

1887.  
(SECOND SESSION.)

NEW SOUTH WALES.

## AUSTRALIAN MUSEUM.

(REPORT OF THE TRUSTEES FOR 1886.)

Presented to Parliament, pursuant to Act 17 Vic. No. 2, sec. 9.

TO HIS EXCELLENCY THE GOVERNOR AND EXECUTIVE COUNCIL.

The Trustees of the Australian Museum, incorporated by the Act 17 Victoria No. 2, have the honor to submit to your Excellency in Council, in accordance with the 9th section of that Act, this their thirty-third Annual Report.

1. The hours during which the Museum is open to the public have continued to be in the past year as in previous years, from 10 until 5 o'clock (or in summer till 6 o'clock) daily, except on Mondays, when it is closed for the necessary purposes of cleansing, and except on Sundays, when the hours are from 2 o'clock only to 5. The record of the number of visitors in 1886 shows a slight increase; the total for the year being 127,231 as against 126,512 in 1885. The largest attendance on one day was 1,526, namely, on Easter Monday, the 26th April; and the largest Sunday attendance was 1,218, on the 25th April. The average daily number of visitors throughout the year was 327 on week-days and 793 on Sundays. It has been gratifying to observe the orderly conduct of the visitors on all these occasions, and the apparently intelligent interest taken in the exhibits by them.

2. The collections are still being increased, mainly by purchases, exchanges, and donations, but also by our collecting and dredging expeditions. A list of these additions, under their separate heads, will be found in Appendices IV, V, VI, VII. Among these may be specially mentioned Shells and Fishes new to the Museum; Birds and Mammals from North-Western Australia; good specimens of Porpoises, caught on the coasts of the colony; a large collection of Ethnological specimens from the South Sea Islands; the skeletons of a *Megaceros hibernicus*, commonly known as the Irish Elk, and of an *Ursus spelæus*, the extinct Cave Bear of Europe.

3. A great improvement and desirable addition to the building has been made by the completion of our new hall. It is 70 ft. long, by 30 wide, and is surrounded by a spacious gallery. This hall is being fitted up with show-cases for the reception of Ethnological collections; after the removal of which from the old wing of the Museum, it is contemplated to refit that wing with cases suitable for Geological and Mineral collections to be exclusively placed there. Rooms will then be required for the Mammals, which are now temporarily in the old wing. Notwithstanding these alterations, the deficiency of adequate space is, and will continue to be, a serious drawback to the usefulness of the Institution. Many of our existing collections cannot be exhibited for want of room. The erection of the new hall has enabled the Trustees to provide retiring rooms for the accommodation of visitors, the absence of which from the building has always been a source of complaint, equally by strangers as by our own townspeople.

4. Catalogues of Australian Zoology are still in course of preparation. The following new publications will shortly be issued:—Catalogue of the Library; Catalogue of Shells, Part I, by J. Brazier; Catalogue of Eggs, by A. J. North; Catalogues of Sponges and Medusæ, by Dr. Lendenfeld; List of Australian Birds, by Dr. Ramsay.

5. The Trustees regret having to report the death last year of the Hon. W. A. Brodribb, M.L.C., one of the elective Trustees. His place at the Board has been filled by the recent election of Edmund Fosbery, Esq.

6. Annexed to this Report are the following Appendices :—

- I.—Annual Balance-sheet.
- II.—Attendance of Visitors.
- III.—Attendance of the Trustees.
- IV.—Acquisitions by collection and purchase.
- V.—Donations.
- VI.—Exchanges.
- VII.—Books acquired.

The Common Seal of the Museum is affixed by order of the Board, this  
first day of March, 1887.

S. SINCLAIR,  
Secretary.

(L.S.)

ALFRED STEPHEN,  
Crown Trustee and Chairman.

## APPENDIX I.

## BALANCE-SHEET for the year 1886.

	£	s.	d.		£	s.	d.		£	s.	d.					
Balance from last year .....				1,836	5	1		Purchase of specimens .....				493	6	9		
From Colonial Treasurer—								"    Ethnology .....				360	8	4		
Statutory endowment .....	1,000	0	0					"    books .....				758	3	0		
Parliamentary appropriation .....	7,475	0	0					"    show-cases .....				528	6	5		
				8,475	0	0		"    bottles .....				205	15	10		
For Guides and Catalogues sold .....				1	12	6		Collection of specimens, including chemicals and spirits of wine .....				297	17	8		
From Indian and Colonial Exhibition Commissioners .....				204	4	7		Cataloguing .....				535	17	0		
								Furniture, &c. ....				99	12	5		
								Travelling expenses and freights .....				113	18	5		
								Expenses connected with Fisheries Exhibition .....				28	10	0		
								Expenses connected with Colonial and Indian Exhibition .....				38	3	1		
								Expenses connected with New Guinea Expeditions .....				31	12	3		
								Salaries—								
								Curator .....	£600	0	0					
								Ticket-writer and Re- gistrar .....	200	0	0					
								Assistants (3).....	590	0	0					
								Night watchman ...	100	0	0					
								Sunday services .....	200	0	0			1,690	0	0
								Secretary, Taxidermist, &c.....				1,659	1	4		
								General expenses, being for Taxi- dermist's materials, ironmongery, insurance, fuel, and sundries .....				201	14	9		
								Balance .....				£	7,042	7	3	
													3,474	14	11	
				£	10,517	2	2					£	10,517	2	2	

Sydney, 14th March, 1887.

Examined and found correct,  
ROBERT HUNT.  
PHILIP GIDLEY KING.

## APPENDIX II.

## ATTENDANCE OF VISITORS DURING 1886.

	Week-days.	Sundays.
January ... ..	8,814	3,558
February ... ..	6,022	3,090
March ... ..	6,358	2,751
April ... ..	9,290	4,199
May ... ..	7,518	3,331
June ... ..	7,435	3,983
July... ..	7,963	3,454
August ... ..	5,948	4,451
September ... ..	6,059	3,087
October ... ..	6,278	3,398
November ... ..	6,085	3,207
December ... ..	8,202	2,750
	85,972	41,259
Total ... ..	127,231	

## APPENDIX III.

## ATTENDANCE OF THE TRUSTEES DURING 1886.

*Official Trustees.*

His Honor the Chief Justice	...	...	...	...	0
The Honorable the Colonial Secretary	...	...	...	...	0
The Honorable the Attorney-General	...	...	...	...	0
The Honorable the Colonial Treasurer	...	...	...	...	0
The Auditor-General	...	...	...	...	5
The Collector of Customs	...	...	...	...	0
The Surveyor-General	...	...	...	...	0
The Colonial Architect	...	...	...	...	2
The President of the Medical Board	...	...	...	...	11

*Crown Trustee.*

The Honorable Sir Alfred Stephen, G.C.M.G., C.B., M.L.C.	...	8
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*Elective Trustees.*

J. C. Cox, Esq., M.D., F.L.S.	...	...	...	...	7
J. Belisario, Esq., D.D.S.	...	...	...	...	5
A. Liversidge, Esq., F.R.S.	...	...	...	...	5
The Honorable Jas. Norton, M.L.C.	...	...	...	...	9
Sir Alfred Roberts, M.R.C.S., Knt.	...	...	...	...	2
H. H. B. Bradley, Esq.	...	...	...	...	4
Robert Hunt, Esq., F.G.S.	...	...	...	...	10
Charles Moore, Esq., F.L.S.	...	...	...	...	4
C. S. Wilkinson, Esq., F.G.S.	...	...	...	...	4
The Honorable P. G. King, M.L.C.	...	...	...	...	6
The Honorable W. A. Brodribb, M.L.C.	...	...	...	...	1
W. J. Stephens, Esq., M.A.	...	...	...	...	5
Edmund Fosbery, Esq.	...	...	...	...	3
Number of Board Meetings during the year	...	13			

## APPENDIX IV.

## SPECIMENS ACQUIRED BY COLLECTION AND PURCHASE.

Mammals:—2 species; 2 specimens collected. 30 species; 39 specimens purchased.
Birds:—32 species; 79 specimens collected. 125 species; 220 specimens purchased.
Birds' Nests:—9 species; 9 specimens purchased.
Reptiles:—4 species; 5 specimens purchased.
Fishes:—77 species; 210 specimens collected.
Insects:—A large number of specimens collected.
Mollusca:—A large number of specimens collected. 29 species; 129 specimens purchased.
Echinodermata:—4 species; 9 specimens purchased.
Hydroid Zoophytes:—A number of specimens collected.
Skeletons:—1 species; 1 specimen purchased.
Skull:—1 species; 1 specimen purchased.
Casts:—17 specimens purchased.
Fossils and Minerals:—16 specimens and sundry collections purchased.
Ethnological specimens, all purchased:—
621 specimens from Admiralty Islands.
289 " " New Ireland.
166 " " Bouka Island.
90 " " New Guinea.
60 " " New South Wales.
18 " " Samoa.
9 " " Fischer Island.
5 " " Gardner's Island.
4 " " New Caledonia.
4 " " New Hebrides.
2 " " Fiji.
2 " " Solomon Islands.
2 " " Sir Chas. Harvey Island.

APPENDIX V.  
DONATIONS.

Specimen.	Donor.
<i>Mammals.</i>	
Orinithorhynchus anatinus ... ..	Mr. J. McNab
Tapozous sp. ... ..	Master A. Clark,
Echidna aculeata ... ..	
Dasyurus viverrinus ... ..	Mr. W. H. Norton.
2 young kangaroos from pouch	Mr. J. Piper.
Ornithorhynchus anatinus ... ..	Dr. J. C. Cox.
Hydromys leucogaster ... ..	Messrs. Sanders & Horn.
Belideus ariel... ..	Lieut. Roche, R.N.
Lagorchestes lagotis ... ..	Mr. W. Cowley.
Phascolumys wombat ... ..	Mr. Asche.
Petrogale peneicillata... ..	Miss L. Walton.
Young Macropus from pouch	Mr. A. Clark.
Hydromys chrysogaster ... ..	Mr. J. Wilson.
2 Dasyurus viverrinus ... ..	Mr. F. Morris.
Hapalotis arboreicola ... ..	Mr. J. A. Thorpe.
Herpestes griseus ... ..	Mr. B. F. Purcell.
Phascolarectos cinereus (albino)	Mrs. P. Roberts.
Phalangista vulpina ... ..	Sir Alfred Stephen.
Phalangista canina ... ..	Mr. Cockerill.
<i>Birds.</i>	
Poëphila gouldii (young) ... ..	Mr. J. Clelland.
Numenius arquata ... ..	
Corvus cornix ... ..	
Gallinula chloropus ... ..	
2 Larus argentatus ... ..	
2 Phyllopneuste, sp. ... ..	
2 Tanagers ... ..	
4 Humming Birds ... ..	
Uria troile ... ..	
Alca torda ... ..	Mr. J. R. C. Sinclair.
Anas bosceas ... ..	
Hæmatopus ostralegus ... ..	
Charadrius pluvialis ... ..	
Totanus calidris ... ..	
Ægialitis hiaticula ... ..	
Vanellus cristatus ... ..	
Cinclus aquaticus ... ..	
Alca torda ... ..	
Entomyza cyanotis ... ..	Mr. J. Doherty.
Astur approximans ... ..	Superintendent, Hospital,
Dromais novæ hollandiæ ... ..	Gladesville.
Manucodia atra ... ..	Mr. Smithurst.
2 Calornis metalica ... ..	
Merops ornatus ... ..	Messrs. English Bros.
2 Manucodia atra ... ..	
Rhectes cirrhocephalus ... ..	
Astur cinereus ... ..	Mr. R. Beet.
Chalcites plagosus ... ..	Mr. W. E. Langley.
Astur approximans ♀ ... ..	Mr. J. M. Brown.
Pardalotus punctatus ♂ ... ..	Mr. W. Flood.
Lagenoplastes ariel ... ..	Mr. A. Black.
2 Craspedophora intercedens ♂	Mr. S. M. Frankland.
Cicinnurus regius ♂ ... ..	
Cuculus flabelliformis... ..	Dr. Fiaschi.
Aquila audax (juv.) ... ..	Mr. J. D. Partridge.
Conurus ochrocephalus ... ..	Mr. Herrmann.
Euphema pulchella (juv.) ... ..	Mr. R. Grant.
4 Estrellda lathamii ... ..	
Myzantha garrula ... ..	Mr. Rose.
Gymnorhina tibicen ... ..	Mr. J. A. Daley.
2 Talegalla fuseirostris ... ..	Lieut. Roche, R.N.
Gracula krefftii ... ..	
Platalea melanorhynchus ... ..	Botanic Gardens.
Dafila acuta ... ..	
Falco melanogenys ... ..	Mr. A. Clark.
Falcunculus frontatus ... ..	
Origma rubricata ... ..	Mr. M. Jaubert.
Pardalotus punctatus ... ..	
Platyercus novæ-zealandiæ ... ..	Mr. C. Moore.

Specimen.	Donor.
<i>Birds—continued.</i>	
Carone australis ...	Mr. H. J. Aekland.
Dromaius novæ-hollandiæ ...	Dr. C. Ross.
Graculus leucogaster ...	} Mr. C. H. Roberts.
Gymnorhina tibicen (albino) ...	
Astur novæ-hollandiæ ...	} Mr. T. W. Ramsay.
Ninox strenua ...	
2 Rhipidura albiscapa ...	} Mr. A. Rose.
Pachycephala rufiventris ...	
Estrela temporalis ...	
Acanthiza pusilla ...	
Estrela bella ...	
Petroeca leggii ...	
Melithreptus lunulatus ...	
Cinlosoma punctatum ...	
Grallina australis ...	
2 Ptilotis auricomis ...	
2 Rhipidura motacilloides ...	} Mr. J. A. Thorpe.
2 Acanthiza pusilla ...	
Anthus australis ...	
Pardalotus punctatus ...	
Ninox maculata ...	
	Mr. L. Jaubert.
<i>Birds Nests.</i>	
Collyriocincla harmonica ...	} Dr. Hurst.
2 Psophodes crepitans ...	
Ptilotis auricomis ...	
„ fusca ...	
Geobasileus chrysorrhæa ...	} Mr. J. L. Isaacs.
Oreoica cristata ...	
22 species of English birds eggs ...	
<i>Reptiles, Batrachia, &amp;c.</i>	
Cyclodus gigas ...	Mr. Shaw.
Chelonia squamata ...	Captain Strachan.
Morelia spilotes ...	Mr. Black.
Hinulia sp. ...	} Mr. W. Bray.
Phyllurus inermis ...	
2 Tree frogs, Pelodyras cærulea ...	Mr. S. W. Law.
Collection of snakes from Illawarra District ...	Messrs. Buzwith & Berry.
Diemenia superciliosa ...	Mr. M. E. Jones.
Morelia spilotes ...	Mr. P. Zirnetta.
Diemenia superciliosa ...	Mr. S. S. Henry.
Acanthophis antarctica ...	Mr. W. R. Rogers.
Morelia spilotes ...	Mr. Benton.
Cyclodus gigas ...	} Dr. J. C. Cox.
Pygopus lepidopodus ...	
Phyllurus inermis ...	Mr. A. Bros.
Pelodyras cærulea ...	Mr. W. E. Kemp.
Phyllurus inermis ...	Mr. W. H. Rafter.
Diplodactylus ornatus ...	Mr. M'Cooley.
Vermicella annulata ...	Mr. J. A. Chevalier.
Diplodactylus sp. ...	Mr. Dunshea.
Phyllurus inermis ...	Mr. E. Coberoff.
Hinulia sp. ...	} Mr. E. F. Rogers.
Brachysoma diadema ...	
Typhlops ruepelli ...	Mr. W. Jahn.
„ „ ...	Mr. H. Campbell.
Acanthophis antarctica ...	Mr. F. Hickey.
Hydrophis stokesii ...	Lieut. Richards, R.N.
Morelia spilotes ...	Mr. P. Hancock.
Hoplocephalus nigriceps ...	Mrs. W. C. Tully.
Hydrosaurus varius ...	Mr. D. Moore.
2 Diemenia superciliosa ...	} Lieut. Roche, R.N.
Grammatophora sp. ...	
Platurus scutatus ...	
Phyllurus miliusii ...	
Hydrosaurus varius ...	
Brachysoma diadema ...	Mr. H. Peir.
Hoplocephalus curtus ...	Mr. H. S. Appleton.
Hinulia tæniata ...	Mr. R. L. Dawson.
Lialis punctatula ...	} Mr. R. Huckstepp.
Diemenia superciliosa (juv.) ...	
Cyclodus gigas ...	Mr. G. Colman.
Lizard, Phyllurus sp. ...	Mr. C. M. Drew.
	Mr. W. Griffin.



Specimen.	Donors.	
<i>Fishes—continued.</i>		
1 Antennarius striatus, Shaw	Dr. J. C. Cox, President, Fisheries Commission.	
1 Sphyræna obtusata, C. & V.		
1 Scorpena eruenta, Rich.		
1 Phyllopteryx foliatus, Shaw		
1 Solenognathus spinosissimus, Gnth.		
2 Saurus myops, C. & V.		
2 Saurus (Saurida) tumbil, Bl.		
1 Fistularia serrata, Cuv.		
1 Monacanthus tossulus, Rich.		
2 Stigmatophora argus, Rich.		
1 Ichthyocampus cinctus, Ramsay		
2 Syngnathus margaritifer, Peters.		
7 Cristiceps, sp.		
1 Opisthognathus jacksoniensis, Macl.		
1 Mugil, sp.		
1 Anguilla, sp.		
5 Clupea sagax, Jenyns.		
20 Engraulis antarcticus, Cast.		
2 Clupea sagax, Jen.		
2 Ichthyocampus cinctus, Ramsay		
1 Stigmatophora argus, Rich.		
1 Platycephalus cirrhonatus, Rich.		
1 Trigla polyommata, Rich.		
1 Hemirhamphus intermedius, Cant.		
1 Tetrodon hispidus, Linn.		
5 Clupea sagax, Jenyns.		
2 Perca fluviatilis, Linn.		
1 Lophonectes gallus, Gnth.		
1 Olisthrops brunneus, Macl. ♀		
1 Arrhamphus sclerolepis, G.		
1 Belone gavioloides, Casteln.		
1 Antennarius commersoni, Lacep.		
1 Fistularia serrata, L.		
1 Batrachus dubius, White		
1 Lotella, sp.		
1 Antennarius striatus, Shaw		
1 Xiphasia setifer, Swains.		
1 Platycephalus cirronatus, Rich.		
1 Callionymus calauropomus, Rich.		
2 Saurus (Saurida) tumbil, Bl.		
1 Hypeneus porosus, C. & V.		
1 Fistularia serrata, Linn.		
2 Hippocampus, sp.		
1 Ostracion lenticularis, Rich.		
1 Chiloscylium modestum, Gnth.		
1 Hypnos subnigrum, Dum.		
1 Xiphasia setifer, Swains.		
1 Gastrotokeus biaculeatus, Be.		
1 Periophthalmus koelreuteri, Pall.		
1 Naseus lituratus, Forst.		
1 Zanelus cornutus, Linn.		
1 Chelmo rostratus, Linn.		
2 Chaetodon, sp.		
1 Chelmo longirostris, C. & V.		
1 Chelinus sp.		
2 Balistes "		
1 Agriopus torvus, Gron.		
2 Ophichthys sp.		
1 Lutianus bengalensis, Bl.		
1 Platy glossus sp.		
1 Glyphidodon "		
1 Labroides "		
2 Anthias pleurotænia, Blk.		
1 Tetrodon sceleratus, Forst.		
1 Ostracion cornutus, Linn.		
1 Ostracion sp.		
1 Pterois volitans, Bl.		
1 Hippocampus sp.		
8 Eleotris adpersus, Cast.		
1 Coris lineolata, C. & V.		
1 Muraenesox cinereus, Forsk.		
2 Atherinichthys sp.		
18 Nematocentris sp.		
1 Gadopsis marmoratus, Rich.		
3 Galaxias sp.		
		Mr. W. Wemham.
		Mr. Thos. Steel.
		Mr. J. S. T. Zeotkowski.
		Mr. Jas. Ferrier.
		Mr. Thos. Temperley.
		Mr. A. Weigall.
		Mr. C. S. Jarrett.
		Rev. G. Brown.
		Lieut. Roche.
		Mr. A. G. Hamilton.



Specimen.	Donors.
<i>Fishes—continued.</i>	
2 Carassius gibelio, Gm. ... ..	Mr. Johnson.
1 Ostracion concatenatus, Bl. ... ..	Mr. Herbert Ives.
1 Dicotylichthys punctulatus, Kaup. ... ..	Mr. W. Ladbroke.
3 Chaetodon vagabundus, Linn. ... ..	}
3 " vittatus, Bl. ... ..	
1 Hypeneus barberinus, Lacép. ... ..	
1 " trifasciatus, " ... ..	
1 Acanthurus triostegus, Linn. ... ..	
1 " lineatus, " ... ..	
1 " sp. ... ..	
1 Naseus marginatus, C. V. o ... ..	
2 Teuthis margaritifera, C. V. ... ..	
3 " javus, Linn. ... ..	
1 " vulpina, S. & M. ... ..	Dr. M'Kinlay, H.M.S. "Swinger."
3 Pseudosearus sp. ... ..	}
1 Callyodon sp. ... ..	
2 Stethojulis strigiventer, Benn. ... ..	
3 " trilineata, Gnth. ... ..	
3 Julis dorsalis, Q. & G. ... ..	
1 Anampses caeruleopunctatus, Rüpp. ... ..	
1 Gobiodon sp. ... ..	
1 Echeneis scutata, Gnth. ... ..	
1 Hippocampus sp. ... ..	
1 Pseudophycis barbatus, Gnth. ... ..	
1 Orthogoriscus mola, Linn. ... ..	Mr. Austin Cockle.
1 Priacanthus macracanthus, C. V. ... ..	Mr. J. H. Edwards.
1 Monacanthus maculosus, Rich. ... ..	Mr. H. Prince.
2 " mosaicus, R. & O. ... ..	Capt. Duncan.
1 Plectropoma maculatum, Bl. ... ..	Mr. W. Flood.
1 Ostracion rhinorhynchus, Blk. ... ..	Hon. Wm. Macleay.
1 Balistes stellatus, Lacép. ... ..	Mr. G. Eastway.
1 Monacanthus chinensis, Bl. ... ..	}
1 Batrachus diemensis, Less. ... ..	
1 Caranx speciosus, Forsk. ... ..	
3 Apogon. sp. ... ..	
1 Periophthalmus schlosseri, Pall. ... ..	
1 Echeneis remora, L. ... ..	
1 " naucrates, L. ... ..	
9 Blennodesmus scapularis, Gnth. ... ..	
1 Ophichthys. sp. ... ..	
2 Opisthognathus, sp. ... ..	
1 Petrosirtes wilsoni, Macl. ... ..	Mr. Pollock.
1 Cybium guttatum, Bl. ... ..	Mr. W. Farmer.
1 Solenognathus spinosissimus, Gnth. ... ..	Mr. T. Temperley.
1 Exocoetus melanocercus, o ... ..	Insp. Mulhall.
1 Monacanthus hippocrepis, Q. G. ... ..	} Mr. G. Eastway.
1 Olistherops brunneus, Macl. ♂ ... ..	
1 Chilodaetylus vittatus, Garr. ... ..	Mr. T. Carroll.
1 Ostracion lenticularis, Rich. ... ..	C. S.
<i>Insecta.</i>	
Collection of Insects, Moths, &c. ... ..	Mr. S. Law.
2 Moths ... ..	Mrs. Kidd.
10 Coleoptera ... ..	} Mr. J. F. Richards.
15 Lepidoptera ... ..	
Ailanthus Moth ... ..	Mr. Thos. Haynes.
Phasma, sp. ... ..	Mr. W. Logan.
2 Heterostoma, sp. ... ..	Mr. J. Hardiman.
Homopteron ... ..	Mr. H. Cadell.
Trachinus, sp. ... ..	Mr. F. Tretter.
Cossus, sp. ... ..	Mr. E. Barnett.
Bracon, sp. ... ..	Mr. G. T. Ellis.
Papilio sarpidon ... ..	} Dr. Blaxland.
Characampa (luctuosa?) ... ..	
Sequosa triangularis ... ..	Mrs. Podmore.
Stigmododera fortnumi ... ..	Master Weigall.
Extatostoma tiaratum... ..	Messrs. W. & E. Plummer.
Papilio erectheus ♀ ... ..	Mr. D. Brady.
6 Diurnal Lepidoptera ... ..	Mr. Thos. Steel.
Mantis, sp. ... ..	Mrs. G. H. Barrow.
6 Coleoptera ... ..	} Mr. J. H. Rose,
Psalidura mitchelli ... ..	

Specimen.	Donor.
<i>Insecta—continued.</i>	
2 Phalacrognathus muellari ♂ & ♀ ...	Mr. C. French.
Larva of Doritiophora ...	Mr. J. G. Neel.
Lepidopterous larvæ attacked by Sphaeria ...	Mr. Thos. Watt.
2 Wild Bees ...	Mrs. W. Bowman.
Phasma, sp. ...	Mr. C. S. Jarrett.
8 Coleoptera (chiefly Lamellicorus) ...	Master O. G. Rienitz.
Craspedia, sp. ...	Mr. J. Macpherson.
Hypochroma occurtaria ...	Miss C. Hill.
2 Diphobia familiaris ...	Mr. T. M. B. Burton.
Phasma, sp. ...	Mr. J. C. Stretten.
Larva of Libellula ...	Mr. H. Schmidt.
"    of Caddis fly ...	Mr. D. Moore.
Cocoon of Hymenopterous insect—Thynus sp. ...	Sir A. Roberts.
Phasma, sp. ...	Mr. B. James.
3 Lepidopterous larvæ ...	Master B. L. Hornshaw.
10 Lepidoptera (chiefly Noctuina) ...	Mr. F. Arthur.
Cherocampa celerio ...	Master C. B. Martin.
Asilus, sp. ...	Master S. Cook.
Extatostoma tiaratum ...	Mr. Cockerill.
Catadromus lacordairei ...	Mr. J. R. Holding.
<i>Arachnida and Miriopoda.</i>	
Heterostoma, sp. ...	Lieut. Roche, R.N.
Scorpio, sp. ...	Mr. T. Corbett.
Heterostoma, sp. ...	Mr. G. Reid.
"    sp. ...	Mr. Hayes.
<i>Crustacea.</i>	
Ibacus peronii ...	} Dr. J. C. Cox. President of Fisheries Commission.
Neptunis pelagicus ...	
Astacopsis serrata ...	
Hyastenus diacanthus ...	} Mr. J. B. Wilson.
Crab ...	
"    ... ..	Mr. G. Wright.
Penæus, sp. ...	Mr. Backhouse.
Lambrus nodosus ...	Mr. Temperley.
6 Apus, sp. ...	Mr. H. Schmidt.
Dromia, sp. ...	Mr. R. Lamond.
<i>Mollusca.</i>	
Rupellaria crenata ...	Mr. Lewis.
Few Shells from Rushcutter's Bay ...	Mr. S. Law.
Collection from Fiji ...	Mr. Thos. Steel.
Cupulus, sp. ...	} Lieut. Roche, R.N.
Chiton, sp. ...	
5 bags of Shell Sand ...	Mr. W. Lovegrove.
Oysters on Stone ...	} Dr. J. C. Cox.
Mactra cumingi ...	
Collection of Shells ...	Mrs. Thos. Wilson.
<i>Echinodermata.</i>	
Sarcoptilus grandis ...	Mr. M'Kenzie.
3 Mespilia globulus ...	} Mr. T. Steel.
Laganum, sp. ...	
4 Linkia, sp. ...	Lieut. Roche, R.N.
Salmacis dussumieri ...	} Mr. T. Temperley.
Tripneustes angulosus ...	
6 Salmacis alexandri ...	
4    "    rarispinia ...	
12 Amblypneustes ovum ...	
3 Strongylocentrotus erythrogrammus ...	} Mr. Chas. England.
Salmacis dussumieri ...	
Star Fish ...	
<i>Vermes.</i>	
Sea Worm found on Balimba Reef ...	Mr. Jas. Sheather.
Gordius, sp. ...	Mr. H. J. Gordon.
Earth Worm ...	Mr. J. Kurten.
Sea Worm, Eunice, sp. ...	Mr. S. E. F. M'Kenzie.
Aphrodite, sp. ...	Captain Braithwaite.
<i>Zoophyta, Spongida, &amp;c.</i>	
Pennatula, sp. ...	Messrs. Skinner & Co.
Piece of Coral ...	Captain Strachan.
Collection of Bryozoa ...	} Mr. J. B. Wilson, M.A.
15 Goniocidaris geranoides ...	
Gorgonia, sp. ...	Pilot Berril.
Pennatula, sp. ...	Mr. T. C. Haylock.
Plumularia watsii (slide for microscope) ...	Mr. Henry Watts.

Specimen.	Donor.
<i>Osteology.</i>	
2 Skulls of W. Australian Aborigines ... ..	} Lieut. Roche, R.N.
Lower jaw of Babirusa ... ..	
<i>Geological Specimens.</i>	
12 samples of Sandstone deposit ... ..	Mr. S. W. Law.
Limestone ... ..	Mons. Steverlinck.
Concretions of Lime ... ..	Mr. T. E. Fisher.
3 pieces of Topaz ... ..	Mr. G. H. Barrow.
Rocks and Minerals from New Caledonia, including Olvino Rock (Dunite), &c. ... ..	} Mr. F. Ratte.
Rocks from Sandhurst, including specimens of the Dyke Rock, associated with the auriferous quartz reefs ... ..	
Miscellaneous Specimens, including Rocks and Minerals (Carbonate of Lead, Gypsum, &c.) associated with the auriferous Quartz and Calcite at Tuena, N.S. Wales, &c. ... ..	
Banded Quartz Pebble ... ..	Master Jas. Manning.
Specimens of Opal in Matrix, Queensland ... ..	Mr. W. H. Wagner.
Portions of the teeth and upper jaw of a Diprotodon ... ..	} Mr. Chas. Cropper.
Numerous fragments and parts of jaws of Macropus, &c. ... ..	
Fluorspar and Azurite ... ..	Prof. Liversidge.
Very rich specimen of Gold in Calcite ... ..	} Mr. H. W. Newman.
Specimens of auriferous Mispikel in Serpentine ... ..	
4 Stalactites ... ..	Mr. Moorcroft.
Fossil Eozoon canadense ... ..	} Mr. T. Whitelegge.
2 Fossil Tellina ... ..	
Fossil Fishes and Plants ... ..	Mr. A. Harber.
Ash, Scoria, and altered Rocks from the recent eruptions in New Zealand ... ..	Mr. Thos. Rigg.
Sapphires, Zircons, &c. ... ..	Mr. W. Blain.
A marble covered by a thick and regular deposit of Carbonate of Lime... ..	Mrs. Wood.
Carboniferous Fossils ( <i>Meonia grandis</i> ) ... ..	Mr. D. M. Campbell.
Impressions of Plants and Fishes ... ..	Mr. A. Harber.
Fossil Bones from Cave Flat... ..	Mr. Mitchell.
12 specimens of Igneous and Metamorphic Rocks... ..	Mr. A. J. Sach.
Tin Ore from Tenterfield ... ..	Mr. J. Kennedy.
Galena from Braidwood District ... ..	Mr. P. Steingfellow.
Brown Jasper from Queensland ... ..	} Mr. W. H. Wagner.
Common Opal " " ... ..	
<i>Ethnological Specimens.</i>	
Ancient Sword (Scottish?) ... ..	Mr. J. Macennis.
Comb from New Hebrides ... ..	Mr. F. Ratte.
Stone Hatchet from the Culgoa River ... ..	Mr. T. G. Dangar.
2 Pillows or Head-rests ... ..	} Mr. H. Sampson.
2 Neck Ornaments of Boars' tusks ... ..	
Kava Drinking Cup ... ..	
Large four-footed Food Bowl ... ..	
Small " " ... ..	
" oval " " ... ..	
" round " " ... ..	
Kava Drinking Cup ... ..	
Oil-ladle ... ..	
Round-headed carved Hand Club ... ..	
Spade-shaped Hand Club, ornamented ... ..	
Gun-shaped carved Club ... ..	
Carved Club covered with sinnett ... ..	
6 Flint Flakes from Tasmania ... ..	Royal Society, Tasmania.
4 Tomahawks from Giralambone ... ..	} Mr. Fitzgerald.
Grinding-stone " " ... ..	
African Grass Bag ... ..	Mrs. J. Gunther.
1 pair of Shell Armlets ... ..	Lieut. Roche, R.N.
"Coolaman" or Water Vessel of wood from Queensland ... ..	Mr. E. A. Bright.
<i>Botanical.</i>	
Piece of Kauri Gum ... ..	Lieut. Roche, R.N.
Large species of Fungus, <i>Boletus</i> , sp. ... ..	Hon. Jas. Norton.
<i>Medals.</i>	
Bronze Medal—in commemoration of the opening of the New Council Chamber of the Guild-hall of the city of London, 1884.	The Corporation of the City of London.
Old Copper Medal, 1782 ... ..	Mr. Chas. Stewart.

APPENDIX VI.  
EXCHANGES.

Received from—	Forwarded to—
	Mr. Caleb Thomas.
Minerals :—17 specimens.	Fossil shells.
	Adelaide Museum, S.A.
Fishes :—10 species—32 specimens.	Fishes.
	National Museum, Melbourne.
Fish :—Sun-fish.	Crustacea.
	Mr. R. Hungerford, Hongkong.
Mollusca :—68 specimens.	Mollusca :—31 species—76 specimens.
	Mr. F. Ancey, Marseilles.
Insecta :—78 specimens from Africa and Madagascar.	Insecta :—45 species—70 specimens.
	Mr. P. Bouvier, Marseilles.
Mollusca :—50 specimens.	Mollusca :—54 species—174 specimens.
	Captain Leeman.
Ethnology :—Carved wooden bowl.	Ethnology :—2 bows and 2 sets arrows.
	Queensland Museum, Brisbane.
Fishes :—112 species—188 specimens.	Mammals :—5 species—5 specimens.
	Fishes :—62 species—99 specimens.
	Sponges :—53 species—53 specimens.
	Crustacea :—3 species—3 specimens.
	Smithsonian Institute, Washington, U.S.
Fishes :—91 specimens.	Mammals :—6 species—9 specimens.
Books.	
	Mr. P. W. Bloomfield, Hamilton, Victoria.
Fossils :—Collection.	Mollusca :—86 species—275 specimens.
	Mr. Robt. Grant.
Birds :—17 species—20 specimens.	Birds :—12 species—12 specimens.
	Shanghai Museum.
Mammals :—4 species—5 specimens.	Specimens sent in 1885.
Birds :—16 species—20 specimens.	
	Mr. H. Fernandez, Manilla.
Birds :—45 species—15 specimens.	Mammals :—8 species—8 specimens.
	Professor R. Tait, Adelaide.
Fossils :—130 species.	Shells to be sent.
	Mr. W. H. Newman, Lucknow, N.S.W.
Minerals :—Collection.	Minerals :—Collection.
	Geographical Society, N.S.W.
Birds :—6 species—6 specimens, from N. Guinea.	A supply of material for collecting.
Ethnology :—199 specimens, " "	
	Rev. W. H. H. Yarrington, West Maitland.
Fossils :—Collection of marine fossils.	Geological specimens.
	Royal Mint, Sydney.
Geology :—Specimen of gold ( $\frac{1}{2}$ oz.).	Geology—an ingot of gold.
	Professor Giglioli, Royal Zoological Museum, Florence.
Mammals :—3 species—3 specimens.	Mammals :—2 species—4 specimens.
Birds :—141 species—167 specimens.	Fishes :—8 species—8 specimens.
	Ethnology :—19 specimens.
	Photographs :—20 prints.
	Netherlands India Government.
Minerals :—Collection of rocks from Western Borneo.	Minerals :—104 specimens.
	Sir Richard Owen.
	Casts :—25 specimens.

Received from—	Forwarded to—
Natural History Museum, Newcastle-on-Tyne.	Mammals:—4 species—7 specimens. Bird:—1 specimen. Fish:—1 specimen.
Hunterian Museum, Glasgow.	Birds:—3 species—4 specimens.
Public Museum, Paisley.	Fishes:—44 species—56 specimens.
Insects—received January 1887.	
Publications.	Royal Colonial Institute, London. Mammals:—12 species—16 specimens. Birds:—96 species—107 specimens.
	Mr. L. F. Heydon, M.L.A. Minerals:—45 specimens.
Specimens received, 1882.	Professor Ward, Rochester, U.S.A. Echinodermata:—21 species—125 specimens.
Publications to be received.	Mr. H. B. Brady, F.L.S. Mammals:—2 species—2 specimens. Fishes:—1 specimen. Foraminiferous Sand:—13 bags.
Large collection of sponges, polyzoa, &c., received in 1885.	Mr. J. B. Wilson, M.A., Geelong. Hydroids:—30 species—30 specimens. Polyzoa:—41 species—50 specimens.
Papers and reports.	Mr. W. M. Bale, Melbourne. Hydroid Zoophytes:—59 species—50 specimens.
Insects—Specimens received in 1885.	Indian Museum, Calcutta. Sponges:—24 species—24 specimens. Crustacea:—20 species—20 specimens. Skulls:—4 casts.
Casts of European fossils received in 1885.	Royal Museum, Brussels. Casts:—20 specimens.
Echinodermata, to arrive.	Linnaean Institute, Berlin. Mammals:—1 specimen.
	Dr. C. Dohrn, Naples. Mammals:—4 species—4 specimens. Fishes:—5 species—5 specimens.
Minerals, &c.:—3 pieces of greenstone and fossils.	Mr. R. Helms, New Zealand. Shells, to be sent.

## APPENDIX VII.

## ADDITIONS TO THE MUSEUM LIBRARY, 1886.

Reg. No.	Book.	Shelf.
CLASS A.		
1860-67	Gunther (A.) Catalogue of Fishes in the British Museum. London, 1862. 8 vols. 8vo.	Work-room.
1863-70	Bleeker. Atlas Ichthyologique. Vols. 7-9. 3 vols. Fol. ... ..	28
1871	Ormerod (E. A.) Manual of Injurious Insects. London, 1881. 1 vol. Svo.	12 H
1872	Saunders (W.) Insects Injurious to Plants. Philadelphia, 1883. 1 vol. Svo.	12 H
1873	Saunders (E.) Catalogus Buprestidarum. London, 1871. 1 vol. Svo. ...	12 F
1874-77	Gemminger and Harold. Catalogus Coleopterum. Monachii, 1875-6. Vols. 9 to 12. 4 vols. Svo.	13 D
1878	Waterhouse (C. O.) Types of Coleoptera in British Museum. Part 1— Lycidæ. London, 1879. 1 vol. Svo.	1 D
1879	Kirby (W. F.) List of Hymenoptera in British Museum. Vol. 1—Teuthre- dinæ and Siricidæ. London, 1882. 1 vol. Svo.	1 D

Reg. No.	Book.	Shelf.
<i>CLASS A—continued.</i>		
1880-83	Harold (E. V.) Coleopterologische Hefte. Hefte 1 to 16. Munchen, 1867. 4 vols. 8vo.	12 F
1884	Packard (A. S.) Guide to the Study of Insects. New York, 1883. 1 vol. 8vo.	12 H
1887	Murray (A.) Economic Entomology—Aptera. 1 vol. 8vo....	12 H
1888-92	Carus (J. V.) Zoologischer Jahresbericht, 1879-83. 5 vols. 8vo. ...	5 F
1893	Cameron (P.) Monograph of British Phytophægous Hymenoptera. Vol II. London, 1885. 1 vol. 8vo.	3 F
1894-5	Day (F.) The Fishes of Great Britain and Ireland. London, 1880-4. 2 vols. 8vo.	4 B
1896	Hende (R. P.) Conchyliologie fluviatile de Nanking. Paris, 1876-83. 1 vol. 4to.	22 A
1897	Dunker (G.) Index Molluscorum Maris Japonici Casselis Cattonum, 1882. 1 vol. 4to.	22 A
1898	Issel (A.) Malacologia del Mar Rosso. Pisa, 1869 ... .. Brusina (S.) Ipsa Chieregini Conchyliologia orvero contribuzione pella Malo- cologia Adriatica. Pisa, 1870. 1 vol. 8vo.	16 A
1899	Morelet (A.) Series Conchyliologiques comprennent l'enumeration de Mol- lusques terrestres et fluviatiles. Paris. 1 vol. 8vo.	16 A
1900	Benoit (C. L.) Conchigliologia Vivente Marina della Sicilia. Catania, 1870. 1 vol. 4to.	16 A
1901	Morelet (A.) Notice sur l'histoire naturelles des Azores. Paris, 1860. 1 vol. 8vo.	16 A
1906	Kobelt (W.) Fauna Molluscorum Extramarinorum Japoniæ. Frankfort, 1879. 1 vol. 4to.	22 A
1927	Bueckler (W.) The Larvæ of the British Butterflies and Moths. Edited by H. T. Stainton. Vol. I. 1886. 8vo.	3 F
1929	Kirby (W.) Monographia Apum Angliæ—Apis. Ipswich, 1802. 2 vols. in 1. 8vo.	12 H
1930	Shuckard (W. E.) British Coleoptera delineated. London, 1840. 1 vol. 8vo.	12 H
1931-4	De Laporte (F. L.) and Gray (H.) Histoire Naturelles des Insectes—Coleop- tera. Paris, 1841. Tomes I and III, II, IV. 4 vols. 8vo.	11 F
1935-7	Seebohm (H.) A History of British Birds, with Coloured Illustrations of their Eggs. London, 1884-5. Vols. II, III, and plates. 3 vols. 8vo.	11 C
1942	Cambridge (Rev. O. P.) Araneidea. Calcutta, 1885. 4to ... ..	4 C
1943	Tryon (G. W.) Manual of Conchology, Structural and Systematic. Vol. VII. Philadelphia, 1885. 8vo.	14 D
1944	Tryon (G. W.) Manual of Conchology, Structural and Systematic. Second Series. Vol. I. Philadelphia, 1885. 8vo.	14 D
1845-50	Levaillant (F.) Histoire Naturelle des Oiseaux d'Afrique. Paris, 1799-1808. 6 vols. 4to.	23 F
1956	Russ (Dr. Karl). Translated by L. Schultz. The Speaking Parrots. London, 1884. 8vo.	12 H
1957	Claus (Dr. C.) Translated by A. Sedgwick. Elementary Text-book of Zoology—Protozoa to Insecta. London, 1884. 8vo.	10 B
1958	Claus (Dr. C.) Translated by A. Sedgwick. Elementary Text-book of Zoology—Mollusca to Man. London, 1885. 8vo.	10 B
1962	Denny (H.) Monographia Auoplurum Britannicæ. London, 1842. 8vo. ...	13 H
1964	Ramsay (E. P.) Catalogue of Echinodermata in Australian Museum. Part I— Echini. Sydney, 1885. 8vo.	22 E
1965	Bale (W. M.) Catalogue of the Australian Hydroid Zoophytes. Sydney, 1884. 8vo.	.....
1966	Woodward (S. P.) A Manual of the Mollusca. 4th Edition. London, 1880. 8vo.	14 G
1968	Morphologisches Jahrbuch. Band XI. Leipzig, 1886. 8vo. ....	4 E
1978	Packard (A. S.) Zoology for High Schools and Colleges. New York, 1883. 8vo.	12 F
1983	U.S. Naval Astronomical Expedition in the Southern Hemisphere in the years 1849-52. 4to.	17 D
1985	Carpenter (W. B.) The Animal Kingdom arranged after its organization by Baron Cuvier. New Edition. London, 1863. 8vo.	4 B
2000-3	Kirby (Wm.) and Spence (Wm.) An Introduction to Entomology. London, 1822-26. 4 vols. 8vo.	13 H
2036	Flower (W. H.) An Introduction to the Osteology of the Mammalia. 3rd Edition. London, 1885. 8vo.	18 G
2037	Dawson (Jas.) Australian Aborigines. Melbourne, 1881. 4to. ... ..	17 G
2038	Thompson (D'Arcy W.) A Bibliography of Protozoa, Sponges, Coelenterata, and Worms for years 1861-83. Cambridge, 1885. 8vo.	18 G
2039	Rimmer (Richard). The Land and Fresh Water Shells of the British Isles. London, 1880. 8vo.	16 D

Reg. No.	Book.	Shelf.
CLASS A—continued.		
	Boisduval and Guénéé. <i>Histoire Naturelles des Insectes Lépidoptères</i> . Paris, 1874—	
2040-46	Vols. I and V to X. Texte. 7 vols. Svo. ... ..	14 H
2047-8	Vols. I and V to X in one. Planches. 2 vols. Svo. ... ..	14 H
2049-50	Lesson (R. P.) <i>Histoire Naturelles des Zoophytes Acalèphes</i> . Paris, 1843. 1 vol. Texte, 1 vol Planches. 2 vols. Svo.	14 H
2051-52	Dujardin (F.) <i>Histoire Naturelles des Helminthes ou Vers Inestinaux</i> . Paris, 1845. 1 vol. Texte, 1 vol. Planches. 2 vols. Svo.	14 H
2053	Sowerby (G. B.) <i>A Catalogue of the Shells of the late Earl of Tankerville</i> . London, 1825. Svo.	16 D
2054	British Museum Catalogues. Report of the Zoological Collections made in the Indo-Pacific Ocean during the Voyage of H.M.S. "Alert," 1881-2. London, 1884. Svo. Containing— A. W. Copping. Summary of the Voyage. O. Thomas. Mammalia. A. B. Sharpe. Aves. A. Gunther. Reptilia, Batrachia, Pisces. E. A. Smith. Mollusca. F. J. Bell. Echinodermata. E. J. Miers. Crustacea. C. O. Waterhouse. Coleoptera. A. G. Butler. Lepidoptera. S. O. Ridley. Aleyonaria and Spongida.	1 C
2058	Newman (E.) <i>An Illustrated Natural History of British Butterflies and Moths</i> . London, 1884. Svo.	12 H
2064	<i>Historia Piscium, libri quatuor, et Ichthyographia</i> . Francisci Willughbeii. Oxon., 1686. Fol.	21 B
2067	Erichson (G. F.) <i>Genera et Species Staphylinorum Insectorum Coleopterorum familiae Berolini</i> , 1840. Svo.	16 D
2072	Marshall (C. H. T., and G. F. L.) <i>A Monograph of the Capitonidae, or Scansorial Barbets</i> . London, 1870-71. Fol.	21 B
2073	Dresser (H. E.) <i>A Monograph of the Meropidae, or Family of the Bee Eaters</i> . London, 1884-6. Fol.	21 B
2082-2084	Butler (A. G.) <i>Illustrations of Typical Specimens, of Lepidoptera Heterocera, in the Collection of the British Museum</i> . Parts I-III. 1877-79.	.....
2085	Lord Walsingham. <i>Illustrations of Typical Specimens of Lepidoptera Heterocera, in the Collection of the British Museum</i> . Part IV. 1879.	.....
2086-7	Butler (A. G.) <i>Illustrations of Typical Specimens of Lepidoptera Heterocera, in the Collection of the British Museum</i> . Parts V-VI. 1881-6.	.....
2088-9	Greene (W. T.) <i>Parrots in Captivity</i> . London, 1884. Svo. ... ..	22 E
2090	Sharpe (David). <i>On Aquatic Carnivorous Coleoptera, or Dytiscidae (from the Transactions of the Royal Dublin Society, vol. 2, series 2)</i> . Dublin, 1882. 4to.	21 A
2100	Leidy (Joseph). <i>Fresh water Phizopods of North America (U. S. Geological Survey of the Territories)</i> . Washington, 1879. 4to.	21 A
2102-6	Herbert (David). <i>Fish and Fisheries: a selection from the prize essays of the International Fisheries Exhibition, Edinburgh, 1883</i> . Edinburgh, 1882. Svo.	1 C
2103	Topinard (Paul). <i>Anthropology</i> . London, 1878. Svo. ... ..	1 C
2112	Hewitson (Wm. C.) <i>Illustrations of New Species of Exotic Butterflies selected chiefly from the collections of W. Wilson Saunders, and W. C. Hewitson</i> . London, 1856-76. 5 vols. 4to.	13 A
2121-22	<i>Cistula Entomologica</i> . Vol. I, 1869-75; II, 1875-82. 2 vols. Svo. ... ..	13 A
2125	Butler (A. G.) <i>Lepidoptera Exotica</i> . London, 1874. 4to. ... ..	.....
2130	Lister (M.) <i>De Insectis in methoduno Redactus J. Goedartius, opera M. Lister</i> . Appendices <i>Historium Animalium Angliae</i> . London, 1685. Svo. ... ..	.....
2141	Fischer (Dr. Paul). <i>Manuel de Conchyliologie, ou Histoire Naturelle de Mollusques vivants et fossiles</i> . Parts 1-9 and Atlas. Paris, 1881. Svo. ... ..	.....
2149	Morris (B. R.) <i>British Game Birds and Wildfowl</i> . London, n.d. 4to. ... ..	.....
2178-80	F. Moore. <i>The Lepidoptera of Ceylon</i> . London, 1880-81. 3 vols. 4to. ... ..	.....
2182	Lutken (C.) <i>Spolia Atlantica, Bidrag til Kundskab om Formforandringer hos Fiske under deres Vaextog Udvikling daerligt hos nogle af Atlanterhavets Hojsøfiske</i> . Kjøbenhavn, 1880.	.....
2183	Nansen (Fridtjof). <i>Bidrag til Myzostomernes Anatomi og Histologi (Bergens Museum)</i> . Bergen, 1885. 4to.	.....
2186	Giglioli (E. H.) <i>Avifauna Italica Elenco delle specie di Uccelli in Italia</i> . Firenze, 1886. Svo.	.....
579	Masters (George). <i>List of Australian Longicorus, 1868</i> . Svo. ... ..	3 C
2197	Stretch (Richd. H.) <i>Illustrations of the Zygaenadae and Bombycidae of North America</i> . Vol. I. San Francisco, 1872-3. Svo.	.....

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CLASS A.— <i>continued.</i>		
2199	McCoy (F.) Natural History of Victoria. Prodomus of the Zoology of Victoria. Dec., 8-13, 1883-86. 8vo.	.....
2200	Bronn (Dr. H. G.) Klassen und Ordnungen des Thier Reichs— Band I incomplete ... ..	.....
2201	" V " ... ..	.....
2202	" VI " ... ..	.....
CLASS B.		
2142	Tiegham (Ph. Van). Traite de Botanique. Paris, 1884. 8vo. ... ..	.....
2143	Marcou (J.) Explication d'une seconde edition de la Carte Geologique de la Terre. Zurich, 1875. 4to. ....	.....
2181	Von Mueller (Baron F.) Systematic Census of Australian Plants. Part I—Vasculares. Melbourne, 1882. 4to. ....	.....
2188	Bailey (F. M.) Catalogue of Plants in the two Metropolitan Gardens. Brisbane, 1885. ....	.....
	Bailey (F. M.) A Classified Index of the Indigenous and Naturalised Plants of Queensland and Supplement. Brisbane, 1883-6. 8vo. ....	.....
CLASS C.		
1938	Palaeontographical Society. Vol. 39. London, 1885. 1 vol. 4to. ... ..	22 B
1939	Zittel (Karl A.) Palaeozoologie. Band II Mollusca and Arthropoda. Leipzig, 1881-5. (Handbuch der Palaeontologie Ab. 1.) 1 vol. 8vo. ....	22 E
1951	Lydekker (R.) Catalogue of the Fossil Mammalia in the British Museum, Part II, Ungulata. London, 1885. 1 vol. 8to. ....	2 E
1952	Kidston (R.) Catalogue of the Palaeozoic Plants in the British Museum. London, 1886. 1 vol. 8vo. ....	2 E
1963	Ratte (F.) Descriptive Catalogue of the general collection of Minerals in the Australian Museum. Sydney, 1885. 8vo. ....	22 E
1969-70	Medlicott (H. B.) and Blanford (W. T.) A Manual of the Geology of India. Vols. I and II. Calcutta, 1879. 2 vols. 8vo. ....	20 D
2078	Peppercorne (Fred. S.) The Australian Almanac for 1865, containing Sketches of Australian Geology. 8vo. ....	27
2123-4	Fougue (F.) and Levy (A. Michel). Mineralogie Micrographique. Roches Eruptives Françaises. Paris, 1879. Texte et planches, 2 vols. 4to. ... ..	.....
2134-2138	Dufrénoy (A.) Traité de Minéralogy. 5 vols. Paris, 1856-9. 8vo. ....	.....
2139	Foster (J. W.) and Whitney (J. D.) Report on the Geology and Topography of a portion of the Lake Superior Land District. Part I—Copper Lands. Washington, 1850. Part II—The Iron Region, with general Geology. Washington, 1851. 8vo. ....	.....
2140	Dana (Jas. D.) Manual of Geology. 2nd edition. New York, 1875. 8vo. ....	.....
2146	Cox (S. H.) and Ratte (F.) Mines and Minerals. A guide for the Australian Miner. Sydney, 1885. 8vo. ....	.....
2176	Palaeontologia Indica (Ser. X.) Indian Tertiary and Post Tertiary Vertebrata. Vol. III. 4to. ....	.....
CLASS D.		
1893	Ray Society. Volume for 1884. ... ..	3 F
1927	Ray Society. Volume for 1885. ... ..	3 F
1902	Bulletini Malacologica Italiano. Vols. I to VII. 1868 to 1874. 1 vol. 8vo. ....	4 F
1903-1905	Bulletini della Società Malacologica Italiano. Vols. I to IX. 1875 to 1883. 3 vols. 8vo. ....	4 F
1908	The American Naturalist, 1883. 1 vol. 8vo. ... ..	.....
2157	" " 1886. 1 vol. 8vo. ... ..	.....
1909	The Zoological Record for 1884. 1 vol. 8vo. ... ..	2 A
1910-1926	Annali del Museo Civico di Storia Naturale di Genova. 1870-84. Vols. I to XX in 17 vols. 8vo. ....	2 D
1928	Royal Cornwall Polytechnic Society. 52nd Annual Report, 1884. 1 vol. 8vo. ....	6 H
1940	Annales des Sciences Naturelles. Zoologie. Tome XIX. Paris, 1835. 1 vol. 8vo. ....	7 B
2101	1 vol. " 8vo. " " Tome XX. Paris, 1885. ....	7 B
1959	Report of the Board of Regents Smithsonian Institution for 1883. 8vo. ... ..	5 E
2071	" " " " 1884. 8vo. ... ..	5 E
1960	Annual Report of the Comptroller of Currency of U. S., 1885. Washington, 1885. 8vo. ....	5 E
1961	Arbeiten aus dem Zoologisch-Zootomisch Institut in Wurzburg. Band VII. Wiesbaden, 1885. 8vo. ....	21 E
1967	Transactions of the Highland and Agricultural Society of Scotland. 4th series. Vol. XVIII. 8vo. ....	4 F



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<i>CLASS D—continued.</i>		
1971	Nature. Vol. XXXIII. Nov., 1885, to June, 1886 ... ..	10 B
2133	” Vol. XXXIV. May to Oct. 1886 ... ..	10 B
1972	The Entomologist's Monthly Magazine. Vol. XXII., 1885-6. Svo. ...	16 B
1980-2	Transactions and proceedings of the N.Z. Institute. 1868-70. 3 vols. Svo. ....	.....
1986-88	Memoirs of the Museum of Comparative Zoology at Harvard College. Vols. VI, VII, VIII. 3 vols. 4to.	4 B
1989-96	Bulletin of the Museum of Comparative Zoology at Harvard College. Vol. IV. Text and plates. Vols. VI, VIII, IX, X, XI. 7 vols. Svo.	4 B
1997	Ogilby (J. Douglas). Catalogue of the Fishes of N. S. Wales with their principal synonyms. Sydney, 1886. 4to.	22 E
1998	New South Wales at the Colonial and Indian Exhibition. London, 1886. Including N.S.W., its Progress and Resources, second edition. Official Catalogue of Exhibits. Svo.	22 E
1999	Sydney University Calendar. 1886. Svo. ... ..	22 E
2005-13	Berliner Entomologische Zeitschrift—Herausgegeben von dem Entomologischen Vereine in Berlin. Years 1 to 18. 1857 to 1874. 9 vols. Svo.	14 G
2059-63	Deutsche Entomologische Zeitschrift (Disher Berliner Entomologische Zeitschrift) herausgegeben von dem Entomologischen Verein in Berlin. 1875-84. Years 19 to 28. 1875 to 1884. 5 vols. Svo.	14 G
2014	Stierlin (Dr. G.) Supplement, 1861. Revision der Europäischen Otiorhynchus Arten. Svo. ....	.....
2015	Index. Years 1 to 6, 7 to 12, 13 to 18, 19 to 24. Svo. ... ..	.....
2016-35	Encyclopædia Britannica. A Dictionary of Arts, Sciences, and General Literature. 9th edition. Vols. I to XX. 20 vols. 4to. ... ..	8 A & B
2068	Mittheilungen des Müncher Entomologischen Vereins. 1877, 1881. Svo. ....	5 E
2070	Lydekker (R.) Catalogue of the Fossil Mammalia in the British Museum. Part III. London, 1886. Svo.	1 C
2079	Journal and Proceedings of the Royal Society of New South Wales for 1885. Svo. ....	.....
2080	U. S. Commission of Fish and Fisheries. Part X. Report of the Commissioner for 1882. Svo.	22 E
2081	Sands' Atlas of Australia. Part II. Victoria. Fol. ... ..	.....
2091-3	Journal of the Royal Microscopical Society. Vols. I, II, III. 1878-79-80. 3 vols. Svo.	8 F
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2156	Quarterly Journal of Microscopical Science. Vol. XXVI. 1886. Svo. ...	8 F
2099	Report of the fifty-fifth Meeting of the British Association held at Aberdeen. 1886. Svo.	.....
2111	Proceedings of the Royal Colonial Institute. Vol. XVII. 1885-6. London, 1886. Svo.	4 F
2119-20	Journal of Entomology: Descriptive and Geographical. Vols. I, 1860-2; II, 1863-6. 2 vols. Svo.	.....
2131	Comptes Rendus. Tome CII. 1886. 4to. ... ..	.....
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2150	Annals and Magazine of Natural History. 5th series. Vol. XVII. 1886. Svo.	.....
2151	” ” ” ” ” ” ” ” Vol. XVIII. 1886. Svo.	.....
2152	” ” ” ” ” ” ” ” Vol. III. 1886. Svo.	.....
2153	The Geological Magazine. New series, Dec. 3. Vol. III. 1886. Svo. ...	.....
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2155	The Ibis. 5th series. Vol. IV. 1886. Svo. ... ..	.....
2158	Transactions of the Zoological Society of London. Vol. XI. 1885. 4to ...	.....
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2161	” ” ” ” ” ” ” ” 1885. Svo. ... ..	.....
2162	” ” ” ” ” ” ” ” 1886. Svo. ... ..	.....
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2164	Proceedings of the Geologists Association. Vol. IX. 1885-1886. Svo. ...	.....
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2166	Transactions of the Linnean Society of London. 2nd Ser. Zoology. Vol. III. 4to.	.....
2167	Mittheilungen aus der Zoologischen Station zu Neapel. Band VI. Berlin, 1886. Svo.	.....
2168	Journal de Conchilologie. 5 Ser. Vol. XXV (33). Paris, 1885. Svo. ...	.....
2169	” ” ” ” ” ” ” ” XXVI (34). ” 1886. Svo. ...	.....
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2172	Archiv für Naturgeschichte. Year 50. Band I, II. Berlin, 1884. Svo. ...	.....
2173	” ” ” ” ” ” ” ” I, II. ” 1885. Svo. ...	.....
2174	” ” ” ” ” ” ” ” Second series. Vol. I. Svo. ...	.....
2175	Bulletin of the Museum of Harvard College. Vol. XII. 1885-6. Svo. ...	.....
2177	Reports on Insects injurious to Hop plants, Corn crops, and Fruit crops in Great Britain, prepared for the Agricultural Department, Privy Council Office, by Chas. Whitehead. London, 1885-6. Svo.	.....

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CLASS D—*continued.*

2184	Annual Report of the Department of Mines, New South Wales, for 1885. Fol. ....	
2185	Report of the Minister of Public Instruction for the year 1885. Fol. ....	
2189	Proceedings of the Royal Society of Queensland. Vol. II. 1885. Svo. ....	
2190	Papers and Proceedings and Report of the Royal Society of Tasmania for 1885. Svo. ....	
2191	Catalogue of the Library of the Linnean Society of N.S.W. Sydney, 1886. Svo. ....	
2192	Publications of the School of Mines, Ballarat,— Descriptive papers relating to the Institution, 1875 ... .. Reports, 1872-1885.... .. Catalogues and Plans of the Museum, 1882 ... .. Sundry Lectures, &c... ..	
2193	Colonial and Indian Exhibition. London, 1886,— Official Guide ... .. Vivian (W. H.) N.S.W. at the Colonial and Indian Exhibition... .. Bailey (F. M.) Catalogue of the indigenous Woods in the Queensland Court. .... Clarke (A. W.) Catalogue of Minerals in the Queensland Court ... .. Queensland: its Resources and Institutions. Essays edited by Price Fletcher. Brisbane, 1886. .... New Zealand Court. Detailed Catalogue and Guide to the Geological Exhibits. .... Descriptive Catalogue of a Collection of the Economic Minerals of Canada. Svo. ....	
2194	Transactions of the New York Academy of Science. Vol. III. 1883-4. Svo. ....	
2195	Bulletin of the California Academy of Sciences. Vol. I (Nos. 1-4). San Francisco, 1884-6. Svo. ....	
2196	Proceedings of the California Academy of Sciences. Vol. VI. 1875. Vol. VII, part 1, 1876. Svo. ....	
2198	Geological Survey of Victoria,— Report of progress by the Secretary for Mines. Nos. 4-5. 1876-77. Svo. ....	
2204	Deutsche Entomologische Zeitschrift. Year 29. Heft 1, 2, 3. 1885. Svo. ....	
2205	Bericht über die Senckenbergische Gesellschaft in Frankfurt am Main. June, 1884-1886. Svo. ....	
2206	Verhandlungen des Vereins für Naturwissenschaftliche Unterhaltung zu Hamburg. 1871-82. Svo. ....	
2207	Bolletino della Societa Adriatica di Scienze Naturali in Trieste. Vol. 9. 1885-6. Svo. ....	
2208	Proces Verbaux des Seances de la Société Royale Malacologique de Belgique Tome XIV, 1885; XV, 1886. Statuts, 1886. Svo. ....	

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1975	Yate (Rev. W.) An Account of New Zealand. 2nd edition. London, 1835. Svo. ....	
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2187	Hector (G.) Handbook of New Zealand. 4th edition. Wellington, 1886. Svo.	.....
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2066	Part II, Ant-Bat. 1 vol. 4to. ... ..	21 B
<i>CLASS G.</i>		
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1955	Brown (M.) Practical Taxidermy. 2nd edition. London, 1884. Svo. ...	18 G
1979	Sands (J.) The New Atlas of Australia. Part I. N.S.W., Sydney, 1886. Folio.	26
1984	Wythe (J. H.) The Microscopist. A manuel of Microscopy. 3rd edition. London, 1877. 8vo.	18 H
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2110	A Guide to the Exhibition Galleries of Geology and Palæontology in the British Museum. London, 1886. 8vo.	1 C
2111	Catalogue of the Library of the Royal Colonial Institute. London, 1886. 4to.	1 C
2209	Pamphlets. Svo. series. Vol. XIX. 1886. Containing,— Official Report of Capt. Everill, Leader of the N.G. Expedition. 1885. .... Acclimatisation Society of Queensland. Report, 1885 ... .. Colonial Museum, &c., of N.Z. 20th Annual Report, 1884-5 ... .. " " " 21st Annual Report, 1885-6 ... .. Edinburgh Museum of Science and Art. Report for the year 1885. .... Royal Colonial Institute. Report (18th Annual), June, 1886 ... .. Museum of Comparative Zoology at Harvard College. Annual Reports of the Curator, 1884-5, 1885-6. .... American Museum of Natural History. Annual Reports for 1882, 1883-1884-1885. .... Zoological Society of Philadelphia. Report, 1885-6 ... .. Bergens Museum. Aarsberetning for 1885. Naturhistorisches Museum der Stadt Bern Berichte. 1880-5. ....	.....
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- Notices on the Migration of Birds in Australia. Given by Letter of E. P. Ramsay. 1885. ....
  - Catalogue of Papers and Works relating to the Mammalian Orders, Marsupiala, and Monotremata. J. J. Fletcher. 1885. ....
  - Catalogue of the Pacific Coast Fungi (California Academy of Sciences). H. W. Harkness and J. P. Moore. 1880. ....
  - Catalogue der Ethnologischen Sammlung der New Guinea Compagnie im K. Museum für Völkerkunde. Berlin, 1886. ....
  - Die Darwinsche Theorie. Verzeichniss der Schriften und Aufsätze. J. W. Spengel. Berlin, 1872. ....
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  - A Revision of the North American Species of the Genus Scleria. N. L. Britton. 1885. ....
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- 2211 Pamphlets. Folio series. Vol. V. 1886. Containing,—
- Sydney Free Public Library. Report, 1884-5. ....
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  - Report on the Geological Character of Barossa and Para Wirra, S. Australia. H. Y. L. Brown. 1886. ....
  - Fisheries of Tasmania. Report by W. Saville Kent. 1884. ....
  - Fisheries Department, Tasmania. Report by W. Saville Kent. 1885. ....
  - Act to Incorporate and Endow the Tasmanian Museum. 1885. ....
  - Report of the Government Central Museum. Madras. For 1884-5. ....
  - Museum of Archaeology. Cambridge. 1st and 2nd Reports. 1885-6. ....
  - Bericht über die Verwaltung der K. Sammlungen zu Dresden. 1882-3. ....
  - Ueber Bekleidung, Schmuck und Tatowiring der Papuas, der Sudoskuste von New Guinea. O. Finsch. Wien. 1885. ....
  - Die Ethnologische Ausstellung der New Guinea Compagnie im K. Museum. ....
  - Naturhistorisches Museum der Stadt, Strasburg. Zool. Osteol. Abth. Mittheilungen des Ornithologischen Vereines in Wien. No. 1. 1886. ....

[1s. 3d.]

Sydney: Charles Potter, Government Printer.—1887.



1887.

(SECOND SESSION).

NEW SOUTH WALES.

TECHNOLOGICAL, INDUSTRIAL, AND SANITARY MUSEUM.  
(REPORT OF THE COMMITTEE OF MANAGEMENT FOR 1886.)

Presented to Parliament, pursuant to Act 17 Vic. No. 2, sec. 9.

TO HIS EXCELLENCY THE GOVERNOR AND EXECUTIVE COUNCIL.

The Trustees of the Australian Museum, incorporated by the Act 17 Victoria No. 2, have the honor to submit to your Excellency in Council, in accordance with the 9th section of that Act, this the Seventh Annual Report of the Committee of Management of the Technological, Industrial, and Sanitary Museum.

1. The business of the Museum has been conducted by the same Committee as in the previous year, namely,—Sir Alfred Roberts, M.R.C.S., E.; Professor Liversidge, F.R.S.; and Mr. Robert Hunt, F.G.S., Deputy Master of the Mint.

2. The Museum has continued open every afternoon during the whole of the year 1886. A statement of the number of visitors for the year will be found in Appendix II of this Report. A slight falling off in the attendance is noticeable during the past year, but the following reasons abundantly account for this, viz.:—(a) the public holidays during 1886 were frequently marred by bad weather, and (b) the crowded condition of the Museum in the very limited space afforded by the Agricultural Hall.

3. The prediction of the Committee that the space would soon become inadequate has been abundantly verified, and complaints of visitors as to the difficulty of getting about the Museum are more frequent than ever. The Curator reports that the crowded state of the Museum is inconvenient to visitors, and that apart from locomotion having become difficult, it is now impossible for a teacher or a parent to gather young people around a show-case for purposes of instruction.

4. The total number of specimens acquired during the year is about 4,000. Besides the specimens, 454 books were acquired, and also 397 maps, drawings, diagrams, &c. Short notices of these will be found in the appendices. The donations of specimens have been numerous and valuable, and a larger number of people than usual have shown their interest in the Museum by presenting exhibits. The following donations deserve special notice:—A fine collection of New South Wales timbers from the Department of Mines; valuable collections of economic botanical specimens from the Director of the Royal Gardens at Kew; collections of dyes and textile fabrics from Messrs. K. Oehler, Edmund Potter & Co., F. W. Grafton & Co., Koechlin, Baumgartner & Co., F. Steiner & Co., Walter Crum & Co., Dollfus, Mieg & Co., and collections of rocks and minerals from Mr. Gregory to illustrate well known text-books. The Colonial Secretary was also kind enough to hand over to this Museum eight specimens of Australian wool of the year 1804, believed to be the oldest Australian specimens in existence.

The principal donors to the Library during the past year have been the Trustees of the Free Public Library, Sydney, the Government of Victoria, and publishers of trade and scientific periodicals. The loans are interesting and important. The excellent specimens and series of specimens acquired by purchase are described in Appendix III.

The

The Committee begs to add to this its Report the following Appendices:—

- I.—Balance-sheet for the year ending 31st December, 1886.
- II.—Attendance of visitors.
- III.—List of specimens purchased.
- IV.—List of specimens presented.
- V.—List of articles lent.
- VI.—List of books purchased.
- VII.—List of books, periodicals, &c., presented.
- VIII.—List of diagrams, maps, photographs, &c., purchased.
- IX.—List of diagrams, maps, photographs, &c., presented.
- X.—List of articles received in exchange.
- XI.—List of articles sent away in exchange.

The Common Seal of the Museum is affixed by order of the Board, this fifth day of April, 1887.

(L.S.) ALFRED ROBERTS, } Members of  
(L.S.) ROBERT HUNT, } Committee.

J. H. MAIDEN, (L.S.) ALFRED STEPHEN, Crown Trustee.

Curator and Secretary.

### APPENDIX I.

BALANCE-SHEET of the Technological, Industrial, and Sanitary Museum of New South Wales, for the year ending 31st December, 1886.

RECEIPTS.	£	s.	d.	EXPENDITURE.	£	s.	d.
The Honorable the Treasurer—Vote for 1886	4,400	0	0	Salaries .....	916	8	0
Amount expended in London in behalf of the Museum by the Agent-General of New South Wales .....	0	13	3	Show-cases .....	643	3	9
	4,399	6	9	Bottles .....	128	4	0
27 February—Amount of cheque returned to Museum and cancelled .....	4	4	0	Models, apparatus, and chemicals.....	287	9	4
	4,403	10	9	Specimens .....	789	15	4
Total receipts .....	4,403	10	9	Furniture .....	4	1	9
Balance from 1885—				Stationery .....	57	5	4
Union Bank .....	£639	11	2	Freights .....	99	14	1
Cash in hand .....	5	8	1	Ironmongery .....	52	12	6
	644	19	3	Painters' materials .....	40	13	4
	£	5,048	10	Timber .....	35	4	2
				Labels .....	156	0	0
				Advertising .....	5	7	0
				Books, diagrams, maps, &c. ....	380	10	8
				Collection of specimens .....	16	4	0
				Uniforms for attendants .....	11	8	6
				Postage, exchange, &c. ....	21	6	4
				Insurance .....	63	18	9
				Additions to premises .....	11	5	8
				Night-watchman .....	100	0	0
				Mounting of specimens .....	468	0	0
				Sundries .....	15	1	6
				Total expenditure .....	4,303	14	0
Balance to 1887—				Balance to 1887—			
Union Bank .....	£742	17	7	Union Bank .....	£742	17	7
Cash in hand .....	1	18	5	Cash in hand .....	1	18	5
	744	16	0		744	16	0
	£	5,048	10		£	5,048	10

### APPENDIX II.

ATTENDANCE (AFTERNOONS ONLY) OF VISITORS DURING 1886.

	Sundays.	Week-days.
January ... ..	1,642	3,322
February ... ..	1,335	1,986
March ... ..	1,038	2,273
April ... ..	1,734	2,630
May ... ..	1,927	2,970
June ... ..	2,152	2,843
July ... ..	1,333	2,601
August ... ..	2,150	2,259
September ... ..	1,287	2,400
October ... ..	1,334	2,832
November ... ..	1,115	2,400
December ... ..	890	2,781
	17,937	31,297

Total ... .. 49,234

Largest Sunday attendance, June 20th ... .. 865  
Largest week-day attendance, October 4th ... .. 650

APPENDIX III.  
PURCHASES (Specimens).

When received.	Description of Exhibit.
1886.	
16 February ...	<ol style="list-style-type: none"> <li>1. Sectional wooden model diagram of a cornmill, including every process, from the grain being put into the hopper to its being deposited in sacks as fine flour, seconds, or bran.</li> <li>2. Sectional wooden model diagram of a pump.</li> <li>3. Working model of the action of a pianoforte.</li> <li>4. Sectional wooden model diagram of a gas-meter.</li> <li>5. Sectional working model of a condensing beam steam-engine, as used at pumping stations.</li> <li>6. Sectional model of an express locomotive, showing internal and external construction of a boiler, with tubes, smoke-box, furnace, funnel, dome and safety valves, steam and exhaust passages, with rods and handles.</li> <li>7. Sectional wooden model diagram of steam engine, made to illustrate a horizontal, vertical, marine, or locomotive engine.</li> <li>8. Working illustration of the link motion and reversing gear.</li> <li>9. Illustration of the parallel motion of a beam land engine.</li> </ol>
16    "    ...	A $\frac{3}{4}$ -box loom fitted up for weaving cloth. [A weaver shows the operation of weaving at this loom to visitors every Wednesday afternoon.]
16    "    ...	A collection of fifteen wire cards for carding wool, worsted, and cotton.
16    "    ...	A collection of medicinal woods, polished on one side, including:— Red sanders wood ( <i>Pterocarpus santalinus</i> ). Sassafras ( <i>Sassafras officinale</i> ). Quassia ( <i>Picramnia excelsa</i> ). Logwood ( <i>Hæmatoxylon campechianum</i> ).
17    "    ...	Specimens of cloisonné or shippo ware, including:—Two plates, four trays, four match-boxes. Specimens of Kioto ware, including:—Two vases and one lidded vase. Two vases of carved bamboo work.
25    "    ...	Ten pounds weight of kava kava root ( <i>Piper methysticum</i> ), from Fiji.
2 March ...	Complete suit of armour of Japanese noble (Daimio), comprising helmet, neck cover, rivetted with silver studs: fitted to this is a curious mask with moveable jaws, metal teeth and false moustaches. Corslet of under-hung copper-bronze plates, ornamented with elegantly chased metal mountings so heavily cased with gold as to resist the action of nitric acid; under the shoulder hooks, and in other places, this is quilted with painted leather; a skirt of fine lacquered plates laced together is attached to this piece. Epaulets of fine lacquered plates mounted to match corslet. Sleeves of curious steel chain-work and lacquered metal ribs on foundation of silk damask, with bronze medallion on each elbow; greaves of similar material lined with leather. The cape is of modern material and manufacture. A metal-bound chest, with slings attached, is provided for packing and transporting this suit, but is in too good a state of preservation to be of the same antiquity as its contents. Two swords, each carrying in its scabbard a stiletto with inlaid bronze handles, are attached by silk belts to this suit. The smaller sword, the official symbol of rank, has in addition a heavily gilded metal bodkin which was used (after the <i>coup de grâce</i> had been given) to leave stuck in the corpse like a skewer, to signify that the man had been killed by the owner of the crest on the bodkin. Ancient suit of Japanese armour, supposed to be of a private soldier, comprising helmet and corslet of japanned steel or iron, sleeves and skirt of fine linked chain sprinkled with small metal plates on cotton cloth foundation, and greaves and leg covers of same character. A curious socket and step for a small flagstaff is attached to the back of the corslet. The case in which this suit is contained is of papier-maché with quaint gilded symbol or device. It appears to be of the same date as the armour. Ancient Japanese sword (not belonging to the above), with guard of inlaid bronze of undoubted antiquity; the hilt and the top of its sheath are nicely worked with gold. This sword, like the others, is attached by a belt of pure silk.
31 May    ...	Specimens of honey-comb (the work of wild bees at Middle Harbour, Sydney) illustrating the destruction caused by the moth to honey and comb.
10 July    ...	The "College" collection of Minerals containing two hundred and eighty* specimens, as follows:— Native gold. California, U.S.A. Gold. (Facsimile of "Welcome nugget," found at Ballarat, Victoria). Cast of gold nugget. Oregon Cañon, Eldorado Co., Cal., U.S.A. Native silver. Lake Superior, U.S.A. Native platinum. California, U.S.A. Cast of "Demidoff" platinum nugget. Urals, Russia. Native copper. Lake Superior, U.S.A.
	Native iron. (Portion of Meteorite.) Native arsenic. Andreasberg, Germany. Allemontite. Allemont, France. Native sulphur. Girgenti, Sicily. " (Dark coloured variety.) Radoboj, Austria. Diamond. Kimberley, South Africa. Graphite. Ticonderoga, N.Y., U.S.A. " (compact variety.) Ceylon. Realgar. Kapnitz, Hungary. Orpiment. Hungary.

\* Fuller localities than are here given will be found with the specimens.

APPENDIX III—*continued.*

## PURCHASES (Specimens).

When received.	Description of Exhibit.
1886.	<p>Stibnite. Alais, France  Molybdenite. Altenberg, Saxony  Argentite. Freiberg, Saxony  Galenite. Cumberland  " (Massive.) Spain  Bornite. Chili  Sphalerite. Cumberland  " (Massive.) Chalybes,  Conn., U.S.A.  Cinnabar. New Almaden, Cal., U.S.A.  Pyrrhotite. Lancaster Co., Pa.,  U.S.A.  Pyrite. (3 specimens.) Italy and  U.S.A.  Chalcopyrite. Freiberg  " (Massive.) Chili  Smaltite. Schneeberg, Saxony  Cobaltite. Tunaberg, Sweden  Cast of Cobaltite crystal. Tunaberg,  Sweden  Marcasite. Cumberland  Arsenopyrite. Freiberg  Proustite. Chili  Tetrahedrite. Kapnik  Sylvite. Stassfurt  Halite. Friedrichshall  Sal ammoniac. Vesuvius  Carnallite. Stassfurt  Tachhydrite. Stassfurt  Atacamite. Chili  Fluorite. (4 specimens.) England,  Saxony, and U.S.A.  Cryolite. Greenland  Cuprite. Cornwall  Zincite. Franklin, N.Y., U.S.A.  Corundum. (Emery.) Greece  " (Crystal.) U.S.A.  Hematite. (4 specimens.) Elba,  England, and U.S.A.  Menaccanite. Norway  Spinel. Amity, N.Y.  Magnetite. (2 specimens.) U.S.A.  Native Lodestone. Magnet Cove,  Ark., U.S.A.  Franklinite. Franklin, N.J., U.S.A.  Chromite. Baltimore, Ma., U.S.A.  Cassiterite. (2 specimens.) Saxony  and Mexico  Rutile. Kragerø, Norway  Brookite. Magnet Cove, Ark., U.S.A.  Pyrolusite. Prussia  Gæthite. Col., U.S.A.  Manganite. Ilfeld, Germany  Limonite. (3 specimens.) France,  Germany, and U.S.A.  Beauxite. France  Brucite. Texas, Pa., U.S.A.  Hydrotalcite. Vernon, N.J., U.S.A.  Psilomelane. Tenn., U.S.A.  Wad. Germany  Quartz. (6 specimens.) England,  Germany, and U.S.A.  Quartz. Rock Crystal  " Milky. N.Y., U.S.A.  " Ferruginous. Westphalia,  Germany  Quartz. Rose. Conn., U.S.A.  " Amethyst. Prussia  " Smoky. Col., U.S.A.  " Chalcedony. Fa., U.S.A.</p> <p>Quartz. Carnelian. Brazil  " Chrysoptase. Silesia  " Agate. (2 specimens.)  " Flint. (2 specimens.) Eng-  land and Ireland  Quartz. Jasper. (2 specimens.)  India and Baden  Quartz. Novaculite. Ark., U.S.A.  " Itacolomite. N.C., U.S.A.  " Silicified wood. (2 speci-  mens.) Egypt and U.S.A.  Opal. Hungary  Semi-opal. Hungary  Wood-opal. Cal., U.S.A.  Hyalite. Bohemia  Tripoli. Algeria  Hypersthene. Labrador  Wollastonite. Amity, N.Y., U.S.A.  Pyroxene. (2 varieties.) Italy and  U.S.A.  Rhodonite. Sweden  Spodumene. Sweden  Petalite. Sweden  Amphibole. N.Y., U.S.A.  Tremolite. Gouverneur, N.Y., U.S.A.  Actinolite. Cranston, R.I., U.S.A.  Asbestos. (2 specimens.) Italy and  U.S.A.  Beryl. Conn., U.S.A.  Emerald. New Granada  Chrysolite. Mt. Vesuvius  Willemite. Franklin, N.J., U.S.A.  Garnet. (4 specimens.) Piedmont, &amp;c.  Zircon. N.C., U.S.A.  Vesuvianite. Mt. Vesuvius  Epidote. (2 specimens.) Tyrol  Allanite. Va., U.S.A.  Zoisite. Moravia  Ilvaite. Elba  Axinite. France  Phlogopite. N.Y., U.S.A.  Biotite. Mt. Vesuvius  Muscovite (3 specimens). U.S.A., &amp;c.  Lepidolite. Moravia  Wernerite (2 specimens). U.S.A.  Nephelite. Italy  Lapis-Lazuli. Chili  Leucite. Mt. Vesuvius  Labradorite (2 specimens). Labrador  Oligoclase. Norway  Albite. Tyrol  Orthoclase (6 specimens). From  various localities  Leopardite. N.C., U.S.A.  Obsidian. Lipari, Italy  Lava. Mt. Vesuvius  Pumice. Lipari  Chondrodite. N.Y., U.S.A.  Tourmaline (3 specimens). Norway  and U.S.A.  Andalusite (2 specimens). Tyrol  Fibrolite. Del., U.S.A.  Cyanite. Conn., U.S.A.  Topaz. Brazil  Datolite. N.J., U.S.A.  Titanite. Tyrol  Staurolite. Moravia  Pectolite. N.J., U.S.A.  Chrysocolla. Chili  Calamine. N.J., U.S.A.</p>



APPENDIX III—*continued.*

## Purchases (Specimens).

When received.	Description of Exhibit.		
1886.	<table border="0"> <tr> <td style="vertical-align: top;"> Prehnite. N.J., U.S.A.  Apophyllite. N.J., U.S.A.  Natrolite. Bohemia  Analcite. Tyrol  Chabazite. Bohemia  Stilbite. Faroë Islands  Heulandite. Tyrol  Talc (4 specimens). Tyrol and U.S.A.  Pyrophyllite. N.C., U.S.A.  Sepiolite. Asia Minor  Serpentine (4 specimens). U.S.A.  Kaolinite (2 specimens.) U.S.A.  Catlinite. U.S.A.  Indurated clay. China  Margarodite. Conn., U.S.A.  Jefferisite. Pa., U.S.A.  Ripidolite. Pa., U.S.A.  Margarite. Tyrol  Seybertite. N.Y., U.S.A.  Columbite. Conn., U.S.A.  Apatite (2 specimens). Canada  Pyromorphite. Cumberland  Amblygonite. France  Vivianite. Cornwall  Erythrite. Saxony  Lazulite. Styria  Wavellite. Ark., U.S.A.  Childrenite. Cornwall  Dufrenite. Va., U.S.A.  Cacoxenite. Nassau  Soda nitre. Chili  Sassolite. Tuscany  Boracite. Stassfurt  Borax. Thibet  Ulexite. Peru  Wolframite. France  Scheelite. Saxony  Barite (4 specimens). England, &amp;c.  Celestite. Sicily.  Anhydrite. Nova Scotia  Gypsum (3 specimens). France, &amp;c. </td> <td style="vertical-align: top;"> Gypsum (Selenite). France  Alabaster (2 specimens). Italy  Kieserite. Stassfurt  Alunogen. Saxony  Aluminite. England  Alunite. Hungary  Calcite (4 specimens). England,  Saxony, &amp;c.  " Iceland spar. Iceland  " statuary marble. Vt., U.S.A.  " marble. Italy  " oölitic limestone. Bristol  " landscape marble. "  " chalk. Dover  " calcareous tufa. N.Y.,  U.S.A.  Dolomite (2 specimens). Cumber-  land  Magnesite. Silesia  Siderite (3 specimens). The Hartz, &amp;c.  Smithsonite. Altenberg  Aragonite (2 specimens). France  and Styria  Witherite. Cumberland  Strontianite. Westphalia  Cerussite. Bohemia  Barytocalcite. Cumberland  Natron. Egypt  Hydrozincite. Spain  Malachite. South Australia  Azurite. France  Ozocerite. Galicia  Succinite. Baltic Sea  Petroleum. Gulf of Suez  Asphaltum. Trinidad  Albertite. Nova Scotia  Mineral coal. Anthracite. Pa., U.S.A.  " Native coke. Va., U.S.A.  " Cannel coal. Ky., U.S.A.  " Lignite. Austria  " Jet. Wurtemberg </td> </tr> </table>	Prehnite. N.J., U.S.A. Apophyllite. N.J., U.S.A. Natrolite. Bohemia Analcite. Tyrol Chabazite. Bohemia Stilbite. Faroë Islands Heulandite. Tyrol Talc (4 specimens). Tyrol and U.S.A. Pyrophyllite. N.C., U.S.A. Sepiolite. Asia Minor Serpentine (4 specimens). U.S.A. Kaolinite (2 specimens.) U.S.A. Catlinite. U.S.A. Indurated clay. China Margarodite. Conn., U.S.A. Jefferisite. Pa., U.S.A. Ripidolite. Pa., U.S.A. Margarite. Tyrol Seybertite. N.Y., U.S.A. Columbite. Conn., U.S.A. Apatite (2 specimens). Canada Pyromorphite. Cumberland Amblygonite. France Vivianite. Cornwall Erythrite. Saxony Lazulite. Styria Wavellite. Ark., U.S.A. Childrenite. Cornwall Dufrenite. Va., U.S.A. Cacoxenite. Nassau Soda nitre. Chili Sassolite. Tuscany Boracite. Stassfurt Borax. Thibet Ulexite. Peru Wolframite. France Scheelite. Saxony Barite (4 specimens). England, &c. Celestite. Sicily. Anhydrite. Nova Scotia Gypsum (3 specimens). France, &c.	Gypsum (Selenite). France Alabaster (2 specimens). Italy Kieserite. Stassfurt Alunogen. Saxony Aluminite. England Alunite. Hungary Calcite (4 specimens). England, Saxony, &c. " Iceland spar. Iceland " statuary marble. Vt., U.S.A. " marble. Italy " oölitic limestone. Bristol " landscape marble. " " chalk. Dover " calcareous tufa. N.Y., U.S.A. Dolomite (2 specimens). Cumber- land Magnesite. Silesia Siderite (3 specimens). The Hartz, &c. Smithsonite. Altenberg Aragonite (2 specimens). France and Styria Witherite. Cumberland Strontianite. Westphalia Cerussite. Bohemia Barytocalcite. Cumberland Natron. Egypt Hydrozincite. Spain Malachite. South Australia Azurite. France Ozocerite. Galicia Succinite. Baltic Sea Petroleum. Gulf of Suez Asphaltum. Trinidad Albertite. Nova Scotia Mineral coal. Anthracite. Pa., U.S.A. " Native coke. Va., U.S.A. " Cannel coal. Ky., U.S.A. " Lignite. Austria " Jet. Wurtemberg
Prehnite. N.J., U.S.A. Apophyllite. N.J., U.S.A. Natrolite. Bohemia Analcite. Tyrol Chabazite. Bohemia Stilbite. Faroë Islands Heulandite. Tyrol Talc (4 specimens). Tyrol and U.S.A. Pyrophyllite. N.C., U.S.A. Sepiolite. Asia Minor Serpentine (4 specimens). U.S.A. Kaolinite (2 specimens.) U.S.A. Catlinite. U.S.A. Indurated clay. China Margarodite. Conn., U.S.A. Jefferisite. Pa., U.S.A. Ripidolite. Pa., U.S.A. Margarite. Tyrol Seybertite. N.Y., U.S.A. Columbite. Conn., U.S.A. Apatite (2 specimens). Canada Pyromorphite. Cumberland Amblygonite. France Vivianite. Cornwall Erythrite. Saxony Lazulite. Styria Wavellite. Ark., U.S.A. Childrenite. Cornwall Dufrenite. Va., U.S.A. Cacoxenite. Nassau Soda nitre. Chili Sassolite. Tuscany Boracite. Stassfurt Borax. Thibet Ulexite. Peru Wolframite. France Scheelite. Saxony Barite (4 specimens). England, &c. Celestite. Sicily. Anhydrite. Nova Scotia Gypsum (3 specimens). France, &c.	Gypsum (Selenite). France Alabaster (2 specimens). Italy Kieserite. Stassfurt Alunogen. Saxony Aluminite. England Alunite. Hungary Calcite (4 specimens). England, Saxony, &c. " Iceland spar. Iceland " statuary marble. Vt., U.S.A. " marble. Italy " oölitic limestone. Bristol " landscape marble. " " chalk. Dover " calcareous tufa. N.Y., U.S.A. Dolomite (2 specimens). Cumber- land Magnesite. Silesia Siderite (3 specimens). The Hartz, &c. Smithsonite. Altenberg Aragonite (2 specimens). France and Styria Witherite. Cumberland Strontianite. Westphalia Cerussite. Bohemia Barytocalcite. Cumberland Natron. Egypt Hydrozincite. Spain Malachite. South Australia Azurite. France Ozocerite. Galicia Succinite. Baltic Sea Petroleum. Gulf of Suez Asphaltum. Trinidad Albertite. Nova Scotia Mineral coal. Anthracite. Pa., U.S.A. " Native coke. Va., U.S.A. " Cannel coal. Ky., U.S.A. " Lignite. Austria " Jet. Wurtemberg		
10 July	... Series of crystal models (fifty in number) representing the leading forms and modifications of the six systems.		
10 "	... Forty specimens of precious stones showing the minerals used by jewellers.		
10 "	... The "College" collection of rocks, containing 275 specimens, as follows:— Dolerite (3 specimens) Nepheline dolerite Basalt (5 specimens) " with olivine " leucite lava Basanite Nepheline basalt, with olivine Cellular basalt Wakenitic basalt Basaltic lava (6 specimens) Leucite lava Nepheline lava Volcanic bomb Spheroidal basalt Porphyritic diabase (2 specimens) Diabase tuff Metadiabase Gabbro (2 specimens) Hypersthene (3 specimens) Labradorite (2 specimens) Diorite (3 specimens) Quartz diabase Greenstone Aphanite (2 specimens) Variolite		
	Melaphyre Porphyritic melaphyre Amygdaloidal " Amygdaloid Porphyrite Porphyry " antique Argillophyre Plagioclase anamesite Mica porphyrite Leopardite Minette Sanidine oligoclase trachyte Trachyte, green " compact " porphyritic (2 specimens) " oligoclase Domite Tremolitic steatite Amphibole andesite (3 specimens) Elvanite (3 specimens) " argillaceous (2 specimens) Porphyritic petrosilex (3 specimens) Petrosilex breccia " banded		

APPENDIX III—*continued.*

## Purchases (Specimens).

When received.	Description of Exhibit.
1886.	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>Eurite</p> <p>Rhyolite</p> <p>    "    tufaceous</p> <p>Pearlstone</p> <p>Pitchstone (2 specimens)</p> <p>Obsidian</p> <p>Pumice (2 specimens)</p> <p>Phonolite (3 specimens)</p> <p>Granite (7 specimens)</p> <p>    "    coarse-grained (2 specimens)</p> <p>    "    porphyritic (2 specimens)</p> <p>    "    with two felspars</p> <p>    "    gneissoid</p> <p>    "    gray schorl</p> <p>    "    red</p> <p>    "    graphic</p> <p>    "    syenitic (9 specimens)</p> <p>Pegmatite</p> <p>Syenite, gray</p> <p>    "    porphyritic (2 specimens)</p> <p>Hyposyenite</p> <p>Protogine</p> <p>Greisen</p> <p>Tonalite</p> <p>Granulite</p> <p>Gneiss (2 specimens)</p> <p>    "    granitoid (3 specimens)</p> <p>    "    porphyritic</p> <p>    "    syenitic</p> <p>Mica-schist (4 specimens)</p> <p>    "    garnetiferous</p> <p>Mica-slate</p> <p>Schist, chlorite (2 specimens)</p> <p>    "    talcose "</p> <p>    "    hornblende "</p> <p>Amphibolite "</p> <p>Chiastolite</p> <p>Argillite (4 specimens)</p> <p>Shale, argillaceous</p> <p>    "    bituminous</p> <p>    "    carbonaceous</p> <p>    "    arenaceous</p> <p>    "    lias</p> <p>Catlinite</p> <p>Clay concretion</p> <p>    "    stones</p> <p>Porcelanite</p> <p>Potter's clay</p> <p>Kaolin</p> <p>Marl, schistose</p> <p>    "    calcareous</p> <p>    "    glauconitic</p> <p>    "    shell</p> <p>Limestone, granular (3 specimens)</p> <p>    "    crystalline (2 specimens)</p> <p>    "    lithographic</p> <p>    "    compact (3 specimens)</p> <p>    "    arenaceous</p> <p>    "    cherty</p> <p>    "    argillaceous</p> <p>    "    fossiliferous</p> <p>    "    oölitic</p> <p>    "    earthy</p> <p>    "    indusial</p> <p>Marble, statuary (2 specimens)</p> <p>    "    Cipollino</p> <p>    "    stalagmitic</p> <p>    "    Campan</p> <p>    "    yellow antique</p> <p>    "    variegated</p> </div> <div style="width: 48%;"> <p>Marble, Brocatello</p> <p>    "    Portor</p> <p>    "    Bardiglio</p> <p>    "    verd antique</p> <p>    "    landscape</p> <p>    "    clouded</p> <p>    "    encrinal</p> <p>    "    madrepore</p> <p>    "    oölitic</p> <p>    "    breccia (2 specimens)</p> <p>Mexican onyx</p> <p>Septarium</p> <p>Chalk, white</p> <p>    "    metamorphosed (2 specimens)</p> <p>Shell conglomerate</p> <p>Shell sand</p> <p>Calcareous tufa (2 specimens)</p> <p>Dolomite, bituminous</p> <p>    "    coarse</p> <p>    "    fine</p> <p>    "    graphic</p> <p>Gypsum (4 specimens)</p> <p>Alabaster</p> <p>Apatite</p> <p>Sandstone, friable (2 specimens)</p> <p>    "    micaceous</p> <p>    "    shaly</p> <p>    "    Medina</p> <p>    "    variegated</p> <p>    "    compact (2 specimens)</p> <p>    "    vitreous</p> <p>    "    fossiliferous</p> <p>Quartzite</p> <p>Quartz-schist</p> <p>    "    vein</p> <p>    "    breccia</p> <p>    "    rose</p> <p>    "    cellular</p> <p>Novaculite</p> <p>Flint</p> <p>Diatomaceous earth</p> <p>Itacolumite</p> <p>Arkose</p> <p>Feldspathic conglomerate</p> <p>Oneida "</p> <p>Puddingstone "</p> <p>Sand</p> <p>    "    variegated</p> <p>Volcanic conglomerate</p> <p>Pelagonite "</p> <p>Trass breccia</p> <p>Volcanic tufa</p> <p>Trachyte conglomerate</p> <p>Peperino</p> <p>Serpentine (9 specimens)</p> <p>Soapstone (2 specimens)</p> <p>Eclogite</p> <p>Garnet rock</p> <p>Tourmaline rock</p> <p>Epidosite</p> <p>Phosphatic nodule</p> <p>Epidotic schist</p> <p>Peat</p> <p>Coal, lignite</p> <p>    "    bituminous</p> <p>    "    cannel (2 specimens)</p> <p>Anthracite</p> <p>Carbonite</p> <p>Asphaltum</p> <p>Albertite</p> </div> </div>

## APPENDIX III—continued.

## PURCHASES (Specimens).

When received.	Description of Exhibit.
1886. 10 July ...	<p>Sixteen specimens of building stones in blocks 12 inches by 9 inches by 6 inches, polished on one side only, of which the following is a list:—</p> <p>Granite, from Spruce Head, Me., U.S.A.</p> <p>    "    "    Richmond, Va.,           "</p> <p>    "    "    Quincy, Mass.,           "</p> <p>    "    "    Clark's Island, Me.,       "</p> <p>    "    "    Westerly, R.I.,           "</p> <p>    "    "    Jonesborough, Vt.,       "</p> <p>    "    "    Barre, Vt.,           "</p> <p>Diorite, Addison Point, Me.,       "</p> <p>Niagara limestone, Lockport, N.Y.   "</p> <p>Onondaga limestone, Onondaga Co., N.Y. "</p> <p>Medina sandstone, Medina, N.Y.,   "</p> <p>Tennessee marble, Knoxville, Tenn., "</p> <p>Statuary marble, Rutland, Vermont, "</p> <p>Ohio freestone, Berea, Ohio,       "</p> <p>Bluestone, Portageville, N.Y.,     "</p> <p>Brownstone, Portland, Conn.,       "</p>
12   "    ...	Twenty-eight specimens of chemicals and pharmaceutical products.
20   "    ...	Models in papier-maché of human larynx, tongue, and skin, and of cow's udder.
3 August ...	<p>Eight large models of wire mounted in glass, showing crystallographic axes, of which the following is a description:—</p> <p>(1) <i>Cubical System</i>:—  Cube octahedron  Rhombic dodecahedron  Trapezohedron  Tetra-hexahedron</p> <p>(2) <i>Cubical System</i>:—  Tetrahedron cube  Octahedron  Cube octahedron  Macles section</p> <p>(3) <i>Cubical System</i>:—  Cube octahedron  Rhombic dodecahedron  Tetrahedron</p> <p>(4) <i>Rhombohedral System</i>:—  Hexagonal prism  Rhombohedron</p> <p>(5) <i>Doubly Oblique System</i>:—  Hexagonal scalenohedron  Doubly opaque prism  Doubly oblique octahedron</p> <p>(6) <i>Pyramidal System</i>:—  Square prism  Acute octahedron  Obtuse       "</p> <p>(7) <i>Oblique System</i>:—  Oblique rectangular prism  " rhombic prism  " rhombic octahedron</p> <p>(8) <i>Prismatic System</i>:—  Right rectangular prism  " rhombic prism  Rhombic octahedron</p>
3   "    ...	200 models in plaster, mounted on stands, of crystal forms.
3   "    ...	<p>Series of minerals to illustrate:—</p> <p>a. Lustre, comprising 8 specimens</p> <p>b. Colour,       "    53       "</p> <p>c. Diaphaneity, "    5       "</p> <p>d. Structure,   "    7       "</p> <p>e. Form,       "    10       "</p>
3   "    ...	<p>One Haidinger's Dichroscope.</p> <p>Thirteen sections of minerals and rocks mounted for use with dichroscope.</p> <p>Series containing seventy-three specimens to illustrate Phenomenal Geology:—</p> <p>Jointed structure, Cambrian slate       Vesicular, lava</p> <p>    "    "    basalt                       Scoriaceous, scoria</p> <p>    "    "    trap                           Pumiceous, pumice</p> <p>Columnar, basalt column               Amygdaloidal, melaphyre</p> <p>Bacillary, stylolites                   Geodiferous, quartz geode</p> <p>    "    "    "                           Porous, magnesian limestone</p> <p>Fibrous, satin spar                   Porphyritic, porphyry</p> <p>Concretionary, clay concretion       "    porphyritic granite</p> <p>    "    "    "                       "    luxulyanite</p> <p>    "    "    septarium               Slaty, slate</p> <p>    "    "    "                       Shaly, shale</p> <p>    "    "    cone-in-cone           Schistose, mica schist</p> <p>    "    "    "                       Amorphous, chalk</p> <p>    "    "    clay concretion       Compact, lithographic limestone</p> <p>    "    "    sand concretion           Crystalline, granite</p> <p>    "    "    clay ironstone           Granular, magnetite</p> <p>Oölitic, oölitic limestone           Vitreous, rose quartz</p> <p>    "    "    "                       Saccharoidal, statuary marble</p> <p>Pisolitic, aragonite, var pisolite   Friable, sandstone</p> <p>Nodular, flint                       "    limestone</p> <p>Spherulitic, pearlstone               Pulverulent, diatomaceous earth</p>

## APPENDIX III—continued.

## PURCHASES (Specimens).

When received.	Description of Exhibits.	
1886.	Earthy, ochre Veins, calcite in slate " " in black limestone " " in sandstone " epidote " galena in rhodochrosite Chalk changed to limestone by proximity to basalt dyke Chalk altered in colour by proximity to basalt dyke Flint altered in colour by proximity to basalt dyke Shale altered to chert Porcelanite, <i>i.e.</i> , clay vitrified by heat Silicified wood Flexible sandstone Contorted and plicated strata, gneiss	Faults in limestone, ruin marble Slickensides Glacial striae Glaciated boulder " " " " " " Glacial striae (modern) Rock triturated by glacier Ripple marks (cast) Rain-prints, Lias (cast) Sun-cracks and mud-veins Landscape marble Dendrites Stalagmite Stalactite Volcanic bomb Contorted lava Meteoric iron
3 August ...	Five models of meteorites and meteoric iron:— Meteoric iron from Augusta Co., Virginia, U.S.A. Meteoric iron from Wold Cottage, Yorkshire, England " from Werchneudinsk, East Siberia " from Sugowlee, Bengal, India " from Guernsey Co., Ohio, U.S.A.	
3 " ...	Six geological models to illustrate the principal features of stratification, erosion, and displacement, on a scale of 1 inch to 100 feet of strata.	
28 September ...	Elementary geological collection as arranged for, and approved by, the Science and Art Department (London), for the use of science classes, consisting of the following specimens:—*	
	ROCKS.	
	Granite, coarse grained " fine grained " porphyritic Quartz-felsite Rhyolite Pitchstone Obsidian Pumice Rhyolite, tuff Granite, decomposing Syenite Ekeolite-syenite Diorite Trachyte Andesite Porphyrite Claystone Phonolite Gabbro Basalt, compact " scoriaceous Melaphyre Palagonite tuff Serpentine Greisen	Pipe-clay Coal shale Clay slate Slate, spotted " chiastolite " mica " " with garnets Schist, hornblende " talc " chlorite Gneiss, grey " red Conglomerate Millstone, grit Sandstone, red Quartzite Chalk Limestone oölitic " dolomitic " crystalline Peat Coal, brown " common " cannel " anthracite
	MINERALS.	
	Rock crystal Quartz, massive Orthoclase Oligoclase Labradorite Leucite Nepheline Hornblende " " Augite Muscovite	Biotite Olivine Garnet Kaolin Calcite Selenite Magnetite Hematite Pyrite Rock salt " white

\* I has not been considered necessary to give localities in this list, as the merit of the collection lies in its compactness, and at the same time, comprehensiveness.

## APPENDIX III—continued.

## PURCHASES (Specimens).

When received.	Description of Exhibits.
1886.	<p style="text-align: center;">FOSSILS.</p> <p>Slate, with graptolites (<i>Diplograpsus pristis</i>)  <i>Lingulella Davisii</i>  <i>Calymene Blumenbachii</i>  <i>Taxocrinus tuberculatus</i>  <i>Atrypa reticularis</i>  <i>Pentamerus Knightii</i>  <i>Productus semireticulatus</i>  <i>Spirifer</i>  <i>Goniatites</i>  <i>Orthoceras</i>, in carb. limestone  <i>Lithostroton basaltiformis</i>, in carb. limestone  <i>Zaphrentis</i>, in carb. limestone  <i>Aviculopecten papyraceus</i>, carboniferous  <i>Fenestella carboniferous</i>  <i>Enomphalus</i>, carb. limestone  <i>Pecopteris</i>, carboniferous  <i>Sigillaria</i> "  <i>Lepidodendron</i> "  <i>Calamites</i>  <i>Trigonocarpum</i>  <i>Gryphæa incurva</i>, Lias.  <i>Ammonites margaritatus</i>, Lias.  <i>Ammonites bifrons</i> "  <i>Terebratula punctata</i> "  <i>Rhynchonella tetrahedra</i> "  <i>Ostrea Marshii</i>, Inf. Oölite  <i>Apiocrinus rotundus</i>, Bradford Clay  <i>Echinobrissus scutatus</i>, Cor Oölite  <i>Thecosmilia annularis</i>, "  <i>Gryphæa dilatata</i>, in Oxford Clay</p> <p><i>Belemnites Puzosianus</i>, in Oxford Clay  <i>Ostrea deltoidea</i>, Kim. Clay  <i>Trigonia gibbosa</i>, Portland Clay  <i>Paludina</i>, Purbeck Limestone  Cinder bed  <i>Ammonites lautus</i>, Gault  <i>Belemnites minimus</i> "  <i>Inoceramus</i>, Chalk  <i>Micraster cor-anguinum</i>, Chalk  <i>Belemmitella</i> "  " "  <i>Pectunculus terebratularis</i>, Woolwich beds  <i>Cerithium funatum</i>, Woolwich beds  <i>Cyrena cuneiformis</i> "  <i>Cardita planicosta</i> Bracklesham beds  <i>Nummulites lævigatus</i> "  <i>Turritella imbricataria</i>, Barton clay  <i>Voluta luctatrix</i>, Barton beds  <i>Crassatella sulcata</i> "  <i>Cerithium concavum</i>, Headon beds  <i>Cytherea incrassata</i> "  <i>Fusus labiatus</i> "  <i>Linnæa</i>, Headon marl  <i>Planorbis</i> "  <i>Paludina lenta</i>, Headon beds  <i>Cerithium plicatum</i> "  <i>Fascicularia aurantium</i>, Coralline crag  <i>Fusus antiquus</i>, var <i>contrarius</i>, red crag  <i>Lamna elegans</i>  Glacially striated stone</p>
28 September ...	<p>Fifty natural crystals of minerals illustrating all the systems.  Tourmaline forceps  Dichroscope  Lapidary machine  Geologists' hammers.  Blowpipe cabinet.  Clinometer.</p>
28 " ...	<p>Sixty-seven models,* to illustrate machine and building construction, of which the following is a list:—</p> <ol style="list-style-type: none"> <li>1. Combined lap and butt joint.</li> <li>2. Single rivetted lap joint.</li> <li>3. " " butt joint.</li> <li>4. Double rivetted lap joint.</li> <li>5. Three plates, single rivetted</li> <li>6. Four ¼-inch wrought-iron plates, single rivetted.</li> <li>7. Two plates and angle iron.</li> <li>8. Tee iron point.</li> <li>9. Twelve forms of bolts mounted on a board.</li> <li>10. Four cast-iron plates.</li> <li>11. " " "</li> <li>12. Junction of cast-iron plates.</li> <li>13. Corner of a cast-iron crank.</li> <li>14. Knuckle joint.</li> <li>15. Keys.</li> <li>16. Proportions of cotters.</li> <li>17. Gib and cotters.</li> <li>18. Hydraulic joint.</li> <li>19. Wrought-iron crank-shaft.</li> <li>20. Half-lap coupling, with bosses and necks.</li> <li>21. Box coupling, with parts of shafts and key.</li> <li>22. Flange coupling, partly in section.</li> <li>23. Disengaging coupling or clutch.</li> <li>24. Wall-plate, with pedestal.</li> <li>25. Wall-plate and bracket for shafting.</li> <li>26. Bracket bearing, to receive pedestal.</li> <li>27. Hanger pedestal, used for carrying shafting from ceiling joists.</li> <li>28. Wall-box, for supporting pedestals.</li> <li>29. Footstep bearing, for supporting vertical shafts.</li> <li>30. Stepped speed cone, for three speeds.</li> <li>31. Ordinary strap pulley.</li> </ol>

\* Nos. 1-12 are of metal; the other models are chiefly constructed of wood

APPENDIX III—*continued.*

## PURCHASES (Specimens).

When received.	Description of Exhibit.								
1886. 28 September ...	<p>32. Short link crane chain.</p> <p>33. Cable chain, giving proportion of studs.</p> <p>34. Model, in wood, of a wrought-iron hook and swivel, suitable for a 6-ton crane.</p> <p>35. Model, in hard wood, of a wrought-iron hook, suitable for a 2-ton crane.</p> <p>36. Plate link chain, used for working heavy loads.</p> <p>37. Ordinary straight hand lever, for working machinery.</p> <p>38. Ordinary straight treadle lever.</p> <p>39. Winch-handle, or cranked lever.</p> <p>40. Wrought-iron crank, crank-pin, and shaft-journal.</p> <p>41. Cast-iron crank and crank-pin.</p> <p>42. Disc crank and pin.</p> <p>43. Cast-iron eccentric in halves, with brass flanged strap and connecting rod end.</p> <p>44. Strap connecting rod end.</p> <p>45. Box connecting rod end, dispensing with loose strap.</p> <p>46. Coupling-rod joint, arranged to diminish friction and wear.</p> <p>47. Forked connecting-rod end, piston-rod, and cross-head, with straps, gib, and cotter.</p> <p>48. Wrought-iron slide-bars, with cross-head, having wearing faces.</p> <p>49. Piston, with junk-ring and wedge, spring-ring, and part of piston-rod, with collar and keys.</p> <p>50. Cylinder cover, gland, and stuffing-box.</p> <p>51. India-rubber disc, air-pump valve, brass grating, and guard.</p> <p>52. Lift or puppet valve.</p> <p>53. Engine slide-valve, with portion of valve-rod.</p> <p>54. Sectional 1½-inch gas plug tap, in wood, flanged.</p> <p>55. Sectional 1½-inch solid bottom tap in wood and brass, with gland and bolts, flanges turned.</p> <p>56. Needle lubricator, for journals in shafting.</p> <p>57. Rim and arm of spur-wheel, 16 inches in diameter, and spur-pinion, 4 inches in diameter, for same.</p> <p>58. Rim and arm of bevel-wheel and bevel-pinion.</p> <p>59. Rim and arm of mortice-wheel, 2 feet in diameter.</p> <p>60. Model, in mahogany, of a king post, suited to a span of 20 feet.</p> <p>61. Model, in mahogany, of a 6-inch trussed partition.</p> <p>62. Model, in mahogany, of a trussed timber beam for a traveller.</p> <p>63. Model, in hard wood, of a portion of a box-girder for a traveller for a 30-ton crane, showing bridge-rail.</p> <p>64. Fifty joints in hardwood, being a selection of those chiefly used by architects, carpenters, cabinet-makers, and others.</p> <p>65. Model, in wood, of parts of an iron roof principal, including cast-iron shoe.</p> <p>66. Painted model of a single arch, built in Flemish bond.</p> <p>67. Painted model of a double arch, built in English bond.</p>								
18 October ...	A series of fifteen specimens of Ramie, or China grass ( <i>Bœhmeria nivea</i> ), showing its adaptation to admixture with silk in weaving.								
22 " ...	Three specimens of washed fleece, wool, and yarn from the Ercildoune flock, Victoria. The wool fetched five shillings and three half-pence (5/1½) per lb. at auction in London (July, 1886), which is the highest price ever obtained for raw wool in the open market.								
11 November ...	Stringer's patent writing-tablet for the blind.								
24 " ...	Collection of 145 specimens of chemical and pharmaceutical products.								
24 " ...	Collection of minerals, consisting of 133 specimens, chiefly from American localities.								
24 " ...	One sixteen shaft dobbie, under motion, lap, pegs, pair of temples, and eight shaft healds for loom.								
26 " ...	<p>Eight selected specimens of Japanese art ware, of which the following is a list:—</p> <table data-bbox="480 1816 1166 1928"> <tr> <td data-bbox="480 1816 863 1850">Egg-shell china, painted with marine fauna, and comprising:—</td> <td data-bbox="895 1816 1166 1850"></td> </tr> <tr> <td data-bbox="624 1850 735 1883">Slop bowl</td> <td data-bbox="895 1850 1166 1883">Three cups and saucers</td> </tr> <tr> <td data-bbox="624 1883 735 1917">Milk-jug</td> <td data-bbox="895 1883 1166 1917">Two plates.</td> </tr> <tr> <td data-bbox="624 1917 735 1951">Tea-pot</td> <td data-bbox="895 1917 1166 1951"></td> </tr> </table> <p>One Japanese ivory carving, representing Daimio and private soldiers.</p> <p>Also, one Japanese horn-pillow.</p> <p>One old Satsuma bowl and stand.</p>	Egg-shell china, painted with marine fauna, and comprising:—		Slop bowl	Three cups and saucers	Milk-jug	Two plates.	Tea-pot	
Egg-shell china, painted with marine fauna, and comprising:—									
Slop bowl	Three cups and saucers								
Milk-jug	Two plates.								
Tea-pot									
16 December ...	Series of sixty medals, each 3 inches in diameter, illustrating scenes from Scripture history.								

APPENDIX III—*continued.*

## PURCHASES (Specimens).

When received.	Description of Exhibit.
1886. 16 December ...	Italian rocks and contained minerals, all of economic value. This collection was kindly selected and arranged by the Chevalier Jervis, Royal Italian Industrial Museum of Turin, who was good enough to furnish the following description of the specimens:—

## A.—ALPINE REGION.

*Recent:—*

28. Blackish brown peat. Trezza (Verona). (Historic or Prehistoric).
1. Very fine contemporaneous alluvium of the Po, such as that of which the delta of the river is constituted, Pontelagoscuro (Ferrara). This is an extremely fertilizing matter, which is generally brought down by the water, after the rains, in immense quantity. (Contemporaneous).
  2. Extremely fine alluvial sand of the Adige, deposited on the land overflowed by the inundation of September, 1882. Verona (Verona). (Contemporaneous).
  3. Fine micaceous and quartzose alluvial sand from the Adige, deposited to the depth of 5 feet on the land around, on the occasion of the rupture of the dykes at Legnago (Verona). (Contemporaneous). Such matter, being very rich in quartz, mica, and other sterilizing minerals, is very injurious to the overflowed tract of country.
  4. Quartzose alluvial sand of the Adige, with a little mica in minute particles, principally derived from the ancient crystalline rocks of the Tyrol, and regularly stratified. Fossa Polisola, Borsea (Rovigo). (Prehistoric). At the time of its deposition this locality formed part of the delta of the Po, which is now prolonged some 30 miles further on.
27. Imperfectly mineralized peat, containing canes and other marsh plants in incipient state of decomposition. Valley of the Po; Crema (Cremona).
29. Cream-coloured marly limestone, locally termed maiolica. Caprino Veronese (Verona). (Cretaceous).

*Triassic:—*

30. Boghead schist; richest kind from this locality, the only one yet known in Italy. Resiutta (Udine). Employed for the extraction of mineral oils of various densities, and for enriching illuminating gas.
31. Boghead schists, less saturated with hydrocarbons than preceding variety. Resiutta (Udine).
32. Highly bituminous dark-bluish limestone, accompanying the boghead schist formation. Resiutta (Udine).
33. Somewhat greyish-white dolomite, forming strata in relation with the boghead schists. Resiutta (Udine).
34. White gypsum of somewhat saccharoid sub-crystalline structure. Pisogne (Brescia). The best description is quarried for making plaster of Paris, the impure for agricultural purposes.
35. Massive barite forming lodes. Introbio (Como). Worked for obtaining pigment.
85. Crystalline Siderite, forming stratified beds in the midst of triassic schists. Alfredo iron mine, Bovegno (Brescia), Val Trompia.

*Prepalæozoic rocks:—*

36. Chalcopyrites, forming masses or beds conformable to stratification of the enclosing serpentine rocks. Champ-de-Praz copper mine, Champ-de-Praz (Turin), Val d'Aosta, Cottian Alps.
37. Chalcopyrites, rich copper ore, forming beds interstratified or conformable to the stratification of the chlorite schists. San Giacomo copper-mine, Riva Valdobbia (Novara), Pennine Alps.
38. Auriferous pyrites, Pestarena gold-mine, Macugnaza (Novara), Lepontine Alps, Val Anzasea. Forms lodes traversing the micaschist strata of Monte Rosa, varying from 0·10 metre to 1 metre in thickness.
39. Auriferous mispickel and pyrites with quartz gangue, from the Battigio working. Gold-mines of Val Anzasea (Novara), Lepontine Alps.
40. Quartz gangue of gold-bearing lodes. Battigio working, gold-mines of Val Anzasea (Novara), Lepontine Alps.
41. Auriferous pyrites, with quartz gangue. Tagliata gold-mine, Rumianca (Novara), Lepontine Alps, Val Toppa.
42. Quartz from lodes of auriferous pyrites, and auriferous pyrites, with massive scheelite. Tagliata gold-mine, Rumianca (Novara), Val Toppa, Lepontine Alps.
43. Blackish-brown blende, forming part of gangue of the gold-bearing lodes. Tagliata gold-mine, Rumianca (Novara). Val Toppa, Lepontine Alps.
44. Pyrrhotine, found in association with chalcopyrites. Calcante copper-mine, Mezzenile (Turin), Valle Grande di Lanzo, Cottian Alps.
45. Impure steatitic rock, aquamarine-green and pale rose-coloured. Germagnano (Turin), Valle Grande di Lanzo, Cottian Alps. Constitutes a bed regularly interstratified in serpentine. The fact of the stratification of the serpentine is confirmed by the frequent changes in the mineral structure and the varying hardness of the several beds, &c. The direction of the strata in this locality is constant and uniform.
84. Quartz gangue of gold-bearing lodes in mica-schist, together with pyrrhotine. Tagliata gold-mine, Rumianca (Novara), Val Toppa, Lepontine Alps.

APPENDIX III—*continued*

## PURCHASES (Specimens).

## B.—APENNINE REGION AND VOLCANOES DEPENDENT OF THESE MOUNTAINS.

*Recent:—*

17. Greyish-white volcanic ashes and lapilli thrown out with immense force from the crater of Monte Somma at the close of the celebrated eruption of the year A.D. 79, in the reign of the Emperor Titus; together with boiling water, then falling like rain on the eastern slope of the volcano, and burying the whole city of Pompeii and its environs to the depth of from 25 to 30 feet, according to circumstances.—Pompeii, Boscoreale (Naples). (Historic).
18. Imbedded impalpable ash-grey volcanic ashes proceeding from Monte Somma, Boscoreale (Naples), (Prehistoric), underlie the city of Pompeii, which was more recent than these ashes.
19. Incoherent, scoriaceous, leucitic, volcanic rock, of the colour of the lees of wine, Pompeii, Boscoreale (Naples). The decomposition of the rock is far advanced, and the crystals of leucite, although preserving their original characteristic icosahedral form, are become pulverulent. Here and there minute fragmentary lamellæ of mica (Biotite) are visible. (Prehistoric).

*Upper Miocene:—*

5. Lamellar gypsum (Selenite), emitting a strong bituminous odour when struck. Found abundantly in large crystals in the midst of Upper Miocene greyish marls. San Germano di Casale (Alexandria). Extensively quarried for making plaster of Paris, for stucco and finer work, as also for agricultural purposes. [See Technological Series].
6. Spherical mass of white alabaster, with slate-coloured veining, resembling bardiglio marble, whence it is also known in the arts as bardiglio alabaster. Annunziata Quarry, Volterra (Pisa). This spheroid, which is a very small one, illustrates the way in which alabaster of the best and purest kind is found in the midst of the Upper Miocene marls and clays in the neighbourhood of Volterra. These masses of pure alabaster are separated from the rock by a thin coating or covering of crystalline selenite of an impure kind.
7. Rich sulphur ore of a brownish-yellow tint. Moreia Sulphur Mine, Lunano (Pesaro and Urbino). Valle Del Foglia.
8. Rich sulphur ore. Tufo Sulphur Mine. Tufo (Principato Utteriore).
9. Compact lignite, still perfectly preserving the marks of the veining of the exogenous forest trees from which it was produced. Pianpaganello Lignite Mine, Sarzana (Genova). There are two beds, the lower one consisting of good bituminous lignite from 1 metre to 1.5 metre thick, resting on alberese limestone. It is separated by strata of bituminous marls from a bed of sebistose lignite of 3 metres thick overlying it. 5,894 calorific units (Berthier's process). It consists of carbon 61.62, hydrogen 5.87, oxygen 26.41, nitrogen 2.40, ashes 3.70.
11. Bitumen, Manoppello (Abruzzo Citeriore). The bitumen impregnates the underlying eocene limestones, and is also found in an earthy state.

This is a sample of the richest kind, yielding industrially 20 % of pure bitumen, which latter when treated gives: mineral oil (density 0.92 to 0.93) 82 %, best asphalt 12 %, loss 6 %. By distillation the 82 parts by weight of oil produce 23 % of lucilina, density 0.800; 33 % of oil at sp. gravity, 0.850; 15 % of oil at 0.875; 10 % of oil at 0.900; loss, 1 %.

12. Earthy bitumen, Manoppello (Abruzzo Citeriore). Adriatic Slope of Apennines.

*Eocene:—*

13. Slightly yellowish-white, somewhat marly limestone, quarried for making excellent slow-setting hydraulic cement and lime. Casale Monferrato (Alexandria), Adriatic Slope.
14. Ash-grey marly limestone, accompanying the former variety, Quarried for making hydraulic slow-setting cement and lime. Casale Monferrato (Alexandria) Adriatic Slope.
15. Rich cinnabar, containing about 60 % of mercury. Forms small veins from 0.10 metres to 0.60 metres thick, traversing eocene limestone. Siele Mercury Mine, Santa Fiora (Grosseto). Val di Fiora, Mediterranean Slope of Apennines.
95. Crystallized calcite, in modified rhombohedral crystals piled upon each other, constitutes the gangue of the mercury veins. Siele Mercury Mine, Santa Fiora (Grosseto).

*Upper Miocene:—*

10. Translucent compact gypsum or white alabaster, found in masses in the midst of the upper miocene marls, San Lorenzo Sulphur Mine, Urbino (Pesaro and Urbino). Valle del Foglia, Adriatic Slope of Apennines.

*Tertiary in general:—*

16. Celestine in form of mammillary concretions, near Caramauro (Abruzzo Citeriore), Valla di San Leonardo, Adriatic Slope of Apennines.

## C.—INSULAR REGION (SARDINIA AND SICILY).

*Recent:—*

20. Pure sulphur, naturally fused in the interior of the mine, and due to the spontaneous combustion of the mineral, which accidently took fire by some carelessness of the men nearly a century ago, and has been ever since burning underground. This sulphur is still obtained in large quantities in a liquid state, and simply requires to be collected at a sort of tap-hole made on the surface of the rock, just as cast-iron flows out of an iron furnace. Zolfara Grande Mine, Sommatino (Caltanissetta).
24. Crystalline alum, which continually forms in this state, producing incrustations, along with numerous sublimated products, in the interior and exterior slope of the volcano. Vulcano, Lipari (Messina). It is remarkable from the presence in it of thallium.

*Upper Miocene:—*

21. Aragonite, crystallized in large hexagonal prisms with basal planes, and associated with sulphur. Sulphur mines, Cianciana (Girgenti).



## APPENDIX III—continued.

## PURCHASES (Specimens).

22. Very pale yellowish-white marly limestone, locally termed *trubo*, full of numerous genera of foraminifera. Employed for making hydraulic lime. Castrogiovanni (Caltanissetta). An important geological horizon for miners, being the uppermost member of the upper Miocene rocks.
23. Impure greyish-white gypsum, illustrating the singular manner in which the rock is superficially worn by the continued action of rain. Caltolica Eraclea (Girgenti). It is found in large scale in this form, and is a singular feature in the landscape on steep slopes.

*Upper Tertiary (pleiocene or pleistocene):—*

25. Obsidian; dark blackish colour when seen in the mass, a delicate neutral tint in the thin splinters. Part of an isolated mass ejected from an extinct upper tertiary volcano in the island of Lipari, and found embedded in the midst of incoherent white pumice stone. Monte Sant'Angelo, Lipari (Messina). [See article, "Lipari," *Tesori sotterranei dell'Italia*, vol. 3].

*Eocene:—*

26. Compact black lignite. Lignite mine of Bacu Abis, Gonnese (Cagliari). Forms a bed from 0.80 metre to 1.10 metre thick, underlying grey marls, and resting on fetid yellowish limestone 1.30 metre thick, the upper 10 or 12 centimetres of which are highly bituminous and impregnated with a considerable amount of hydrocarbons. The following strata follow in descending order:—Lignite 0.30 metre, light-yellow limestone 0.80, good lignite 0.50 to 0.60, repetition of yellow limestone 0.65, lignite 0.30 to 0.40, yellow limestone 0.50, lignite 0.25. The limestone is rich in *Carithium*. The lignite of Gonnese produces about 4,962 calorific units (Berthier's process).

*Silurian:—*

46. Stibnite, rich antimony ore, containing 65% of metal. Su Suergiu Antimony Mine, Villasalto (Cagliari). This ore forms beds or nests parallel to the stratification of the silurian schists.
47. Rich calamine (carbonate of zinc). Masua Zinc and Lead Mine, Iglesias (Cagliari). Forms very extensive masses and pockets in compact silurian limestone.
48. Early calamine, constituting the poor ore. Masua Zinc and Lead Mine, Iglesias (Cagliari).
49. Galena of medium crystalline structure. The purest ore contains 80% of lead and from 0.00025 to 0.00027% of silver. Monteponi Lead Mine, Iglesias (Cagliari). Constitutes a series of gigantic columns of mineral, each more or less isolated from the rest, and which have been followed down for several hundred metres. They extend for nearly 200 metres in horizontal direction. This celebrated mine produces about 11,000 tons of lead ore yearly, and is one of the two richest in the kingdom. It is situated in silurian limestone at the point where the great anticlinal fracture exists.
50. Baritine in grouped tabular crystals, forming part of the gangue of the masses and columns of galena. Monteponi Mine, Iglesias (Cagliari). Silurian.

## TECHNOLOGICAL SERIES. 42 Specimens.

51. Model in lead of ingot of gold, as obtained by the amalgamation process at the Val Anzasea Gold Mines. Pestarena United Gold-mining Company, London. Piedimulera (Novara).
52. Model in brass of mass of spongy gold, as above.
53. Model of ball of amalgam, as above.
54. Metallic copper, as deposited from the anodes in the process of electro-metallurgy, as carried on by the Società dell'Elettro-metallurgia delrame, at their works at Sastri Ponente (Genoa).
55. Crystallized manganiferous cast-iron or spiegeleisen, made in the Brescian Ironworks, Lombardy, by Glisenti. Type of the manganiferous class of cast-iron obtained from the manganiferous spathose ores found in beds in the Trias rocks of the Alps.
- 56, 57, 58, 59. Objects turned in green potstone, turned *Pietra ollare*, forming beds in the Prepalæozoic rocks, associated with serpentine, &c., in the Val Malenco (Sondrio). Vase with foot and cover, small vase with cover, egg cup, coffee cup and saucer. This stone is quarried near Chiesa and Lanzada, and is made into a variety of domestic articles. It is an extremely ancient manufacture, probably dating from prehistoric times, and was well known to the Romans.
60. Impure crystallized boracic acid, as obtained in the Boracic acid lagoons, near Volterra, in the shallow leaden evaporating pans, and in the state in which after being kiln-dried it is exported to England and France. Lardarello boracic acid lagoons, Pomarance (Pisa). Mediterranean Slope of Apennines. [See detailed account in "Mineral Resources of Central Italy, 1868," by the writer of the present].
61. Prepared caolic. Tolfa (Rome). The result of decomposition of trachytic rocks of the extinct tertiary volcanoes to the west of Rome.
62. White pozzolana and lapilli. Pozzuoli (Naples).
63. Do do do Another type.
64. White pozzolana. Pozzuoli (Naples). Third type.
65. Dark blackish-grey pozzolana. Monte Nuovo, Pozzuoli (Naples). Eruption of year A.D. 1538.
66. Fine white pulverulent pozzolana. Pozzuoli (Naples).
67. Extremely fine white pozzolana. Pozzuoli (Naples).

These pozzolane are invaluable adjuncts to lime in making hydraulic works. They are used in the proportion of half sand and half pozzolana. All the foregoing are types of white non-ferruginous pozzolane.

68. First process of grinding the burnt marly eocene limestone
69. Second process, as above
70. Third do do
71. Fourth do do
72. Fifth do do
73. Best slow-setting hydraulic cement
74. Slow-setting hydraulic cement, third quality
75. Hydraulic lime in lumps
76. Hydraulic lime

Technological illustrations of the manufacture of hydraulic lime and slow-setting hydraulic cement, prepared from the marly limestones of Casale, Monferrato, marked numbers 13 and 14 in above list. Works of the Società anonima per la fabbricazione del cemento a calci idraulici in Casale, Monferrato (Alexandria).

APPENDIX III—*continued.*

## PURCHASES (Specimens).

77. Test specimen of strength of the above slow-setting hydraulic cement—half cement, half sand. Two specimens, one of which to suspend by chains with weights to illustrate mode of testing. Immersion 7 days.
78. Test specimen, as above; best cement, used pure. Immersion 7 days.
79. Do do pure cement. Immersion 7 days.
80. Best Plaster of Paris, for making stucco and modelling
86. Ground crude gypsum, for agricultural purposes; impure
88. Burnt gypsum, for manure; impure
89. Ground burnt gypsum, best quality, termed Seagliola, for modelling
90. Ground burnt gypsum, impure, for agricultural purposes
91. Do for building purposes.
87. Fat lime. Terni (Umbria). Prepared from upper Mesozoic limestones.
92. Ground barytes, termed classica, obtained from Triassic rocks of Val Sassina. Castello, near Lecco (Como).
93. Best ground barytes, termed prima, as above. Castello, near Lecco (Como). Both used as pigments.
94. Ground refined sulphur, for vineyards. Obtained from same mineral as No. 7 above. Urbino (Pesaro and Urbino).
81. Refractory brick, and tuyère for blast furnace, chiefly made from local materials furnished by prepalæozoic rock of the Alps. Sant'Antonino di Susa (Turin).
82. Refractory brick, made of caolin and decomposed tertiary trachyte. Tolfa (Rome). Apennine Region.
83. Refractory brick, made of prepalæozoic materials. Ternengo (Novara). Alpine Region.

Prepared commercially from the Upper Miocene Gypsum, marked number 5 in above list, and others to be sent hereafter, at San Germano, di Casale, Monferrato (Alexandria).

When received.	Description of Exhibit.																																																						
1886. 22 December...	Collection of twenty-seven fine specimens of minerals and rocks, of which the following is a list:—																																																						
	<table border="0"> <tr> <td>Alstonite, from Cumberland</td> <td>Proustite, from Freiberg</td> </tr> <tr> <td>Barite (in small crystals), from Cumberland</td> <td>Stibnite, from Japan</td> </tr> <tr> <td>Barite, from Cumberland</td> <td>Scorodite, from Cornwall</td> </tr> <tr> <td>„ from Hungary</td> <td>Wood-tin „</td> </tr> <tr> <td>Bismuth, from Cornwall</td> <td>Vivianite „</td> </tr> <tr> <td>„ „</td> <td>Witherite, from Cumberland</td> </tr> <tr> <td>Chalybite, from Cumberland</td> <td>Crocosite, from Siberia</td> </tr> <tr> <td>Calcite „</td> <td>Iron (secondary crystals), from Siberia</td> </tr> <tr> <td>Cromfordite, from Matlock</td> <td>Topaz, from Siberia</td> </tr> <tr> <td>Tetrahedrite, from Hungary</td> <td>„ in situ „</td> </tr> <tr> <td>Green fluor, from Cumberland</td> <td>Graphic granite, from Scotland</td> </tr> <tr> <td>Purple fluor „</td> <td>Foliated schist „</td> </tr> <tr> <td>Rhodochrosite, from Hungary</td> <td>Garnet in Pegmatite „</td> </tr> <tr> <td></td> <td>Agate, from Uruguay</td> </tr> </table>	Alstonite, from Cumberland	Proustite, from Freiberg	Barite (in small crystals), from Cumberland	Stibnite, from Japan	Barite, from Cumberland	Scorodite, from Cornwall	„ from Hungary	Wood-tin „	Bismuth, from Cornwall	Vivianite „	„ „	Witherite, from Cumberland	Chalybite, from Cumberland	Crocosite, from Siberia	Calcite „	Iron (secondary crystals), from Siberia	Cromfordite, from Matlock	Topaz, from Siberia	Tetrahedrite, from Hungary	„ in situ „	Green fluor, from Cumberland	Graphic granite, from Scotland	Purple fluor „	Foliated schist „	Rhodochrosite, from Hungary	Garnet in Pegmatite „		Agate, from Uruguay																										
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1886. 1 January to 31 December..	The following models in wax of specimens of fruits and vegetables grown in Australia were modelled in the Museum before visitors:—																																																						
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APPENDIX III—*continued.*

## PURCHASES (Specimens).

When received.	Description of Exhibit.	
1886. 1 January to 31 December ...	<p>Apples, Pearmain, Adam's  " " Bentham's  " " blue  " " Bruce's  " " Kingston's  " " orange  " " pink  " " red striped  " " russet  " " scarlet (2 varieties)  " " Spencer's  " Pippin, Adamson's  " " Baxter's  " " Cambridge  " " crown  " " Devonshire  " " five-crowned  " " golden  " " Jefferson's  " " King  " " Kingston  " " New York  " " ribston  " " Stillington's  " " stone  " " sugar-loaf  " Plum  " Red streak  " Rickett's seedling  " Rockton  " Rosella, blush  " " striped  " Royal  " Russet, common  " " Cox's red-leafed  " " golden  " " Leuraine  " " nonpareil (3 varieties)  " " true  " " yellow  " " Wareham  " Sell's prolific  " Scotch, common  " " red streaked  " Smith's seedling (2 varieties)  " Spencer's favourite  " Spice (3 varieties)  " Starkey's  " Summer, green  " Swiss  " Tenterfield  " Trivett's seedling  " Twickenham seedling  " Washington  " Wimbleton  " Winter, green  " yellow spot  " Young's seedling  Banana, Fiji (3 specimens)  " Lady's finger (2 specimens)  Capsicum  Cherry, Bigarreau  " Bleeding heart  Chili  Citron, Golden  " Hybrid  Egg fruit, Purple  Fig, Large Genoa (2 varieties)  " White  Gooseberry, Cape</p>	<p>Guava, Parker's hybrid (2 specimens)  " Yellow  Lemon, Hybrid  " Lisbon, green  " " yellow (2 varieties)  Mango  Medlar  Melon, Pie  " Preserving  " Rock, Derby  " " netted  " Water  " White custard  " Yellow  Nectarine, Tom Thumb  " Week's slipstone  " Weeping  Orange, Blenheim  " Blood  " Mandarin, Emperor  " " rocky  " " scarlet  " " thorny  " Navel  " St. Vincent  " Seville  " Small ripe pip  " " unripe pip  Passion Fruit (2 specimens)  Peach, Carter's red  " China  " Chinese, white  " Italian  " Mob's royal  " Neilson's blush  " Newington  " Royal George  " Shanghai (3 specimens)  " Slipstone, true  " " Woronga  Pear, Alexander, cooking  " Alldring, black  " " green  " Baxter's  " Bell  " Bergamot  " " orange  " " red  " Bismarck  " Blair's brown russet  " Blush, red  " Bohn's  " Brown spot  " Beurré  " " de cop  " " d'yelle  " " Diel  " " Rance  " Butter  " Carter's russet  " Chancellor  " Chinese or sand  " Chisel  " Darling's  " French  " Golden russet  " Interior  " Jargonelle  " Jefferson's  " Lady's finger (2 specimens)</p>

## APPENDIX III—continued.

## PURCHASES (Specimens).

When received.	Description of Exhibit.	
1886. 1 January to 31 December ...	Pear, Leroux " Little nugget " " Prince " Muriel de Capiaumont " Ravensworth " Rock " St. John's " Scotch " Swan's egg " Swiss " Tom Thumb (2 specimens) " Williams' Bon Chrétien " Winter " " cooking Plantain, common Plum, Chinese date (2 varieties) " Damson (2 specimens) " Diamond " " blue " " large " Egg " " crow's " " purple " Gage, green " " purple " " red " " slipstone " " yellow " Magnum bonum " Paton's seedling, black " " red " Purple drop " " little Pomegranate Quince, common	Quince, Italian " Lord Derby Squash Tomato, Giant " Golden drop " Pear (4 specimens) " Tama Walnut, Green (2 specimens) Artichoke, Jerusalem (3 specimens) Beet-root, Red Carrot, Longhorn " Silvertop Cucumber, Green spine " White spine Marrow, Bush Pea, Marrow fat Potato, Ashleaf " " kidney " Black nigger " Circular eye " " Head, dark " " light " Early rose " Fluke " Hollock " Kidney " Purple eye " Sweet (2 varieties) " Twelve eye " Warnambool " Warren eye Pumpkin, Crown " Rio Turnip, Swedish " White stone
	The modeller also prepared (chiefly in plaster of Paris) the following casts:— Gold nugget, "Cadia," Cadia, near Orange, New South Wales. " " "Crescent," Berlin, Victoria. " " "Eldorado," Oregon Cañon, United States " " "Gulgong," Gulgong, New South Wales. " " "Platypus," Bendigo, Victoria. " " "Spondulix," Jordan's, Victoria. " " "Temora," Temora, New South Wales. " " "Viscount Canterbury," Berlin, Victoria. " " "Viscountess Canterbury," " " " " "Welcome," Ballarat, Victoria. Platinum nugget, Demidoff, Ural Mountains. Cobaltite crystal, from Tunaberg, Sweden. Meteoritic iron, from Augusta Co., Virginia, U.S.A. Meteorite, found near Wold Cottage, Yorkshire, England. " " at Werchneudinsk, E. Siberia. " " Seegowlee, Bengal, India. " " Guernsey Co., Ohio, U.S.A.	
	Sept. to Dec.	The following specimens of Economic Botany from the Southern Coast Districts of New South Wales have been collected by Mr. W. Bäuerlen:— Bark, leaves, and gum of <i>Acacia binervata</i> , DC. (Black wattle). " and gum of <i>Acacia decurrens</i> , Willd (Green wattle). Leaves " " <i>falcata</i> , Willd (Bastard myall). " and bark " " <i>longifolia</i> , Willd (White willow). " " " " <i>melanoxylon</i> , R. Br. (Blackwood). Bark " " <i>penninervis</i> , Sieb. (A blackwood). " and leaves " " <i>saligna</i> , Wendl. (Sallee). " " of <i>Doryphora sassafras</i> , Enll. (Native sassafras). Bark, leaves, and gum of <i>Eucalyptus amygdalina</i> , Labill. (Messmate). " " " " Labill. var. " " and Kino " " <i>corymbosa</i> , Smith (Bloodwood). " " and fibrous bark " " <i>maculata</i> , Hook f. (Spotted gum). " " " " <i>obliqua</i> , L'Hér. (Stringy bark). " " " " <i>robusta</i> (Mahogany).

## APPENDIX III—continued.

## PURCHASES (Specimens).

Where received.	Description of Exhibit.
1886. Sept. to Dec. ...	Bark, leaves, and kino of <i>Eucalyptus siderophloia</i> , Benth. (Ironbark).
	" " and gum " <i>Sieberiana</i> , F. v. M. (Cabbage gum).
	" " " " <i>stellulata</i> , Sieb. (Sally).
	" " " " sp. (Peppermint).
	Gum " " sp. (White gum).
	Specimen of timber { " " sp. probably.
	" " <i>amygdalina</i> (Mountain ash).
	Fibrous bark, <i>Laportea gigas</i> , Wedd. (Nettle tree).
	Whole plant, <i>Linum marginale</i> , A. Cunn. (Flax).
	Outer and inner bark, <i>Pimelea angustifolia</i> , R. Br.
	Fibrous bark " <i>axillora</i> , F. v. M.
	Resin and gum, <i>Xanthorrhœa arborea</i> , R. Br. (Grass tree.)

## APPENDIX IV.

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886.		
4 Jan. ...	Specimens of the leaves and flowers of <i>Diploglottis Cunninghamii</i> Hook. f. (native tamarind) ...	Forest Branch, Department of Mines, Sydney.
5 " ...	Sample of wool of stud merino ewe rearing lamb, from paddock at Darlington Park. Twelve months' growth; bred by donor.	Mr. G. F. Thirkell, Darlington Park, Cressy, Tasmania.
	Four samples of yearling merino ewes' wool; shorn as lambs; taken from bush run. Eleven months' growth; bred by donor.	
	Four samples of merino rams' wool, taken from paddock. Twelve months' growth; average weight of fleece per sheep, 13lb.	
8 " ...	Two sets of fetters used at Goulburn in 1832 for hanging two convicts. Unearthed in 1876.	Mr. Leslie Macarthur, Goulburn.
18 " ...	Samples of Gothite from the Fitzroy Iron Mine, Mittagong.	The Curator.
18 " ...	Sample of Papaw tincture ( <i>Carica Papaya</i> ) ...	Dr. Belgrave, Sydney.
27 " ...	Dilly-bag, made by aborigines at Cape Upstart, Queensland.	Mr. W. Adam, Sydney.
	One specimen of <i>Ploceus sp.</i> (Weaver-bird), in spring plumage, from South Africa.	
11 Feb.....	An excellent collection of about 100 herbarium specimens from the Palesthan Station, Cugong, via Condobolin.	Miss M. A. Clements, Palesthan.
15 " ...	Skin of ring-tailed opossum ( <i>Phalangista Cookii</i> ) ...	Mr. W. Adam, Sydney.
16 " ...	One pair (double row) of hand-templates for the weaving loom.	Messrs. J. Vicars & Sons, Sydney.
15 March...	A very old key-bugle ...	Mr. L. A. Pogonouski, Sydney.
16 " ...	A miner's safety-lamp (ordinary Davy) ...	Prof. Liversidge, F.R.S., Sydney.
19 " ...	A very old double-flageolet ...	Mr. L. A. Pogonouski, Sydney.
2 April ...	"Eureka" water-tap, designed and made by donor ...	Mr. B. Jacobson, Sydney.
15 " ...	One ivory nut ( <i>Phytelephas macrocarpa</i> ) ...	Mr. J. Christofani, Sydney.
16 " ...	Two samples of brick or tile tea ...	Messrs. Griffiths Brothers, Sydney.
16 " ...	Sundry specimens collected by the late Hon. John Smith, M.D., M.L.C., &c., comprising the following:—	Mrs. Smith.
	1. Pair of sandals with lotus-flower ornament, the soles ornamented with fine brass cloissonné work. Used by devotees when walking into the Ganges.	
	2. Lamp of Egyptian donkey-boy.	
	3. Two small blue glazed earthenware figures.	
	4. Four specimens of the sacred beetle ( <i>Scarabæus sacer</i> ) of the Egyptians, in earthenware.	
	5. Threaded ring of charms.	
	6. Fragment of mummy rope.	
	7. Cotton-spindle.	

## APPENDIX IV—continued.

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 16 April ...	8. Copper from Sakhara. 9. Two pipes. 10. Prepared rushes used in the manufacture of cigars. 11. Small ivory Chinese balance. 12. Knife, pair of chop-sticks, and tooth-pick, the whole enclosed in a tortoise-shell covered sheath, with ring for attaching it to girdle. 13. Princess' wreath ornamented with shells. 14. Fragments of glass and pottery from Assouan, in Egypt.	
20 " ...	Ninety-six samples of New South Wales timbers, for particulars of which see table following:—	The Department of Mines (Forest Branch), New South Wales.

Botanical Name.	Author.	Natural Order.	No.	Vernacular Name.
<i>Sterculia diversifolia</i> ...	G. Don. ...	Sterculiaceæ ...	28e	Kurrajong.
<i>Tarretia argyrodendron</i> ...	Benth. ...	" ...	8c	Black stave-wood.
<i>Rhus rhodanthema</i> ...	F. v. M. ...	Terebinthaceæ	35c	Yellow cedar.
<i>Echinocarpus australis</i> ...	Benth. ...	} Tiliaceæ ...	10c	Maiden's blush.
(Syn. <i>Sloanea australis</i> ) ...	F. v. M. ...			
<i>Avicennia officinalis</i> ...	Linn. ...	Verbenaceæ ...	7b	Mangrove.
<i>Gmelina Leichhardtii</i> ...	F. v. M. ...	" ...	27c	Beech, or white beech.
<i>Acacia binervata</i> (?) ...	DC. ...	Leguminosæ ...	13b	Hickory.
" <i>decurrens</i> ...	Willd. ...	" ...	..	Golden or green wattle.
" <i>hakeoides</i> ...	A. Cunn. ...	" ...	.....	Black wattle.
" <i>melanoxydon</i> ...	R. Br. ...	" ...	10b	Black-wood, or Black Sally.
<i>Cedrela Toona</i> ...	Roxb. ...	} Meliaceæ ...	31c	Red cedar.
(Syn. <i>C. australis</i> ) ...	F. v. M. ...			
<i>Melia Azedarach</i> ...	Linn. ...	" ...	.....	White cedar.
<i>Flindersia Oxleyana</i> ...	F. v. M. ...	" ...	.....	Yellow-wood.
<i>Doryphora sassafras</i> ...	Endl. ...	Monimiaceæ ...	9b	Sassafras.
<i>Angophora intermedia</i> ...	DC. ...	Myrtaceæ ...	7c	Apple-tree.
<i>Eugenia myrtifolia</i> ...	Sims ...	" ...	19c	Brush cherry.
" " ...	" ...	" ...	26c	"
" <i>Ventenatii</i> ...	Benth. ...	" ...	14c	Large-leaved water gum.
<i>Eucalyptus hemiphloia</i> ...	F. v. M. ...	} " ...	8e	White box.
(Syn. <i>E. albens</i> ) ...	Miq. ...			
<i>Eucalyptus corymbosa</i> ...	Smith ...	" ...	12b	Blood-wood.
" <i>crebra</i> ...	F. v. M. ...	" ...	3c	White ironbark.
" " ...	.....	" ...	4b	Grey ironbark.
" <i>leucoxydon</i> ...	F. v. M. ...	" ...	2c	Red ironbark.
" <i>longifolia</i> ...	Link. ...	" ...	14b	Woollybutt.
" <i>maiculata</i> ...	Hook. ...	" ...	1b	Spotted gum.
" <i>melliodora</i> ...	Cunn. ...	" ...	9e	Yellow box.
" <i>microcorys</i> ...	F. v. M. ...	" ...	5c	Tallow-wood.
" <i>obliqua</i> ...	L'Hérit. ...	" ...	10e	Stringybark.
" " ...	" ...	" ...	15b	Messmate.
" sp. ...	.....	" ...	16b	Mountain gum.
" sp. ...	.....	" ...	18b	Stringybark (thin brown bark).
" sp. ...	.....	" ...	19b	" (thick white bark).
" <i>paniculata</i> ...	Smith... ..	" ...	1c	Ironbark.
" <i>pilularis</i> ...	" ... ..	" ...	21b	Blackbutt (2 specimens).
" sp. ...	.....	" ...	22b	White box.
" <i>piperita</i> ...	Smith... ..	" ...	6b	Red-wood or peppermint.
" <i>resinifera</i> ...	" ... ..	" ...	2b	Mahogany.
" <i>rostrata</i> ...	Schlecht ...	" ...	11b	Red gum.
" " ...	" ... ..	" ...	6e	Red or flooded gum.
" " ...	" ... ..	" ...	12c	Flooded gum.
" " ...	" ... ..	" ...	25a	Red gum.
" sp. ...	.....	" ...	7e	Red box.
" sp. ...	.....	" ...	25b	Round-leaved box.
" <i>saligna</i> ...	Smith... ..	" ...	4c	Grey gum.
" <i>Sieberiana</i> ...	F. v. M. ...	} " ...	8b	Mountain ash.
(Syn. <i>E. virgata</i> ) ...	Sieb. ...			
<i>Eucalyptus tereticornis</i> ...	Smith... ..	" ...	26b	Ribbon or bastard box.
" sp. ...	.....	" ...	29c	Black ironbark (2 specimens).

## APPENDIX IV—continued.

## DONATIONS (Specimens).

Botanical Name.	Author.	Natural Order.	No.	Vernacular Name.
Melaleuca leucodendron ...	Linn....	Myrtaceæ ...	17c	White or broad-leaved tea-tree.
" styphelioides ...	Smith...	" ...	30c	Prickly-leaved tea-tree.
Myrtus acmenioides ...	F. v. M. ...	" ...	.....	Lignum vitæ (2 specimens).
Syncarpia laurifolia ...	Ten. ...	" ...	9c	Turpentine tree.
Tristania conferta ...	R. Br. ...	" ...	13c	Brush, bastard, or white box.
" laurina ...	" ...	" ...	25c	Broad-leaved water gum.
" neriifolia ...	" ...	" ...	6c	Small-leaved water gum.
" suaveolens... ..	Smith...	" ...	17b	Beech, or swamp mahogany.
Geijera parviflora ...	Lindl. ...	Rutaceæ ...	.....	Dogwood.
Exocarpus cupressiformis ...	Labill. ..	Santalaceæ ...	20c	Native cherry.
Ceratopetalum apetalum ...	D. Don. ...	Saxifraceæ ...	11c	Coach-wood.
" " " "	" " " "	" " " "	11c	" "
Casuarina suberosa (female)	Otto & Dietr.	Casuarinææ ...	4e	She-oak.
" " (male) ..	" " " "	" " " "	5e	He-oak.
" torulosa ...	Aiton. ...	" " " "	20c	Forest oak.
" quadrivalvis ...	Labill... ..	" " " "	16c	Swamp oak.
" " " "	" " " "	" " " "	16c	" "
Frenela Endlicheri ...	Parlat. ...	Coniferæ ...	1e	Black, or red pine.
" robusta ...	Cunn....	" " " "	2e	White, or common pine.
" " " "	" " " "	" " " "	2e	" "
Cargillia pentamera ...	F. v. M. ...	Ebenaceæ ...	11d	Black myrtle. "

## Lord Howe Island timbers:—

Hot bark.  
Honeysuckle (5 varieties).  
Scaly bark.  
Blackbutt.  
Ironwood.  
Yellowwood (2 varieties).  
How Island pine.  
Sallywood.  
Maulwood.  
Lignum vitæ.  
Red berry (2 specimens).  
Cottonwood.  
Thatch palm. *Kentia Forsteriana*.  
Juniper.  
*Dracophyllum Fitzgeraldi*.  
Carrons tree.  
Black plum. *Achras australis*.  
Blue plum. "  
2 specimens not named.

Date.	Articles Received.	Name of Donor.
1886.		
28 April ...	Specimen of Parker's hybrid guava, grown in Sydney.	Messrs. Treseder & Bartlett, Sydney.
28 " ...	A number of silver ores from various claims at Silver-ton, New South Wales.	Mr. W. J. Hanna, Sydney.
13 May ...	Samples of Rio pumpkin seeds ... ..	Mr. W. H. Campbell, Blacktown.
19 " ...	Two samples of Parker's hybrid guava, grown in Sydney	Messrs. Treseder & Bartlett, Sydney.
1 June ...	Three wooden "bateas," or gold washing dishes, 10 inches, 13 inches, and 16½ inches in diameter.	The State Mineralogist, California.
2 " ...	Bark from New Guinea, reputed to possess mineral properties.	Prof. Liversidge, F.R.S., Sydney.
	Puzzle nuts from Fiji. <i>Carapa</i> sp. ... ..	" " "
	Specimen of azurite with fluorspar, from Cobar, New South Wales.	" " "
8 " ...	Model of meteorite found at Bingera, New South Wales	Mr. Alex. Wilson, Sydney.
	Two fleeces of high-class wool from the Ercildoune Station, Victoria. (Part of a clip which realized an exceptionally high price in London).	
21 " ...	Ten models in papier-maché illustrating hoof diseases of horses.	Herr F. Rammé, Hamburg.
	Models in papier-maché of sheep in embryo, and of alimentary canal.	" "
21 " ...	Specimen of pyrolusite (manganese ore) containing 87.7 per cent. of black oxide of manganese, from Moonbi, near Newcastle.	Mr. Edwin Dyson, Sydney.

## APPENDIX IV—continued.

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 22 June ...	Twenty-nine small slabs of woods from Germany, suitable for object lessons.	Messrs. Rabone, Feez, & Co., Sydney.
24 " ...	The "Odling" miners' safety lamp, as manufactured by the Nottingham Malleable Iron Co., Limited, England.	Messrs. J. Macintosh & Sons, Sydney.
28 " ...	Fruit stalks of <i>Hovenia dulcis</i> , Thunb., (Japanese raisins), grown in the Botanic Gardens, Sydney.	The Director, Botanic Gardens, Sydney.
29 " ...	Common peasant's basket from Cairo, Egypt ...	Prof. Liversidge, F.R.S., Sydney.
2 July ...	Specimen of fruit of <i>Castanospermum australe</i> (Moreton Bay chestnut).	" " "
6 " ...	Six chromolithographic cards, sold in London by street vendors for one penny. (Exhibited as an example of the perfection to which cheap chromolithography has been brought.)	Sir Alfred Roberts, Sydney.
6 " ...	Specimen of <i>Alstonia constricta</i> , a bitter bark from the interior of New South Wales.	Rev. W. Woolls, Ph. D., Richmond.
27 " ...	Four specimens of cores, each 10 feet long, from land of the Holt-Sutherland Estate Co., cut by a diamond drill belonging to the New South Wales Government.	The Manager, the Holt-Sutherland Estate Co., Sydney.
31 " ...	Collection of specimens of woods, as follows:—	The Assistant Director, Royal Gardens, Kew, London.
	<p>Pin Maritime, France.</p> <p><i>Erica arborea</i>, Linn. (two specimens), Italy.</p> <p><i>Abies alba</i>, New York.</p> <p><i>Nyssa uniflora</i>, Mobile, U.S.A.</p> <p><i>Magnolia cordata</i>, North America.</p> <p><i>Carya aquatica</i>, "</p> <p><i>Spondias mangifera</i>, Hong Kong.</p> <p><i>Cinnamomum Burmanni</i>, "</p> <p><i>Eriobotrya japonica</i>, "</p> <p><i>Olea marginata</i>, "</p> <p><i>Pinus sinensis</i>, "</p> <p><i>Casuarina equisetifolia</i>, "</p> <p><i>Acacia arabica</i>, "</p> <p><i>Schima noronha</i>, "</p> <p><i>Aleurites triloba</i>, "</p> <p><i>Artocarpus integrifolia</i>, "</p> <p><i>Elaeocarpus lanceifolius</i>, "</p> <p><i>Cunninghamia sinensis</i> (made into a model of Chinese coffin), Hong Kong.</p> <p><i>Sapporo-Yezo</i> (<i>Ulmus montana</i>), Oheyo, China.</p> <p><i>Picea Menziesii</i>, Carr, Japan.</p> <p><i>Magnolia hypoleuca</i>, S. et Z., Japan.</p> <p><i>Cryptomeria japonica</i>, Don., "</p> <p><i>Distylium racemosum</i>, S. et Z., "</p> <p><i>Prunus pseudocerasus</i>, Miq., "</p> <p><i>Telkowa Keaki</i>, Lieb., "</p> <p><i>Quercus glauca</i>, "</p> <p><i>Paulownia imperialis</i>, S. et Z., "</p> <p><i>Thryapsis dolabrata</i>, "</p> <p><i>Podocarpus macrophylla</i>, Don., "</p> <p><i>Mastixia tetrandum</i>, Wig., Ceylon.</p> <p><i>Clematis acuminata</i>, "</p> <p><i>Podocarpus Thunbergii</i>, Hook, S. Africa (2 specimens).</p> <p><i>Dalbergia melanoxylon</i>, Zambesi.</p> <p><i>Erica arborea</i>, L., "</p> <p><i>Miconia Fothergilla</i>, W. Indies.</p> <p><i>Mammea americana</i>, "</p> <p><i>Guaiacum officinale</i>, "</p> <p>Swizzle stick.</p> <p><i>Callistemon pallidum</i>, N.S. Wales.</p> <p><i>Ratonia pyriformis</i>, Benth, N.S. Wales.</p> <p>Eighteen mounted specimens of American woods. Three specimens are included in each number, and show the following sections in each case:—</p> <ol style="list-style-type: none"> <li>1. Radial (cut with the grain).</li> <li>2. Transverse (cut across the end).</li> <li>3. Tangential (cut at right angles with the silver grain).</li> </ol>	



APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 31 July ...	<p>Fraxinus americana, L. (white ash). Sambucus glauca, Nutt. (elder). Oxydendrum arboreum, DC. (sorrel tree). Quercus virens, Ait. (live oak). Picea Engelmanni, Engelm. (white spruce). Halesia tetraptera, L. (rattle-box). Wooden spoons from Madeira, made of the wood of Clethra arborea.</p> <p>Series of specimens to illustrate the manufacture of a large pulley of Lignum vitæ:—</p> <ol style="list-style-type: none"> <li>1. Rough piece.</li> <li>2. Sheave rounded and bored.</li> <li>3. Recess cut in sheave to receive cock.</li> <li>4. Cock put in holes drilled and countersunk for rivets.</li> <li>5. Wire cut off and rivetted.</li> </ol> <p>Pulleys, called “Chambara,” made from the wood of Cotoneaster sp., called “siah chob” in Afghanistan.</p> <p>Specimen of Bean Cake of Glycine Soja, S. et Z., from which an oil is extracted; obtained from Newchwang, China.</p> <p>Collection of forty-four specimens of fibres, barks, &amp;c., as follows:—</p> <p>Antiaris saccidora. Bark from Mysore.</p> <p>Anthurium concinnum. Basket made of “Banjo” withe, from St. Vincent, West Indies. Bamboo rule, pipe stems, and other articles.</p> <p>Bombax insigne. Bark from Moulmein, India.</p> <p>Caryota urens, L. Fibre, called “Kittool,” from Ceylon.</p> <p>Cocos nucifera, L. Specimens of the husk and nut, with coir ropes, mats, &amp;c., manufactured from the fibres.</p> <p>Cordia grandis. Fibre from Cuddapah, India.</p> <p>Debregeasia longifolia. Wild Rhea from Calicut, India.</p> <p>Dipterocarpus tuberculatus. Bark from Moulmein, India.</p> <p>Ficus Tsiela. Fibre from Cuddapah, India.</p> <p>Foureroya gigantea. Aloe fibre from St. Helena.</p> <p>Hermes gigantea, L. Leaves from South Africa.</p> <p>Hibiscus cannabinus. Rope made from the fibre from Lucknow and Mysore.</p> <p>Holoptelia integrifolia. Bark from Madras.</p> <p>Kydia calycina. Bark from Moulmein, India.</p> <p>Larch leaves, felted together by the action of water, from England.</p> <p>Phœnix reclinata. Specimen of flower-head from Palm house, Kew, 1884.</p> <p>Pteris aquilina. Rope made of the fibre, from Japan.</p> <p>Pueraria Thunbergiana. Specimens of the root and stem, and of fabrics made from the fibre called “Ko” in Japan.</p> <p>Sarcocephalus cadambra. Bark from Moulmein, India.</p> <p>Sterculia ornata, Wall. Bark from Moulmein, India.</p> <p>Stipa tenacissima, L. Bark from Gharrien, Upper Plateaux of Atlas.</p> <p>Collection of drugs, seeds, &amp;c., of economic value, as follows:—</p> <p>Agave mexicana. Seeds from Florence, Italy.</p> <p>Albizzia amara. Leaves from Mellore, India.</p> <p>Aristolochia bracteata, Retz.</p> <p>Astragalus sp. Gum katira, from Afghanistan.</p>	<p>The Assistant Director, Royal Gardens, Kew, London.</p> <p>” ”</p> <p>” ”</p> <p>” ”</p> <p>” ”</p> <p>” ”</p> <p>” ”</p>

APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 31 July ...	<p><i>Bursera gummifera</i>. Flambeau from Dominica, West Indies, made of the gum of <i>B. gummifera</i>, and wrapped in the leaves of <i>Heliconia</i> sp.</p> <p><i>Calamus</i> sp. Rattan seed from Malabar.</p> <p><i>Calophyllum</i> sp. Fruits from India.</p> <p><i>Carapa moluccensis</i>, Lam. Fruits and seeds from Zambesi, collected by Dr. Livingstone.</p> <p><i>Cattimandu Euphorbii</i>. "Cattimandoo" from India.</p> <p><i>Cinchona succirubra</i>. Branch bark from St. Helena.</p> <p><i>Coix lacryma</i>. Job's tears, called by the natives of India (Naga Hills) "Késité" or "Silé," eaten when cooked, also used for feeding pigs, &amp;c.</p> <p><i>Croton eluteria</i>, L. Cascarilla bark from the Bahamas.</p> <p><i>Cuprea remijia</i> sp. Bark from Bogota.</p> <p><i>Daphne papyracea</i>, Wall. From Darjeeling, India.</p> <p><i>Dapne laureola</i>, L. Bark of spurge laurel, from England.</p> <p><i>Eremurus</i> sp. Powdered roots used for making "dabba" or oil vessels in Afghanistan.</p> <p><i>Erythroxyton lucidum</i>. Leaves from Ceylon.</p> <p><i>Euphorbia Tirucalli</i>, L. From Madras, India.</p> <p><i>Glyceryrhiza</i> sp. Root called "Bekh-sus," from Afghanistan.</p> <p><i>Guaiacum officinale</i>. Bark from the West Indies.</p> <p><i>Hermes gigantea</i>, L. Roots and leaves from South Africa.</p> <p><i>Inga</i> pods from Brazil.</p> <p><i>Musa Livingstonei</i>, called "Zuku" seeds from Zambesi, collected by Dr. Livingstone.</p> <p><i>Nepenthes rajah</i>. Fruit head.</p> <p><i>Nepenthes villosa</i>, Hook. Fruit head.</p> <p><i>Phyllanthus multiflorus</i>. Leaves from India.</p> <p><i>Piper cubeba</i>, Lin. Gil. from Madras.</p> <p><i>Prunus pseudo-cerusus</i>. Bark from Japan.</p> <p>Rheum or fool's rhubarb. Root stalks.</p> <p><i>Thapsia garganica</i>, Linn. Fruits from Cyrene, Asia Minor.</p> <p><i>Trichoscipithes cucumbina</i>, from India.</p> <p>Umbelliferæ, used largely for medicine in Afghanistan.</p> <p><i>Vateria indica</i>, L. Fruits from Malabar, and resin from India.</p> <p>Specimens of animal products, dyes, &amp;c. :—</p> <p>Candles made with animal tallow and coated with Chinese insect white wax, from Ningpo, China. 10 specimens.</p> <p>Manna, called "taranjabin," from Afghanistan, collected by the Delimitation Commissioners.</p> <p>Manna, called "shir kist," from <i>Cotoneaster</i>, sp., from Central India.</p> <p>Galls, called "bozganj," from leaves of <i>Pistacia vera</i>, from Afghanistan.</p> <p>Insect or white wax from <i>Ligustrum lucidum</i> and <i>Fraxinus chinensis</i>, from Tung Cheng, China.</p> <p>Four specimens of lac dye, two specimens of shellac, and specimens of silk lac, garnet shellac, seed lac, and dark seed lac; all from India.</p> <p>Nine specimens of foods and spices :—</p> <p><i>Cinnamomum obtusifolium</i>, Nees, from Darjeeling, India.</p>	<p>The Assistant Director, Royal Gardens, Kew, London.</p> <p>" "</p> <p>" "</p>

APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.								
1886. 31 July ...	<p>Coriandrum sativum, L., from Sindh, India.  Diospyros Kauki (dried persimmons) from Japan.  Eugenia caryophyllata, Thunb., (mother cloves) from Bombay.  Harpophyllum caffrum (Caffre date), from St. Helena.  Manihot Aipé, Pohl., (sweet cassava made from roots), from British Guiana.  Manihot utilissima, Pohl., (bitter cassava made from roots), from Jamaica.  Olea europæa, olives from St. Helena.  Xanthoxylum piperitum, DC., (Japan pepper) from Japan.  Forty-four specimens of maize grown in the United States of America.</p> <ol style="list-style-type: none"> <li>1. Large yellow flint-faced.</li> <li>2. Compton's early field.</li> <li>3. Adam's early.</li> <li>4. Compton's early.</li> <li>5. Canadian early yellow.</li> <li>6. Yellow Dulton.</li> <li>7. Cates's eight round field.</li> <li>8. Eight round yellow flint.</li> <li>9. Cates's twelve round field.</li> <li>10. Sibley's early yellow flint.</li> <li>11. Tilton hybrid.</li> <li>12. White flint.</li> <li>13. Rural thoroughbred flint.</li> <li>14. Northwood orange.</li> <li>15. Willis's field.</li> <li>16. Tuscara field corn.</li> <li>17. Farmer's favourite golden Dent field.</li> <li>18. Queen of the prairie.</li> <li>19. Sibley's mammoth pearl.</li> <li>20. " short pearl.</li> <li>21. Chester county mammoth.</li> <li>22. Sibley's yellow Dent No. 10.</li> <li>23. " pride of the north.</li> <li>24. " medium pearl.</li> <li>25. Blount's white prolific.</li> <li>26. Long Island Dent.</li> <li>27. Indian Chief.</li> <li>28. Mammoth sugar.</li> <li>29. Stowell's evergreen sugar.</li> <li>30. Asylum field corn.</li> <li>31. Hicox sweet corn.</li> <li>32. Narragausett sugar.</li> <li>33. Queen of the prairie.</li> <li>34. Papoose.</li> <li>35. White pop.</li> <li>36. Sibley's ground pop.</li> <li>37. " long cob pearl.</li> <li>38. Peerless pearl pop.</li> <li>39. Pearl parching.</li> <li>40. Tom Thumb Dent.</li> <li>41. Tom Thumb.</li> <li>42. Early Adam's Burlington.</li> <li>43. Triumph sugar.</li> <li>44. Red cob, sweet.</li> </ol>	<p>The Assistant-Director, Royal Gardens, Kew, London.</p> <p style="text-align: center;">" "</p>								
31 " ...	<p>Models in plaster of Paris of the following:—  Trichosanthes unguina, L.  Citrus medica.  Cucumis melo., L.  Citrus decumana, var.</p>	<p style="text-align: center;">" "</p>								
31 " ...	<p>Collection of one hundred and fifteen specimens of raw cotton, as follows:—</p> <table style="margin-left: 20px;"> <tr> <td>1 specimen from Dakka,</td> <td style="text-align: right;">India.</td> </tr> <tr> <td>1 " Cawnpore,</td> <td style="text-align: right;">"</td> </tr> <tr> <td>1 " Surat,</td> <td style="text-align: right;">"</td> </tr> <tr> <td>1 " Shikarpoor,</td> <td style="text-align: right;">"</td> </tr> </table>	1 specimen from Dakka,	India.	1 " Cawnpore,	"	1 " Surat,	"	1 " Shikarpoor,	"	<p style="text-align: center;">" "</p>
1 specimen from Dakka,	India.									
1 " Cawnpore,	"									
1 " Surat,	"									
1 " Shikarpoor,	"									

APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 31 July ...	<p>1 specimen from Kutch, India. 1 " " Wardha, Central Provinces, India. 1 specimen from Viramgaum, India. 1 " " Hingenhaut, " 1 " " Poona, " 1 " " Calcutta, " 1 " " Madras, " 1 " " Ahmedabad, " 3 " " Tinnivelly, " 4 " " Oomrawuttee, " 4 " " Berar, " 4 " " Bengal, " 4 " " Salem, " 6 " " Bombay, " 10 " " Sindh, " 11 " " Central India. 2 " " Western India. 10 " " Brazil. 1 " " Bolivar. 1 " " China. 1 " " Siam. 2 " " Rangoon. 1 " " Trinidad, West Indies. 1 " " Surinam, " 1 " " Porto Rico, " 2 " " Tahiti. 3 " " Fiji. 10 " " Peru. 10 " " Egypt. 5 " " Persia. 1 " " Central Asia. 1 " " " Africa. 4 " " Western " 1 " " Lower Shire Valley, Africa.</p>	<p>The Assistant-Director, Royal Gardens, Kew, London.</p>
	Specimens of cotton seed, from the following places in India:—	" "
	Kandeish. Dharwar. Ahmedabad. Berar.	" "
	Specimens of cotton bolls, from Shikarpoor, India.	" "
	Specimen of Bombax Buonopozenze, from Niger River, Africa.	" "
	Specimen of Posidonia Caulini, from Florence, Italy.	" "
	Specimen of cotton "owo," from Abbeokuta, Western Africa.	" "
	Specimen of cotton wool cleaned, from Sumatra.	" "
	Specimen of seed cotton in pod, from Tanjore, Sindh.	" "
	Six specimens of Brahmin's necklaces made from the turned seeds of:—	
	Ægle marmelos. (2 specimens). Justicia adhatoda. Linum usitatissimum. Ocimum sanctum. "Purraseee."	
4 August	Bark and Kino of:— Eucalyptus siderophloia, Benth. (broad-leaved or red ironbark), and Eucalyptus leucoxyton, F. v M. (red flowering ironbark), both from Richmond, New South Wales.	Rev. Dr. Woolls, Ph. D., &c., Richmond.
7 "	Skin of Didelphys sp. (white opossum), from Hillas Creek, near Tarcutta, New South Wales.	Mr. Arthur Simpson, Tumut.
8 "	Nodule of bituminous coal, from Newcastle, New South Wales.	Mr. W. Adam, Sydney.
27 "	Specimen of a fibre called "native flax," but apparently obtained from a grass, from Kimberley, Western Australia.	Board of Technical Education, Sydney.
5 Sep. ...	Collection of thirty-two samples of aniline dyes, and nine pattern books, showing the application of those dyes to cotton, wool, and silk, as follows:— Bleu de Lille. Guernsey blue.	Herr K. Oehler, Offenbach, Germany.

APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 5 Sept. ...	Methyl blue, for silk. Navy blue (double concentrated). Cotton blue. Alkaline blue, R. " 4 B. Methyl alkaline blue. Methyl blue, for cotton. Soluble blue, No. 3 BB. Æthylene blue, G. " B. Pure blue, for cotton. Acid violet. Methyl violet, No. O. 3 B. " No. O. 6 B. Saffranine, M. Grenadine, B. Citronine, G. Russian red, N. Cloth red, No. O.B. Orange, P. Phosphine. " R. Metanil yellow, OO. Magenta crystals, No. 1. " No. O. Chestnut-brown. Brilliant green. Bengal green, No. O. " No. OO. Orange, G.S. Pattern Cards to illustrate the above colours as follows:— Six specimens of blue on cotton wool. Four " " wool. Thirty " cashmere dyed in different tints. Eighteen specimens showing the method of dyeing on cotton. Eighteen specimens showing the method of dyeing on wool. Thirty-six specimens showing cloth-red dyed on cloth. Two cards of thirty-six colours each dyed on leather.	Herr K. Oehler, Offenbach, Germany.
8 " ...	Four samples of cobs of maize grown at Manning River, New South Wales.	Mr. L. A. M'Dougall, Coopernook.
11 " ...	Relief map of Mount Blanc on a scale of $\frac{1}{500000}$ in covered box 8 in. $\times$ 7 $\frac{1}{2}$ in.	Mr. A. Weber, supposed to be a German man-of-warsman.
23 " ...	Eight specimens of early Australian wool found in the papers received from Lord Brabourne. They were submitted to the Governor, Captain P. G. King, by the Rev. Samuel Marsden, at Parramatta, on the 11th of August, 1804. 1. Hair from an ewe, such as has been commonly imported from India and the Cape. 2. Wool from an ewe, daughter of No. 1 and of half breed of Spanish ram and coarse-woolled ewe. 3. Wool from half-bred Spanish ram, two removes from No. 1. 4. Wool from a ram, produce of Spanish ram and coarse-woolled ewe. 5. Wool from an ewe, produce of another Spanish ram bred in the Colony and coarse-woolled ewe. 6. Wool from a male sheep, produce of a Spanish ram and an ewe, one remove from No. 1. 7. Wool from a male sheep, produce of another Spanish ram, and an ewe similar to No. 3.	Colonial Secretary, Sydney.

## APPENDIX IV—continued.

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886.	S. Wool from a Spanish ram, bred in the Colony.	
23 Sept. ...		
28 " ...	Two fleeces of wether hoggets, and two fleeces of ewe hoggets, each of 12 months growth.	Messrs. Kater Bros., Mumblebone Station, Warren, through Mr. C. Mallinson, Granville, N.S.W.
28 " ...	Four specimens of manures, in large WM stoppered bottles, viz. :— Bonedust, $\frac{1}{4}$ in. " fine. Superphosphates. Peye's Mixture.	Messrs. Elliott Bros., Ltd., Sydney.
28 " ...	Specimen of alunogen (keramohalite or feather alum), New South Wales.	" "
28 " ...	Forty specimens to illustrate "Geikie's Geology Primer."	Mr. James R. Gregory, mineralogist, London.
	200 specimens of British fossils to illustrate the Text-books and Manuals of Geology, by Lyell, Page, Green, and others, arranged stratigraphically.	" "
	The following eighteen rock sections for use with microscope :—	" "
	Basalt, from Rowley Regis, Stafford.	
	Orbicular diorite, from Corsica.	
	Gabbro, from Penig, Saxony.	
	Trachyte, from Drachenfels, Rhine.	
	Granite, from Egypt.	
	Quartz porphyry, Pwllheli, North Wales.	
	Perlite, from Glashutte, near Schemnitz, Hungary.	
	Phonolite, from Wolf Rock, Cornwall.	
	Dacite, from Dilln, near Schemnitz, Hungary.	
	Diabase, from Dillenberg, Nassau.	
	Red gneiss, from Freiberg, Saxony.	
	Eozöon Canadense, from Canada.	
	Obsidian with sanidine, from Ascension.	
	Chiastolite slate, from Gefrees, Bavaria.	
	Hornblende rock, from Cape Wrath, Sutherland, Scotland.	
	Labradorite, from Labrador.	
	Bronzite, from K�pferburg, Bavaria.	
	Crocidolite (yellow), from South Africa.	
5 Oct. ...	Large mass of recent shell conglomerate, from Manly (ocean side), near Sydney.	The Curator.
5 " ...	Pipe for smoking, entirely constructed of wrought-iron, with the joints brazed in an excellent manner. This pipe was found in 1833, by William Robison, in <i>d�bris</i> dredged up by a mud-punt in the Thames, near Westminster Bridge, London. It had a piece of quill for a mouthpiece, and is supposed to be two centuries old.	Mr. J. Fagan, Sydney.
13 " ...	Samples of corrugated iron used for building purposes, and called "Traegerwellblech."	Messrs. Trapp and Elles, Sydney.
25 " ...	Sample of metallic tin showing tarnish.	Mr. J. H. Reid, manager Tent Hill Smelting Works, Emmaville, N.S.W.
27 " ...	Hollow ironstone nodule, from Minmi, near Newcastle, New South Wales.	Mr. Henry Smethurst, Sydney.
28 " ...	1lb. 6oz. of Elloopic seed ( <i>Bassia longifolia</i> ).	
8 Nov. ...	Bronze coin, date 1277 of the Hegira.	The Government of India, Simla.
8 " ...	Sixteen samples to illustrate calico printing with reduced indigo, in all its stages, as follows :—	Mr. James Fagan, Sydney.
	1. Grey calico from the loom.	Messrs. Edmund Potter & Co., Manchester, England.
	2. Calico singed for bleaching.	
	3. " limed.	
	4. " lime cleared.	
	5. " limed, cleared, and boiled.	
	6. " full bleached.	
	7. " once through the blue bath.	
	8. " twice " "	
	9. " three times " "	
	10. " four " "	
	11. " five " "	

APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 8 Nov. ...	12. Calico six times through the blue bath. 13. „ „ blued and printed. 14. „ „ „ printed, and acidied. 15. „ „ „ and raised yellow. 16. „ „ „ orange.	Messrs. Edmund Potter & Co., Manchester, England.
8 „ ...	Sample of chintz, printed with reduced indigo by "Lightfoot's" process. (See Crace Calvert on calico printing, pages 185-7.)	Messrs. F. W. Grafton & Co., Manchester, England.
10 „ ...	Nineteen samples of calico printed with the following aniline dyes:— Aniline black. Methyl green. Madder extract and chromic acetate. Alizarine red. Lima wood. Safranine. Fuchsine. Nicholson's blue. Hoffmann's violet. Anthracene, or Alizarine blue. Gallocyanine. Eosine. Alizarine or Quercitron, mordanted with chrome. Alizarine and Persian berries, mordanted with chrome. Galleine. Cærulein. Alizarine fixed with acetate of uranium. Nitroalizarine, fixed with chromic acetate. „ „ fixed with acetate of alumina.	Messrs. Koechlin, Baumgartner, & Co., Loerrach, Baden.
11 „ ...	Three samples of calico dyed with Turkey red, as follows:— 1. Turkey red as dyed. 2. „ after first clearing. 3. „ finished.	Messrs. F. Steiner & Co., Church, Lancashire, England.
24 „ ...	The following specimens of Artware:— Cast-iron kettle (5 inches diameter), with ornament in relief, the lid of bronze, and the handle of iron, damascened with silver; from Tokio, Japan. Two water-bottles of red porous pottery, both 4 inches square in section, the larger with incised geometrical ornament on four sides, the smaller with free ornamentation on two sides; from Sewan, Bengal. Water-bottle, tortoise-shape, of coarse brown ware. Vase for water, in shape of four oranges conjoined, and with handle of four tubes, of coarse brown ware, glazed; from Fiji.	Mr. Robert Hunt, F.G.S., Sydney.
25 „ ...	Fifty-seven specimens of calico, woollen material, &c., printed with aniline dyes, of which the following is a list:— One-colour Pattern. Printed in black, diagonal check printed afterwards. (Two specimens). Printed in navy blue, diagonal check printed afterwards. Printed in black. „ with acid spot, then padded black. Dyed Turkey red, then printed navy blue. (Three specimens). Printed in navy blue, then padded buff. „ „ „ blue. Dyed blue, then discharged with acid roller. „ Turkey red, then printed with navy blue Printed in purple. „ red.	Messrs. Walter Crum & Co., Thorniebank, Glasgow.

## APPENDIX IV—continued.

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 25 Nov. ...	<p>Printed in pink.  " black.  " bronze.  " claret.  " brown.  " light blue.  " blue.  " dark blue.  Two-colour Pattern.  Navy blue and red printed together.  Red and buff " "  Blue and buff " "  Brown and salmon " "  Pink and blue " "  " buff " "  Navy blue and buff " "  Claret and buff " "  Red and green " "  (Two specimens).  Both rollers are printed in black, then padded cream.  Both rollers printed in blue, giving a one-colour effect.  Both rollers printed in black, giving a one-colour effect.  Red and black printed together ... ..  Both rollers printed together in pink, giving a one-colour effect.  (In the last six specimens the printed stripes are fitted between the cloth stripes).  Three-colour Pattern.  Black, dark stone, and light stone worked together.  Pink, blue, and brown, printed together, on a cream woollen material.  Brown, blue, and pink, printed together, on a cream woollen material.  Four-colour Pattern.  Light blue, yellow, dark blue, and claret, printed together.  Pink, yellow, red, and black, all printed together.  Five-colour Pattern.  Dyed pink, then printed with red stripe. The pattern in acid blue, black, yellow, and green, printed together afterwards.  Dyed Turkey red, then printed with acid blue, black, yellow, and green.  Six-colour Pattern.  Red, pink, yellow, blue, claret, and olive printed together, then padded blue.  Yellow, red, pink, blue, dark olive, and light olive, printed together.  Buff, brown, burgundy, blue, olive, and black printed together.  Seven-colour Pattern.  Red, pink, yellow, dark blue, light blue, claret, and olive, printed together, then padded buff.  Red, pink, yellow, olive, claret, dark blue, and blue, all printed together.  Dark blue, light blue, yellow, claret, pink, dark olive, and light olive, all printed together, then padded cream.  Yellow, red, pink, blue, dark olive, light olive, and light blue ground, all printed together.  Red, pink, yellow, blue, claret, dark olive, and olive, printed together, then padded buff.</p>	Messrs. Walter Crum & Co., Thorniebank, Glasgow.



APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.
1886. 25 Nov. ...	<p>Red, pink, dark blue, blue, claret, dark olive, and olive, printed together, then padded light stone.</p> <p>Eight-colour Pattern.</p> <p>Claret, red, pink, olive, yellow, blue, light olive, and pink ground, all printed together.</p> <p>Claret, red, pink, yellow, purple, blue, olive, and drab ground, all printed together.</p> <p>Claret, red, pink, drab, yellow, olive, blue, and buff ground, all printed together.</p> <p>Thirty-one specimens of calico treated with aniline dyes, as follows:—</p> <ol style="list-style-type: none"> <li>1. Rose colour from alizarin, steamed, washed, and smoothed.</li> <li>2. Red from alizarin, steamed, washed, and smoothed.</li> <li>3. Mordant for puce, fixed by drying, cleared, dyed in alizarin and quercitron, <i>passé en son</i>, and chlorined.</li> <li>4. Violet from alizarin, steamed, washed, and smoothed.</li> <li>5. Mordant of alumina, fixed by drying, cleared, and dyed in alizarin orange.</li> <li>6. Same process as No. 4.</li> <li>7. " No 2.</li> <li>8. Mordant of alumina fixed by drying, cleared, dyed in alizarin red, chlorined, oiled, steamed, and smoothed.</li> <li>9. Same process as No. 5.</li> <li>10. Mordant of iron, fixed by drying, cleared, dyed in alizarin violet, chlorined, and smoothed.</li> <li>11. Mordant for puce, fixed by drying, cleared, dyed in alizarin red, <i>passé en son</i>, and chlorined.</li> <li>12. Same process as No. 11.</li> <li>13. Violet from alizarin, white reserve from citric acid, padded clear violet, steamed, washed, and smoothed.</li> <li>14. Red from alizarin, white reserve from citric acid, padded clear rose, steamed, washed, and smoothed.</li> <li>15. One red and four rose from alizarin, steamed, washed, and smoothed.</li> <li>16. Five violet from alizarin, steamed, washed, and smoothed.</li> <li>17. One red and three rose, same process as No. 15.</li> <li>18. Four violet, same process as No. 16.</li> <li>19. Aniline, black and red</li> <li>20. Ground of alizarin, black and red, with orange, double blue, and mousse.</li> <li>21. Alizarin red and rose, with yellow and black from alumina, mousse, and methyl blue.</li> <li>22. Padded mordant for puce, fixed by drying, cleared, dyed in alizarin, extract of lima, quercitron, and sumac, and washed.</li> <li>23, 24, 25, and 26. Same as last (22), with different proportions of iron and alumina.</li> <li>27. Rose padded, same process as No. 1.</li> <li>28. Same process as No. 27.</li> <li>29. Mordant of alumina, fixed by drying, cleared and dyed in alizarin orange.</li> <li>30. Same process as No. 4.</li> <li>31. Padded mordant of alumina, fixed by drying, cleared, and dyed in alizarin red, oiled, steamed, and smoothed.</li> </ol>	<p>Messrs. Walter Crum &amp; Co., Thorniebank, Glasgow.</p> <p>Messrs. Dollfus, Mieg, &amp; Co., Mul- house, Alsace.</p>

APPENDIX IV—*continued.*

## DONATIONS (Specimens).

Date.	Articles Received.	Name of Donor.								
1886. 29 Nov. ...	<p>Ethnological specimens from New Guinea, as follows:—</p> <p>Skull of New Guinea native. Basket of palm spathe. Scoop made of palm spathe. Large plaited basket. Large hunting-bag of twine. Bracelet of boars' tusks (2 specimens). Necklace. Necklace of shells. Semicircular head-dress of feathers. Head-dress of cassowary plumes (3 specimens). Ornament of plume of feathers. Plume of cassowary. Plume of feathers. Head-dress of bird of paradise feathers. Twenty-two plumes " " " Plume of bird of paradise feathers and cassowary feathers. Head-dress of bird of paradise feathers. Two awls made of bone. Lime knife. Two small hand-bags. Tray of bark bent to shape. Apron of cord. Five grass belts. Two grass aprons. Piece of a net. Two grass dresses for females. Jaws of wild boar. Two belts of plaited cords. Seven armlets. Three fishing baskets. War drum. Four human bones. Plaited belt. Two carved bamboo pipes. Male spike of Pandanus sp. Two paddles, and club with sword of sword-fish attached. Gourd. Club with head of stone, star shaped. Sword of wood. Bundle of five bows. " eighteen arrows. " " mostly barbed. " seventy-three arrows " fifty-one " " " six arrow-heads. " " one arrow and two pieces of cane. Seven long feather plumes and wands. Fleeces of one year's growth from Ghoolwdaadi Station, New South Wales, consisting of:— Three ewe's fleeces, each 7 lbs. weight. Two rams</p>	<p>The Council, Geographical Society of Australasia, Sydney.</p> <p>Mr. P. L. Lee, Dawe's Point, Sydney.</p>								
24 Dec. ...	<p>Specimens of the kino of the following Australian trees:—</p> <table border="0"> <tr> <td>Bluegum</td> <td>Ribbongum</td> </tr> <tr> <td>Ironbark</td> <td>Messmate</td> </tr> <tr> <td>Stringybark</td> <td>Bloodwood.</td> </tr> <tr> <td>Box</td> <td></td> </tr> </table>	Bluegum	Ribbongum	Ironbark	Messmate	Stringybark	Bloodwood.	Box		<p>Master Broughton Corrie, Colo Vale, N.S.W.</p>
Bluegum	Ribbongum									
Ironbark	Messmate									
Stringybark	Bloodwood.									
Box										

## APPENDIX V.

## LOANS.

When Received.	Exhibit.	Name of Lender.
1886. 8 June...	Model of cardboard of St. Andrew's Cathedral, made by Mr. J. C. White in 1848-9, from the original plans before the Cathedral was erected. The original design was slightly altered as the edifice was in course of erection. The model was presented to the Bishop of Sydney, October, 1849.	The Church (of England) Society by permission of Dean Cowper.
21 July ...	A Cabinet collection of 159 specimens of marbles, alabasters, granites, serpentines, &c. Each slab is about 4 inches long by 3 inches broad, and most of them are exceedingly handsome.	Mr. J. R. Fairfax, Rose Bay, Sydney.
23 Aug....	Collection of diamonds, with associated rocks and minerals, collected by Mr. Uriah Dudley during a prospecting trip through the Armidale, Horton River, and Bingera Districts, New South Wales.	Mr. Uriah Dudley, 26 Botany Road, Sydney.
22 Sept....	Patent of Knight Bachelor, granted in 1846 to Alfred Stephen, Justice of New South Wales.	Sir Alfred Stephen, G.C.M.G., C.B., Lieutenant-Governor.
27 Nov....	<p>Reproductions in Electrotpe of works of art, chiefly Russian, of which the following is a list:—</p> <ol style="list-style-type: none"> <li>1. Beaker : The original, of silver gilt, is the property of the Mercers Co., London.</li> <li>2. Cup and Cover : Original, silver gilt, the property of All Souls' College, Oxford.</li> <li>3. Bratina : Original, of silver gilt, is in the Treasury of the Patriarch, Moscow.</li> <li>4. Cups : Original, of silver gilt, is in the Kremlin, at Moscow.</li> <li>5. Crown : Original, of silver gilt, in the Cathedral of the Assumption, Moscow.</li> <li>6. Tankard and Cover : Original, of silver gilt, is in the Treasury of the Patriarch, Moscow.</li> <li>7. Cameo : Original, a sardonyx, known as the "Malmaison" cameo, is in the Hermitage, St. Petersburg.</li> <li>8. Bowl : Original, of gold, in the Hermitage, St. Petersburg.</li> <li>9. Plaque : Original, of gold, in the Hermitage, St. Petersburg.</li> <li>10. Ornament : Representation in repoussé of a dying stag and other animals. Original, of electrum, in the Kertch collection of the Hermitage, St. Petersburg.</li> <li>11. Helmet or Pilos : Original, of gold, in the Kertch collection.</li> <li>12. Mask : Original, of gold, in the Kertch collection.</li> <li>13. Cup or Vase : Original of silver, in the Kertch collection.</li> <li>14. Cup (two handled) : Original, of silver, in the Kertch collection.</li> <li>15. Bowl : Original, of old Chinese work in gold, in the Kremlin at Moscow.</li> <li>16. Cup : The original, of silver parcel gilt, is in the Chéréméteff collection, St. Petersburg.</li> <li>17. Wine-bottle cradle : The original, of silver parcel gilt, is in the Chéréméteff collection, St. Petersburg.</li> <li>18. Basin and Cover : The original, of silver gilt, in the Hermitage, St. Petersburg.</li> <li>19. Ewer and Cover : The original, of silver parcel gilt, in the Hermitage, St. Petersburg.</li> <li>20. Hunting-horn : Original, of iron, is in the South Kensington Museum.</li> <li>21. Jug : A "Toby" from Rosenberg Palace, Copenhagen.</li> <li>22. Salver : Original, of pewter, in the South Kensington Museum.</li> <li>23. Bowl : The original, of silver parcel gilt, is in the Hermitage, St. Petersburg.</li> </ol>	Messrs. Elkington & Co., London.

APPENDIX V—*continued.*

## LOANS.

When Received.	Exhibit.	Name of Lender.
1886. 27 Nov...	24. Salver: Original, gilt, in the South Kensington Museum, London. 25. Mirror case: Original, of bronze, in the South Kensington Museum, London. 26. Medallion: Original, of bronze, in the South Kensington Museum, London. 27. " " "	Messrs Elkington & Co., London.

## APPENDIX VI.

## PURCHASES (BOOKS).

*Agriculture.*

## Library No.

- 1555 Coffee Cultivation in Brazil and Java. (Lærne.)  
 1597 Culture and Management of our Native Forests for Development as Timber or Ornamental Wood. (Cleveland.)  
 1598 List of Forest Trees in Mysore and Coorg. (Van Someren.)  
 1620 Wattle-bark. Report of the Board of Inquiry. Melbourne, 1878.  
 1626 Reports of Observations on Injurious Insects, with methods of Prevention and Remedy—9th report. (Ormerod.)  
 1654 Fruits and Fruit Trees, Home and Foreign; an Index to all kinds valued in Britain. (Grindon.)  
 1669 On the Cultivation and Preparation of Hemp, also a Production of India called Sunn. (Wissett.)  
 1671 Hops, their Cultivation, Commerce, and Uses in various Countries. (Simmonds.)  
 1672 Tea Districts of China and India. (Fortune.)  
 1682 Permanent and Temporary Pastures. (Sutton.)  
 1694 Coffee, its Cultivation and Profit. (Arnold.)  
 1697 Cultivation and Manufacture of Tea. (Money.)

*Applied Science and Art.*

- 1516 Technologische Encyclopädie oder Alphabetisches Handbuch der Technologie. 20 vols. (Prechtl.)  
 1516a Atlas to illustrate the above.  
 1517 Supplement zu Prechtl's Technologischen Encyclopädie.  
 1517a Atlas to illustrate the above.  
 1520 Allgemeins Bauzeitung mit Abbildungen. Heft 1-12. (Forster.)  
 1520a Atlas zur Allgemeins Bauzeitung.  
 1529 Technisches Wörterbuch oder Handbuch der Gewerbekundi. Plates 1-63. (Karmarsch.)  
 1530 Norman Architecture of the XI and XII centuries. 7 folio pamphlets. (Robert.)  
 1532 The Art of the Old English Potter. (Solon.)  
 1541 The Structure of the Wool Fibre in its Relation to the use of Wool for Technical Purposes. (Bowman.)  
 1554 A Text-book of Tanning; a Treatise on the Conversion of Skins into Leather. (Proctor.)  
 1589 Fiteenth Century Italian Ornament. (Vacher.)  
 1594 Japanese Enamels. (Bowes)  
 Il Tesoro di San Marco in Venezia.  
 Portfolio of Swedish Art.  
 1612 Journal of Indian Art. 16 parts.  
 1628 Ornaments of Domestic Industry of Hungary, 1879.  
 1629 Ladies Old-fashioned Shoes. (Greig.)  
 1630 Pictorial Arts of Japan. 4 vols. (Anderson.)  
 Portfolio of Indian Art. Parts 1-26.  
 " Spanish " " 1-8.  
 " Russian " " 1-2.  
 " Persian " " 1-3.  
 " Italian " " 1-2.  
 " Sicilian " Part 1.  
 " Flemish " " 1.  
 " French " " 1.  
 Jeypore Enamels. (Jacob.)  
 1681 Ivories, ancient and Medieval in the South Kensington Museum. 1 vol.  
 1699 Marks and Monograms on Pottery and Porcelain. (Chaffers.)  
 1712 Oils and Varnishes. (Cameron.)  
 1701 Commercial Organic Analysis. Vol. I. (Allen.)

APPENDIX VI—*continued.*

## PURCHASES (Books).

*Botany and Materia Medica.*

## Library No.

- 1533 Sowerby's English Botany. 11 vols. (Sowerby.)  
 1534 Illustrations of the Nueva Quinologia of Pavon. (Howard.)  
 1537 Text-book of Structural and Physiological Botany. (Thomé.)  
 1539 A Manual of Botany. (Bentley.)  
 1549 Domestic Botany. (Smith.)  
 1550 Treatise on the Esculent Funguses of England. (Badham.)  
 1551 British Poisonous Plants. (Sowerby.)  
 1552 The Useful Plants of India. (Drury.)  
 1561 The Sphagnaceæ or Peat Mosses of Europe and North America. (Braithwaite.)  
 1590 Biologia Centrali-Americana; or, Fauna and Flora of Mexico and Central America. Parts 1-21. (Goodman and Salvin.)  
 1591 Report of the Scientific Results of the Exploring Voyage of H.M.S. "Challenger," 1873-6. (Botany.)  
 1595 Flora of Tasmania. (Hooker.)  
 1602 Lehrbuch der Baumkrankheiten. (Hartig.)  
 1603 The Coco-nut Palm.  
 1604 Three Years Wandering in China. (Fortune.)  
 1605 List of the Trees, Shrubs, and Climbers found in the Darjeeling District, Bengal. (Gamble.)  
 1606 Flora of the British West India Islands. (Griesbach.)  
 1608 Flora Japonica. (Thunberg.)  
 1611 Tropical Fibres. (Squier.)  
 1625 Handbook of British Fungi. (Cooke.)  
 1634 The Plants of New South Wales, with Notes and Introductory Essay. (Woolfs.)  
 1648 New Commercial Plants and Drugs. Part IX. (Christy.)  
 1661 Sowerby's English Botany, or Coloured Figures of British Plants. Vol. XII. Cryptogamia. (Marsiliaceæ to Characeæ.)  
 1662 Vegetable Materia Medica of Western India. Parts 1-5. (Dymock.)  
 1665 Coffee and Chicory. (Simmonds.)  
 1670 Illustrations of South American Plants. (Miers.)  
 1690 Timber and Timber Trees. (Laslett.)  
 1692 Fungi, their Nature, Influence, and Uses. (Cooke.)  
 1695 Flora of Tropical Africa. (Oliver.)  
 1703 Flora Sylvatica of Southern India.  
 1704 Official Guide to the Museums of Economic Botany. No. 1—Dicotyledons and Gymnosperms. No. 3—Timbers.  
 1708 Flora Vitiensis. (Seemann.)  
 1709 The Heart of Africa. (Schweinfurth.)  
 1714 Pomologia Britannica. (Lindley.)  
 1719 Flora of British India. (Hooker.)  
 1721 American Medicinal Plants. (Millspaugh.)

*Geology and Mineralogy.*

- 1553 Economic Geology, or Geology in its Relations to the Arts and Manufactures. (Page.)  
 1663 British Petrography, a Description of the Ordinary Rocks of the British Isles. (Teall.)  
 1668 Determination of Rock forming Minerals. (Hussak.)  
 1683 Manual of Geology. (Dana.)  
 1564 Mineralogical Magazine and Journal. 1882-4. 1 vol.  
 1697 Diamonds and Precious Stones. (Emanuel.)

*Mechanics and Engineering.*

- 1515 Die Schieberstenarungen. (Zeuner.)  
 1518 Compendium der Gasfenerung in ihrer Anwendung auf die Hüttenindustrie. (Heinmann.)  
 1521 Die Maschinen Baumaterialien und deren Bearbeitung. (Wiebe.)  
 1521A Atlas illustrating the above. (Wiebe.)  
 1524 Die Bewegungs-Mechanismen in der Maschinen-Modell-Sammlung, mit 80 Lithographs. (Redtenbacher.)  
 1525 Theorie und Ban der Wasser-Räder. (Redtenbacher.)  
 1525A Atlas illustrating the above. (Redtenbacher.)  
 1527 Des Ingenieurs Taschenbuch.  
 1543 Gas Engines. (Macgregor.)  
 1544 Picture Frame Making for Amateurs. (Lukin.)  
 1545 Book-binding for Amateurs. (Crane.)  
 1702 Treatise on Valve-gears. (Zeuner.)

*Sanitary and Hygiene.*

- 1560 Bericht über die Allgemeine Deutsche Ausstellung auf dem Gebiete der Hygiene und des Rettungs.  
 1618-9 } Reports of the Board of Health, Sydney.  
 1619A } Health Pamphlets issued by the Board of Health of Michigan, U.S.A. 6 Papers.  
 1673 An Act to establish Sanitary Regulations in respect of the Production and Distribution of Milk.

*Physics, Chemistry, &c.*

- 1522 Handbuch der Eisenhüttenkunde. (Warsten.)  
 1523 Lehrbuch der Metallurgie mit Chemische und Physikalische Principien. Lieferungs 1-9. (Scheeren.) 1526

APPENDIX VI—*continued.*  
PURCHASES (Books).

## Library No.

- 1526 Lehrbuch der Chemie. (Mitscherlich.)  
1528 Handbuch der Angewandten Chemie. (Dumas.)  
1546 A Practical Treatise on the Raw Materials and the Distillation and Rectification of Alcohol.  
(Brannt.)  
1596 Chemistry of the Coal-tar Colours. (Benedikt.)  
1610 The Coca of Peru. (Thudicum.)  
1614 Science Primers. Chemistry. (Roscoe.)  
1713 Physical Arithmetic. (Macfarlane.)

*Zoology.*

- 1538 The Treasury of Natural History. (Maunder.)  
1540 A Manual of Zoology. (Nicholson.)  
1593 Cassell's Natural History. 6 vols. (Duncan.)  
1691 Common British Beetles. (Wood.)  
1696 Common Moths of England. (Wood.)  
1698 Natural History of Beetles. (Duncan.)  
1700 British Beetles. (Rye.)

*Cyclopædias, Dictionaries, &c.*

- 900 Encyclopædia Americana. Vol. III.  
1531 Official Year Book of the Scientific and Learned Societies of Great Britain and Ireland.  
1542 Railway Management at Stations. (Watts.)  
1547 M'Carthy's Annual Statistician.  
1548 Various Pamphlets on the Cotton Trade. (Mann.)  
1592 Cyclopædia of India. (Balfour.)  
1609 Tea Cyclopædia.  
1646 Ellis' Irish Education Directory and Scholastic Guide for 1886.  
1650 Illustrated Price List of Tools, Machinery, Hardware, and Metals.  
1664 Dictionary of Useful Animals and their Products. (Simmonds.)  
1666 Commercial Dictionary of Trade Products. (Simmonds.)  
1675 Imperial Gazetteer of India. Vols. 1-8. (Hunter.)  
1684 Ceylon Hand-book and Directory. 1885-6.  
1685 Brookes' General Gazetteer.  
1686 Cooley's Cyclopædia of Practical Receipts and Collateral Information.  
1688 Dictionary of Geography. (Beeton.)  
1689 Dictionary of Popular Names of Economic Plants. (Smith.)  
1693 Technical Vocabulary. English and German. (Wershoven.)  
1711 Cyclopædia of Commerce. (Waterston.)  
1720 Diccionario-Technologico. Inglés-Español. (De Leon.)  
(See also "Applied Science.")

*Exhibition Literature and Miscellaneous.*

- 1627 1885. Seventh Annual Building Trades Exhibition.  
1647 1885. Paris. Bericht über die International Ausstellung.  
1659 1886. London. Sportman's Exhibition. Catalogue.  
1660 1886. Edinburgh. International Exhibition. Catalogue.  
1667 1886. London. Indian and Colonial Exhibition. Official Catalogue.  
1676 1886. Liverpool. Official Catalogue.  
1677 1883. Cork. Cork Industrial Exhibition. Official Catalogue.  
1687 1886. London. Indian and Colonial Exhibition. Her Majesty's Colonies.  
1707 1886. Folkestone. Official Catalogue.  
1211 1882-3. Bericht über die Deutsche Austellung. Band III. (Boerner.)  
161 Journal of the Franklin Institute of the State of Pennsylvania, U.S.A. Vol. CVI., No. 1.  
1637 Revue Internationale. Vol. I., Part 1.  
1613 L'Année Scientifique et Industrielle. 1885.  
1641 Report of the Colonial Botanist, Cape of Good Hope, 1864.  
1678 Eighty-first Report, British and Foreign School Society, London, 18 .  
1679 Education Reports, Royal Geographical Society, London.  
1680 Report of the British Association, Aberdeen, 1885.  
1519 Vorlegblätter für Handwertszeichenschulen und zum Privatgebranche. (Roszler.)  
357 Education in Austria.  
557 Education in the United States. Boston.  
1599 Appliances used in Geographical Education.  
The Australian Journal of Pharmacy. (Sydney.)  
Drugs and Medicines of North America. (New York.)  
New Commercial Plants and Drugs. (London.)  
The Therapeutic Gazette. (Michigan.)  
The Tropical Agriculturalist. (Ceylon.)  
Commercial Reports from H.M. Consuls on the Manufactures, Commerce, &c., of their  
Consular Districts. Parts 1 to 9, 1885, and Parts 1 to 5, 1886.  
Reports from H. M. Secretaries of Legation and Embassy on the Manufactures, Commerce,  
&c., of the Countries in which they reside. Parts 1 to 4, 1885.

## APPENDIX VII.

## DONATIONS (Books, Periodicals, &amp;c.)

When Received.	Title of Work.	Name of Donor.
1886.		
19 April ...	Forest Flora of South Australia, Part 7 (Brown) ...	The Government Printer, Adelaide.
6 May ...	Past, Present, and Future sources of the Timber Supplies of Great Britain (Simmonds).	The Author.
23 July ...	Descriptive Notes on Papuan Plants (Baron Müller).	"
23 " ...	Descriptions of two new species of Eugenia (Baron Müller).	"
23 " ...	Observations on some Papuan and Polynesian Sterculiaceæ (Baron Müller).	"
21 Sept. ...	Description of new Papuan Fagræa: Fagræa Woodiana, F.V.M. (Baron Müller).	"
22 " ...	Description of New Papuan Ternstræmiaceous Plant: Trematanthera Dufaurii, F.V.M. (Baron Müller).	"
28 April ...	Mathematischen—Instrumenten 1845, 1846, 1860, 1871, 1876.	Messrs. Breithaupt, Cassel, Germany.
9 July ...	Monthly Record of Results of Observations in Meteorology, Terrestrial Magnetism, &c. February, 1877 to December, 1885, in 108 parts (Ellery).	Government of Victoria, through Department of Public Instruction, Sydney.
7 Dec. ...	Beiträge Zur Geologischen Karte der Schweiz. Vierte und zehnte lieferung (Dr. Moesch).	The Author, through Conrad Stachelin, Esq., Consul in Sydney, for Switzerland.
7 " ...	Der Jura in den Alpen Ost-Schweiz (Dr. Moesch). ...	"
31 Aug. ...	Gold and Silver Plant (G. H. Daglish). ...	The Author.
7 " ...	Adress Buch Deutscher Export—Firmen. 4 Bände ...	The German Consul-General, Sydney

## A.—Exhibition Literature. 1885.—Antwerp Universal Exhibition:—

1. Catalogo delle Belle Arti.
2. Societé Agricole and Immobilière Franco Africaine.
3. Catalogue Officiel. Section Française.
4. Catalogue Spécial de Renseignements. Section Française.
5. Catalogue Général. Première Partie.  
Deuxième Partie.
6. Beaux Arts. Section Française.
7. " Suisse.
8. Collection de Monnaies, &c., République D'Hâiti.
9. Catalogue Special de Bruxelles.
10. Exportation—Catalogue—Belgique.
11. Catalogue de la Section Internationale de la Croix-Rouge, Bruxelles.
12. Liste du Jury.
13. Katalog der Osterreichischen Theilnehmer.
14. Special Katalog der Osterreichischen Abtheilung.
15. Illustrierter Führer durch die Internationalen Welt Ausstellung in Antwerpen.
16. Officieller Katalog den Deutschen Abtheilung.
17. Official Catalogue, Canadian Section.
18. Le Canada et L'Emigration Française.  
Presented by Mr. P. L. Simmonds, through the Agent-General of New South Wales, London.

## 1883-4.—Calcutta International Exhibition:—

- Official Catalogue. 2 vols.  
Presented by the Commissioners for New South Wales, Calcutta International Exhibition.

## 1886.—London. Indian and Colonial Exhibition:—

1. Official Catalogue.
2. New South Wales; its Progress and Resources, with detailed Statistical Information. 2 vols.
3. New South Wales at the Indian and Colonial Exhibition.  
Presented by the Royal Commissioners of New South Wales at the Indian and Colonial Exhibition, London.

## 1882.—Bordeaux. International Exhibition of Wines:—

- Report of the Executive Secretaries.  
Presented by the Government Printer, Sydney.  
Collection of twenty-four pamphlets on Exhibition subjects.  
Presented by Professor Liversidge, F.R.S., Sydney.

APPENDIX VII—*continued.*

## DONATIONS (Books, Periodicals, &amp;c.)

## B.—Catalogues and Miscellaneous Publications on Educational subjects:—

1. Descriptive Catalogue of the General Collection of Minerals, Australian Museum. (Ratté.)
2. Catalogue of Echinodermata. Part I—Echini. (Ramsay.)
3. Hints for Collecting Geological and Mineralogical Specimens. (Ratté.)
4. Mines and Minerals; a Guide to the Australian Miner. (Cox and Ratté.)  
Presented by the Trustees, Australian Museum.

Twenty-first Annual Catalogue of the Massachusetts Institute of Technology, 1885-6.  
Presented by the Secretary.

1. Circulars of Information—Physical Training. Issued by the Bureau of Education, Washington.
2. Education in Japan.
3. Review of the Reports of the British Royal Commissioners on Technical Instruction.
4. Report of the Commissioner of Education for the year 1883-4, Washington, U.S.A.

Presented by the Commissioner.

Technical Education in New South Wales.

Presented by Mr. J. F. Conigrave.

Educational Record. No. 154. July, 1886.

Presented by the Secretary, British and Foreign School Society, London.

1. Science in the Education of the People. (T. Twining.)
2. Suggestive Examples of Time-tables for Board Schools. (T. Twining.)
3. Science for the Middle and Upper Classes. (T. Twining.)  
Presented by the Author.

## C.—Reports and Proceedings of Learned Societies, &amp;c.:—

School of Mines, Ballarat. Annual Report for 1885.

Report of the Comptroller of the Currency to the 1st Session 49th Congress of the United States of America.

1. Victorian Year-book, 1881-5. 5 vols.
2. Report of the Chief Inspector of Mines to the Minister of Mines, Victoria, 1883.
3. Mineral Statistics of Victoria, 1883-5. 3 vols.
4. Quarterly Reports of the Mining Surveyors and Registrars, Victoria. Sept., 1883, to Sept., 1886.  
12 parts.
5. Geological Survey of Victoria. Reports of Progress, 1875 to 1885. 10 vols.
6. Observations on the New Auriferous Drifts and their Vegetable Fossils. 1st and 2nd decade.  
Victoria.
7. Annual Report of the Acting Secretary for Mines and Water Supply. Victoria. 1885.
8. Pyrites—Report of the Board. Victoria. 1874.
9. Diamond Drills and Augers in Victoria. Reports for 1884 and 1885. 2 vols.
10. Synopsis of a Report on Mining in California and Nevada. 1879 (Thureau.)  
Presented by the Government of Victoria, through the Minister of Public Instruction,  
Sydney.

Annual Report, Forest Branch, Department of Mines, New South Wales. 1883, 1884, 1885.  
3 vols.

Presented by the Government Printer, Sydney.

Report of the Progress of the Ordnance Survey of 31st December, 1873.

Journal of the Royal Microscopical Society, London. No. 7 of Vol. 2.

Proceedings of the South Wales Institute of Engineers. 6 August, 1868.

Transactions of the Seismological Society of Japan. Vol. 12, Part II.

Transactions of the Linnean Society of London. The Metamorphosis of *Filaria Sanguinis*  
*Hominis* in the Mosquito.

Presented by Professor Liversidge, F.R.S., Sydney.

Papers and Proceedings of the Royal Society of Tasmania, 1885.

Presented by the Council.

Report on the Progress and Condition of the Botanic Gardens and Government Plantations.  
Adelaide, 1885.

Presented by the Director.

Report of the Board of Trustees of the Queensland Museum for 1884 and 1886.

Presented by the Trustees.

Transactions of the New York Academy of Sciences. New York, 1883-85. 3 vols.

Annals of the New York Academy of Sciences. New York, 1885. 1 vol.

Presented by the Secretary, The Smithsonian Institution, Washington, U.S.A.

Journal and Proceedings of the Royal Society of New South Wales. Vols. 17 and 18.

Presented by the Council.

Wattle Bark. Report of the Board of Inquiry. Melbourne, 1878.

Presented by Baron Müeller, Melbourne.

1. Report on an Outbreak of Typhoid Fever in the Municipal District of Leichhardt, due to  
Polluted Milk. (Ashburton Thompson.)
2. Report to Board of Health, containing Photographs of a Person suffering from Variola Discreta,  
with Clinical Report of the five cases with which the Outbreak of 1884-5 commenced.  
(Ashburton Thompson.)

Presented by the Board of Health, Sydney.

Extracts from the Annual report of the Medical Officer of the Local Government Board.  
London, 1884:—

1. Vaccination and Public Vaccination.
2. Small-pox and Vaccination.

Presented by Messrs. Trübner and Co., London.



## APPENDIX VII—continued.

## DONATIONS (Books, Periodicals, &amp;c.)

## D.—Periodicals and Magazines :—

The publishers of the following Journals have generously continued to contribute copies of their publications to the Reading-room of the Museum during the year, viz. :—

Amateur Photographer (London).	Horological Journal (London).
American Mail and Export Journal (New York).	Ironmonger (London).
American Monthly Microscopical Journal (New York).	Ironmonger (Supplement).
Bookseller (London).	Iron (London).
Boot and Shoe Trades Journal (London).	Iron Age (New York).
Brewers' Guardian (London).	Jeweller and Metal-Worker (London).
British and Colonial Printer and Stationer (London).	London Iron Trade Exchange (London).
British Mercantile Gazette (London).	Manufacturer and Builder (New York).
British Trade Journal (London).	Mechanical News (New York).
Builders' Weekly Reporter (London).	Mechanical World.
Building World (London).	Mineralogical Magazine (London).
Bullettino Telegrafico (Rome).	Mining Engineer for Devon and Cornwall.
Cabinet-maker (London).	Oil and Colourman's Journal (London).
California Architect (San Francisco).	Paper-maker's Journal, and Annual Directory of Paper-makers (London).
Canadian Magazine (Montreal).	Paper-maker's Circular (London).
Chemical Review (London).	Paper Trade Journal (New York).
Colliery Guardian (London).	Paper Trade Review (London).
Co-operative Index to Periodicals (London).	Pottery Gazette (London).
Decorators' Gazette (London).	Printer's Register (London).
Educational Record (London).	Sanitary World (London).
Exporter (London).	Sanitary Record (London).
Engineering (London).	Scientific American (New York).
Fireman (London).	Sugar Cane (Manchester).
Forestry (Edinburgh).	Stationery Trades Journal (London).
Gas and Water Review (London).	Telegraphic Journal and Electrical Review, London.
Hardware Trade Journal (London).	Textile Recorder (Manchester).
Hatters' Gazette (London).	Timber Trades Journal (London).
	Wool and Textile Fabrics (London).

The Publishers of the following have been good enough to occasionally forward copies of their journals to the Museum :—

Druggists' Circular (London).
La Lumière Electrique (Paris).
Paper-making (London).
Ridley's Spirit Circular (London).

NOTE.—Periodicals for the current year are placed for the convenience of the public in adjustable binders, and in juxtaposition to the bound volumes of past years.

## E.—Trade publications :—

A very large number of companies, private firms, and individuals have been good enough to forward copies of price lists, illustrated catalogues, descriptions of processes or industries, &c., to which visitors to the Museum are at any time at liberty to refer.

## APPENDIX VIII.

## PURCHASES (Diagrams, Maps, Photographs, &amp;c.)

When Received.	Description.
1886.	
4 January ...	Morrison's relief globe.
4 " ...	Henfrey's Botanical Diagrams :—
	1 Parts of a flower. 4 Construction of flowers.
	2 Leaves 5 Stamens.
	3 Inflorescence. 6 Pistil.
18 " ...	Geological relief map of England and Wales, modelled by H. F. Brion; the geology from Sir Roderick Murchison.
	Relief map of India (Brion), with political divisions coloured.
16 February ...	Photographs of machinery used in spinning and weaving, &c., as follows :—
	Album I (weaving machinery).
	1 Single lap machine with improved regulator.
	2 Cotton opener.
	3 Drawing frame.
	4 Crighton's cotton opener.
	5 Improved ring spinning frame.
	6 Patent self-acting twiner.
	7 Improved roving frame.
	8 Single carding engine with rollers and cleavers.
	9 Single carding engine with self-acting revolving flats.
	10 Patent self-acting cotton mule (2 photographs.)

APPENDIX VIII.—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 16 February ...	11 Patent self-acting woollen mule (2 photographs). 12 Drop box loom, 8 treads. 13 Plain loom, 5 shafts. 14 Drop box loom, 4 boxes, each side with 24 shaft shedding motion. 15 " " " " 3 boxes, &c. 16 Loom for lastings and serge de Berris, new style. 17 " " " " old style. 18 Circular loom, 4 treads. 19 Plain loom with shedding motion. 20 " " for heavy tweeds, 4 treads inside. 21 Wide plain loom, 4 treads. 22 Silk loom with shedding motion. 23 Rocking box loom, 4 treads. 24 Circular box loom, with shedding motion. 25 Pick and pick loom, 6 boxes each, 2 treads. 26 No. 1 loom treads. 27 Plain No. 1 loom, 2 treads inside. 28 Circular loom with shedding motion. Album II (tool making machinery). 29 Pneumatic power hammer. 30 Punching and shearing machine. 31 Gas exhauster with engine. 32 Reversing rolling mill engine. 33 Five tons pillar and girder hammer. 34 Radial drilling machine. 35 Punching and shearing machine. Album III (engineering appliances, &c.) 36 Steam hammer. 37 Three tons steam hammer. 38 Twenty-five tons steam crane. 39 Seventy tons suspension steam hammer. 40 Revolving roller mill engine. 41 Forty-five tons travelling crane. 42 Twenty-five tons steam crane. 43 Steam hammer.
14 May ...	II Tesoro di san Marco in Venezia, consisting of the following chromolithographic and heliotype plates:— Plate. I. 1. Frontispiece. Door of the Treasury. II. 2. Binding, Byzantine, with enamels and precious stones. III. 3. id. id. IV. 4. id. id. V. 5. id. of the Gospel according to Saint Mark. VI. 6. id. Byzantine, with enamels. VIII. 9. Detail of the Binding, N. 7, actual size. IX. 10. Binding, Byzantine, with enamels and pearls. X. 11. id. id. XI. 12. Binding, Byzantine, reverse of N. 10. 13. id. id. N. 11. XII. 14. Binding, Byzantine, with plate of gold and enamels. XIII. 15. id. id. XIV. 16. Binding, Italian style. 17. id. Venetian (Breviary Grimani). XXII. 25. Image, called Nicopeja, of the B.V. of Saint Mark. XXIII. 26. Reliquary of the Cross, Byzantine work. XXIV. 27. Reliquary, Byzantine, in the form of a temple. XXV. 28. Reliquary, Byzantine, with statuettes in relief. 29. id. with Cross in crystal. 30. id. Venetian work. XXVI. 31. Reliquary, Byzantine, with a nail of the Passion. 32. id. of the Flagellation, Venetian work. 33. id. with cross incrustated with crystal. XXVII. 34. Reliquary containing the precious blood of our Saviour Jesus Christ. XXX. 43. Reliquary of Saint Julian, Venetian. 44. id. of Saint Isidore, id. 45. id. of Saint George, of the XIV Century. XXXI. 46. Reliquary of Saint George, copy of N. 45. XXXII. 47. Reliquary, Venetian work.—48 id.—49 id.

APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 14 May ...	<p>Plate.</p> <p>XXXIII. 50. Reliquary, Byzantine, in agate, in the form of a chalice.—51 id. in the form of an arm with enamels, Oriental style. 52, 53, 54, 55, 56, 57, 58 id. of the XV-XVIII Centuries.</p> <p>XXXV. 61. Cup in chalcedony, with enamels, Byzantine.—62. Vase in Oriental marble, id.</p> <p>XXXVI. 63. Egyptian vase in Oriental granite. 64. Vial in onyx, Byzantine. 65. Vase in crystal, of hexagonal form, id.</p> <p>XXXVII. 66. Ewer in agate, filigree and stones. 67. Vase (small) in crystal, Byzantine. 68. id. or cover having the sides in onyx, id. 69. Chalice in onyx, Byzantine.</p> <p>XXXVIII. 70. Chalice ornamented with enamels and precious stones, Byzantine.—71. Ewer in onyx, cut on the wheel, oriental work.—72. Cup in onyx or chalcedony, mounted in silver gilt, with enamels and precious stones, Byzantine.</p> <p>XXXVIII.<sup>a</sup> 72.<sup>a</sup> Cup in onyx, &amp;c. (N. 72 actual size). 76. Vase in rock crystal, id.—77. id.</p> <p>XL. 78. Vase (small) enamelled with ornaments in metal.—79. id. in crystal, Byzantine. 80. id. or urn in rock crystal, Oriental. 81. id. in rock crystal cut with fluted sides, Byzantine.</p> <p>XLI. 82. Vase (small) enamelled, with ornaments, copy of N. 78 actual size 83. id. in chalcedony, Byzantine.</p> <p>XLII. 84. Vase in onyx, mounted in silver and precious stones, Byzantine. 85. id. in agate, id.—86. id. in sardonyx, id. 87. id. in rock crystal, Oriental.</p> <p>XLIV. 92. Vase in onyx, ancient style. 93. Cup id. Byzantine.—94. Vase, id. 95. Censer and cover in garnet-coloured crystal, id.</p> <p>XLV. 96. Cup in sardonyx, Byzantine. 97. Vase in hexagonal form, in crystal, id. 98. Cup in agate, id.—99. Vase in greenish crystal, with figures in relief, id.</p> <p>XLVI. 100. Chalice in gold, set with precious stones. 101. id. in silver, with figures in relief.</p> <p>XLVIII. 105. Vase in turquoise, mounted in gold, with animals sculptured in relief, Persian work.—106. Plaque in chalcedony, with enamels, Byzantine.</p> <p>XLIX. 107. Bowl in crystal, with precious stones, Byzantine.—108. id.—109 id. 110. Vase in the form of a bucket, in crystal.</p> <p>L. 111. Crown in silver, with enamels and stones, Byzantine.—112. Vase in rock crystal with precious stones, id. 113. id. in onyx, with enamels, id.</p> <p>L.<sup>a</sup>114. Ewer in rock crystal, with precious stones, Byzantine.</p> <p>LI. 115. Ewer in rock crystal, with figures in relief, Byzantine.—116. Vial in rock crystal in the form of a bunch of grapes, id. 117. id. in agate and precious stones, id.</p> <p>LII. 118. Ewer in rock crystal, with figures in relief, Oriental. 119. Chalice in chalcedony, Byzantine. 120. Ewer in onyx, Oriental.</p> <p>LIV. 129. Lamp in bronze, French work. 130. id. Byzantine style.</p> <p>LVI. 131. Lamp in bronze, Byzantine style. 132. id.—133. id.—134. id.—135. id.</p> <p>LVII. 136. Pyx in silvergilt, formed by a group of pearls, with figures in gold, gift of Card. Grimani.—137. id. with paintings by L. Dorigny; present from Pope Gregory XIV.</p> <p>LIX. 141. Candelabra in bronze, Venetian. 142. id. in silver, id.</p> <p>LIX.<sup>a</sup>143. Candelabra, details of N. 142.</p> <p>LXI. 149. Altarcross in crystal, Venetian. 150. Taperholder (asta), Venetian work. 151. Reading desk in bronze, Italo-byzant. work. 152. Cross in silvergilt, Venetian. 153. Altarcross in silver, id.</p> <p>LXII. 154. Statuette, Saint Mark, in silver, antique style.</p>

APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 14 May ...	<p>Plate.</p> <p>LXIII. 155. Sword, with scabbard in chased silver, gift from Pope Gregory XIV.</p> <p>LXIV. 156. Casket covered with plates of silver, ornaments chased.</p> <p>157. id. with bas-reliefs, id.</p> <p>158. id. in silver, with figures in relief, Byzantine.</p> <p>LXVI. 162. Altar frontal, chased with figures, Italian.</p> <p>163. id. in chased silver, Venetian.</p> <p>LXVII. 164. Altar frontal, chased with figures, detail of N. 162.</p> <p>LXX. 168. Doges' seat, sculptured in wood.</p> <p>LXXI. 169. Chasuble embroidered in gold and silver, Roman work, gift from Pope Alexander VIII.</p> <p>LXXII. 170. id. in gold brocade, Venetian work.</p> <p>LXXIV. 172. Venetian lace (punto rosa).</p> <p>LXXVI. 175. Tapestry, Florentine, in silver and silk.</p> <p>LXXXII. a182. a id. detail of the preceding.</p> <p>LXXXIV. 184. Tapestry, representing the Passion of our Lord, Flemish work.—185. id.</p> <p>LXXXVII. 190. Tapestry representing the Passion of our Lord, Flemish work.—191. id.</p> <p>LXXXIX. 194. Persian carpet, silk tissue, silver ground.</p> <p>XC. 195. id. detail of one quarter of the preceding.</p> <p>XCI. 196. id. silk tissue, silver ground.</p>
14 „ ...	<p>Thirty Engravings (mostly in gold and colours) of Ornamental Jewellery of the renaissance in relation to costume, designed from original gems and authentic paintings of the fifteenth, sixteenth, and seventeenth centuries, as follows:—</p>
	<p><i>List of Plates.</i></p>
	<p>Plate.</p> <p>I. 1. Head Ornament; from a portrait of Claudia, daughter of Henry II. of France, 1560. In the Ancestral Gallery, Schleissheim.</p> <p>2. Brooch; from the original in the possession of Herr Oppler, Hanover.</p> <p>II. 1. Pendant; from a high-German portrait at Siegmaringen.</p> <p>2. Brooch; from a painting by Math. Grünewald.</p> <p>3. Pendant; from a painting by P. Claeissens the elder.</p> <p>4. Brooch; from a painting of the French School (XV Century).</p> <p>5. Shoulder Clasp; from a painting of Dürer's time.</p> <p style="text-align: center;">All in the Grand Ducal Museum at Dramstadt.</p> <p>III. 1. Necklace, with Pendant; the Arms unknown; from an ancient portrait.</p> <p>2. Necklace; from the armorial insignia of the Pirkheimers and Rieters, in a painting by George Penz, 1525.</p> <p>IV. 1. Ring; from a portrait, dated 1572; in the Museum at Cologne.</p> <p>2. Ring; from an original in the Royal Hohenzollern Museum at Siegmaringen.</p> <p>3. Seal; from the original in the Ducal Museum at Gotha.</p> <p>4. Fan-handle; from a German picture at Wörlitz.</p> <p>5. Ditto; from a portrait by Seb. del Piombo, in the Städel Institute at Frankfurt-on-Maine.</p> <p>V. 1. Pendant; the original in the Museum at Pesth.</p> <p>2. Collar Chain of an Order; in the Ducal Museum at Gotha.</p> <p>VI. Necklace, with Pendant; from the Portrait of a Princess of the Seventeenth Century, in the Gallery at Wörlitz.</p> <p>VII. 1—2. Silver Girdles; from the originals in the German Museum.</p> <p>3. Ditto; from the original in the possession of Herr Oppler, Hanover.</p> <p>VIII. 1. Brooch. 2. Ring (enlarged).</p> <p>3. Hat Ornament; the original in the Royal Gallery at Cassel.</p> <p>4.—5. Links of Chains; 4, as a Consecrated offering on the great Monstrance in the Cathedral of Freiburg, in Breisgau, Baden; 5, at Dresden.</p>
	<p><i>Chains.</i></p>
	<p>IX. 1.—4. Silver Chains of the Shooter's Company in Amsterdam and Antwerp (Museum of Antiquities).</p> <p>2. From a picture by Altdorfer, in the Augsburg Gallery (the stars of silver, the rest of gold).</p> <p>3. From a portrait by an unknown master, in the Cologne Museum, dated 1549 (spirals of silver, loops of gold).</p>

APPENDIX VIII—*continued.*  
PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 14 May ...	<p>Plate.</p> <p>IX. 5. From a painting by Hans Swart, in the old Pinakothek, at Munich.</p> <p>X. 1. Necklace, with pendant; from a female portrait by an unknown master; in the Town Museum at Cologne. 2. Pendant; from the original at Siegmaringen. 3. Ditto; from an ancestral painting, dated 1604, at Wörlitz.</p> <p>XI. 1. Girdle-Pendant; from a portrait of the Frankfurt Female Patrician, Ruland, dated 1617. 2. Brooch; from an old Italian portrait in the Museum at Gotha. 3. Ornament for the Crown of the Head; from the portrait of an unknown female at Wörlitz. 4.—5. Cap-Pendants; from high-German portraits of the Sixteenth Century, at Donaueschingen and Augsburg.</p> <p>XII. 1. Pendant; from a painting by B. Beham, about 1530, at Schleissheim. 2. Ditto; from a high-German painting, by an unknown master at Siegmaringen. 3. Necklace, with pendant; from a painting attributed to H. Baldung Grien, at Wörlitz. 4. Pendant; from a painting by an unknown master at Wörlitz. 5. Ear-ring; among the Prussian Crown Jewels.</p> <p>XIII. 1.—2. Cross and Pendant; in the Museum at Buda-Pesth. 3. Pendant; in the National Museum at Munich.</p> <p style="text-align: center;"><i>Girdles and Chains.</i></p> <p>XIV. 1.—5. From portraits in the Graimberg Collection at Heidelberg. 2. From the Portrait of a Saint of the Mid-German School at Siegmaringen. 3.—4.—6.—7. From high-German portraits of the Sixteenth Century in the gallery at Schleissheim.</p> <p>XV. 1. Case for Relics. 2.—3. Ornamental Appendages; the originals in the Royal Cabinet of Coins, Art, and Antiquities at Stuttgart. 4. Heart-shaped Ornament; the original in the National Museum at Munich.</p> <p>XVI. 1. Neck-chain. 2.—3. The Front and Back of a Cross in the Ducal Museum at Gotha.</p> <p>XVII. 1. Necklace and Pendant of Margaret, Queen of Spain; from a portrait by an unknown painter at Wörlitz. 2.—3. Hat and Barret-Cap Pendants. 4.—5. Studs; from pictures at Wörlitz and Gotha.</p> <p>XVIII. Necklace and Pendant; from a female portrait by an unknown artist, dated 1572; in the Town Museum at Cologne.</p> <p>XIX. 1. Mantle-Fastening; from a painting of St. Agnes, by the Boisseree Bartolomäus, in the old Pinakothek at Munich. 2.—3. Neck-chains; from German paintings of unknown Masters of the Sixteenth Century at Wörlitz.</p> <p>XX. Necklace with Pendant; from one of the portraits, by De Wite, of Magdalen, Wife of Duke Wolfgang William; 1587—1628. In the Ancestral Gallery at Schleissheim.</p> <p>XXI. 1. Necklace; from a female portrait, by an unknown Master of the Seventeenth Century; in the Museum at Cologne. 2. Pendant, from a portrait of the Duchess Maria Anna of Bavaria [1610-1665], by Brucker; in the Ancestral Gallery at Schleissheim.</p> <p>XXII. 1. Breast Ornament; from a portrait by an unknown Master, in the Gallery at Dramstadt. 2.—4. Pendants; and 5, Brooch; all from an Italian portrait in the Städel Institute at Frankfurt-on-Maine. 3. Ear-ring; from an ancestral portrait in the Castle at Gotha. 6. Brooch; from a female portrait of the mid-German school in the Museum at Cologne.</p> <p>XXIII. 1. Neck-chain and Pendant; from a high-German portrait of the Sixteenth Century, in the Royal Hohenzollern Gallery at Siegmaringen. 2. Chain-pendant; from a female portrait, by Sanchez Coello, at Wörlitz. 3. Ditto; from a mid-German portrait, in the Museum at Cologne. 4. Ditto; from a male portrait in the German Museum at Nuremberg.</p>

APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 14 May ...	<p>Plate. XXIV. Three Connecting Pieces; and two Necklaces, with chased Pendants; from originals among the Imperial Crown Jewels at Berlin.</p> <p>XXV. 1. Head Ornament of a Saint; from the Boisseree Bartolomäus, in the old Pinakothek, at Munich. 2. Girdle-buckle; from Burgmair's St. Hubert; in the same collection. 3.—4. Ditto; from paintings of the Fifteenth and Sixteenth Centuries, in the town Museum at Cologne.</p> <p>XXVI. Back and front views of a Pendant; in the Bavarian National Museum.</p> <p>XXVII. 1. Pendant; the original on a Monstrance in the Cathedral of Freiburg, in Breisgau, Baden. 2. Collar of an Order; the original in the Green Vault at Dresden.</p> <p>XXVIII. Four richly-engraved Clasps or Centre Ornaments, and Pendant— 1.—2. From a high-German Painting, by an unknown master, in the Picture Gallery at Schleissheim. 3. From the original among the Imperial Crown Jewels at Berlin. 4. From a painting by De Wite, of the end of the Sixteenth Century in the Ancestral Gallery at Schleissheim. 5. Pendant; from an undated picture at Wörlitz.</p> <p>XXIX. 1. Ring; the original in the Stuttgart Museum of National Antiquities. 2.—3. Rings; from portraits at Gotha and Dramstadt. 4. Ring; from a portrait in the German Museum. 5.—7. Rings; the originals in a private collection at Mayence. 6. Ring; the original at Hildesheim. 8. Bracelet; from the portrait of a German Princess of the Sixteenth Century at Gotha. 9. Brooch; from a portrait of the school of Van Eick in the Cologne Museum.</p> <p>XXX. 1.—3. Chains; from portraits of Saxon Princes in the Ancestral Gallery in the Ducal Palace at Gotha. 2. Pendant; a Consecrated Offering on the large Monstrance in the Cathedral of Freiburg, in Breisgau, Baden.</p>
19 " ...	Map of the Kimberley District, Western Australia. (Sands). To illustrate the gold rush of 1886.
13 September.	<p><i>Illustrations of Jeypore (India), Enamels:—</i></p> <p>Plate. 1. Group of Jeypore Enamellers at work. 2. 1 to 20.—A series of designs for the Backs of Daggers or Hunting Knives. 3. 1 to 8.—Designs for Bracelets. 1 to 4 are parts of 5 to 8. 9.—The end of an Elephant Goad or <i>Ankas</i>. The Female Figure issues from the mouth of a Dragon (<i>Azhdar</i>). 4. <i>a.</i>—Top Mount of Sword Scabbard. <i>b, c.</i>—Bottom Mount of Sword Scabbard (both sides). <i>d.</i>—Bottom Mount of Dagger Sheath. 5. <i>a.</i>—Sword Handle. Enamel on Gold set with Diamonds. <i>b, c.</i>—Central and Point Mounts of Sword Scabbard. 6. <i>a.</i>—Tiger Headed Sword Handle. <i>b.</i>—Hakim Shahi Sword Hilt. 7. <i>a.</i>—Sword Hilt. <i>b, c.</i>—Side Pieces of <i>a.</i> <i>d.</i>—Sword Hilt with Hand Guard. <i>e.</i>—Piece of <i>d.</i> 8. <i>a.</i>—Cup. <i>b.</i>—Spoon. <i>c.</i>—Saucer for <i>a.</i> 9. <i>a.</i>—'Atradān, or Perfume Stand. <i>b.</i>—Salver. 10. <i>a.</i>—Vase with Four Medallions (<i>Chaughara-phul-dān</i>). <i>b.</i>—Bowl. 11. <i>a.</i>—Vase (<i>Chaughara-dān</i>). <i>b.</i>—Sword Case (<i>Partata</i>). <i>c.</i>—Bowl. 12. <i>a.</i>—Neck Ornament (<i>Arya</i>), Marwar pattern, worn by Hindus. <i>b.</i>—Top of a Box. 13. <i>a.</i>—Boss of Shield. <i>b.</i>—Necklace, with Octagonal (<i>Ath-pahlū</i>) Pendants. <i>c.</i>—Necklace, with Pendants. <i>d.</i>—Necklace and Pendants. 14. <i>a.</i>—Ear-ring (<i>Kān</i>). <i>b.</i>—Necklace. <i>c.</i>—Necklace. 15. <i>a.</i>—Necklace, with Fish-shaped Pendants (<i>Kanth sari, machhli dār</i>). <i>b.</i>—Necklace, with Star-shaped Pendants. 16. <i>a.</i>—Necklace (<i>Kantha</i>). <i>b.</i>—Forehead Ornament. 17. <i>a.</i>—Ear-ring (<i>Machhi toli</i>), Fish Pattern. <i>b.</i>—Necklace (<i>Champa-Kali</i>). 18. <i>b.</i>—Necklace (<i>Hār</i>). <i>a, c, d, e, f, g, h.</i>—Ear-rings (<i>Pīpal pati</i>). 19. <i>a</i> and <i>b.</i>—Forehead Ornaments (<i>Sarpech</i>). 20. <i>a.</i>—Forehead Ornament (<i>Sarpech</i>), with Plume. <i>b.</i>—Bracelet (<i>Panchi</i>). <i>c.</i>—Bracelet (<i>Panchi</i>). <i>d.</i>—Bracelet (<i>Panchi</i>).</p>

APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 13 September.	<p>Plate.</p> <p>21. <i>a to e.</i>—Ornaments worn on the side of the Head (<i>Jhālā</i>). <i>f to n.</i>—Brooches or Pendants.</p> <p>22. <i>a, b.</i>—Ear-rings (<i>Gimda</i>). <i>c, d.</i>—Ear-rings (<i>Karanphul</i>). <i>e.</i>—Hand Ornament (<i>Hāth-phāl</i>). <i>f.</i>—Pendant (<i>Bala</i>). <i>g and k.</i>—<i>Niyām</i>. Parts of a Necklace worn by Men. <i>h and l.</i>—<i>Niyām</i>. Parts of a Necklace worn by men.</p> <p>23. <i>a.</i>—<i>Jhālā</i>, worn over side of Head. <i>b.</i>—<i>Jhālā</i>, worn over side of Head. <i>c.</i>—Fly Whisk Handle or <i>Chāmara Ki-dandi</i>. <i>d.</i>—Fly Whisk Handle, <i>Chāmar</i> or <i>Chāmara</i>.</p> <p>24. <i>a.</i>—Elephant Headed Bracelet. <i>b.</i>—Dragon Headed Bracelet. <i>c.</i>—Elephant Headed Bracelet. <i>d.</i>—Snake Pattern Bracelet.</p> <p>25. Epaulets.</p> <p>26. <i>a, b, f.</i>—Bracelets. <i>c.</i>—Ear-ring. <i>d.</i>—Ear-ring. <i>e.</i>—Ear-ring.</p> <p>27. Enamel Worker's Implements. <i>a.</i>—Poker. <i>b.</i>—Tongs. <i>c.</i>—Forceps. <i>d.</i>—Scissors. <i>e.</i>—Pestle and Mortar. <i>f.</i>—Blowpipe.</p> <p>28. Enamel Worker's Implements. <i>a.</i>—Graver for Scratching. <i>b, c.</i>—For Engraving. <i>d.</i>—For Polishing. <i>e.</i>—Polishing Instrument. <i>f.</i>—<i>Shānī</i> Plaque of Corundum and Wax. <i>g.</i>—Ditto for Sharpening Tools. <i>h.</i>—Forceps. <i>k.</i>—Compass. <i>l.</i>—Waxed Tool for Holding the Plate.</p>
13    "    "	<p>1. Portfolio of Indian Art, containing the following plates :—</p> <p>Part I. Nos. 5 and 6. A shawl-room. Umritsur.</p> <p>  " II. No. 35. A spinning-wheel in the Hills.</p> <p>  "     " 36. A Loom in the Hills.</p> <p>  " III. " 32. Jeweller setting stones. Delhi.</p> <p>  "     " 37. Muslin Turban-weaving.   "</p> <p>  " IV. " 19. Warping gold-wire.       "</p> <p>  "     " 20.                                 "</p> <p>  " V. " 39. Silk-weaving. Umritsur.     "</p> <p>  "     " 40.                                 Agra.</p> <p>  " VI. " 33. A Carpet Loom. Umritsur.</p> <p>  "     " 34.                                 Cawnpore.</p> <p>  " VII. " 29. Embroidery in gold. Delhi.</p> <p>  "     " 30.                                 "</p> <p>  " VIII. " 31. Jewelled and Spangled Cloth Embroidery. Delhi.</p> <p>  "     " 38. Floor Cloth. Umritsur.</p> <p>  " IX. " 17. Kullabatoon making. Umritsur.</p> <p>  "     " 18. Flattening Silver-gilt wire. Delhi.</p> <p>  " X. " 21. Gold and Silver-lace making.   "</p> <p>  "     " 22. Gold-lace making.           "</p> <p>  " XI. One arch of the Screen of Arhui-din-ka Johnpru Mosque at Ajmére. Blind trellis window in the enclosure to the Tombs of the Queens of Shah Ahmed at Ahmedabad.</p> <p>  " XII. The Mosque at Wazia Khan, Lahore.</p> <p>  "     "                                 "</p> <p>  " XIV. Elevation of the Tombs of Shah Jehan and of the Begum Muntaz-i-Mahal.</p> <p>  " XV. Doorway of Screen round the Tombs of Shah Jehan and of Begum Muntaz-i-Mahal.</p> <p>Parts XVI. Details from the above Tombs.</p> <p>  " XVII.                                 "</p> <p>  " XVIII.                                "</p> <p>  " XIX.                                 "</p> <p>  " XX.                                  "</p> <p>  " XXI.                                 "</p> <p>  " XXII.                                "</p> <p>Part XXIII. Native Indian Glass. Patna, Bengal.</p> <p>  " XXIV. Embroidered Coverlet. Taken at capture of Ghuznee.</p> <p>  "     " Embroidered Scarf. Delhi.</p> <p>  " XXV. Facsimile of Native design. Gateway and front of a house.</p> <p>  " XXVI. Jeypore enamels, consisting of Sword-hilts, &amp;c.</p> <p>2. Portfolio of Spanish Art, containing the following plates :—</p> <p>Part I—1. Point-lace Bed-quilt. Date, 1600</p> <p>          2. Embroidered Border. 17th century.</p> <p>  " II—1. Altar Frontal. Crimson silk ground, raised embroidery of scroll work. 17th century.</p> <p>          2. Lace Table-cover. A Toilet-cover of King Philip IV. Early 17th century.</p> <p>  " III—1. Chest in Carved Walnut-wood. 16th century.</p> <p>          2. Bronze Fountain-jet. 17th century.</p>



APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 13 September.	<p>Part IV—1. Chest in Carved Walnut-wood. 16th century. 2. Toledo Rapiers of the 16th and early 17th centuries.</p> <p>” V—1. Mortuary Cope in Embroidered Black Velvet. Date, 1560. 2. Detail of above.</p> <p>” VI—1. Embroidered Orphrey of an Altar Frontal, circa 1580, from Valladolid. 2. Chasuble, 16th century. Convent of St. Catherine, Evora.</p> <p>” VII—1. ” 17th ” from Cathedral of Lisbon. 2. ” ” ”</p> <p>” VIII—1. Altar Frontal. Date about 1600. 2. ” ” 1500.</p> <p>” IX. Carpet or Cover. Portuguese. Late 17th century.</p> <p>3. Portfolio of Persian Art, containing the following plates:— Part I. Water Bottle of Glazed Earthenware. 15th century. Rosewater Sprinkler. Earthenware with engraved brass mounts. ” II. Dish. Glazed Earthenware. 16th century. Dish for rice ” ” ” III. Brocade. 17th century. Portion of a pair of wrestlers breeches, of blue canvas and leather. ” IV. Persian Carpet. 16th century. ” V. Carpet. Date about 1530. ” VI. ” ”</p> <p>4. Portfolio of French Art, containing:— Part I. Silk Fabric, painted with Flowers in various colours.</p> <p>5. Portfolio of Sicilian Art, containing:— Part I. Silk and Gold Damasks (2 plates).</p> <p>6. Portfolio of Flemish Art, containing:— Part I. Velvet Fabric.</p> <p>7. Portfolio of Italian Art, containing:— Part I. Bronze Medallions. The infant Hercules, and Hercules bearing the Erymanthian boar. Part II. Altar and Shrine of a female Saint, from Padua (2 plates).</p> <p>8. Portfolio of Russian Art, containing:— Part I. Vestment, silk embroidered and enriched with pearls. Knife and fork enamelled. Part II. Bratina of ivory mounted in silver gilt, enamelled and jewelled. Censer, silver parcel gilt.</p> <p>9. Portfolio of Swedish Art, containing the following illustrations:— Part I—1. Part of a Bed-cover, woven by peasant women of Skane, Sweden, 1777. 2. Chair-cushion. Early 19th century. Part II—1. Bag, used by peasant women of Dalecarlia, Sweden. 19th century. 2. Chair-cushion. Skane, Sweden. Early 19th century. Part III—1. ” ” ” Date, 18th century. 2. Border of Tablecloth in Romanesque style. Part IV—1. Carriage cushion, woven by peasant women of Skane, Sweden. Date, 18th century. 2. Bench-cover, ” ” ”</p> <p>Plans illustrating “L’Architecture Normande”:— Vol. VII—Plan 1. Church of St. Ambrose, Milan. ” 8. Different plans. ” 13. Church of the Abbey Jumieges. ” 40. Gateways. ” 81. Priory of St. Gabriel, Calvados. ” 63. Romsey Church. Dumfermline Church. ” 112. Ely Cathedral. ” 118. Church of Ouezy, Calvados. ” 120. Door of Pin-la-Garenne Church, Orne. ” 121. Church of Saint Croix, St. Lo. ” 122. Gateways. ” 127. Doors. ” 149. Dungeon of Chambois, Orne. ” 140. Various details. ” 173. Batismal Fonts, Lincoln Cathedral.</p> <p>Vol. VIII—Plan 7. Chapel of St. Germain de Querqueville. ” 20. Churches of Secqueville and St. Marie-du-Mont. ” 31. Clock-towers. ” 39. Doors. ” 43. Church of Beaumais, Calvados.</p>



## APPENDIX VIII—continued.

## PURCHASES (Diagrams, Maps, Photographs, &amp;c.)—continued.

When Received.	Description.
1886. 13 September.	Vol. VIII—Plan 77. Church at Caen. " 87. Church of Creully. " 91. Norwich Cathedral. " 100. Church of Anisy, Calvados. " 138. Clock-towers. " 147. Plans of Dungeons. " 151. Various details. " 158. Cathedral of Bayeux, Calvados. " 162. " 175. Wooden Chairs.
21 " ..	A Map of Australia. 8 feet by 7 feet. E. Stanford, London, 1882. Library Map of Japan, principally compiled from Japanese documents, by E. Knipping. E. Stanford, London.
4 November.	Photographs and Prints of Machinery used in the manufacture of Wool and Cotton, as follows:— <ol style="list-style-type: none"> <li>1. Improved worsted carding engine with belting-head attached (2 photographs).</li> <li>2. Improved single cotton carding engine.</li> <li>3. Improved double " "</li> <li>4. Single beater scutcher machine.</li> <li>5. Improved grinding frame without fans.</li> <li>6. Improvement in patent coiling motion for carding engines and drawing frames.</li> <li>7. Head-stock of cotton self-acting mules.</li> <li>8. Improved lap or Blainire's feed.</li> <li>9. Improved single wool-carding engine.</li> <li>10. Improved slubbing, intermediate, and roving frame.</li> <li>11. New patent self-acting and automatic feeding machine.</li> <li>12. Improved plain flannel loom underpick.</li> <li>13. Improved self-acting mules.</li> <li>14. Improved double stripper. Double rubber condensing machine.</li> <li>15. Patent improved self-acting balling machine.</li> <li>16. Improved single finisher cotton-waste carding engine. (Two photographs.)</li> <li>17. Illustrations of complete set of carding engines for wool. (Five prints.)</li> <li>18. Improved single carding engine for wool.</li> <li>19. " " with creel attached.</li> <li>20. Improved double scribbler carding engine.</li> <li>21. Three cylinder hardwaste cop-brinking up machine.</li> <li>22. Improved plain loom for cloth tweeds.</li> <li>23. Improved drawing frames.</li> <li>24. Patent self-acting cotton-waste mule.</li> </ol>
	Journal of Indian Art, Nos. 10 to 16, containing the following plates:—
	<i>Metal Work.</i>
	<ol style="list-style-type: none"> <li>1. Copper Chamber or Sacrificial Vase. Benares.</li> <li>2. Burmese Silver-work. Three plates.</li> <li>3. Vase of Hammered Copper. Bombay.</li> <li>4. Panel " Ajanta.</li> <li>5. Window of Perforated Brass. Ahmedabad.</li> <li>6. Engraved Brass Plate and Tray. Jeypore.</li> <li>7. Tray. Moradabad.</li> <li>8. Shield. "</li> <li>9. Inlaid Tray. Agra. (Two specimens.)</li> <li>10. Betel Box, &amp;c., of Silver-raised Enamel. Lucknow.</li> <li>11. Tumbler, with Cover and Plate " "</li> <li>12. Cup, Enamel. Lucknow.</li> <li>13. Two Hukkas and Mouthpiece. Bidri ware. Murshidabad.</li> <li>14. Bidri ware from Purneah and Patna.</li> <li>15. Casket of Silver-gilt and Filigree. Dacca, Bengal.</li> <li>16. Panels of Inlaid Brass. Punjab.</li> <li>17. Damascened Tray. Sialkot.</li> <li>18. Bidri ware from Hyderabad, Deccan.</li> <li>19. Baroda Screen of Baroda Gold and Silver-work.</li> <li>20. Silver Tray. Baroda.</li> <li>21. Perforated Betel Box. Baroda.</li> <li>22. Rosewater Sprinkler. "</li> <li>23. Lotah. "</li> <li>24. Brass Tray and Plate, Repoussé work. Baroda.</li> <li>25. Lacquered Plaque. Sankheda.</li> </ol>

APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.
1886. 4 November...	<i>Stone Work.</i>
	26. Details from the Tombs of Shah Jehan and of the Begum Muntaz-i-Mahal. 27. Pottery from Ulwur. 28. Inlaid Marble. Agra. 29. Carved Soapstone. " 30. Pottery. Baroda. 31. Carved Marble Screen. Bombay Court, Indian and Colonial Exhibition. 32. Details of above. Three plates. 33. Carved Screen. Nepal. 34. " Muttra. 35. " Agra. 36. " Bengal Court.
	<i>Wood-work.</i>
	37. Picture Frame of Carved Blackwood. Ahmedabad. 38. Carved Cabinet. 39. Panel of Decorative Painting with Glass. Ulwur. 40. Carved Screen-doors, inlaid with brass wire. Lucknow. 41. Carved Sandal-wood Cabinet. Mysore. 42. Details of Carved Screens. Punjab. 43. " " Burma. 44. " " Madras. 45. " " Hyderabad. 46. Sandalwood Blotting-book. Baroda. 47. Picture Frame. Mysore. 48. Table-tops. Hoshiarpur. 49. Easel. Mysore. 50. Envelope box. Mysore. 51. Horn and Ivory Casket. Vizagapatam. 52. Sandalwood and Ivory Casket. " 53. Image of Kanon, or Avalokitesvara. 54. Shrine of " " 55. Pigeon House. Baroda. " 56. Carved Teakwood Screen. Bombay. 57. Carved Screens. Jeypore. Five plates. 58. Jeypore Pavilion. 59. Carved Birchwood Screen. Nepal.
	<i>Textile Fabrics.</i>
	60. Kinkhab. (Gota vela). 61. " Pan Kothama Chardani. 62. Cotton Prints. Punjab. 63. " Dado and Portière. Punjab. 64. Mantelpiece Border. Delhi. 65. Embroidered Sozni. Peshawar. 66. " Sari. Umritsur. 67. " " " 68. Silk Marriage Sari. Surat. 69. Kinkhabs. Surat. 70. Kinkhab Bag. Kharita. 71. " Table-cover. Ahmedabad. 72. Sacerdotal cloth. Calcutta. 73. Two coloured Marriage Sari of Net. Calcutta. 74. Red and White Turban. Ulwur. 75. Bandana Work. " 76. Satin Mushru. Baroda. " 77. Printed Sadi. " 78. Gold and Silk Brocade. Baroda. 79. Gold embroidered Jacket. " 80. Silk Marriage Sari. " 81. Embroidered Cushion Cover. Baroda.
	<i>Jewellery.</i>
	82. Epaulets. Jeypore Enamels. 83. Vase and Bowl. " 84. Gold Bracelets. Baroda. 85. Silver Anklet. "

## APPENDIX VIII—continued.

## PURCHASES (Diagrams, Maps, Photographs, &amp;c.)—continued.

When Received.	Description.
1886.	<i>Photographs, &amp;c.</i>
4 November...	86. Photo.-Chromo-Collotype of Queen Victoria. 87. Chromo of Maharao Raja, of Ulwur. 88. „ of Maharaja Sayaji-Rav, of Gaikwar. 89. Photograph of Borah-Bazan-street, Bombay. 90. Feast of Yudhishthira, Krishna, and the Pandavas. Plate from the Razm Namah, in the Royal Library, Jeypore. 91. Plan of the Indian Court. Indian and Colonial Exhibition, London.
31 December ...	Water-colour drawings of Economic Plants. Enlarged 4 <sup>2</sup> from the plates in Bentley and Trimen's "Medicinal Plants." The enlargements by Messrs. A. Hagman, Graham, and J. Guilfoyle.

The following is a list:—

Botanical Name.	Author.	Natural Order.	Vernacular Name.
Abrus precatorius ... ..	Linn. ... ..	Leguminosæ ...	{ Indian liquorice. { Gunja (India).
Acacia catechu ... ..	Willd ... ..	„ ... ..	Catechu-Khair (India).
Aconitum ferox ... ..	Wall ... ..	Ranunculaceæ.	Nepal aconite, Bish.
„ heterophyllum... ..	„ ... ..	„ ... ..	Atis, atees.
„ Napellus ... ..	Linn. ... ..	„ ... ..	Aconite, monkshood, wolfsbane.
Ægle Marmelos ... ..	„ ... ..	Rutaceæ ... ..	Bael., Bel., Bili., Mahura. { Dita bark, devil tree. { Chatium (India).
Alstonia scholaris .. ..	R. Br. ... ..	Apocynæ .. ..	German pellitory.
Anacyclus officinarum ... ..	Hayne ... ..	Compositæ ...	Pellitory.
„ Pyrethrum ... ..	DC. ... ..	„ ... ..	Chamomile.
Anthemis nobilis ... ..	Linn. ... ..	„ ... ..	Arnica.
Arnica montana ... ..	„ ... ..	„ ... ..	Wormwood.
Artemisia Absinthium ... ..	„ ... ..	„ ... ..	Palas., Plas., Dhak.
Butea frondosa ... ..	Koenig ... ..	Leguminosæ ...	Bonduc seed.
Cæsalpinia Bonducella ... ..	Roxb. ... ..	„ ... ..	Tea.
Camellia Thea ... ..	Link ... ..	Ternstroemiaceæ..	Java almond, Manila Elemi.
Canarium commune ... ..	Linn. ... ..	Burseraceæ ...	Capsicum, pod pepper.
Capsicum annum ... ..	„ ... ..	Solanaceæ ...	Capsicum, chilli, bird pepper, Guinea pepper.
„ fastigiatum ... ..	Blume ... ..	„ ... ..	Caraway.
Carum Carui ... ..	Linn. ... ..	Umbelliferæ ...	Nubian senna.
Cassia acutifolia ... ..	Del. ... ..	Leguminosæ ...	Arabian senna, Tinnivelly senna.
„ augustifolia ... ..	Vahl. ... ..	„ ... ..	Purging Cassia, Indian Laburnum.
„ Fistula ... ..	Linn. ... ..	„ ... ..	Wild senna.
„ marilandica... ..	„ ... ..	„ ... ..	Alexandrian senna.
„ obovata ... ..	Coll. ... ..	„ ... ..	Ipecacuanha, Poaya (Brazil).
Cephaelis Ipecacuanha ... ..	A. Rich ... ..	Rubiaceæ ... ..	Bugbane, black cohosh, black snake- root.
Cimicifuga racemosa ... ..	Elliott ... ..	Ranunculaceæ.	Calisaya bark, yellow cinchona bark. Columbian bark.
Cinchona Calisaya ... ..	Wedd ... ..	Rubiaceæ ... ..	Peruvian bark, pale cinchona bark.
„ cordifolia ... ..	Mutis ... ..	„ ... ..	Red cinchona bark.
„ officinalis ... ..	Linn. ... ..	„ ... ..	Chinese cinnamon.
„ succirubra ... ..	Pavon ... ..	„ ... ..	Cinnamon.
Cinnamomum Cassia ... ..	Blume ... ..	Lauraceæ ... ..	Colocynth.
„ zeylanicum ... ..	Breyn ... ..	„ ... ..	Sweet, China, or Portugal orange.
Citrullus Colocynthis ... ..	Schrad. ... ..	Cucurbitaceæ..	Bergamot.
Citrus Aurantium ... ..	Risso. ... ..	Rutaceæ ... ..	Lemon.
„ Bergamia ... ..	Risso & Poiteau ... ..	„ ... ..	Citron.
„ Limonum ... ..	Risso. ... ..	„ ... ..	Bitter, Seville, or Bigarade orange.
„ medica ... ..	„ ... ..	„ ... ..	Coffee.
„ vulgaris ... ..	„ ... ..	„ ... ..	Scammony.
Coffea arabica ... ..	Linn. ... ..	Rubiaceæ ... ..	Balsam of copaiba.
Convolvulus Scammonia ... ..	„ ... ..	Convolvulaceæ.	Stavesacre.
Copaifera Lansdorfii ... ..	Desf. ... ..	Leguminosæ ...	{ Tindooka (Sanscrit). { Gāb Gaub (Bengal).
Delphinium Staphisagria ... ..	Linn. ... ..	Ranunculaceæ	{ Ammoniacum. { Ooshāk (Persia).
Diospyros Embryopteris ... ..	Pers. ... ..	Ebenaceæ ... ..	Squirting or wild cucumber.
Dorema Ammoniacum ... ..	D. Don. ... ..	Umbelliferæ ...	
Eeballium Elaterium ... ..	A. Rich. ... ..	Cucurbitaceæ..	

APPENDIX VIII—*continued.*PURCHASES (Diagrams, Maps, Photographs, &c.)—*continued.*

Botanical Name.	Author.	Natural Order.	Vernacular Name.
<i>Eugenia caryophyllata</i> ... ..	Thunb. ...	Myrtaceæ ...	Clove.
<i>Exogonium Purga</i> .. ...	Benth. ...	Convolvulaceæ	Jalap.
<i>Ferula Narthex</i> ... ..	Boiss. ...	Umbelliferae ...	Thibetan assafoetida.
" <i>scorodosma</i> ... ..	Linn. ...	" ...	Persian assafoetida.
<i>Garcinia indica</i> ... ..	Chorsy ..	Guttiferae ...	{ Amsool (Maratta). { Brindall (Portuguese).
<i>Gentiana lutea</i> ... ..	Linn. ...	Gentianaceæ ..	Yellow gentian.
<i>Gossypium barbadense</i> ... ..	" ...	Malvaceæ ...	Cotton.
<i>Gynocardia odorata</i> ... ..	R. Br. ...	Bixaceæ ...	Chaulmoogri, Petarcurreh.
<i>Hæmatoxylon Campechianum</i> ... ..	Linn. ...	Leguminosæ ...	Log-wood, peach-wood.
<i>Hagenia abyssinica</i> ... ..	Willd. ...	Rosaceæ ...	{ Kouso (Amhara). { Habbe (Tigre). { Black Hellebore.
<i>Helleborus niger</i> ... ..	Linn. ...	Ranunculaceæ	{ Christmas Rose.
<i>Hibiscus esculentus</i> ... ..	" ...	Malvaceæ ...	{ Okra gomba (West Indies). { Bamia (Persia).
<i>Hydrastis canadensis</i> ... ..	" ...	Ranunculaceæ	{ Yellow-root, yellow puceoon. { Yellow-seal.
<i>Illicium anisatum</i> ... ..	" ...	Magnoliaceæ ...	{ Star-anise. { Skimmi (Japan).
<i>Indigofera tinctoria</i> ... ..	" ...	Leguminosæ ...	{ Indigo. { Nil. (Bengal.) { Calumba.
<i>Jateorhiza Calumba</i> ... ..	Miers ...	Menispermaceæ	{ Columbo.
<i>Liquidambar orientalis</i> ... ..	Miller ...	Hamamelideæ	Styrax.
<i>Matricaria chamomilla</i> ... ..	Linn. ...	Compositæ ...	Wild chamomile.
<i>Melaleuca minor</i> .. ...	Smith ...	Myrtaceæ ...	{ White-wood, cajuput. { Kayu-puti.
<i>Myristica fragrans</i> ... ..	Houtt. ...	Myristicaceæ	Nutmeg.
<i>Nectandra Rodiei</i> ... ..	Schomb. ...	Lauraceæ ...	Brown greenheart. Bibiru.
<i>Nicotiana Tabacum</i> ... ..	Linn. ...	Solanaceæ ...	Tobacco.
<i>Paullinia sorbilis</i> ... ..	Mart. ...	Sapindaceæ ...	{ Guarana-üva. { Guarana.
<i>Physostigma venenosum</i> ... ..	Balf. ...	Leguminosæ ...	Calabar bean.
<i>Picræna excelsa</i> ... ..	Lindl. ...	Simarubaceæ ...	{ Jamaica quassia, bitter-wood. { Bitter-ash. { Pimento, allspice.
<i>Pimenta officinalis</i> ... ..	" ...	Myrtaceæ ...	{ Jamaica pepper.
<i>Pimpinella Anisum</i> ... ..	Linn. ...	Umbelliferae ...	Anise.
<i>Piper nigrum</i> ... ..	" ...	Piperaceæ ...	Black pepper.
<i>Podophyllum peltatum</i> ... ..	" ...	Berberideæ ...	May-apple, mandrake, wild lemon.
<i>Strychnos Nux-vomica</i> ... ..	" ...	Loganiaceæ ...	Nux-vomica, poison-nut.
<i>Styrax Benzoin</i> ... ..	Dryan. ...	Styraceæ ...	Benzoin.
<i>Taraxacum Densleonis</i> ... ..	Desf. ...	Compositæ ...	Dandelion.
<i>Theobroma Cacao</i> ... ..	Linn. ...	Sterculiaceæ ...	Cacao. Cocoa or chocolate tree.
<i>Toddalia aculeata</i> ... ..	Pers. ...	Rutaceæ ...	Lopez-root.
<i>Toluifera Balsamum</i> ... ..	Linn. ...	Leguminosæ ...	Balsamo.
" <i>Pereiræ</i> ... ..	Baill. ...	" ...	Balsam of tolu.
<i>Valeriana officinalis</i> ... ..	Linn. ...	Valerianaceæ	Common Valerian. All-heal.
<i>Xanthoriza apiifolia</i> ... ..	L'Hér. ...	Ranunculaceæ	Yellow-root, shrub yellow-root.

## APPENDIX IX.

## DONATIONS (Diagrams, Maps, Photographs, &amp;c.)

When Received.	Description.	Name of Donor.
1886.		
9 Jan. ...	Twelve copies of Sanitary Diagram, "How to prevent the Spread of Infectious Diseases."	The Board of Health, Sydney.
	Four copies of "Letters on Sanitation in regard to the Prevention of the Spread of Cholera."	" "
19 May ...	Reproductions of four Early Charts of Australia (uncoloured). Chart I.—The original is a large map of the world, on a plane scale, 8 ft. 2 in. by 3 ft. 10 in., highly ornamented with figures, probably executed in the time of Francis I of France.	The Trustees, Public Library, Sydney

APPENDIX IX—*continued.*  
DONATIONS (Diagrams, Maps, Photographs, &c.)—*continued.*

When Received.	Description.	Name of Donor.
1886. 19 May ...	Chart II.—This chart is based upon No. 1. It resembles it in general features, and is illustrated by pictures of symbolical animals. Only the southern half is reproduced in Charts I and II. Chart III.—The original is a detailed map of the world in hemispheres, and is here reproduced in its entirety. Chart IV is a skeleton map of the world in hemispheres, and is here reproduced in its entirety.	
31 July ...	Portrait (Engraving) of Marshall P. Hilder, President of the American Pomological Society, New York. Portrait (Engraving) of Charles Macintosh, F.R.S., distinguished for services in promoting the use of caoutchouc. Photographs of Indian Tea Plantation :— 1. Weighing the green leaf. 2. Sorting the leaf by machinery. Two Photographs of Tea Gardens at Sylhet, India ..... Photograph of Ficus retusa, L. in Botanic Gardens, Saharumpore, India. Photograph of Field of 2,000 of Cinchona succiruba, 4 years, from 10 to 12 feet high, growing on pure quartz—Madulsima. From estate of Cinchona Co., Ceylon.	The Assistant Director, Royal Gardens, Kew, London. " " " " " " " "
21 Sept. ...	Floral Chart, being a large schedule for plant diagnosis	Rev. T. V. Alkin, M.A., The Rectory, Campbelltown.
17 Nov. ...	1. Map of Victoria. Distribution of Forest Trees ... 2. Geological Map of Victoria ... 3. Geological Sketch Map of Australia ... 4. " " Gippsland ... 5. " " Ballarat Gold-field ... 6. " " Sandhurst " ... 7. " " Ararat " ... 8. " " Russell's Creek " ... 9. " " Stawell " ... 10. " " Learmonth District ... 11. " " Cape Otway " ... 12. " " Mitchell River " ... 13. " " Glenmaggie " ... 14. " " Creswick " ... 15. " " Beechworth Parish ... 16. Map of Western Port and Cape Patterson Coal-fields ...	Department of Mines, and Water Supply, Melbourne.

APPENDIX X.  
EXCHANGES (Inwards).

Date.	Description of Exhibit.	From whom Received.
1886. 1 June ...	Model of Gold Nugget (weight, 32 $\frac{3}{4}$ oz.) found at Cadia, near Orange, New South Wales, in 1883. Model of Gold Nugget (weight, 168 oz. 2 dwt.) from Temora, New South Wales, 1884.	Trustees of the Australian Museum, Sydney. " "
25 "	Collection of dyewares, chemicals used by dyers, yarns and fabrics treated with dyes, &c., &c., consisting of ninety-one specimens in all.	The University, Sydney (through Professor Liversidge, F.R.S.).
28 Aug. ...	Wine testing apparatus and chemicals. (The set devised by Mr. Griffin, junr.)	" "

APPENDIX XI.  
EXCHANGES (Outwards).

Date.	Description of Exhibit.	To whom sent.
1886. 27 Feb. ...	Sixty-seven specimens of rocks and minerals ... ..	The Secretary, Free Library (for Technological Museum), Melbourne, Victoria.
27 " ...	Collection of forty-five imitations of precious stones, and fifty-five specimens of minerals and rocks.	The Chamber of Manufactures, Adelaide, South Australia.
1 June ...	Specimens of tin ores (7 specimens) ... ..	Rev. Brother Claudius, Marist Brothers School, Sydney.
2 " ...	One Batea or Mexican Wooden Gold-washing Bowl; diameter, 10 inches.	The Mining and Geological Museum, Department of Mines, Sydney.
27 " ...	Fruits, Flowers, and Leaves of the Native Tamarind. ( <i>Diploglottis Cunninghamsi</i> , Hook.)	The Museum, Royal Gardens, Kew, London.
16 July ...	Cast of Gulgong Gold Nugget; obtained at "Prospector's Claim," Canadian Lead, Gulgong, New South Wales, at 140 feet from surface; gross weight, 64 oz. 3 dwt.; found by Messrs. Gazzetta and party, November, 1875.	The Mining and Geological Museum, Department of Mines, Sydney.
23 Aug. ...	Cast of Cobaltite Crystal; the original from Tunaberg, Sweden.	Professor Liversidge, F.R.S., Sydney.
23 " ...	Cast of Gold Nugget; the original from Eldorado Company, California.	" "
23 " ...	The two above casts and cast of the "Demidoff" Platinum Nugget; the original from the Ural Mountains, Russia.	The Mining and Geological Museum, Department of Mines, Sydney.
27 " ...	A quantity of porcelain and glass chemical apparatus	The University, Sydney.

J. H. MAIDEN,  
Curator.

[1s. 9d.]

Sydney: Charles Potter, Government Printer—1887.

