, the Government Astronomer for New South Wales, made the momentous statement, that the river Darling discharged into the ocean only one and a half per cent. of the water which it should have received from the catchment area, whereas, the Murray under similar conditions of evaporation, &c., discharged twenty-five per cent. He concluded from this that the water from the Darling area was disappearing, to find exit at a lower level, and surmised that a large supply of good water existed beneath the surface. This led to the putting down of bores at Kellara and Kerribee, in New South Wales, from which latter a flow of 1.750,000 gallons per diem was obtained at a depth 1,340 feet; and this was quickly followed up in Queensland with even more satisfactory results. Both Governments took the matter up, as did also many private landowners, and there were in Queensland on June 30, 1902, 563 effective flowing bores, yielding 375 million gallons per diem, and in New South Wales 200 bores, yielding 80 million gallons per diem ; and the work is being continued in both States, as it also is in South Australia.

To overestimate the value of these fountains would be almost impossible, and it is certain that they contributed enormously to the ability of stockowners to fight the unprecedented conditions of drought that have recently prevailed. But to use the simile of Mr. Boultbee, the Superintendent of Watering Places in New South Wales, these are comparatively but a few "pin-pricks" in the vast artesian area, for it is now known that this large basin has an extent of something like 500,000 square miles, beneath the dryest portions of Queensland, New South Wales, and part of South Australia. I know of nothing more fascinating than a study of the geological and practical aspects of this subject, and regret that it is impossible, within the limits of the time afforded this evening, to do more than just indicate them. Geologists are of opinion that the supply is obtained from the rainfall over the porous formation outcropping on the mountain slopes to the north-east and east of the basin, the higher levels of which create the pressure necessary to force the water above the surface of the plains when the stratum is tapped. Dealing with the New South Wales portion, Mr. Pittman, the Government Geologist, calculates that the area of these intake beds on the western slopes of the New South Wales mountains is 1,800 square miles, and thereupon he makes a calculation, which enables us to form an opinion on the important practical question of the probable permanency of the supply.

He sees reason to believe that 20 per cent. of the rainfall is

absorbed, and if so the supply would amount to 3,580,000,000 gallons per diem, or forty-five times as much as the present New South Wales bores yield. He adds :---

There does not appear to be much reason to fear that our artesian bores will overtake the supply for many years to come.

Dr. Jack, the Queensland Government Geologist, says that :---

The amount of water contributed to the water-bearing shute of the lower cretaceous formation... is so great... that the quantity abstracted by the artesian wells, even if it were ten times greater, is insignificant by comparison.

On the other hand, it must be admitted that diminution of the flow has in some cases been observed. If the theory of the intake beds is correct, this is however no more than would be expected, as the result of the low rainfall that has been experienced recently, and it will be interesting to note the effect produced by the return of normal conditions.

The other all-important consideration is, the suitability of the water for the purposes of irrigation. Considerable pessimism has often been expressed in regard to this, and there is no doubt that some of the bores in Queensland, and New South Wales, yield water containing an excessive quantity of alkali, and are unsuitable for irrigation, on account of the amount that would in time be accumulated in the soil, to the detriment and ultimate destruction of the plant life. But this of course depends largely upon the nature of the soil, and its depth and drainage conditions.

Two years ago the New South Wales Government sent Mr. Boultbee, the Superintendent of Public Watering Places and artesian bores, to Western America to investigate the conditions under which irrigation is carried on in that country, and he reported that the nature of the water, and the conditions, were very similar to those prevailing in New South Wales. He sums up by saying :--

I hold the opinion . . . that the bulk of our (N.S.W.) water can be safely used for irrigation for very long periods, provided care and plentiful cultivation is carried out, and I see no reason (if the advice of Professor Hilyard regarding selection of the land and subsequent use of the water is followed) why irrigation cannot be carried out successfully for an indefinite period,

and adds, as a general conclusion, that a great deal more ought to be attempted in this direction in Australia.

The experiments made by the New South Wales Government at vot. xxxv.-3.

several experimental farms, and by some private owners in Queensland, have established the fact that success may be achieved by irrigation in the growing of crops of cereals, fruit and sugar-cane.

Up-to-date information is available from the recent report of the manager of the Government irrigation farm at Moree in New South Wales, which states :---

When it is considered that there has not been sufficient rain until this month to assist herbage to grow, and that for miles in every direction, Moree has been nothing but a desolate waste, the fact that this farm has not only existed, but supplied the district with green feed for horses, and on several occasions when starving stock have been brought into Moree for transit by rail to other parts, supplied owners with green feed for a day or two, sufficient to enable the stock to reach their destination alive, makes efficacy of irrigation from artesian bores apparent.

The demand for green feed was so great at times that the buyers followed the mowing machines and bagged it almost as fast as it could be cut.

The orchard had only been planted three years and yet many citrous varieties and apricots, quinces, figs, almonds, and mulberries bore fruit in that dryest of years. The Manager concludes by saying :—

In my opinion the farm has fulfilled the intention of the Department in proving that in an arid district with a shade temperature of 100 degrees, where for the whole summer not one inch of rain fell, crops of all sorts and vegetables of many varieties were grown in quantities, and of good enough quality to yield a handsome return to any farmer working similar land on the same principle.

In dealing with this matter I do not wish to present the case in too much "couleur de rose," or to convey the impression, which seems to be often popularly held, that nothing requires to be done but to multiply bores, in order to turn the country into a smiling paradise for the pastoralist. In my opinion nothing really takes the place of rain for grass-growing, but I believe that a great deal may be done in supplementing the pastures, if indeed the development of other industries is not also possible.

The natural conditions of Southern California are very similar to those of the Western country of Queensland and New South Wales, the rainfall being exceedingly small and unreliable (from six to 20 inches), though the land, on the average, is not so rich as ours. When the rush of settlement took place in California, some previously good seasons had led to the belief that, under natural con-

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ditions, it could be turned to profitable account for farming and grazing. But a succession of bad seasons, in which neither grass nor crops grew at all (1868 to 1871), led the distressed people to give their attention to irrigation, largely by means of artesian water, and, as you know, the result has been to turn that country into one of the most wonderful fruit gardens in the world, whilst the growth of fodder for fattening purposes is also considerable.

It is true that our Australian supply lies deeper than is usual in America, and is therefore somewhat more expensive in obtainment, and in outlying districts where the cost of transport of machinery is great, the expense is perhaps, at present, prohibitive. But on the other hand our land is rich and cheap, and the payability of the bores, for at least stock-watering, has been proved over a very large area. The watering of the whole of this country is inconceivable, but even though only a comparatively small proportion can be dealt with, I think we are led to the conclusion that the future holds for it far greater possibilities of food-production, as the result of the freeing of the imprisoned waters from this vast storehouse, fashioned and unfailingly replenished by Nature, who, to use Professor Huxley's words, is, "Surely no prodigal, but most notable of housekeepers."

The carrying out of all possible schemes of irrigation from the waters of the rivers, and the multiplication of artesian wells will bring about :--

1. The better maintenance of our flocks and herds, and, by the growth of fodder, the extension of meat production.

2. The enormous extension (as in California) of our fruit production, which will render insignificant our present export of $\pounds 200,000$ per annum.

3. The extension of wine growing.

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WINE.

In regard to this latter, however, it should be said that there already exists a very large area of country eminently suitable both in soil and climate, without the aid of irrigation. The growing favour with which our wines are now being regarded, no longer leaves in doubt our ability to produce a high-class article in South Australia, Victoria and New South Wales; and Queensland, and even Western Australia, will ere long be added to the list. The wine industry of Europe has been a-making for centuries, and the subtleties of manipulation are not learnt in a few decades. With

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more experience, and (may we hope ?) the help of a little preference, Australia will prove herself worthy to be regarded as the Empire's vineyard.

The total production of Australia is at present about $5\frac{1}{2}$ million gallons, of which the export to Europe is about 1 million gallons, which proves that Australians believe enough in it to drink it themselves !

WHEAT.

Although Australia has exported wheat for years past, it can scarcely lay claim to be regarded as one of the world's granaries. The high-water mark of ascertained production was reached in 1900, when the crop was $48\frac{3}{4}$ million bushels, and in the following year $24\frac{3}{4}$ million bushels, including equivalent in flour, having a value of about £3,000,000 sterling, were exported.

The harvest of 1903, however, is the largest on record, being estimated at 73 million bushels, which comes within close reach of the 78 million bushels raised by Canada in 1903. New South Wales, which has hitherto taken third place in Australia, now lieads the list with 28,000,000 bushels, Victoria 26,000,000, South Australia 14,000,000, Queensland 3,500,000, Tasmania 1,000,000, whilst even Western Australia shows up with 1,250,000 bushels. Of this total about 38,000,000 bushels, valued at $\pounds 5,500,000$, will be available for export.

The yield per acre in Australia is comparatively low, showing the following approximate averages, during the last ten years of-

10 bushels per acre in New South Wales.8","5","5","9","8South Australia.

This does not necessarily indicate inability to profitably raise wheat, and I believe, as a matter of fact, it merely shows that the large areas of land available have led to the adoption of more or less haphazard methods. The yield per acre this year has been far higher, that of New South Wales being estimated at 19 bushels.

The advent of Victoria as a wheat-producing country is a matter of quite recent years, and still more recently has the development taken place in New South Wales. In 1871 Victoria had under wheat cultivation 334,609 acres, and in 1901 2,017,321 acres. In 1871 New South Wales had 154,000 acres, and in 1901 1,530,609 acres. In 1871 South Australia had 692,508 acres, and in 1901 1,913,247 acres.

It was the throwing open for settlement, in small areas, of the

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several million acres of the Mallee lands of Victoria, and their connection to the Government Railway system, that brought wheat to the front in that State. The light brush or scrub, which covered the level land was very readily cleared by the simple, though ingenious, method of rolling it down, and consequently the land could be quickly made productive by men of small means. The early results obtained from these virgin soils may, perhaps, not be maintained, but that the Mallee country, of which there is much still unoccupied, will continue to be a large and increasing wheat producer is undoubted.

In New South Wales the extension has taken place in the Riverina district, and more recently in the great belt known as the North-Western and Central, lying on the Western slopes of the Great Dividing Range, of which the neighbourhood of Dubbo and Wellington may be regarded as the chief centre. The rainfall varies from 18 to 25 inches per annum. These districts comprise an area of about 30,000 square miles, and there are enormous tracts of suitable land awaiting the plough. Dubbo is but 180 miles direct from the Coast, and the limit of distance is less than 300 miles.

Any great extension of cultivated area would have to be accompanied, or perhaps indeed preceded, by additional railways. This must be so in every new country which is deficient in natural waterways. Railways must be in advance of requirements, and if the conditions of Australia were well-known to those who criticise her proceedings in this direction, I venture to think that they would come to wonder, not at our prodigality, but at our restraint, and ability to make the lines interest-paying. They would have to fall very far short of doing this, before it could be justly said that it was not in the interests of the community for the difference to be made up from the public Exchequer.

In dealing with wheat production I have left out of consideration the question of irrigation, in the belief that, generally speaking, under these conditions it cannot be profitably raised to meet competition in the world's markets; and, moreover, I am of opinion that irrigated lands can, and will, be turned to better account. At the same time there may be areas, having a more or less adequate rainfall, in which the yield of wheat could be profitably increased by occasional watering, if obtained at a low cost.

In catering for the old-world markets, the distance is a handicap to Australia in the case of bulky produce such as wheat, and if we would seriously enter the lists it behoves us to pick up every item of unnecessary expenditure, and by cheaper transport, and the introduction of wheat elevators and a system of grading, reduce the cost of handling to a minimum.

The cultivation of those very hard varieties used for macaroni manufacture, which grow in much drier circumstances than bread wheats, would probably be very successful over a large area in Australia, as they have been in similar country in America, though the cost of transport to Southern European markets is a serious item.

When investigating this matter in France, I had practical demonstration of the fact, which is interesting in this connection, that large and increasing imports of the grain come from Algeria and Tunisia, and on account of the former being a French Colony, and the latter a Protectorate, they are admitted free. When it is remembered that the duty on wheat is 12s. 3d. per quarter, it will afford a striking instance of what other countries do to develop and foster their Colonies.

To sum up the item of wheat, it is probable that Australia will only become a great wheat-exporting country under some special impetus, but it is reasonable to look to a very considerable development in the near future, as a result of closer settlement and the opening up of the country by the extension of railways. If Canada is to be the Empire's chief baker, we are satisfied to accept a subordinate position, if we can also play the *rôle* of butcher, dairyman, and vigneron!

BUTTER.

Of all the items of Australia's food production, butter is probably the most promising; the extension of this industry, even during the recent dry years, has been very remarkable, and it is safe to predict an enormous increase as a result of the return of normal seasons. A strong point about dairying is that, with reasonable management, cows, though probably yielding but poor supplies, may be brought through the dry times, and are more or less ready to yield good returns immediately afterwards. Another point is that it is essentially a business for the small man, who obtains regular cash payments for his produce and does not run the risk, or incur the financial disability, of the crop raiser.

Moreover, there is probably no purpose to which land in the Coastal areas of Australia can be put, which is so remunerative as dairying, and on the Northern rivers of New South Wales it is largely taking the place of even sugar growing. No industry offers such a good prospect for the closer settlement of the Coastal areas, and great credit belongs to the Victorian Government, which in 1889, at the instance of the then Minister for Agriculture, Mr. J. L. Dow, provided the great impetus by offering bonuses. They were given in this way: \pounds 800 for the erection of a butter factory, and \pounds 200 for each separating station; whilst 3*d*. per lb. was paid on all butter realising 1*s*. per lb. on the London market during the first year, 2*d*. during the second year, 1*d*. during the third, and thereafter *nil*. This was probably the best investment ever made by a community, for from *nil* in 1890 the export rose to 14,280 tons in 1900, and the object lesson thus given to the other States led to its expansion there also, and particularly in New South Wales. At the present time there are in Victoria 600 factories and creameries, and in New South Wales 350.

In 1900 the export of butter from Australia reached a value of nearly two millions sterling; it has since declined owing to bad seasons, but the trade is at the present time in a flourishing position, the arrivals upon this market representing nearly 1,000 tons per week, and with rising prospects for the future. Even during the dry seasons there has been much extension of the farming areas, particularly on the North-Eastern Coast of New South Wales and Queensland, where, previous to the introduction of refrigeration, it was deemed impossible to make butter. But the heat, which was once the obstacle, is now the handmaid, in that it produces, under the fifty or sixty inches of annual rainfall, the marvellous growth of crops and pasture for which these droughtless districts are famed. When I say that on the Richmond River (New South Wales) alone, there were, in 1892, 24,942 dairy cows. and that in 1902 these had increased to 57,567, it will give some idea of the development, for dairy cattle cannot be bought or bred like sheep. Although this is perhaps the richest district we have, I use it merely as an illustration of what will certainly take place in many other parts of the semi-tropical country of New South Wales and Queensland; and in the more Southern latitudes of Victoria and South Australia there is much expansion to follow. Speaking generally, I regard the dairy industry as only in its infancy in Australia.

It is impossible to say how important a factor in the butter market Siberia is likely to be in the near future. Last year Great Britain received something like 25,000 tons from that source. So far it is not of a high quality but organisation and modern appliances will do much; yet there is the disadvantage of a rigorous winter. The disability of our geographical position expressed in terms of the cost of cold transport to England, is more than counterbalanced by the cheap and extensive lands, and the advantage of the absence of winter as it is understood in Northern latitudes; and the only country whose competition I see reason to be seriously apprehensive about, is Argentina. It has similar conditions, and the same advantage as we have in making butter in summer for shipment to this winter market, whilst it is nearer Europe. Yet the butter, like ours, must cross the Equator and be held frozen, and the freight charge, which on valuable products like this is always relatively light, should only be about $\frac{1}{4}d$. per lb. less than ours.

Any Australian visiting Scandinavia, and having an understanding of dairy matters, cannot fail to be struck with the wonderful results that are achieved in such a crowded area, and under comparative disabilities of soil and climate, or to realise that a great future is before this industry in Australia as it develops to a higher scientific pitch. Our butter-making appliances are probably equal to anything in the world, but we require the production of a more uniformly high quality, and farm management so as to produce it for export to this and other markets all the year round, and without absolute cessation in dry periods. Any article to secure a reputation on British markets must be uniform in supply, and always before the public, and during the past year New Zealand butter has very nearly achieved this position. Another important point is that our butter should be carried at lower temperatures than have hitherto obtained on the long voyage from Australia, for it is now being found that it keeps far better in the neighbourhood of zero.

Looking at the enormous quantity of butter imported into Great Britain—some 200,000 tons annually—and remembering that Australia in its best year only contributed 17,657 tons to this total, we need hardly fear that at present we shall overdo production, though I look forward to the doubling of our export within the next five years, and am confident that, if it comes to a question of competition, we can produce it as well and as cheaply as any country in the world.

Three items of food production, at present inconsiderable in the Commonwealth, will follow the extension of wheat-growing and dairying, viz., pigs, poultry, and eggs.

DAIRY BY-PRODUCTS.

The market for pig-meat in this country is very large, forming about one-third of the total meat imports, and being saleable as bacon or frozen pork. Its production is found extremely lucrative in Canada and the United States, as it also is in Australia, on the limited scale hitherto attempted. It is especially a business for the smaller man, and will undoubtedly increase under closer settlement. Although more scientific means of treating skim-milk may come into vogue, pig-feeding is at present the most profitable method of its disposal in Australia, and the extension of dairying will mean extension of pig-raising.

Poultry and eggs will also be in surplus supply as mixed farming advances, and the opportunity of sending them across the world in a refrigerated state is fully appreciated. Victoria had made an excellent start in this direction, previous to the advent of the recent dry seasons, and may be expected to very soon appear again on the market.

RABBITS AND HARES.

The exportation of frozen rabbits and hares is assuming considerable proportions, the number being something like 12 million per annum, valued at £300,000. The conclusion seems to have been reached that, as the rabbits cannot be exterminated, it is better to make an industry of them. The extent to which they exist may be gathered from the fact that, under the old method, in one year the New South Wales Government paid for the destruction of 25 millions.

SUGAR.

Cane-sugar is an important production in Queensland and parts of New South Wales. The quantity raised is about 140,000 tons per annum, which meets two-thirds of the requirements of the Commonwealth. But a consideration of this industry would lead into the thorny paths of the black labour question, which I am not competent to deal with, and as sugar is not likely to become an item of export to the old-world in face of the competition of European beet sugar, and for other reasons, I leave it with this passing mention. It should be stated, however, that some success has attended the cultivation of sugar beet in Victoria, and a resuscitation of this industry is probable.

In attempting to embody within the limits of a Paper a statement

of the food-producing capabilities of the Commonwealth, it has only been possible to treat, with any degree of fulness, the main industries, and another Paper would have to be written on the possibilities of the many minor products which at present find consumption within its borders. In speaking of Australia it is seldom realised that its diversity of climate and soil is such that, between Tasmania in the South and Queensland in the North, it is possible to produce every description of food known to man, and most of which, indeed, is, to greater or lesser extent, actually being raised.

Australia's great need is more rural population, and I think that many among my audience will have been feeling as they listened, as I have felt as I wrote, that herein lies the weakness of it all where are the sowers and the reapers for this rich potential harvest?

That these four millions of strenuous, resourceful people have done much is without doubt, and that they will do more is equally certain; but the natural increase of population is insufficient for any young country, and it is evident that the full development of Australia must be brought about by a flow of agricultural immigration.

The Premier of Australia recently referred to this as "the problem of problems," but it is one which I submit concerns the Mother Country also. Professor Boscawen tells us that in that "First of Empires," which he has so vividly pictured from the study of Babylonian and Assyrian lore, it was held to be a sacred duty to cultivate the land. Can it be said that in this latter and greatest of Empires, the obligation has diminished? Or has it extended to the development of the lands of our neighbours?

I believe it to be demonstrable that, under organisation, this Empire can be made mainly self-sufficient in food supplies, and at no ultimate increased cost. Whether the consummation of an Imperial scheme to encourage and hasten this development is nigh at hand I know not, but in any case it will appear certain, to those who best know Australia, that this bright jewel in the Empire's crown must ultimately fulfil the high purpose of a great food producing country, for which it has been destined by Nature.

(The Paper was illustrated by a series of lantern views.)

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Discussion.

The CHAIRMAN (Sir Westby B. Perceval, K.C.M.G.) : I think you will agree with me that the Paper has been extremely carefully prepared and of a most interesting character. It suggests such a vista of subjects for discussion, that I am afraid I must remind speakers of the existence of the ten minutes rule. The feature which has been uppermost in my mind during the reading of the Paper, is one which I have no doubt has occurred to all of you, and that is the marvellous recuperative power of Australia. The fact that a country stricken by drought of such a character as Australia experienced for such a long period could only last year produce a record crop of wheat is. I think, the best evidence of the truth of that statement. I only wish to refer to a few points which seem to be important; the first is the necessity or desirability for closer settlement in Australia. I venture to say that the success of New Zealand, to which I belong, was mainly attributable to the policy which has been pursued steadily in that country for many years past, of settling small farmers on the land. Of course I know the conditions in New Zealand and Australia are different, but I know enough of Australia to know that there is a very large area, especially along the coast, which is just as well adapted for closesettlement as many parts of New Zealand. It is, I think, a matter of extreme congratulation to all those who take an interest in Australia, that the State Premiers have been invited to consider at an early date the question of an immigration policy. I hail that news with the greatest delight. I feel sure that policy will not receive the opposition which some people anticipate from the labouring classes in Australia. If a properly thought out scheme is wisely submitted to the people of the Commonwealth, I am sure such a policy will be hailed with a welcome voice from all classes of the community, and will be of the greatest benefit to Australia. The only other point on which I shall touch is the question of irrigation. That I think is the lesson which Australia has to learn from the recent drought. By irrigation I mean not only the distribution but the proper conservation of water, and there again we have an object lesson in the Canterbury Plains of New Zealand. which have derived great benefit from the system of open water races through a dry and somewhat poor tract of country. This has been of the greatest benefit to the pastoralists on the Canterbury Plains. It goes without saying that such a plan would be of equal benefit to the people of Australia.

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Mr. E. V. REID: I have listened with the utmost pleasure to the interesting, able and extremely instructive address which has just been delivered. Mr. Lance brings to the study of this subject a very wide and extensive knowledge, having in many spheres acquired a practical experience which entitles him to speak as an authority. But there is another point which is material in his favour, and that is that varied and extensive as is his knowledge it is backed up by an enthusiasm which is really infectious, and although I do not endorse all the views he has expressed I nevertheless say it has been to me the greatest pleasure this evening to listen to a man who at this hour of the day and in this city of London has been bold enough to stand up in a public place and speak of the future of Australia in terms of what I may call a healthy optimism. (Why not?) "Why not?" Because our ears have been attuned ever since I came to this country to accents of reproach, and although we may be to a large extent deserving of many reproaches, still we may say to dear Mother England that possibly many of the faults of which we are accused may be attributable to the indiscretion of our bringing up. In days gone by we were the pampered favourite, the "darling" of the Empire; we had only to ask for money and it was given. We were a young community with a great inheritance, and of course we went the pace naturally enough. It is Sir Walter Besant who says that a great portion of our life in middle age is spent in endeavouring to make provision for drafts drawn on the future by the improvidence of youth. We have drawn in Australia very largely on the future; we have had to pay for the indiscretions and improvidence of youth. We have been subjected to our period of purgation, but I believe we shall come through that ordeal not only ennobled but wiser. Mr. Lance has taken a somewhat more optimistic view than I might be inclined to take under the circumstances, and I think that perhaps he has done well in not referring to any of those political considerations which might be held to modify his conclusions. It is all very well to have vast sources of wealth, but if you are not going to use them wisely and develop them prudently of what use are they to you? I think the tactics which are being pursued in the Commonwealth to-day are not calculated to do the one thing that is most essential to the development of Australia, and that is to attract capital and population. In reading over the vital statistics the other day I found that the ratio of natural increase of the population since the year 1861 to the present time has gradually declined. It began with 24 or 25 per thousand and in the year 1902 had gone down to 14, and in that year the net increase over immigration was some-

thing short of 100, so that you see the natural increase of the country has fallen short and has not been supplemented by the introduction of fresh blood from without. Then what are the conditions with regard to the employment of capital? What has happened in the case of Queensland? Millions of pounds were put into the sugar industry; I have lived there, seen its development and marked its vicissitudes. I have known men of means who have gone there, and who have spent there the best years of their lives in developing this industry, and have gone away beggared. Yet in the first year of the Commonwealth's existence Parliament passed an Act whereby the very labour vital to the sugar industry was abolished; not only that, they had before them an object lesson, for Sir Samuel Griffith attempted the same thing some years ago. He said he never meant his legislation to apply to the Kanakas, whom he regarded as an economic necessity, but like many public men he underrated the political forces behind him. Mr. Herbert Spencer speaks of the great force of political momentum which pushes a man further than he wishes to go, and although Sir Samuel Griffith did not wish to sacrifice the Kanakas, knowing that that would be ruin to the industry, still for a time he had to obey the behests of party. But Sir Samuel was an honest man----

[Mr. Reid concluded abruptly, mistaking the striking of the clock for the chairman's bell.]

The Hon. Sir HORACE TOZER, K.C.M.G. (Agent-General for Queensland): I desire to associate myself with the congratulations to my colleague Mr. Lance for his most instructive and interesting address and for the beautiful illustrations which followed it. I entirely endorse his observations as a whole, and especially am I pleased that a mercantile man repeats my advice concerning the value of immigration. If emigrants are wisely selected at this end, liberal assistance given towards transport, and there is a proper organised system of distribution in Australia, every emigrant going there must contribute to the national wealth and make employment for others already there. To recruit emigrants from towns is an absolute waste of money and is the pregnant cause of there being so many discontented and unemployed persons in the principal towns of Australia. I hail with pleasure the projected meeting of Commonwealth and State Ministers to discuss this important subject, and would strongly advise the repeal of all restraining legislation against white labourers because of its injurious effect. and to remove the impression which undoubtedly exists here, that the working classes of Australia do not welcome immigration. I

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have lately visited Canada where I saw immigrants streaming in in thousands, already 150,000 having gone there last year, whilst Australia ceases to attract even a few. The cause is apparent. Canada and her provinces join in promoting immigration, declare it to be their national policy and avowedly support the distribution with money and land. Australia makes no effort. With regard to the ticks, they made their appearance first ten years since and have done their worst. Their rayages were confined to the coast districts, the sun apparently destroying them in the back country. They will probably extend as elsewhere only just so far as the natural conditions permit, and though still a nuisance and expense are not causing the wholesale losses they did at first, the young cattle being less disposed to the diseases the ticks carry with them. It is gratifying also to notice that in spite of the unprecedented drought there does not appear to be any diminution of the flow of artesian water through the numerous bores, and that irrigation from this source is more extensively and profitably carried out. Mr. Lance has wisely confined his Paper to Australia's capabilities as shown by her proved exports. I would like to go further, and estimate what Australia could produce with a larger population, by giving Queensland as an example. I do not take Queensland because it is the State I specially represent, but because I have their data: possibly the other States would prove my contention very much better. Of Queensland's 430,000,000 acres, half a million only have ever been under cultivation. The adult male population approximates 150,000, about the same number of people that visited the Glasgow Exhibition daily. Allowing for such as are employed in the cities and in other branches of industry such as mining and pastoral, it would be fair to estimate that never more than 50,000 males are engaged in agricultural pursuits. Now what do these produce in the way of food? Sugar, wheat, maize, oats, rye, rice, potatoes, arrowroot, coffee, fruit, butter, cheese, hay and cotton. In one year the exports were valued at almost twelve millions sterling, and the high-water mark has reached for sugar 164,000 tons, wheat 1,700,000 bushels, maize 3,500,000 bushels, oats 42,000 bushels, malting barley 277,000 bushels, rice 38,000 bushels, potatoes 50,000 tons, arrowroot 6,000 tons of tubers, pumpkins 57.000 tons, coffee 136,000 lbs., butter 10 million lbs. weight, cheese 21 million lbs. weight, wine 150,000 gallons, hay 178,276 tons, and cotton (recently) 269,000 lbs. If this can be produced by 50,000 male adults from half a million acres in a year, and that a dry one, what can be produced from all Australia in the best seasons

with, say, even twenty times this number engaged in this industry? Take the maize crop alone presently; this is used in Australia mainly as a food for animals. Cross to the U.S.A., and there you will find a good maize crop means more wealth to America annually than all the operations of Wall Street, a wider use being made of it. Australia can produce this crop equally well if not better. The average yield per acre in Queensland for maize is 22 bushels and for wheat 20 bushels : and in 1894 this State alone possessed 7 million cattle and 20 million sheep, and exported dead meat worth £1,600,000 sterling. I have visited almost every portion of the British Empire. and can certify there is nothing in general which cannot be produced in some portion and with reasonable facilities for transport as cheap as in any other part of the globe. What the Empire wants is to take full advantage of its national relationship, and then neither in peace nor in war need there be any anxiety on the score of food supply. Mr. Lance is to be congratulated for having so clearly shown the capabilities of Australia in this direction, and particularly at the present time, when the subject is so prominently before the public of the United Kingdom.

Dr. T. STORIE DIXSON (University of Sydney): An author known to some of us, King Solomon, wrote an important Paper called "The Proverbs," and I think Mr. Lance's Paper resembles in view of its valuable advice that, rather than another important Paper called "Lamentations." As a doctor in New South Wales. I had occasions, in connection with investigations concerning consumption, to visit the Darling Downs, which took me over some curious country. One thing which struck me was that there was a depth of rich soil simply marvellous, which only cried out for water. When you consider what Australia was in the past and what has already been done, it is wonderful. Of all the countries in the world, this was probably in the past the least populous. Even in the far north there is but little evidence of civilisation to indicate that people came over from other adjoining countries; this shows that the climatic conditions from time immemorial have been most repulsive. But the white man has practically taken from death its sting ; that is to say, a country which could not support human beings to any extent will in future support an enormous population. As shown by Mr. Lance's Paper, we have to thank Mr. H. C. Russell, the Government Astronomer, for doing more than is popularly believed to bring wealth to New South Wales. Attention has been called to the enormous underground reservoirs, the consequence of which is we know where to get the water which the black man could not find.

Turning to another point, I should say, from what I have seen in America, that we are by no means making use of our knowledge as we ought in regard to the preservation of milk. What we want is more skilled labour to make the most of the material we have. Take for instance the question of freezing as opposed to chilling meat. You can understand how freezing will spoil the fibre by the expansion of the water at the point of congealing, and what we have to grasp is, that chilling if effectually carried out will do quite as well as freezing, and probably in the long run be more economical and better preserve the flavour. In coming across from California it was pointed out to me that large areas of arid land had been turned into lovely gardens-gardens of Eden-by means of irrigation. Their irrigation is not nearly so difficult as ours, seeing that the water there is obtained, even in case of artesian wells, far more easily than in Australia, but I am proud to think the people of my native country have shown such an amount of confidence in themselves, of pluck and of perseverance, under circumstances so adverse as to appal any but the most brave hearted, as shown in Mr. Lance's Paper this evening.

The Hon. ALFRED DOBSON (Agent-General for Victoria and Tasmania): It was a very happy inspiration on the part of Mr. Lance to give us the Paper which he has read to-night upon Australia and her food products, and I think he has entirely succeeded in carrying conviction with him in the points he started to prove. I think the first object really was to draw attention to the actual food products which exist in Australia, and to the vast potentialities in this direction which Australia enjoys. There could be no doubt that next to the mining and wool industry the production of food is one of the greatest factors in the prosperity of Australia. It is just as well I think to remind the public of the existence of these food products, and of the fact that in time to come, and when a good market exists, they can be produced in enormous quantities-products of all kinds coming from the tropical north and the more temperate south. As an example we find that while in 1871 there were only 334,000 acres under wheat cultivation in Victoria, in 1891 there were 2,000,000 acres under cultivation, and as to butter, while in 1891 there was none exported, ten years later the exports amounted to 14,280 tons. Let me give one other instance of how rapidly, where there is a market, food products increase. In Tasmania the total exports of fresh grown fruit, jam, and pulp rose from £224,000 in 1899, to £446,000 in 1902: that is to say, the export of fruit almost doubled in about two years. During the present fruit season twenty-seven ocean going vessels will call at Hobart and bring nearly half a million bushels or cases of apples, which much exceeds the record. The supply of fruit which could be exported by Tasmania alone if payable markets existed is in fact almost unlimited, and there is no doubt Victoria could largely increase its output. Of course Mr. Lance did not pretend to deal with all manner of articles, but I may mention as one closely allied to fruit, that a successful industry has sprung up in Victoria and Tasmania in the making of pulp from fruit, a trade which I hope to see increasing. There is one point which must be seriously considered by all interested in this matter, for there is no disguising the fact that we are considerably handicapped by the cost of freight to this country, and I ought not to talk only of the English market, because now we can talk of the South African market also for some of our products, and I believe that some day we shall have a European market as well, that is to say, a market in France as well as in Germany. Already I am in correspondence with people in Germany with a view to establish there in addition to a trade in timber a trade in fruit, and I am informed that there are thousands of people in Germany who would be willing to pay a fair price for apples if they could be got there. But what we want to see in order to make this industry flourish is some means of conveying the produce more cheaply. Fancy going into a shop in London and paving 2d., 3d, or perhaps 4d, for one single prime apple which brings the producer in Tasmania next to nothing. I only mention apples for example. Think what a splendid food they are for the people. If we can get an improvement in that direction, I feel sure a larger trade will spring up as an example of what co-operation will do (for co-operation is another matter which ought to be considered when dealing with the food products of Australia). I may mention that already co-operation has done enormous things for the production of butter in Victoria, and I find by the latest papers to hand that a Company has been started called the Victorian Fruit Growers' Co-operative Company, whose object is to carry on their business in the most economical manner. This Company has succeeded in making the best shipping arrangements that have ever been offered to growers in Victoria. Through the efforts of this Company we find that freights will be from $6\frac{1}{2}d$. to $10\frac{1}{2}d$. per bushel of apples lower than hitherto. For instance, the Aberdeen Line is to charge 2s. 101d. a case, the Blue Anchor Line 3s. 1d., and the P. & O. and Orient Lines 3s. 21d. That is the greatest reduction on the freight which has been VOL. XXXV.-3.

obtained hitherto, and I suppose that as time goes on we shall have not only the rates reduced but improvements effected in the refrigerating machinery. One more remark and I have done. One does not know, of course, what will be the result of the present fiscal agitation—don't be alarmed; I am not going into the question. Of course an Agent-General, at least according to my idea, ought to regard himself merely as the servant of his State, and has therefore no right to talk politics, but at all events I do not think I shall be guilty of any impropriety in saying that one cannot help regretting there should be so many narrow-minded and silly people who think that they can burke discussion on what after all is a very difficult question, and one which is of immense interest to the whole Empire. But, however this may be, let us hope that the discussion will result in good for the Empire of which Australia is an integral part.

Mr. R. MCMILLAN: Just a few words on this Paper, which is one of the best I remember to have heard. Mr. Lance speaks of the impetus given to the production of butter by offering bonuses. Now, as a free trader, I object to bonuses, but this was a most excellent thing for Victoria, for a little judicious help goes a very long way in developing an industry, and Australia wants a little judicious help to-day. I hope she is going to get it. I think Queensland (of which we have heard to-night a good deal) has a great future before her, but I have to complain that, being connected with Queensland, when I used to go there they searched my baggage at the borders, and that I felt to be a most unfriendly, unbrotherly thing to do. I fought for the Commonwealth for all I was worth, but I knew we should have to pay a price for it. The rule of the world is "nothing for nothing, and very little for a shilling." We have to pay for being united but we have got inter-Colonial free-trade, and we are one people. Australia is a better country now because we are one people, and I want free trade in the Empire. Australia is capable of enormous things with the little judicious help to which the reader of this Paper has referred.

Sir FREDERICK YOUNG, K.C.M.G.: In common with everyone in this room, I join in thanking Mr. Lance for his admirable and valuable Paper. My object in rising is just to allude to one of the points which you, Sir, in your excellent opening speech, mentioned on the subject of the policy of small areas being adopted for settlement in the Colonies. As one who was associated with Edward Gibbon Wakefield, the founder of the great Colony of New Zealand, so long ago as 1839, I happen to know that was an essential part of his admirable plan for colonisation. A few years after, also, as manager of shipping for the Canterbury Association, I sent out under its auspices some 1,200 or 1,500 of the first colonists to Canterbury, and I knew a good deal in those early days of the celebrated Canterbury Plains to which you have referred. Thus I am able to say that this particular plan was prominently in the minds of the founders of the Colony of New Zealand.

Mr. ROBERT DUNCAN: I have for some time been a member of this most useful Institution, but have never had the privilege of addressing it. I rise now merely to make one remark, which, although somewhat bearing on politics, is not an observation of a party nature. We have the privilege of hearing gentlemen from all parts of the Empire, who can speak with knowledge and authority on the important questions on which we desire to be instructed. In regard to the question which must be in the mind of all of us, that is, whether in the future we are going to have a preference within the Empire or not, I think we must all admit that the great population of the old country requires, and must have, cheap and abundant food, and I think this lecture must have impressed upon us that we need have no fear that that food in the home countries will be either dear or scarce while it comes in free from the great Empire under our old flag.

Mr. J. H. GEDDES: I have listened with great pleasure to the interesting and practical address from the esteemed commercial representative of New South Wales, who is so thoroughly conversant with the producing interests of our great Commonwealth. In my opinion a statement from such a source has a most important bearing upon the fiscal controversy now convulsing. Great Britain, and practically the whole Empire, for the main question is surely not the time-worn issues of either free trade orprotection, but simply as to the effect a tax upon food supplies would have upon the cost of manufacture ; therefore it behoves the agriculturists of the Empire to accept the challenge and prove that their own immense, comparatively undeveloped areas of production, with a slight stimulant in the developing stages only, would serve to supply all the requirements of the Empire, with no appreciableincrease in prices. Thus, the total imports of Great Britain in 1903 were approximately £542,000,000, of which £232,000,000 may be classed as food supplies: to render the Empire selfsupporting we should require to apportion off, say, half the grain, flour, meat, butter, fish, representing a total of £92,000,000 to the British producers, and a similar amount to the Colonial producers,

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to which would be added £41,000,000 for tea, sugar, coffee, tobacco, and one-third of the wine imports, or £138,000,000 in all. Could the British producers contribute this? If not, how much? Might I be pardoned for suggesting that the Colonial Institute should follow up the admirable Paper of Mr. Lance, which the necessarily limited time will not permit me to dwell upon, by an invitation to British and Colonial representatives to practically state their case in a series of Papers extending throughout the season, and so be the means of contributing valuable light and information which should be heartily welcomed by both parties upon this most important subject in its bearing upon the future of the Empire.

The CHAIRMAN: It is now time to draw this discussion to a close, and I will ask you to give a hearty vote of thanks to Mr. Lance for his admirable Paper. Departing from our custom, I will ask an old friend of ours to second the motion, Dr. Parkin, who is, as you are aware, now engaged on an imperial work of great moment—I mean the administration of the Rhodes scholarship fund.

Dr. G. R. PARKIN, C.M.G., M.A., LL.D.: I have great pleasure in complying with the Chairman's request that I should second the vote of thanks, and my pleasure is the greater from the fact that I have just had the privilege, for the second time, of taking a bird'seve view of the States of Australia. Travelling with one's eves open, even in a rapid journey, many impressions to which reference might be made naturally fix themselves on the mind. But first let me say with regard to the Paper we have just listened to, that nothing strikes me about it more than the extreme care with which the facts are arranged, and the great moderation with which they are stated. That is an important consideration. As a colonist, I have always urged my fellow-colonists not to exaggerate the advantages of things abroad. It does not pay in the long run. The speaker has not concealed the difficulties of Australian life. Travelling all over the Empire, a feeling which constantly impresses me is the marvellous range of training and discipline which our race is getting in different parts of the world. If an emigrant goes to Canada he has to fight conditions of frost; in Australia he has to fight conditions of drought. Well, our race has the fibre which has made us the strongest in the world, and we should not object to conditions in different parts of the world which are going to retain that fibre for us. Difficulties were made to be overcome. If you want to see the way in which some can be overcome, I would advise you to go to Australia. The other day I was at Perth. I travelled up country through a desert for 380

miles on a single line of rail, with a water-pipe two feet nine inches in diameter beside it, and at the end of that distance I found 60,000 people depending on that little railway for all the food, and the tube for most of the water they used. Truly an amazing achievement! Look at the moral energy and courage, the political and industrial faith involved in it. Of course, at the end of that line they were producing several million sterling per annum of gold. That kind of courage makes a great nation, and I, for one, welcome these difficulties and obstacles. One word about the cheapness of Australian production and its abundance. I remember fourteen years ago when I went to Queensland first, I was much struck with the statement that growers considered they were richly repaid if they could get $1\frac{1}{2}d$. per pound for their beef. The other day the ship on which I came home had on board nearly £700,000 worth of gold from Western Australia, and 900 tons of Victorian butter. This is an illustration of the wealth which is pouring into this country from these Colonies. In the course of my visit to South Australia I drove from Adelaide to Marble Hill, and I venture to say, after having during the last nine months seen large parts of Canada, the United States, New Zealand, and other countries, that I have never witnessed intense cultivation (gardening) carried on with greater perfection and better results than in South Australia. There is one word of criticism which I have to offer with regard to the Paper, and which applies, I might almost say, with one or two exceptions, to all my Australian friends. There was a certain Scottish theologian who, when he came to a difficult text, used to say, "This text presents great difficulty; let us look it boldly in the face, and-pass on." I am reminded of this when you come to the question of sugar and black labour in the North, and the allimportant labour question in Australia, together with the question of whether you really wish for British emigrants or not. I want to say this as my own personal opinion. Much has been said by Mr. Lance and others about small culture which is, no doubt, very true. But I believe that Australia, as a whole, is really a place for working on a large and extensive scale. If there is any country in the world which ought to encourage capital and deal with things on a large scale, it is Australia, and as long as Australia discourages capitalists and men of wealth from going there, as long as industry is not allowed to work in those natural channels which encourage wealth to employ itself there, Australia cannot do justice to its own vast possibilities. I have every sympathy with the labouring man who is trying to make a paradise for himself.

But I will make this criticism. Wages are not so high in Canada as they are in Australia, yet the working man in Canada gets more comfort than the working man of Australia. When they asked me a while ago in Australia, hearing the great reports of industrial progress of Canada, whether I would advise them to go to Canada, I replied "No. I was brought up on a Canadian farm. You talk of your eight hours a day. There are often times when you would have to work sixteen hours a day in Canada, and the Australian, with his view of labour, had better not go there." But my point is this-the moment you put wages up to an abnormal figure, all the cost of living, rents and everything, go up too. The wheels of industry are clogged by these exceptional wages; capital is prevented from coming, and the workman does not find himself in a greater paradise than before. My firm conviction is that if Australia would stop supporting labour in an artificial condition by money borrowed in this country, and if every workman were free to use his energy to the best of his ability without limitation, within five years' time Australia, from its vast natural resources, would become one of the richest and most solvent countries in the world. You cannot have a great and prosperous country in these days without a large population, and a large population can only be drawn by favourable industrial conditions. Rightly or wrongly, there is a settled opinion in this country that Australia does not wish for emigrants, even from the Mother land. If right, this impression represents a selfish and mistaken policy on the part of a people inhabiting a country the size of Europe; if wrong, Australian statesmen and people should take the most energetic means of correcting the impression. I cannot tell you how valuable is the service which I think is rendered by this Institute in securing men like Mr. Lance, who know the conditions about which they are speaking, to come and state them clearly and fairly to you. I have, therefore, much pleasure in seconding the vote of thanks.

Mr. C. C. LANCE: I am very much obliged to you for your hearty vote of thanks. In dealing with a subject like this you will understand that there are difficulties presented to me, not only on account of the comprehensiveness of the subject and the difficulty of condensing the matter within a reasonable compass, but also on account of my position as an Australian Government official. And on that ground I may say as regards Dr. Parkin's criticism that my failure to go into the black labour and other political questions is one for which I may perhaps be excused. There is just one point raised by Mr. Reid. He said we had fallen off very much in regard to the natural increase of population. I don't think he quite accurately stated the case. If there has been a decline in the natural increase, the Australian figures, according to Coghlan, still compare favourably with other countries, and the excess of births over deaths is about 15 per thousand per annum, against about 12 per thousand in Great Britain.

A vote of thanks was, on the motion of Mr. Lance, given to the Chairman and the proceedings closed.

ROYAL COLONIAL INSTITUTE.

REPORT OF THE COUNCIL

included 1,170 Resident, 2,971 Non-Landra, e.g. (8 honoray values an electric and exclusion 1,175 have on electronic in the Arrows Subscription and exclusion a 1,105 Fellows. Mile Honoray, Treasance & Wittenien of Accounts B appendix, which honoray into the other of 102,020, which was ruled in 1050 for the account of the freehold of the fourthme, bad been redeced. The Annual Meeting of Fellows will be held in the LIBRARY OF THE INSTITUTE on TUESDAY, February 16, 1904, at Four P.M. precisely, to elect the Council for the ensuing year, and to receive the Annual Report of the Council and Statement of Accounts.

> By Order of the Council, J. S. O'HALLORAN,

> > Secretary.

ROYAL COLONIAL INSTITUTE, NORTHUMBERLAND AVENUE : February 1, 1904.

ROYAL COLONIAL INSTITUTE.

REPORT OF THE COUNCIL

TO BE PRESENTED TO THE ANNUAL MEETING

On TUESDAY, FEBRUARY 16, 1904, at FOUR p.m.

The Council have much pleasure in presenting to the Fellows their Thirty-sixth Annual Report.

The number of candidates elected during the past year comprised 67 Resident and 259 Non-Resident Fellows, or a total of 326, as compared with 430 in 1902 (an exceptional period, being Coronation Year) and 295 in 1901. On December 31, 1903, the list included 1,476 Resident, 2,971 Non-Resident, and 13 Honorary Fellows, or 4,460 in all, of whom 1,188 have compounded for the Annual Subscription and qualified as Life-Fellows.

The Honorary Treasurer's Statement of Accounts is appended, and shows that the loan of £35,020, which was raised in 1886 for the acquirement of the freehold of the Institute, had been reduced on December 31, 1903, to £7,720. 4s 10d.

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Thirty-sixth Annual General Meeting.

The following table indicates the number of Fellows and the annual income in each year since the foundation of the Institute in 1868 :---

	Date	•			No. of Fellows	Annual income (exclusive of Building and Conversazione Funds, but inclusive of Life Compositions and Entrance Fees)			
	1. 10.00			15.5		£ s. d.			
To June 1:		•	•	•	174	1,224 14 5			
>>	1870	•	•		275	549 10 8			
>>	1871				210	503 16 4			
**	1872				271	478 10 4			
13	1873			•	349	1,022 9 1			
**	1874		•		420	906 12 11			
**	1875	•	- 1		551	1,038 15 8			
,,	1876		•		627	1,132 3 3			
	1877				717	1,222 18 3			
. ,,	1878				796	1,330 13 11			
**	1879				981	1,752 18 2			
,,	1880	•			1,131	2,141 8 10			
**	1881				1,376	2,459 15 6			
	1882				1,613	3,236 8 3			
37	1883				1,959	3,647 10 0			
,,	1884				2,306	4,539 0 10			
19	1885				2,587	5,220 19 0			
"	1886				2,880	6,258 11 0			
To Dec. 31	1. 1886			201	3,005	6,581 2 5			
"	1887				3,125	6,034 3 0			
	1888		12	1.00	3,221	6,406 11 5			
37	1889				3,562	7,738 7 11			
17	1890		10.01		3,667	6,919 7 6			
39	1891	1.000		19130	3,782	7,362 2 10			
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	1900			1.1.1	4,105	7,142 8 3			
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**	1902	•		•	4,407	*8,042 5 1			
99 6	1903		•		4,460	7,740 4 9			

The obituary of 1903 comprises 96 names, as given below, including General Sir H. C. B. Daubeney, G.C.B., a Vice-President; Sir Charles Nicholson, Bart., a Vice-President and one of the original founders of the Institute; and the Hon. John Tudhope, a Councillor, all of whom have done good service on the governing body.

* Coronation year.

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Alexander Airth (Natal), William M. Allport, Captain Leonard R. S. Arthur, C.M.G. (Goid Coast Colony), Alexander C. Bailie (Transvaal), Albert P. Baker, J. A. Bam (Cape Colony), William H. Barry (Rhodesia), John Beck (South Australia), Michael J. Bedford (Cape Colony), Ernest A. Bremner (British Columbia), Donald Cameron (West Africa), Edward B. Cargill (New Zealand), Arthur Chambers, Henry B. Christian (Honorary Corresponding Secretary Port Elizabeth), Samuel S. Cole (Gold Coast Colony), George E. Colebrook (late of Victoria), George A. Craig, General Sir H. C. B. Daubeney G.C.B. (a Vice-President), Sir Edwyn S. Dawes, K.C.M.G., James Driver (Straits Settle-ments), Hon H. T. Duffy, K.C. (Canada), Thomas N. Dyer (Cape Colony), Rev. D. J. East (late of Jamaica), Francis O. Edlin (Fiji), Joseph J. Elliott, J. Alfred Ellis, J.P. (Cape Colony), John A. Ewen (late of Victoria), Frederick J. Ayrea Litts, J.P. (Cape Colony), John A. Enter (dite of victoria), Frederick Fearon, Thomas Finney, J.P. (Queensland), James Flower (Cape Colony), Hon. William Forrest, M.L.C. (Queensland), William D. Freshfield, John Geard (Cape Colony), Hon. Morgan S. Grace, M.D., C.M.G., M.L.C. (New Zealand), Thomas S. Hall (Queensland), Stanford Harris, M.D. (Teneriffe), Hon. A. W. Harvey (Newfoundland), Edward W. Hayward (South Australia), Quintin Hogg, William Hole (Straits Settlements), Clifford W. Jalarte Sonwal Day Hanking, Alfred G. Harton (New York) Holgate, Samuel Day Hopkinson, Alfred G. Horton (New Zealand), Edwin E. Isemonger (Straits Settlements), Stewart Jolly (late of Ceylon), William Kilgour (New South Wales), W. T. Kingsmill (Cape Colony), J. Watson Knight, Hon. John Laing (Cape Colony), Robert Landale (late of New South Wales), Nathaniel W. Levin (late of New Zealand), Hon. Sir Samuel Lewis, C.M.G., M.L.C. (Sierra Leone), John Lowles, Hon. Robert Macfarlane, M.L.C. (Orange River Colony), W. Grant MacGregor, Frank R. Malleson, Frank Mandy (Cape Colony), Henry F. Morgan (Queensland), Hon. Sir Oliver Mowat, G.C.M.G. (Canada), Sir Charles Nicholson, Bart. (a Vice-President), John Nowlan, Archibald Parker (late of Natal), Charles Pharazyn (New Zealand), Andrew Picken, Thomas Plewman (Cape Colony), Alexander Porter (St. Vincent), Walter B. Ramsay (Transvaal), Major-General A. T. Reid (late Bombay Staff Corps), Richard M. Roberts, J.P. (Cape Colony), Hon. Sir John Robinson, K.C.M.G. (Natal), William Rollo (late of Ceylon), George W. Rusden (Victoria), N. A. St. Hilaire (Trinidad), Maurice Salom, J.P. (South Australia), John Sanderson (late of Victoria), Lt. Colonel Senator Hon. Sir Australia, Sonn Sanderson (ale of retoria), Directonar, Directonar Benard Frederick T. Sargood, K.C.M.G. (Victoria), Abraham Scott (late of South Aus-tralia), Arthur Shanks, M.Inst.C.E., Field-Marshal Sir J. Lintorn Simmons, G.C.B., G.C.M.G., James Villeneuve Smith (late of New Zealand), William F. Stamper (Cape Colony), Hon. Sir James G. Lee Steere, K.C.M.G., M.L.A. (Western Australia), Allen C. Stewart (India), John Studholme (New Zealand), Hon. Nathan Thornley, M.L.C. (Victoria), Charles W. Toussaint (Queensland), Hon. John Tudhope (a Councillor), L. H. Twentyman (Cape Colony), R. C. Critchett Walker, C.M.G. (New South Wales), C. A. Scott Watson (South Australia), Rt. Rev. W. T. Thornhill Webber, D.D. (Lord Bishop of Brisbane), Frederick G. West, C.E. (late of the Straits Settlements), Rev. William T. Western, Frederick H. Wilson (New Zealand), Andrew T. Wood (Canada), George Worthington (late of Victoria).

Vacancies on the Council have arisen through the death of General Sir H. C. B. Daubeney, G.C.B., and Sir Charles Nicholson, Bart., Vice-Presidents; the resignation of the Hon. Sir David Tennant, K.C.M.G., Councillor, and the death of the Hon. John Tudhope, Councillor. They have been filled up *ad interim* and subject to confirmation by the Fellows, under the provisions of Rule 6, by the appointment of the Right Hon. Sir George Goldie, K.C.M.G., and Sir Cecil Clementi Smith, G.C.M.G., as Vice-Presidents; and the Right Hon. Sir J. West Ridgeway, G.C.M.G., K.C.B., K.C.S.I., Dr G. R. Parkin, C.M.G., M.A., Dr. Alfred P. Hillier, B.A., and Mr. Lionel Phillips as Councillors. The following retire in conformity with Rule 7, and are eligible for re-election :--President: H.R.H. The Prince of Wales, K.G., G.C.M.G. Vice-Presidents : H.R.H. Prince Christian, K.G., G.C.V.O., the Duke of Devonshire, K.G., the Earl of Dunraven, K.P., C.M.G., Lord Strathcona and Mount Royal, G.C.M.G., and the Hon. Sir Robert Herbert, G.C.B. Councillors : Sir Charles E. F. Stirling, Bart., Admiral Sir N. Bowden-Smith, K.C.B., Sir Westby B. Perceval, K.C.M.G., Lieut.-General R. W. Lowry, C.B., Messrs. William Keswick, M.P., and Allan Campbell.

The Annual Dinner took place at the Whitehall Rooms on May 1, under the Presidency of Lord Strathcona, G.C.M.G., and was a most successful gathering.

The Annual Conversazione was held at the Natural History Museum, Cromwell Road, on June 24, by permission of the Trustees of the British Museum, and was attended by about 2,000 guests.

The following Papers have been read and discussed since the date of the last Annual Report :--

Ordinary Meetings :---

"The Trade and Industry of South Africa." Ben H. Morgan.

"Australia and Naval Defence." Senator Matheson.

"The State in Relation to Trade." Benjamin Kidd.

"Our Colonial Kingdoms." Harold G. Parsons.

"The Cabinet and the Empire." The Right Hon. R. B. Haldane, K.C., M.P.

"Malaria in India and the Colonies." Major Ronald Ross, F.R.C.S., F.R.S., C.B. ANT TOTA

"Our Fiscal System." Alfred Hillier, B.A., M.D.

"Australia as a Food Producing Country." C. C. Lance. Afternoon Meetings :---

"Queensland: Its Material Progress and Natural Resources." James P. Thomson, LL.D.

"The Fijians and their Fire-walking." W. L. Allardyce, C.M.G.

As the Institute possesses special facilities for affording reliable information respecting all parts of the Empire, the Council have much satisfaction in stating that this important branch of work continues to expand its usefulness, an unusually large number of enquiries on a great diversity of subjects having been received and replied to during the past year.

The additions to the Library comprise 1,440 volumes (of which 1.100 were presented and 340 purchased), 1,916 pamphlets and parts, 47 maps, 142 photographs, and 41,104 newspapers, and include many rare and important works published both in Great and Greater Britain. The Library has been used by a large number of students, journalists, authors, politicians, and others, who have been enabled, by means of the Catalogue and the shelf arrangement now adopted, to consult with the greatest possible facility all the chief authorities upon any special subject regarding the Colonies and India, either of an official or unofficial character. The numerous enquiries received as to the best books upon Colonial questions show that the study of Colonial history and geography has become more general, and that the value and importance of the outlying portions of the Empire are now engaging the attention of numerous societies and educational bodies throughout the United Kingdom. As an instance of this it may be mentioned that in the syllabus drawn up by the Library Association for the Examination of Library Assistants during the present year, a general knowledge of Colonial literature is for the first time required. The right of Fellows to borrow books from the Library has been exercised to a far greater extent than in any previous year, which is an indication that the privilege is appreciated. The Council are indebted to the Governments of the various parts of the Empire for their official publications, all of which are carefully preserved, as well as to the Colonial and India Offices, the High Commissioner for Canada and the Agents-General, and numerous official and unofficial bodies, for donations which are of considerable service for reference purposes. Numerous gifts have also been received from Fellows of the Institute and others, including publishers whose works, after being reviewed in the monthly Journal, are placed upon the Library shelves. The various Directories, Year Books, and Statistical Tables are kept well up-to-date, and the Colonial and Indian newspapers and magazines, which are regularly received and filed, supply the latest information upon current events in all parts of the Empire. On December 31, 1903, the Library contained 54,700 volumes and Pamphlets (all relating to the Colonies and India) and 322 files of newspapers.

The Council have again invited the attention of His Majesty's Government to a memorial which they presented to the Prime Minister on June 11, 1901, advocating the official proclamation of an "Empire" or "Victoria" day for annual celebration in this country, inasmuch as the proposal has already been given effect to in many outlying parts of the Realm, and evoked demonstrations of patriotic enthusiasm.

The Council have on several occasions protested against the levy, within the Empire, of double income-tax on the same income. and they are glad to observe that the question is attracting attention in other quarters. The Bengal Chamber of Commerce. through the Government of India, recently urged that all income received in England after having paid income-tax in India should. to the extent of such payment, be relieved from liability to assessment in this country; the Board of His Majesty's Treasury however intimated its inability to accept the proposal. The Madras Chamber of Commerce has represented to the Government of India that the double impost levied under the existing system on moneys invested in India by persons domiciled at home is a hindrance to Madras development. At a General Council of Chambers of Commerce held in Adelaide. South Australia, a resolution was passed to the effect "That it is inequitable that income-tax be levied in the United Kingdom on profits made in British Colonies and Possessions, and it is equally inequitable that income-tax be paid in any British Colony or Possession on profits made in the United Kingdom, and that representations be made to the Federal Government to urge the repeal of enactments imposing double income-tax on British subjects by the laws of the separate States and Great Britain." A copy of the Resolution was forwarded through the Governor-General of the Commonwealth to the Secretary of State for the Colonies. and the Lords Commissioners of His Majesty's Treasury expressed regret that they were unable to accept the suggestion therein made.

Emigration to Canada shows a remarkable increase, and the volume of trade with the Mother Country has greatly expanded, as indicated by the official returns. The Council rejoice that the attractions which that vast Dominion holds out to industrious settlers and investors of capital, under the protection of the British flag, are becoming more adequately recognised by the people of these Isles.

The break up of the drought in Australia has happily resulted in a bountiful harvest, and there is every indication of a return of prosperity in connection with the agricultural and pastoral industries of that great continent.

The agreement with the Lords of the Admiralty as to Naval Defence has been ratified by the Commonwealth Parliament, and it is anticipated that the new auxiliary Squadron will arrive in Australian waters at an early date. The contemplated formation of a local branch of the Royal Naval Reserve would, in the opinion of the Council, be a substantial gain to the Empire. Direct contributions to the maintenance of the Royal Navy are now made by Australia, New Zealand, the Cape Colony, and Natal.

The authorities in South Africa, under the able guidance of Lord Milner, have been called upon to cope with an arduous task in carrying out the work of repatriation and repairing the ravages of the late war. The development of the mining industry appears to have been retarded by an insufficiency of native labour, and it is to be hoped that the attention which this important question is now receiving will result in other and sufficient sources of supply becoming available.

The vast resources of the African continent are rapidly being opened up to commercial and industrial enterprise, and a useful addition to the means of communication has been afforded by the construction of a railway in West Africa from Sekondi to Kumasi. There is reason to believe that unlimited areas in Africa and other parts of the British dominions are well adapted to the cultivation of cotton, a reliable and uninterrupted supply of which is essential to the prosperity of one of our leading manufacturing industries.

Since the Brussels Convention came into operation a more hopeful feeling has prevailed throughout the West Indies as regards the future of the sugar industry. A disastrous hurricane caused lamentable loss of life and property in Jamaica; but strenuous efforts are being made by the local authorities and the people, assisted by contributions from this country and elsewhere, to restore cultivation and the buildings that have been so seriously damaged.

The prolongation of Lord Curzon's term of office as Viceroy of India is regarded with much satisfaction, seeing that he has initiated measures of a far-reaching character, both in policy and procedure, of vital consequence to that great Empire. The general condition of the country seems satisfactory, although plague unhappily still prevails in many places.

The practicability of knitting the Empire more closely together by strengthening its commercial ties is a problem, the solution of which is universally admitted to be of the utmost national concern both at home and in the Colonies. The Council have gladly afforded opportunities for the impartial discussion of the subject, the thorough investigation of which they trust will result in the adoption of whatever measures are most conducive to the well-being of the community.

In conclusion the Council congratulate the Fellows on the growth of the Imperial sentiment and the widespread desire that now prevails for the maintenance and consolidation of the Empire. By Order of the Council,

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J. S. O'HALLORAN, Secretary.

January 26, 1904.

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STATEMENT OF RECEIPTS

FOR THE YEAR ENDING.

RECEIPTS.			£		14				
Bank Balance as per last Account £2,77	7 18	10	£	8. 6	d.				
		1		-					
Cash in hands of Scoredary	0 10		2,791	17 1	11				
4 Life Subscriptions of £20	0 0	0	2,101						
84 Life Subscriptions of £10 and under to com-		Ŭ							
	9 17	0	10 6.00						
59 Entrance Fees of £3 17	7 0	0							
258 " " £1. 1s 27	0 18	0							
16 ,, ,, £1. 19s. to complete 3	1 4	0							
200 Arrears of Subscriptions	1 16	0							
1,341 Subscriptions of £2 for 1903 2,68	32 0	0							
1,433 " £1. 1s. for 1:03 1,50	9 18	0							
10 " £1 or less to complete	3 14	0							
187 Subscriptions of 19s. to complete 12	7 13	0							
34 " £2 for 1904, in advance	58 0	0							
106 " £1. 1s. for 1904, in advance 1	1 6	0							
5 " " 1905, "	5 5	0							
			6,128	11	0				
Annual Dinner, received in connection with			225	0	0				
Conversazione, ditto	190	10	0						
Rent for one year to December 25, 1903 (less Property 7	1,125	0	0						
Insurance repaid	7	7	0						
Library Catalogues (Sale of)	5	5	0						
Proceeds of Sale of Papers, &c	63	10	6						
Interest on Deposit				10	0				
Journal		•••••	381	1	3				

£10,947 12 8

Examined and found correct.

F. H. DANGAR II. F. BILLINGHURST Hon. Auditors.

January 19, 1904.

Thirty-sixth Annual General Meeting.

AND PAYMENTS

DECEMBER 31, 1903.

PAYMENTS.	215		£	8.	
Salaries and Wages		2	.035		8
Proceedings—Printing, &c.			278	5	7
Journal- Printing£387 1					
Printing £387 1	1 11				
Postage 159	5 9)			
94	-		546	17	8
Printing, ordinary		4	81	13	1
Postages, ordinary			227	3	0
Advertising Meetings			25	6	4
Meetings, Expenses of			184	17	6
Reporting Meetings			29	8	0
Stationery			147		
Newspapers		. 5	119	8	-7
Library-					
Books£130 1					
Binding, &c 44	7 9)			
A STATE AND A STAT		-6	175	0	8
Fuel, Light, &c			143		6
Building-Furniture and Repairs			223		7
Guests' Dinner Fund				13	1
Rates and Taxes		•	395	1	6
Fire Insurance			26	8	0
Law Charges			2	2	0
Telephone		•	17	0	
South African War Memorial		•	21	7	6
Annual Dinner		•	254	7	8
Conversazione	17				
		7 .			
Electric Lighting, &c		6			
Floral Decorations		0			
Music		6			
Printing		6			
Fittings, Furniture, &c		0			
Attendance, &c 25	1.4	6	350	10	7
Gratuity	51		100		0
			72) 11
Miscellaneous Subscriptions paid in error refunded	•••••	•••	12		0
Payments on Account of Mortgage—	•••••	••			
Interest	12	8			
Principal	15	8			
	10	0	3,749) () 4
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			9,260)	1 7
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M. F. OMMANNEY,

Honorary Treasurer. January 1, 1904.

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VOL. XXXT.-3.

	£ s. d.	219 15 3			30,358 10 6 30,520 0 0	61,098 5 9 1,687 8 1	£62,785 13 10	Y, surer.	th Rule 22 <i>a</i> — 9. 1 <i>s.</i> , and the	Auditors.
ASSETS AND LIABILITIES, DECEMBER 31, 1903.	LIABILITIES. É s. d. ASSETS.	432 7 1 By Subscriptions outstanding £87	"Balance of Loan for Purchase of Site and to pay off Debentures on security of Mortgage 7,720 4 10 "Building (cost price) £20,268 3 5	·0 · 00	 	Balance at Bank £1,675 16 ,, in hands of Secretary 11 12	<u>£62,785 13 10</u>	January 1, 1904. M. F. OMMANNEY, Hon. Treasurer.	Examined and found correct. A list of the Fellows in arrear on the 31st December, 1903, has-in conformity with Rule 22a- been laid before the Honorary Auditors by the Honorary Treasurer, showing an amount due to the Institute of £879.1s, and the above Statement of Assets is contingent on this sum producing £219.15s. 3d.	January 19, 1904. F. H. DANGAR Hon. Auditors. H. F. BILLINGHURST Hon. Auditors.

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Thirty-sixth Annual General Meeting.

LIST OF DONORS TO THE LIBRARY-1903.

a' Beckett, A. W.

Aborigines' Protection Society

Acadian Society (New Brunswick) Admiralty, The

to countries Question at the

- African Book Co. (Grahamstown, Cape Colony)
- African Commerce, Proprietors of

African Review, Proprietors of

African Society, The

- African Standard (Mombasa), Proprietors of
- African World, Proprietors of Agricultural Reporter (Barbados), Proprietors of

Alcan, Felix

- American Colonisation Society (Washington)
- American Geographical Society (New York)
- American Museum of Natural History (New York)
- Anaman, Rev. J. B. (Gold Coast Colony)
- Anderson, Rev. J. Forrester (Mauritius)

Anglo-African Argus, Proprietors of

Anglo-American Magazine, Proprietors of

- Annual Review Publishing Co. (Canada)
- Anthropological Institute

- Antigua Observer, Proprietors of Antigua Standard, Proprietors of
- Archer, F. Bisset (Gambia)
- Argosy (British Guiana), Proprietors of
- Armidale Express (N.S. Wales), Proprietors of
- Ashburton Mail (New Zealand), Proprietors of
- Assam, Chief Commissioner of
- Auckland Star, Proprietors of
- Auckland University College, New Zealand

- Australasian (Melbourne), Proprietors of
- Australasian Chamber of Commerce in London
- Australasian Hardware and Machinery, Proprietors of
- Australasian Insurance and Banking Record, Proprietors of
- Australasian Journal of Pharmacy, Proprietors of
- Australasian Medical Gazette, Proprietors of

Australian Book Co.

- Australian Field (Sydney), Proprietors of
- Australian Journal of Education (Proprietors of)
- Australian Mail, Proprietors of
- Australian Mining Standard (Sydney), Proprietors of
- Australian Museum (Sydney), Trustees of
- Australian Mutual Provident Society (Sydney)
- Australian Stock Exchange Intelligence, Proprietors of

Australian Tobacco Journal, Proprietors of

- Australian Trading World, Proprietors of
- Automobile Club Journal, Proprietors of
- Bahamas, Government of the
- Baillairgé, G. F. (Canada)
- Ball, Dr. John (Egypt)

Ballarat Star, Proprietors of

Balmain Observer (N.S.W.), Proprietors of

- Balme, Messrs. C. & Co. Bank of Australasia
- Bank of Anstralasia
- Bankers' Institute of Australasia
- Banks & Son, Messrs. Robert

Barbados General Agricultural Society

Barbados Globe, Proprietors of Barbados, Government of Bataviaasch Genootschap van Kunsten en Wetenschappen, Batavia Batuvantudave C. (Ceylon) Bayly & Co., Messrs. A. W. (Lourenço Marques) Beaufort Courier (Cape Colony), Proprietors of Bedford Enterprise (Cape Colony), Proprietors of Beira Post, Proprietors of Belilios, E. R., C.M.G. Bell & Sons, Messrs. George Bemrose & Sons, Messrs. Bendigo Advertiser (Victoria), Proprietors of Bengal, Asiatic Society of Bengal Chamber of Commerce Bengal, Secretary to Government Bengough, J. W. (Canada) Bermuda, Government of Bermuda Colonist, Proprietors of Bertrand, Dr. L. **Bishopsgate Institute** Blackwood & Sons, Messrs. William Bloemfontein Post (Orange River Colony), Proprietors of Blyth, Sir James, Bart. Board of Trade Bombay, Government of Boosé, James R. Boston Public Library Bourassa, Henri (Canada) Bourgeois, P. F. (Canada) Boyle, Sir Cavendish, K.C.M.G. (Newfoundland) Bradley, A. G. Brassey, Hon. T. A. Brassey, Rt. Hon. Lord, K.C.B. Briggs, William (Canada) Bright, Charles Brisbane Chamber of Commerce Brisbane Courier (Queensland), Proprietors of Brisebois, J. A. (Canada) **Bristol** Public Libraries Britannia, Proprietors of British and South African Export Gazette, Proprietors of British Australasian, Proprietors of .British Central Africa, H.M.'s Cominissioner British Columbia, Government of British Columbia, Agent - General for British Columbia Department of Mines

British Columbia Mining Exchange, Proprietors of British Columbia Review, Proprietors of British Empire League British and Foreign Anti-Slavery Society British Guiana, Government of British Guiana Chamber of Commerce British Guiana Immigration Department British Honduras, Government of British Museum, Trustees of British New Guinea, Lieut.-Governor of British North Borneo, Governor of British Refrigeration, Proprietors of British South Africa Co. British Trade Journal, Proprietors of British Women's Emigration Association Brockman, F. S. (Western Australia) Brooks & Co., Messrs. W. (New South Wales) Brown, R. C. (Canada) Browne, Ltd., Messrs. T. B. Budget (New Plymouth, New Zealand), Proprietors of Bulawayo Chronicle, Proprietors of Bult, C. M. Bureau of Statistics, Washington, U.S.A. Burma, Government of Busk, C. W. (British Columbia) Cameron, Edward R. (Canada) Campbell, J. W. (Canada) Canada, Government of Canada, Commissioner of Emigration for Canada, Department of Agriculture and Statistics Canada, Department of Labour Canada, Department of the Interior Canada, Geological Survey of Canada, High Commissioner for Canada Lancet (Toronto), Proprietors of the Canada, Royal Society of Canadian Bankers' Association (Toronto) Canadian Forestry Association Canadian Institute Canadian Legal Publishing Co. (Toronto) Canadian Magazine (Toronto), Proprietors of Canadian Military Institute

Canadian Press Syndicate (Montreal) Canterbury Agricultural and Pastoral Association (New Zealand) Canterbury College (New Zealand) Canterbury Times (New Zealand), Proprietors of Cantlie, Dr. James Cape Argus, Proprietors of Cape Church Monthly, Proprietors of Cape Daily Telegraph, Proprietors of Cape Mercury, Proprietors of Cape of Good Hope, Government of Cape of Good Hope, Agent-General for Cape of Good Hope, Department of Agriculture Cape of Good Hope Government Biologist Cape of Good Hope University Cape Times, Proprietors of Cape Town Chamber of Commerce Capenny, S. H. F. Capitalist, Proprietors of Capricornian (Queensland), Proprietors of Carmody, Prof. P. (Trinidad) Cardiff Free Libraries Carpentaria, Lord Bishop of Cassell & Co., Messrs. Castaldi, E. (Malta) Catholic Publications Co. (Canada) Causton & Sons, Messrs. Joseph Central African Times (Blantyre, B.C.A.), Proprietors of Central Provinces of India, Government of the Ceylon Association in London Ceylon, Government of Ceylon, Government Record Keeper Ceylon Independent, Proprietors of Ceylon, Medical College Ceylon Observer, Proprietors of Ceylon, Postmaster-General Ceylon Standard, Proprietors of Ceylon, Surveyor-General Ceylon, Times of, Proprietors of Chambers, Messrs. W. & R. Chapman & Hall, Messrs. Charlottetown Herald (P.E.I.), Proprietors of Chase, Eliza B. Chemist and Druggist of Australasia, Proprietors of Chewings, Dr. Charles (South Australia) China Mail (Hong Kong), Proprietors of

Christchurch Press (New Zealand), Proprietors of Church Missionary Society Church Notes (Jamaica), Editor of Citizen, Proprietors of City Club, Cape Town City Liberal Club Clarendon Press Clarion (British Honduras), Proprietors of Clark, Mr. Justice A. Inglis (Tasmania Clarke, W. W. (New South Wa'es) Clougher, T. P. Clougher, Thomas R. Clowes & Sons, Messrs. William Clozel, F. J. Cold Storage, Proprietors of Colliery Guardian, Proprietors of Colomb, Sir John C. R., K.C.M.G., M.P. Colombo Museum (Ceylon) Colonial Bank Colonial Consignment and Distributing Co. Colonial Goldfields Gazette, Proprietors of Colonial Guardian (British Honduras), Proprietors of **Colonial Office** Comité de l'Afrique Française (Paris) Commercial (Manitoba), Proprietors of Commercial Intelligence, Proprietors of Commercial Publishing Co. of Sydrey, New South Wales Commonwealth of Australia, Government of the Communauté des Sœurs de Chavité (Montreal) Conant, Thomas (Canada) Coolgardie Miner, Proprietors of Coorg, Chief Commissioner of Coté, N. Omer (Canada) Cox, Horace Craig, John R. (Canada) **Crown Agents for the Colonics** Cumberland, F. Barlow Cyprus, Government of Daily British Whig (Canada), Proprietors of Daily Chronicle (British Guiana), **Proprietors** of Daily Mail (Queensland), Proprietors of

Daily Record (Queensland), Proprietors of

- Daily Telegraph (Launceston, Tasmania), Proprietors of
- Daily Telegraph (Napier, N.Z.), Proprietors of
- Daily Telegraph (New Brunswick), Proprietors of
- Daily Telegraph (Quebec), Proprietors of
- Dalgety & Co., Messrs. (New South Wales)
- D'Alviella, Le Comte Goblet
- Darcy, Jean
- D'Argent, Nestor
- Davey, Flack & Co., Messrs.
- Davis & Sons, Messrs. P. (Natal)
- Davis, Hon. N. Darpell, C.M.G. (British Guiana)
- Dawson, Dr. Rankine
- Debrett's Coming Events, Proprietors of
- Deed, Walter
- Dent & Co., Messrs. J. M.
- Derby Free Public Library and Museum
- Deutsche Kolonialgesellschaft
- Diamond Fields Advertiser (Kimberley), Proprietors of
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Donations Purchase	1,100 340	1,383 533	29,530 11,574	47	142	
Total	1,440	1,916	41,104	47	142	

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NOTICES OF NEW BOOKS RELATING TO THE COLONIES AND INDIA.

(By JAMES R. BOOSÉ, Librarian R.C.I.)

Willson, Beckles.—Ledger and Sword: or, the Honourable Company of Merchants of England Trading to the East Indies (1599–1874).
2 Vols. 8vo. Pp. x.-452, 437. London: Longmans, Green & Co. 1903. (Price 21s.)

Some four years ago Mr. Beckles Willson gave us an admirable record of the work of the Hudson's Bay Company in connection with the settlement and development of Canada. He has since further extended his researches, and compiled a highly entertaining account of the main features of the dramatic story of the East India Company, the lingering spirit of which flitted-almost unmarked-from the centre of the Empire as recently as the year 1874. It is a curious coincidence that a Corporation which took so prominent a part in the extension of empire in the East should not have had greater attention bestowed upon its work from its birth to burial. But the fact remains that it has fallen to the lot of Mr. Beckles Willson to give us the first connected and popular account of the great work performed by the officials of the Company and of the exploits of Clive, Hastings, Wellesley, and others in connection with its administration. It has been generally supposed that the field worked by the Company was restricted to India, but, as Mr. Willson points out, its operations extended to Persia, China, St. Helena, and other remote regions. In each of these countries the work of the Company was effectually carried on, treaties were made, and expeditions fitted out for the extension of the Company's territories. In the pages of Mr. Willson's well-written work we obtain a graphic account of the Company of Merchant Adventurers of England Trading to the East Indies, its struggles against enemies abroad and at home, its triumphs and its failures. Mr. Willson, after a close study of the Company's work, obtained from numerous volumes, pamphlets, and State Papers, where the story lay buried, expresses his admiration of the long, patient rule of a century and a half, the Company's administrative ability, its concern for the natives, and the care it bestowed upon its dependents. Whilst he defends the actions of the Company's servants from the attacks which were made upon them by prejudiced people, he does not fail to expose the faults of many of its most illustrious representatives. Throughout the two volumes there is a very evident sympathy with the Company and its officials, the Author upholding that all the old historians and essayists dealing with British India totally misread the character of the early history of the Company. Mr. Willson is of opinion that history will yet do justice to the Company. The perusal of its annals, he says, by an unbiassed posterity will dispel all the false notions created by the Company's contemporaries of its character and rule. "It had the faults of all great Corporations; but from the very first it had also sturdy virtues of its own." The book is a sound piece of historical work, and is a valuable contribution to the literature bearing upon the expansion of British influence in the Far East. The absence of an index, however, is a serious defect.

Williams, Frederic Condé.—From Journalist to Judge : an Autobiography. 8vo. Pp. 319. Edinburgh : George A. Morton. London : Simpkin, Marshall & Co. 1903. (Price 6s.)

Mr. Justice Condé Williams has written a highly entertaining account of his career, commencing as a journalist, and terminating as a judge in the colonial service of the Crown. The first portion of his work is devoted to his early days, which were spent mainly in Birmingham, where he came into contact with many of the leading residents of that busy centre of trade and learning, and relates several amusing anecdotes regarding some of the prominent politicians of the present day. After occupying the position of editor of the Birmingham Daily Gazette, Judge Condé Williams, in 1873, was called to the Bar, and joined the Midland Circuit, where a year or two of varied experience passed away rapidly enough. The Judge next proceeded to France in a junior position on the staff of the Times. His colonial career began in the year 1876, when he accepted the offer of a district judgeship in Jamaica, and his description of life in that charming island is well worth reading. Five years later he proceeded to Natal as a puisne judge, and subsequently to Mauritius in a similar capacity, and here he completed his service as a colonial official. Judge Williams, in his attractive book, relates numerous anecdotes, and sets forth his views and experiences in a most amusing manner. His fluent pen and retentive memory have enabled him to produce a work which is of interest from beginning to end. From the critical point of view there are very few errors, the most prominent being Mr. de Montague being described as the author of "Negro Nobodies," instead of Mr. de Montagnac ; Marie Galante, one of the dependencies of Guadeloupe, being referred to as Marie Galande; and a reference to the South African sjambok, which the author states is pronounced shambok in Dutch. This should be "in English," as the Dutch speak of it as the sambok.

Hayford, Rev. Mark C., D.D., F.R.G.S.—West Africa and Christianity. 8vo. Pp. 68. London: Baptist Tract and Book Society. 1903. (Price 2s. 6d.)

This is a reprint of a lecture, together with some additions, delivered by the Rev. Dr. Hayford in the United States some three years ago, and sets forth the views of the Author as regards the extension of Christianity in West Africa. As a native of that part of the Empire, Dr. Hayford is well qualified to set forth the present condition of missionary work as it is being carried on by representatives of the various European societies. Having referred to the introduction of Christianity into West Africa by the Portuguese in 1481, Dr. Hayford proceeds to give his views upon certain African customs which affect Christian or missionary work in various parts of the country. He devotes one chapter to answering the objections raised by some missionary societies as to the training of Africans in Europe and America for mission or pastoral work, and upholds that as the work of the evangelisation of Africa can best be done and perpetuated by Africans themselves, so it is essential for the African student, in the interests of his life-calling and work, to be trained away from his home and in more favourable circumstances.

Gibson, J. Y.—The Story of the Zulus. 8vo. Pp. viii.-276. Pietermaritzburg: P. Davis & Sons. 1903.

The story of the Zulus as related by Mr. Gibson, who for some years has been a magistrate in Zululand, is full of interesting details regarding the once powerful native nation whose fame spread far and wide over South Africa, and its greatness formed the favourite topic of conversation amongst all tribes. Going back to the last twenty years of the eighteenth century, Mr. Gibson gives us a graphic description of the warlike operations which resulted in the attainment of power by the Zulus in that portion of South Africa situated on the borders of Natal. Beginning with an account of the career of the powerful chief Tskaka, Mr. Gibson relates the various events in the history of the nation, the power of which continued to be a source of danger and trouble to the colonists of Natal for a long series of years. The events leading up to the war with Cetshwayo are set out at considerable length, and the subsequent settlement of the country under a British Resident referred to. But perhaps the most interesting portion of the book is that in which the Author deals with the arrival of the Boer emigrants and the terrible events connected with their attempted settlement in Natal, and their subsequent trek to the northern land now known as the Transvaal. Mr. Gibson's excellent account of this portion of the history of Natal and Zululand is deserving of careful study and close attention. He sets forth the details clearly and succinctly, and contributes a useful chapter in connection with the story of South Africa and the occupation of the land.

Notices of New Books.

George, Claude.—The Rise of British West Africa, comprising the Early History of the Colony of Sierra Leone, the Gambia, Lagos, Gold Coast, &c. Part iii. 8vo. Pp. 193-288. London: Houlston & Sons. 1903. (Price 2s.)

This is the third part of Mr. Claude George's history of the West Coast of Africa, and brings the work up to the period of the administration of Sir Charles Turner, who arrived in Sierra Leone as Governor of the West African settlements in 1825. One of the first acts of Sir Charles Turner was to report to the Home Government that the climate was by no means so bad as represented, an opinion which has been shared in by subsequent administrators, with fatal results. The questions dealt with by Mr. George embrace a description of the various elements in the population of the Colony of Sierra Leone; the work of the Church Missionary Society, which has laboured effectively on the West Coast of Africa for a hundred years; and an account of the expedition against Ashanti led by Sir Charles Macarthy in 1823, when the leader was killed and the country lost a brave and talented officer, and Africa a man who had shown himself to be a warm friend and benefactor. Mr. George further relates the details of an expedition into the interior of Sierra Leone for the purpose of restoring the trade, which had been interrupted by ill-disposed native chiefs, and of the Commission of Inquiry appointed for the purpose of investigating the condition of the liberated Africans. The work is full of interesting material, which has been well selected and ably condensed.

Gibbs, Philip H.—Australasia: the Britains of the South. 12mo. Pp. vi.-196. London: Cassell & Co. 1903. (Price 2s. 6d.)
Gibbs, Philip H.—India: Our Eastern Empire. 12mo. Pp. viii.-207. London: Cassell & Co. 1903. (Price 2s. 6d.)

These two volumes are the first of a series entitled "Our Empire Series," which it is intended shall set forth the chief points regarding the present condition of the various outlying portions of the British Empire. The object is excellent, but it is absolutely essential that such works should be thoroughly reliable and the facts beyond reproach. As regards the volume dealing with the Commonwealth of Australia and New Zealand, one cannot but be struck with the number of errors and omissions contained in its two hundred pages. In the first place, in a book recently published, one would expect to find some reference to the federation of the various States of Australia-which, by the way, are termed Colonies-into the Commonwealth, but the author is silent upon the subject. One of the greatest and most successful of all Australian explorations was, we are told, accomplished by J. McDonell Stuart, and that the British Government decided to make Tasmania a part of the British Empire before any other nation, like France, Germany or Holland could claim it. Referring to sport in New Zealand, the Author states that in VOL. XXXV.-3. 0

nothing is that country more remarkable than in the way it abounds in many wild animals, and that Captain Cook's tame and domesticated pigs soon became changed during their savage life in the woods into wild boars. In dealing with Western Australia, Mr. Gibbs states that Kalgoorlie is now the chief centre of the gold fields and the best gold-producing mine of Western Australia. Sydney is described as an old-fashioned, straggling and jumbled-up city, and Port Phillip, on Hudson's Bay, is a mere creek compared with Sydney Harbour. Dealing with Kanaka labour, the Author states that it is a pity that the sugar-planters still consider it necessary to employ these black people in Australia, because it would be very much better if the work could be done by the Australian people themselves. Mr. Gibbs appears to be unacquainted with the terms of the Pacific Islands Labourers' Bill, which prohibits Kanaka immigration on and after March 31 next. Albany is said to be the first port called at by seagoing travellers to Western Australia, whereas all the chief steamship lines now make Fremantle the first port of call; hence the statement that one day the Government may make Albany the capital town of the State is somewhat discounted. Australian readers will probably be surprised to learn that there is hardly a horse in the country that does not buck, and that "the Riverina is divided into well-cultivated farms, where the fields at harvest-time are glorious with golden wheat." It is unnecessary to further deal with the many extraordinary statements appearing in this work, for enough has been said to show that it cannot in any way be of service to those seeking reliable information regarding the Australasian possessions of the Crown. Turning to the volume dealing with India, the Author, to use his own words, takes the reader for a ramble through the Eastern Empire, and points out its chief features and attractions. Both volumes contain numerous illustrations and some coloured plates.

Hay, G. U., D.Sc.—A History of New Brunswick, for Use in Public Schools. 12mo. Pp. 176. Toronto: W.J. Gaze & Co. 1903.

The writing of elementary works dealing with various remote portions of the Empire is to be commended, more especially when they are written by well-known authorities who have carefully studied the events connected with the history of their particular outlying dependencies. Few men are better qualified than Dr. G. U. Hay to set forth the history of the Province of New Brunswick, which can claim as its own many well-known public men who have rendered valuable service not only to the Dominion of Canada, but to the Empire as a whole, and a number of writers who have helped to add something to the world's literature. Included in a somewhat lengthy list are Professor James de Mille, who, as a writer of boys' stories, is well known; Charles G. D. Roberts and Bliss Carman, poets whose fame has gone far beyond Canada, and whose verses have charmed many readers in both hemispheres; and Dr. G. R. Parkin, who by his spirit and eloquence aroused a stronger feeling in all parts of the Empire for a closer federation, and who has recently visited various parts of the Empire in connection with the Rhodes Scholarships for the higher education of the Anglo-Saxon youth from every part of the world. Dr. Hay draws special attention to these eminent representatives of New Brunswick, as well as to other historians and scientists who can be claimed as sons of New Brunswick. The historical portion of the work is ably compiled, the aim of the Author being to make the language simple and natural, and so to create an interest, not only among the young, but among grown people, in the natural features and the people and events of the Province. Numerous illustrations are interspersed throughout the text, but the book needs an index.

Richards, T. H. Hatton.—The Cyprus Civil List, 1903. 8vo. Pp. 131-lix. Nicosia : Government Printing Office.

Mr. T. H. Hatton Richards, the Assistant-Secretary to the Government of Cyprus, has compiled a work-the first of its kind issued in the Island-which will prove of considerable service to the various officials connected with its administration. Its title, however, does not convey any idea of the amount of information contained in the work, which is of a most miscellaneous character, and embraces, in addition to the Civil List, local rules and regulations regarding leave, official correspondence. franking, languages, hospitals, pensions, quarantine and public health, together with the Conventions respecting the occupation of the Island, Royal instructions, Imperial Orders in Council, &c. Such a mass of information gathered together in a single volume is invaluable to those who are in any way connected with the Civil Service of Cyprus. Much credit is due to the compiler for the painstaking manner in which he has sought out and arranged many useful details which have hitherto been difficult of access, and to a great extent unobtainable, by those outside the Government offices. Several statistical tables are embodied which set forth the trade, &c., of the Island since the British occupation.

Trotter, Captain Lionel J.—The Bayard of India: a Life of General Sir James Outram, Bart. 8vo. Pp. x.-320. London: William Blackwood & Sons. 1903. (Price 16s.)

It would be difficult to select an individual better entitled to the enduring remembrance of all who knew him than Sir James Outram. Thus wrote Colonel W. Morris, of the Bombay Army, in the year 1865. Sir James Outram, styled by an opponent the Bayard of India, was a born leader of men, and had few rivals among the best and greatest of the soldier-statesmen who rose to fame in the service of the old East India Company. His life was given to India, and, to use the words of Captain Trotter, who has gathered together so many interesting details regarding a life so memorable, he won alike the confidence and the love of all who served with or under him by sheer force of that personal magnetism

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which springs from lofty impulses guided and sustained by a generous disregard of self. No words could better express the character of the subject of Mr. Trotter's book, as from cover to cover it is a record of an unselfish life, interspersed by deeds of bravery and devotion to duty. Captain Trotter supplies us with a masterly review of the whole career of Sir James Outram, who first went to India in-1819, in which year had begun a new era of peace, order, and prosperity for nearly the whole of the country, under the strong and beneficent rule of the Marquis of Hastings. Reared under a system which gave to every man an equal chance of going to the front, Outram very soon engaged in the excitement of active service, and proved himself an able and daring leader. Hiswork amongst the Bhil marauders of Khandesh, whom he reclaimed from their lawless habits and traditions to peaceful acquiescence in the rule of their new masters, forms one of the most brilliant episodes in a career full of brave deeds, and the space devoted to it in Captain Trotter's book is altogether too short. As Political Agent in Lower Sind Sir James Outram fully justified his selection for this important office, and not only maintained the peace and security of the country immediately under his political care, but aided our imperilled garrisons in Western Afghanistan by throwing troops, stores, and ammunition into Kandahar at a most critical time. Captain Trotter draws attention to the weakness of the Administration of Lord Ellenborough, and states that at this period Outram's letters show how strenuously he pleaded for that free hand which Lord Ellenborough shrank from granting to our commanders in Afghanistan. After referring to the Persian war of 1857, in which Outram was given the command of the British forces, Captain Trotter deals with the events of the Indian Mutiny, in which Outram had command of the Bengal Army, which he handed over to General Havelock, whilst accompanying the force in the capacity of Chief Commissioner of Oudh. The subsequent events in the career of this remarkable man are ably dealt with by his accomplished biographer in a work which iswell written, and for literary merit will take a high place in the literature dealing with the history of India during the lifetime of Sir James Outram.

- Free Trade and Tariff Reform : the Fiscal Position in Australia.
 4to. Pp. 72. Sydney and Melbourne : Angus & Robertson.
 London : Sir Joseph Causton & Sons, Ltd. 1903.
- Shaw, Fred G.—The Empire's Salvation : a Sound Fiscal Policy. 12mo. Pp. iv.-136. London : G. P. Putnam's Sons. 1903. (Price 1s.)
- Byles, Sir John Barnard.—Sophisms of Free Trade and Popular Political Economy Examined. 12mo. Pp. lxi.-324. London: John Lane. 1904. (Price 3s. 6d.)

- Gaskell, Thomas Penn.—Free Trade a Failure from the First. 8vo. Pp. x.-91. London: Macmillan & Co. 1903. (Price 2s.)
- British Industries under Free Trade : Essays by Experts. Edited by Harold Cox. 8vo. Pp. xix.-376. London : T. Fisher Unwin. 1903. (Price 6s.)
- Morris, T. J.—Britain's Peril: an Exposition of our Fiscal Policy. 12mo. Pp. vi.-63. London: Greening & Co. 1903. (Price 1s.)
- Farrer, Lord.—Free Trade versus Fair Trade. 12mo. Pp. xx.-465. London : Free Trade Union. 1904. (Price 5s.)
- Claremont, A. W.—Pictures in Political Economy : a Primer for the Crowd. 12mo. Pp. ix.-185. London : Grant Richards. 1903. (Price 3s. 6d.)
- Money, L. G. Chiozza.—Elements of the Fiscal Problem. 8vo. Pp. 237. London: P. S. King & Son. 1903. (Price 3s. 6d.)

In the above-named works the various aspects of the Fiscal Question are set forth by experts representing both sides of the subject, and the main points of the controversy are placed before the reader in a clear and intelligible manner. They are naturally of various degrees of merit, and can hardly be regarded as dispassionate; but the question having been made a party one, rather than a national one, it is perhaps too much to expect dispassionate argument in the discussion of its various aspects. A study of the works themselves will, however, enable the student formulate his own views upon the chief points of the controversy.

Craig, W.—My Adventures on the Australian Goldfields. 12mo. Pp. viii.-344. London : Cassell & Co. 1903. (Price 6s.)

The Author of this work arrived in Melbourne in 1851, when the discovery of the Australian goldfields was occupying the attention of the majority of the residents of Victoria. At first he engaged in pastoral pursuits, but subsequently became one of the many thousand gold seekers on the newly discovered fields. His experiences are related in a manner both interesting and entertaining, and give a good idea of the hardships and dangers attending the search for gold and the life on the fields in the early days. The book abounds in exciting incidents of bushranging exploits, adventures with the blacks, the liquor traffic on the goldfields, and an account of a life of hard toil and irregular remuneration. The chapter relating the Author's acquaintance with Melville, the bushranger, is of more than ordinary interest, more especially as the events of his career have been told and retold during the past fifty years, and have been interlarded with sensational accounts of adventures and hairbreadth escapes for which Mr. Craig states there was not the slightest

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foundation. He gives many instances of the outlaw's generosity towards those in want and distress, and whilst upholding that he had grave faults and that his mode of living deserved severe punishment, Mr. Craig states that he possessed in a marked degree the gifts of sympathy and charity. The work is full of interesting details of life in Australia in the early days of settlement, which are placed before the reader in an attractive style.

Leighton, Robert.—In the Land of Ju-Ju: a Tale of Benin, the City of Blood. 12mo. Pp. viii.-343. London: Andrew Melrose. 1903. (Price 5s.)

In this well-written story the Author has embodied an account of the massacre of the expedition to Benin, when two Europeans were the only survivors, together with the work of the punitive expedition to avenge the loss of so many valuable lives. The main incidents of the story are based upon various events connected with the two expeditions, the facts being interspersed with a considerable amount of fiction of an entertaining and exciting character, detailing the difficulties and perils attendant upon the work of civilising and opening up the interior of Africa.

Davis, Alexander.—Native Problem in South Africa, with a Review of the Problem in West and West Central Africa, by W. R. Stewart. 12mo. Pp. x.-242. London: Chapman & Hall. 1903. (Price 6s.)

The native problem in South Africa is one of the greatest difficulty. and since the days of native slavery under the Boer has, with more or less insistence, been a source of trouble to the country. Mr. Davis has endeavoured in this work to enlighten the British public on the dangers connected with the question, and to place on record sufficient connected " data to guide the reader towards an understanding of the real position in Africa. Although the work was written before the recent decision regarding Chinese labour was arrived at, it nevertheless contains a large amount of information regarding the introduction of Asiatic labour and its effect upon the future supply throughout South Africa. Mr. Davis upholds that the presence of Chinese would create a sort of emulation among the natives of South Africa, influencing them to strive to become as expert as their yellow brethren, and at the same time relegating them to their proper sphere as clients for work, and not the arbiters. He points out the absolute necessity for South Africa of labour for the mines, the benefits derivable by the many from the gold produced, the legitimacy of the demand, and the obstacles to the employment of white labour. Further, he discusses the present method of native employment, and indicates where it fails, so as to necessitate recourse to Chinese. In submitting his views upon these various aspects of the question the Author brings to bear a thorough knowledge of the African native as he lives

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and thinks, thus supplementing actual study by personal familiarity with the factors presented. The latter part of the book is devoted to a study of the native problem in West and West Central Africa, contributed by Mr. W. R. Stewart, who was formerly connected with the Niger Company, in which the writer gives an account of the inhabitants, their religious beliefs, the question of European administration, and other equally interesting points connected with the native question as it is found in that part of the African continent. An index would much increase the usefulness of the work.

Cunningham, Lieut.-Colonel D. D. (C.I.E., F.R.S.)—Some Indian Friends and Acquaintances: a Study of the ways of Birds and other Animals frequenting Indian Streets and Gardens, Sm. 4to. Pp. viii.-423. London: John Murray. 1903. (Price 12s.)

This is a charming work upon the ways of birds and other animals frequenting Indian streets and gardens, compiled from Colonel Cunningham's note-books, covering a period of some thirty years residence in India, but more especially in Calcutta and the immediate neighbourhood. The Author explains that his notes do not deal with the abstruser parts of natural science, but are records of common events such as may occur in any garden in the lower deltaic region of the Valley of the Ganges. They deal, in fact, with matters that are possibly familiar to most botanists and zoologists, but which will prove of interest to the general reader with a taste for natural history. The greater part of the book is devoted to an account of the numerous species of birds which form the most conspicuous feature in the vertebrate fauna of Indian gardens; but Colonel Cunningham also refers to the various kinds of mammals which are also to be found in the open spaces in the neighbourhood of the towns. His notes are full and instructive, and set forth his impressions of bird and animal life in a most entertaining manuer. The illustrations, many of which are coloured, are well drawn, and add to the value of the work for reference purposes.

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DONATIONS TO THE LIBRARY.

Government of Burma.—Resolution reviewing the Reports on the Working of Municipalities in Burma, 1902-3.

Government of the Cape of Good Hope.—Sessional Papers, 1901-2. Acts of Parliament, 1902.

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- The Lords Commissioners of the Admiralty.—Admiralty Charts (J. D. Potter, Agent), Nos. 3,391 and 3,398. Anchorages in Ysabel Island, South Pacific.
- Agent-General for New South Wales.—Kerosene Shale Deposits of New South Wales, by J. E. Carne, 1903. Six States of Australia and New Zealand, 1861 to 1902, by T. A. Coghlan. Year-Book of New South Wales, 1904.
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- India Office.—Census of India, 1901: Mysore, Andaman and Nicobar Islands, Cochin. Report on the Political Administration of the Baroda State, 1902-3.

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- H.M.'s Commissioner, Uganda.—Uganda Protectorate: King's Regulations and Ordinances, 1901-2.
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- General Council of the Bar of Quebec.—Les Rapports Judiciaires de Quebec: (1) Cour du Banc de la Reine et Cour du Banc du Roi, 12 vols., 1892–1903. (2) Cour Supérieure, 23 vols., 1892–1903.
- Imperial Institute.—Catalogue of Exhibits of Malayan Produce sent to the Imperial Institute, 1893.
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ARRANGEMENTS FOR THE SESSION.

1904.	require word 5 million of a construct status sandline elements
February 9.	Ordinary Meeting at the Whitehall Rooms, at 8 P.M. John
	Ferguson, M.L.C., C.M.G., "Ceylon from 1896 to 1903"
	(with lantern illustrations). The Right Hon. Sir J. West
	Ridgeway, G.C.M.G., K.C.B., K.C.S.I., will preside.
February 16.	Annual Meeting of Fellows in the Library of the Institute, at
	4 P.M.
March 15.	Ordinary Meeting at the Whitehall Rooms, at 8 P.M. "Notes
	on some Canadian Problems." J. G. Colmer, C.M.G.
	The Right Hon. Lord Strathcona, G.C.M.G., will preside.
April 12.	Ordinary Meeting at the Whitehall Rooms, at 8 P.M. "The
	Development of West Africa by Railways" (with lantern
	illustrations). Frederic Shelford, B.Sc. (Lond.), M.Inst.C.E.
April 29.	Annual Dinner at the Whitehall Rooms, at 7.30 P.M.
May 10.	Ordinary Meeting at the Whitehall Rooms, at 8 P.M. "Nigeria."
	Lady Lugard.
June 7.	Ordinary Meeting at the Whitehall Rooms, at 8 P.M.
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Occasional Meetings will also be held in the Library of the Institute at 4.30 P.M., when Papers occupying about half an hour will be read; and, in order to avert undue expense, the reports published in the "Journal" and "Proceedings" will not exceed three pages. A notice of the date and subject of each Afternoon Meeting will be exhibited in the Hall of the Institute, and inserted in the "Journal" whenever practicable; but separate post-cards will not be printed, as in the case of Evening Meetings.

ENGLISH VEGETABLES & FLOWERS FOR THE COLONIES.



VEGETABLES IN NEW ZEALAND FROM SUTTON'S SEEDS.

The above illustration is reproduced from a photograph kindly sent us by our customer, Mr. T. J.

Thomas, Markaraka, N.Z.; who at the same time wrote: "I had a very good erop of Broccoli last year, and am sending you a photograph of myself and a waggon load just off to market. I had a better show a fortnight before when I was in the best of Superb Early White, but wet weather prevented the photographer from coming out, and it was still very wet, as you will see by the mnd on the wheels. The *Broccoli* has paved the road with a good coat of gravel."

No.	1.	Export Parcel Post Collection, including 50 varieties	
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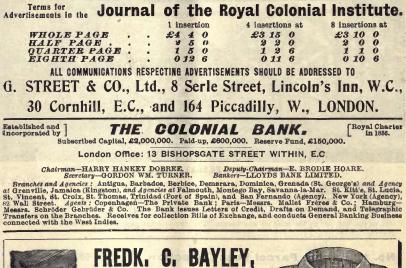


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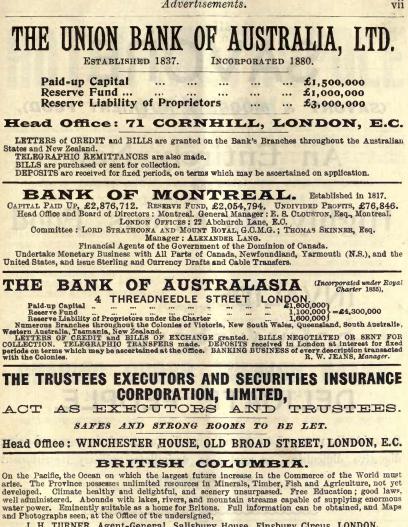
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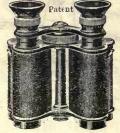
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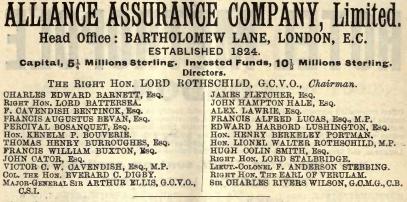
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