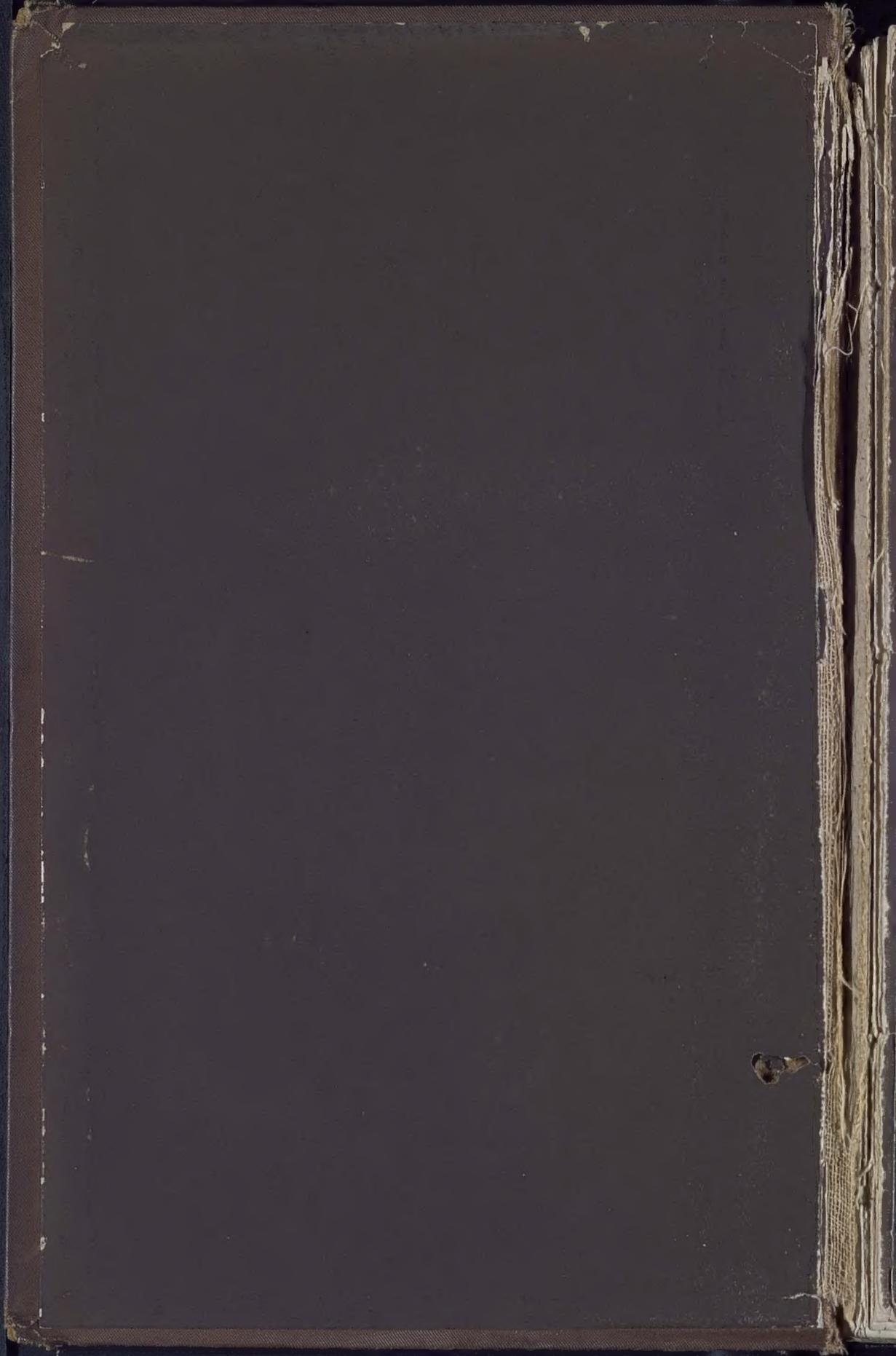
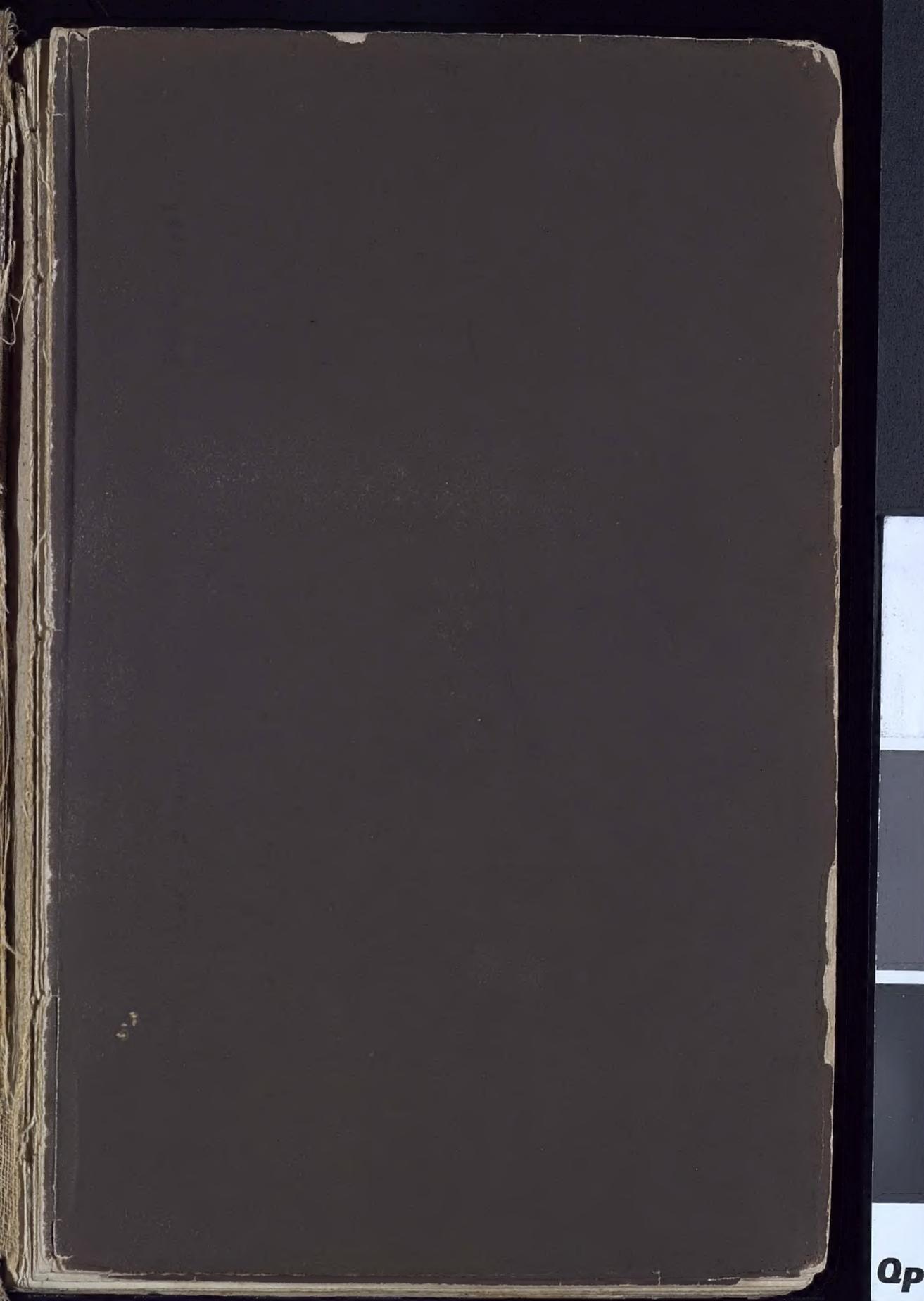
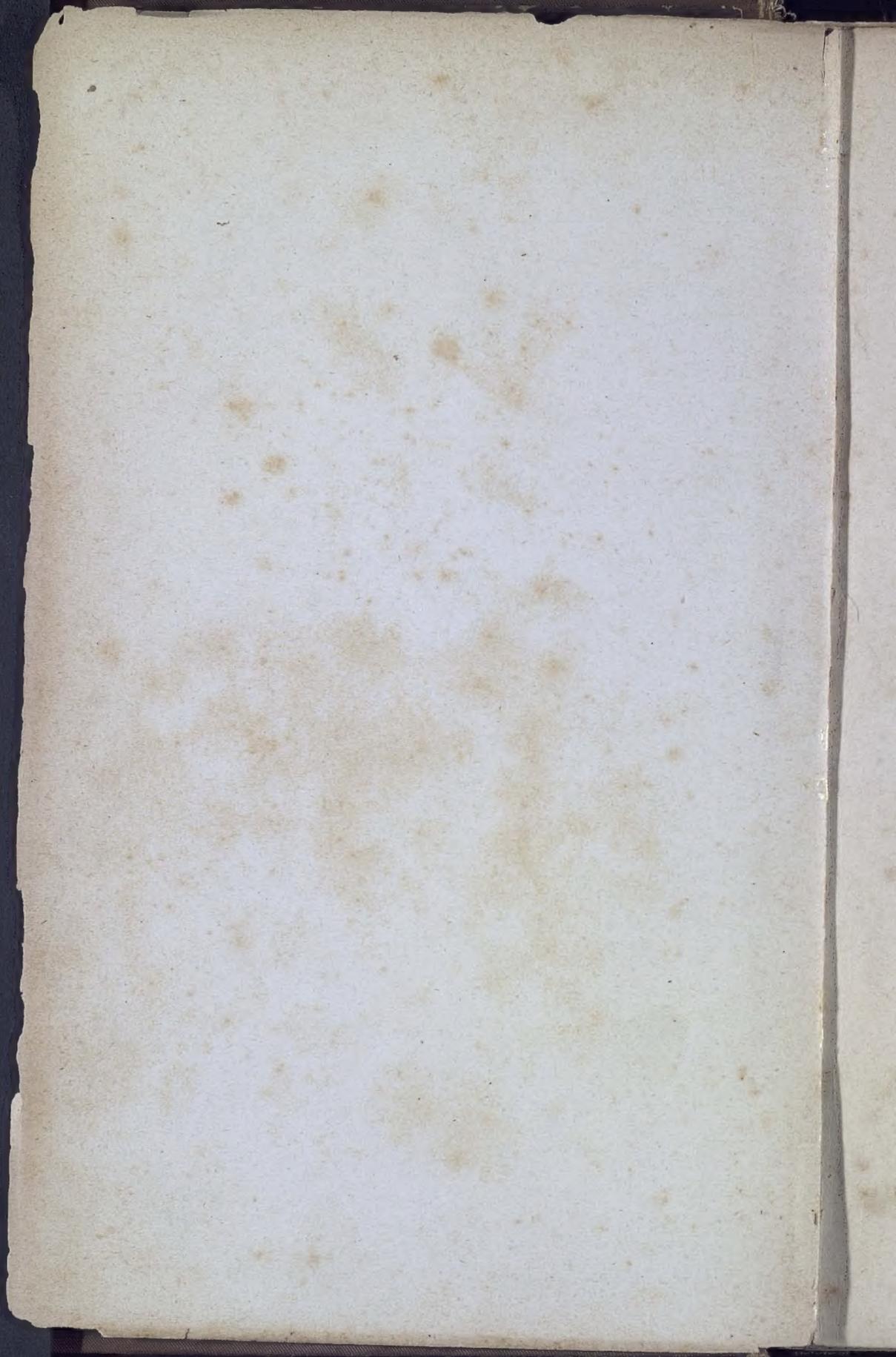


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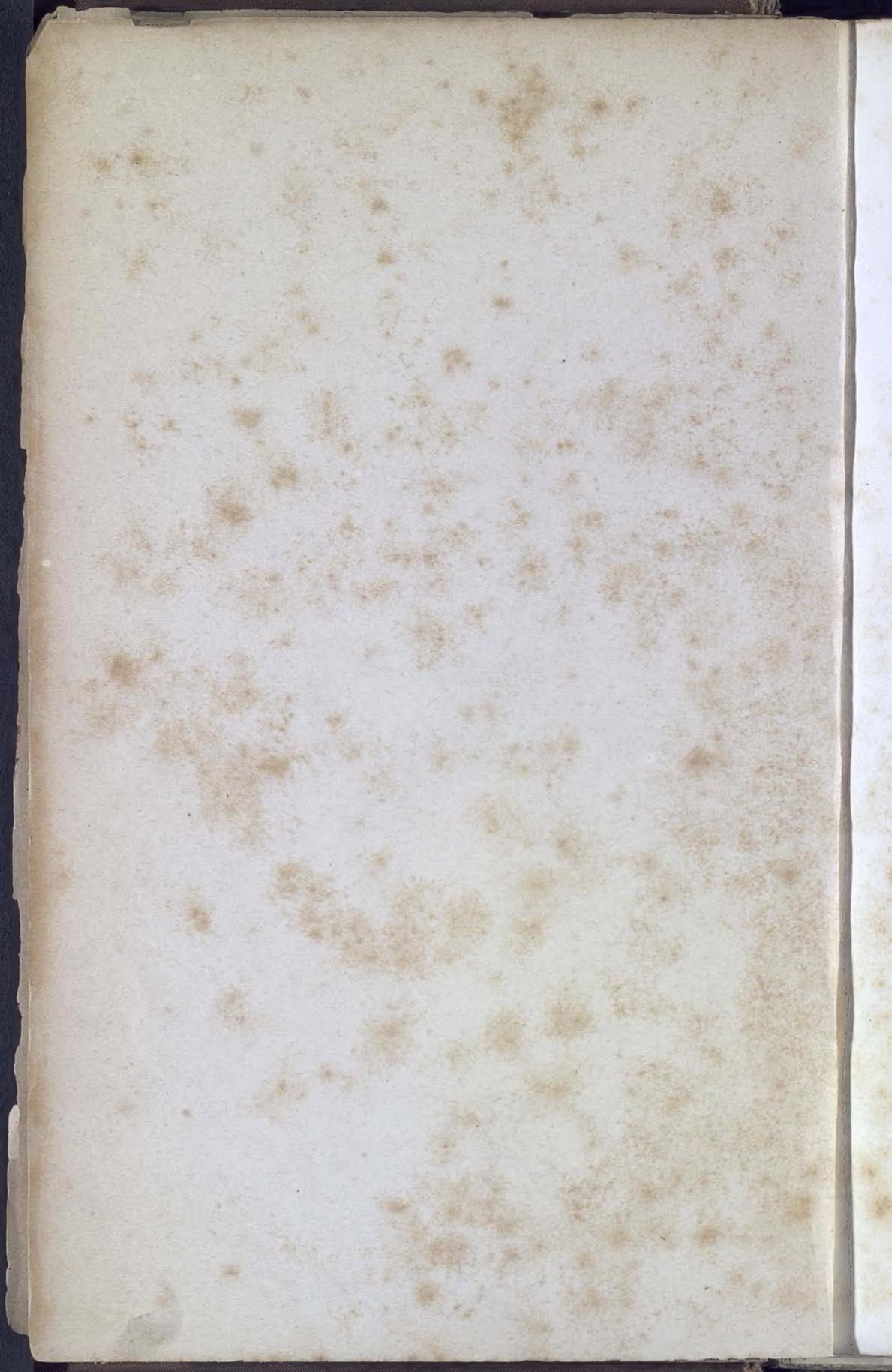
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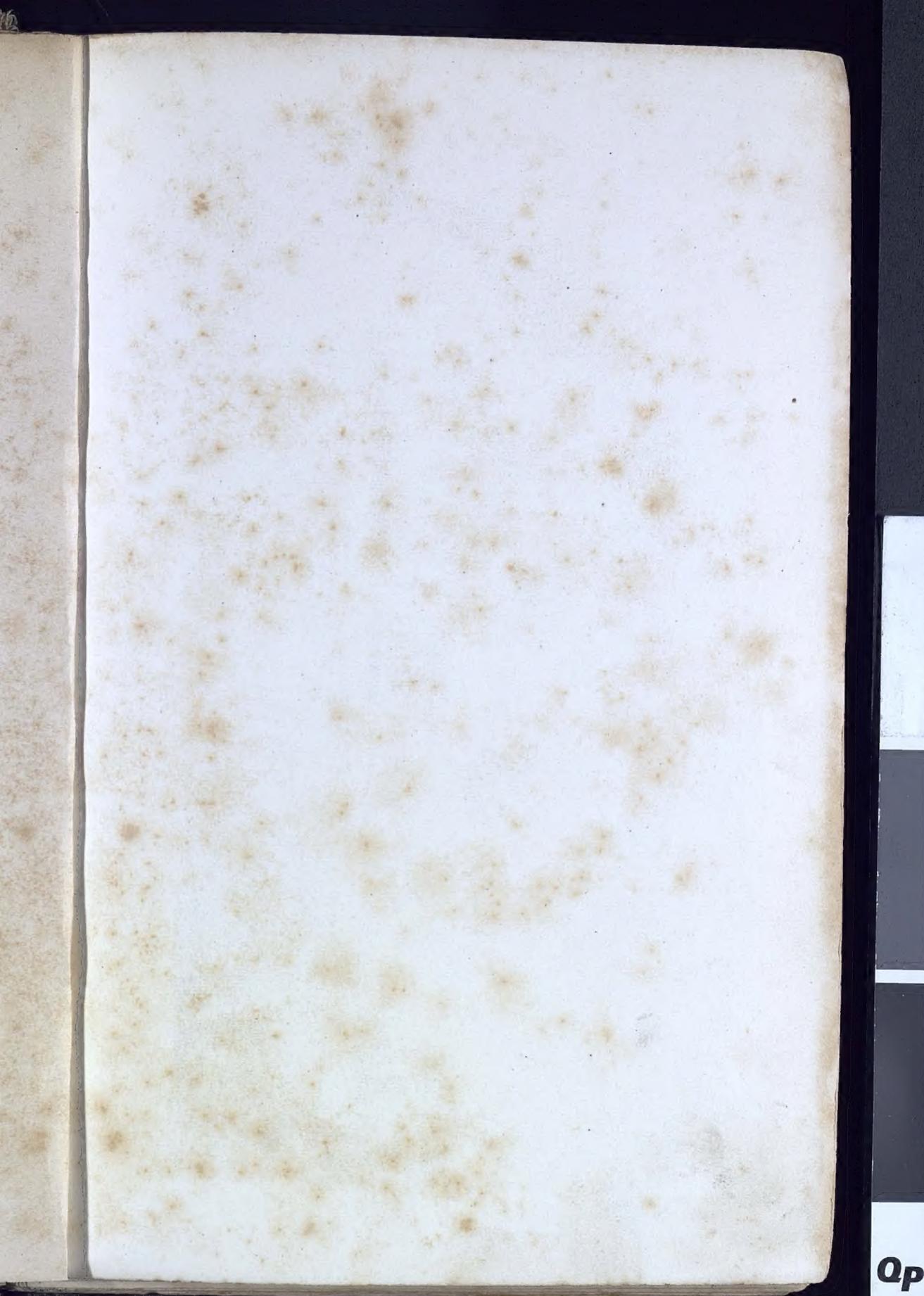
BRAZIL AND JAVA.

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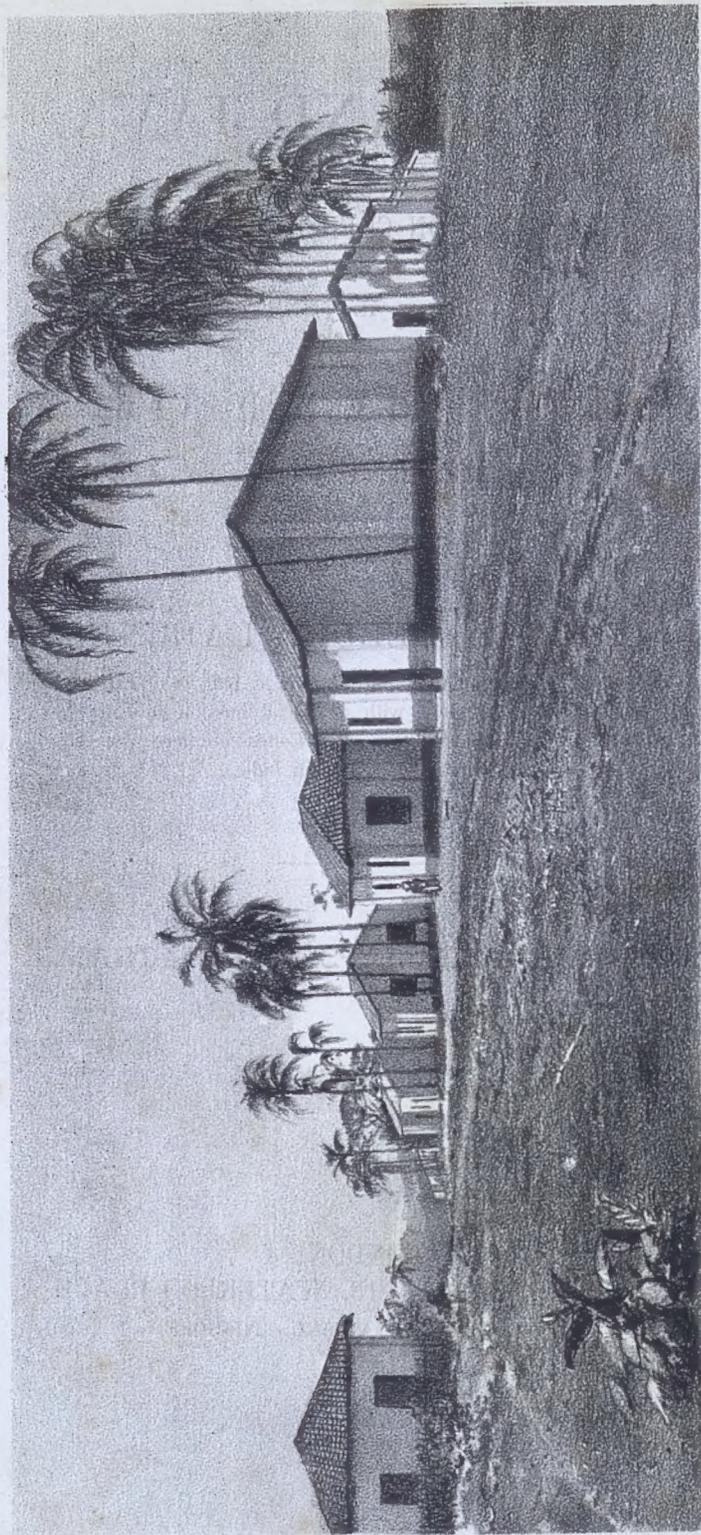
REPORT

ON COFFEE-CULTURE.





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HOUSES OF COLONISTS ON THE FAZENDA „IBICABA” (SÃO PAULO). PAGE 314.

After a photo.

COPY OFFERED TO THE PRESS.

# BRAZIL AND JAVA.

REPORT ON COFFEE-CULTURE

IN

AMERICA, ASIA AND AFRICA,

to H. E. the Minister of the Colonies,

BY

C. F. VAN DELDEN LAËRNE,

Attached to the Department of the Interior at Batavia (Java), charged  
by the Dutch Government with a special mission to Brazil on  
behalf of the Coffee-culture and Coffee-commerce in the  
Dutch Possessions in India.

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WITH PLATES, MAPS AND DIAGRAMS.

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LONDON:

W. H. ALLEN & C<sup>o</sup>, 13. WATERLOO PLACE.

THE HAGUE, MARTINUS NIJHOFF.

1885.

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To His Excellency  
the Minister of the Colonies.

Your Excellency.

*When, shortly after my arrival from Java rather more than a year ago, I received the Royal command laid upon me by decree of Your Excellency's predecessor, Mr. F. G. VAN BLOEMEN WAANDERS, dated 4<sup>th</sup> August 1883, Let. A<sup>2</sup>, No. 53, to repair to Brazil and study the principles of coffee-planting there, in the interests of the Netherland-Indian coffee-trade, I was fully aware of the great responsibility involved in this important and honourable mission.*

*It was therefore after long hesitation, and principally at the instance of my since deceased chief, Mr. G. TH. HENNY, President of the Local Government Board at Batavia, under whom I served upwards of six years in Java, — that I ventured to take upon myself a mission so difficult in every way.*

*Have I fully and in all respects come up to his expectations?*

*Alas! this question must for ever remain unanswered.*

*On September 9<sup>th</sup> 1883, I left the port of Lisbon on*

board the French Transatlantic steamer „Orenoque”, and arrived on the 24<sup>th</sup> of that month at Rio de Janeiro, after a very favourable passage.

I immediately placed myself in communication with Mr. F. PALM, the Dutch Consul-General there, who lost no time in introducing me to all the authorities, mercantile bodies and private parties, who could assist me in prosecuting my inquiries.

The fact that I was able to complete my task — the real nature and purpose of which was not rightly understood in Brazil at first — in a shorter time than I myself had calculated upon, is due in a very great extent to the facilities afforded me by the Imperial Government as well as by the representatives of Brazilian trade and Industry.

I desire here to express my cordial gratitude for the assistance I received from the Consul-General and the following Gentlemen:

Senhor A. A. MOREIRA PENNA, *Ex-Minister of Agriculture, Trade, and Public Works*;

Viscount de São CLEMENTE, *President*,

Senhor J. C. RAMALHO ORTIGÃO, *Vice-President*,

Baron DE ARAUJO FERRAZ,

Baron HONORIO DE ARAUJO MAIA and

Mr. A. DE MIRANDA JORDÃO, *Directors of the „Centro da Lavoura e do Commercio”*;

Senhor J. MACHADO COELHO DE CASTRO, *President of the Banco do Brazil*;

Dr. ORVILLE A. DERBY, *Professor in the „State museum”  
at Rio;*

Mr. J. GORDON, *Managing partner of the firm Messrs. Ed.  
Johnston & C<sup>o</sup>;*

Senhor A. ZERRENER, *Managing partner of the firm Messrs.  
Zerrener, Bülow & C<sup>o</sup>. and Vice-Consul for the Nether-  
lands at Santos,*

*besides many others whose assistance I have acknowledged  
in the Report itself.*

*On the 6<sup>th</sup> of April 1884 I returned to Europe with the  
data I had collected for this Report.*

*Although the nature of my mission seemed to me to  
render the early presentation of my Report not only useful  
but necessary, and I was consequently obliged to have a  
not unimportant part of my materials unutilised, I trust  
that I have not sacrificed accuracy and completeness too  
much to this necessity for speed.*

*The limited time at my disposal has, however, prevented  
me from carrying out my wish to add, in the interests of  
trade, a more complete survey of the export of coffee, the  
production and consumption of it throughout the world, to  
this report.*

*For what I have been able to add since the presentation  
of the Report, dated 9<sup>th</sup> September 1884, I am indebted  
to the kindness of:*

Dr. BECKER, *Direktor des Kaiserlichen Statistischen Amts,  
Geheimer Ober-Regierungsrath, Berlin;*

Dr. VON IXAMA-STERNEGG, *Präsident der K. K. Statistischen Central-Commission, Vienna;*

Dr. KUMMER, *Direktor des Eidg. Statistischen Bureau, Bern.*

*May this Report such as it is, and notwithstanding the drawback I have pointed out, meet with the approval of His Majesty, my Royal Master, and that of His Government; and may it at the same time, although drawn up by one who cannot claim to be a specialist in either agriculture or trade, answer in some degree to the reasonable expectations of the representatives of Trade and Industry, in the Netherlands as well as in Netherland-India.*

*Will Your Excellency permit me in conclusion to express my grateful compliments to the Board of the Royal Institute for promoting the study of the Languages, Geography, and Ethnology of Netherland-India in general, and to the Sub-Librarian of the Royal Library at the Hague, Dr. T. C. L. WIJNMALEN, Secretary to the above-mentioned Royal Institute, in particular, for the way in which this Society has given effect to Your Excellency's wishes by publishing this Report, and, true to its noble vocation in behalf of our valuable colonies has spared neither trouble nor expense to carry out this object.*

THE HAGUE, 15 December 1884.

VAN DELDEN LAËRNE.

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## CHAPTER I.

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### SITUATION, LIMITS, SURFACE, PHYSICAL ASPECT AND GEOLOGICAL CONDITION OF THE EMPIRE OF BRAZIL.

Brazil up to the first half of the sixteenth century known only by the name of the „Terra da Santa Cruz”, owes its present appellation to the red wood of the „Caesalpinia echinata”, which already in the first century after the discovery of America, formed the most important article of export from the country and was used in Europe instead of the dye called in Spain and Italy, „Brezile” or „Bresil”. 1)

The empire is situated between 5° 10' N.Lat. and 33° 45' S.Lat. and with the exception of the islands of Fernando de Noronha and Trindade, between 8° 19' 26" E.L. and 30° 58' 26" W.L. of Rio de Janeiro, or 34° 40' and 73° 15' W.L. of Greenwich.

The extreme points of the empire are:

- a. in the North, the sources of the Cotingo, a branch of the Tacutu, in the Serra Roraima, 5° 10' N.L. and 17° 35' W.L. of Rio de Janeiro;
- b. in the South, the mouth of the river Chuy 33° 45' S.L. and 10° 21' 27" W.L.;
- c. to the East, Pedra Point near the town of Olinda, 8° 19' 26" E.L.;
- d. in the West, the sources of the Javary, 6° 59' 29" S.L. and 30° 58' 26" W.L.

It is bounded:

to the S.E., East and North East by the Atlantic;  
to the North by French, Dutch and English Guyana and Venezuela;

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1) Dr. J. C. Wappäus, Handbuch der Geographie und Statistik. Brasilien.

to the N.W., W. en S.W. by Columbia, Peru, Bolivia, Paraguay and the Argentine Republic;  
to the South by the Oriental Republic of Uruguay.

According to existing treaties the boundaries have been fixed, or provisionally taken as, between Brazil and

French Guyana: According to art. 107 of the Treaty of Vienna and according to the Paris Convention of 28 Aug. 1817, the Oyapock river between  $4^{\circ}$  and  $5^{\circ}$  N.L. and the Serra Tumucumaque have been fixed upon as limits.

It seems that France has objected to this and would prefer for boundary, a lateral branch of the Araguay river which, rising in the above mentioned serra, throws itself under the name of Rio Mamaie or Carapaporis (about  $1^{\circ} 45'$  N.L.) into the channel of that name, which separates the island of Maraca from the continent. If these boundaries were fixed upon the French possessions would be considerably extended. — In 1841 the district of Amapa bordering on those confines was declared neutral and the documents relating thereto were ratified in 1862.

Dutch Guyana. Though here the limits have not been officially defined, on the map the serra Tumucumaque has been accepted as such.

English Guyana. By the treaties of 28 January and 29 Aug. 1842 the district of Pirara has been declared neutral; the frontiers, however, have not been strictly defined.

Brazil takes for its boundary the serras of Essary, Acarahy and Tumucumaque; England, however considers the serra Pacaraima and the Surumu and Tacutu rivers as the limits of her possessions.

Venezuela. In art. 2 of the Treaty of 5 May 1859 it is determined that the boundary between the two states shall run from the sources of the Memachi river, over the mountain-ridge forming the waterparting between the affluents that fall into the Venezuelan rivers Aquio and Tomo and those that flow into the Brazilian rivers Guainia, Xié and Issana or Iquiare, — across the Rio Negro opposite the isle of St. José near Serro Cucuhy, and thence in a straight line

across the Maturacá canal and the serras Cupi, Imery, Quahi, Urucusiro, Tapirapecó and Parima, northward to the serras Pacaraima and Essary. These mountains form the waterparting between the Brazilian and Venezuelan rivers.

The United States of Columbia. As the proposals made by Brazil on the 25 June 1853 were not accepted, the limits have not as yet been accurately defined, at least not definitively between the two states.

According to the map of the Empire published by the Brazilian Government in 1883, the boundaries are defined by a line running from the confluence of the Apaporis and Tarahyras rivers, along the latter up to the serra Arara-Coara, where it rises and thence further on over the highest summits of this range; as far as the point where the Venezuelan line of demarcation begins.

But according to the map published under the auspices of the Columbian Government, they take as their limits the line running from the point where the Javary empties itself into the Amazone, as far as the mouth of the Avati-Paraná, and further on along the Japurá river up to lake (lagoa) Camapi, thence running in a straight line due North to the confluence, in the vicinity of Loretto, of the Rio Negro and the Rio Cababuri, and further on along this river up to the Cupi range, which forms the waterparting between the Amazone and Orinoco basins.

Columbia by thus adopting this line of demarcation lays claim to a very considerable part of Brazil.

Peru. With a view to the principle „uti possidetis”, it is determined according to art. 7 of the treaty of 23 Oct. 1851 that the boundary shall run from the village of Tabatinga in a straight line Northward as far as the Rio Yapurá, opposite the mouth of the Apaporis river and Southward up to the said village along the Rio Javary to its sources.

Bolivia. In art. 2 of the treaty of 27 March 1867 the boundary is adopted defined by the line running from the Rio Paraguay, 20° 10' S.L. up to the Bahia Negro and thence in a straight line across the middle of lakes Caceres, Mandioré, Gahyba and Uberaba to the Corixa Grande, in such a

manner that Brazil shall possess the uplands of Pedras de Amolar and da Insua; from the Corixa Grande in a straight line Westward, over mounts Boá Vista and Quatro Irmãos to the sources of the Rio Verde, and following this river to its confluence with the Guaporé; and thence across the middle of this river and the Rio Mamoré to the river Beni; and afterward in a straight line as far as the sources of the Javary, where the Peruvian frontier begins.

Paraguay. According to art. 1 of the treaty of 9 Jan. 1872 the line of demarcation has been drawn through the middle of the Paraná river from the mouth of the Iguassú up to the cataract „Sete Quedas” and thence across the highest summits of the serras de Maracajú and the Amambahy to the chief source of the Rio Apa; following this river to its mouth on the Eastern bank of the Rio Paraguay.

The Argentine Republic. According to art. 1 of the treaty of the 14 December 1857, it is determined that the demarcation line shall run: along the Uruguay river up to the mouth of its affluent Quarahim and thence to the Pepiry-Guassú; further along this river to its sources; then across the highest tops to the head of Santo Antonio river and along this river till it debouches into the Iguassú or Rio Grande de Coritiba and then along this river to its confluence with the Rio Paraná.

It was further determined in the said treaty, that both powers had common claims to the two first named rivers and to the Iguassú from the mouth of the river Santo Antonio up to the Paraná.

This treaty has however not been ratified as yet, as the Argentine Republic, by demanding as the boundary line the rivers Chapecó, and Chopim, lays claim to the greater part of the province of Rio Grande do Sul.

Uruguay. The confines with this Republic have been settled by the treaties of 12 October 1851 and 15 May 1852. — Art. 1 of the former treaty states that the boundary line shall run from the mouth of the Chuy river across St. Miquel mount, as far as lake Mirim and along its Western shore up to the Jaguarão in conformity with „uti possidetis”; while

art. 3, § 2, of the second Treaty determines that the frontier shall run from the last-mentioned point, along the right bank of the Jaguarão to its head or chief source in the valley of Acegúa, and thence straight over the Rio Negro, opposite the mouth of the St.-Luiz; along this river up to Mount Sant' Anna and further on parallel to the Quarahim or Invernada, till these rivers empty themselves into the Uruguay.

From what we have stated it will be seen that most of the limits have not as yet been definitely fixed or determined.

On account of the unsettled state of the frontier question, it is difficult to state the exact area of the Empire. — According to the map lately published by the Brazilian Government in 1883, its extent is about 8,337,218 square kilometers. —

In order to form a clear idea of the vastness of the Empire, I subjoin the area of the several provinces of Brazil, compared with that of the different states of Europe, America, Asia, Africa and Australia.

<b>EUROPE.</b>	Superficies Square Kilometers.	Population.
Austria-Hungary . . . . .	625,168	37,869,954
The German Empire . . . . .	540,518	45,234,061
France . . . . .	528,572	37,321,186
Spain . . . . .	500,443	16,333,293
Sweden . . . . .	450,574	4,565,668
Norway . . . . .	325,423	1,913,500
Great-Britain . . . . .	314,951	35,246,562
Italy . . . . .	288,540	28,452,639
European Turkey . . . . .	201,340	5,305,500
Rumenia . . . . .	129,947	5,376,000
Portugal . . . . .	89,625	4,550,699
Greece . . . . .	64,688	1,979,423
Bulgaria . . . . .	63,972	1,998,983
Bosnia and Herzegovina . . . . .	61,065	1,326,450
Servia . . . . .	48,582	1,700,211
Switzerland . . . . .	41,213	2,846,102
Denmark . . . . .	38,302	1,969,039
The Netherlands . . . . .	33,000	4,060,580
Belgium . . . . .	29,455	5,536,654
	4,375,378	243,586,504
Russia . . . . .	4,924,211	81,598,569
Finland . . . . .	373,604	2,028,021
Other minor states and islands . . . . .	57,383	530,320
Total . . . . .	9,730,576	327,743,414

## SITUATION, LIMITS, SURFACE.

<b>ASIA.</b>	Superficies Square Kilometers.	Population.
Siberia . . . . .	12,469,524	3,911,200
Outer China . . . . .	7,531,074	21,180,000
China Proper . . . . .	4,024,690	350,000,000
British India . . . . .	3,525,097	248,833,564
Russian Asia . . . . .	3,017,760	5,036,000
Independent Arabia . . . . .	2,507,390	3,700,000
Asiatic Turkey . . . . .	1,889,000	16,132,900
Dutch India . . . . .	1,698,757	28,867,000
Persia . . . . .	1,648,195	7,653,600
Siam . . . . .	726,850	5,750,000
Afghanistan . . . . .	721,664	4,000,000
Caucasia . . . . .	472,666	5,546,554
Birmah . . . . .	457,000	4,000,000
Annam . . . . .	440,500	21,000,000
Japan . . . . .	382,447	36,357,212
The Philipines . . . . .	296,182	6,300,000
Beloochistan . . . . .	276,515	350,000
English Birmah . . . . .	229,351	3,707,646
Corea . . . . .	236,784	8,500,000
Himalaya States . . . . .	234,000	3,300,000
Camboja . . . . .	83,861	890,000
Independent Malacca . . . . .	81,500	300,000
French Cochín-China . . . . .	59,456	1,597,013
Other countries . . . . .	1,570,587	8,678,311
Total . . . . .	44,580,850	795,591,000
<b>AMERICA.</b>		
United States . . . . .	9,331,360	50,442,066
Brazil (*) . . . . .	8,337,218	11,108,291
Canada . . . . .	8,301,503	4,324,810
Argentine Republic . . . . .	2,835,969	2,400,000
Mexico . . . . .	1,945,471	9,577,279
Venezuela (†, page 7) . . . . .	1,137,615	2,075,245
Bolivia . . . . .	1,297,255	2,325,000
Peru . . . . .	1,119,941	3,050,000
Columbia . . . . .	748,850	2,774,000
Ecuador . . . . .	643,295	1,146,033
Chili . . . . .	537,187	2,420,500
Central-America . . . . .	465,485	2,667,000
Guyana . . . . .	461,977	347,000
West-Indian Islands . . . . .	244,478	4,617,450
Paraguay . . . . .	238,290	293,844
Uruguay . . . . .	186,920	438,245
Newfoundland . . . . .	110,670	161,374
Panama . . . . .	81,823	226,000
Other countries . . . . .	447,831	20,663
Total . . . . .	38,473,138	100,415,400

(\*) The population may be estimated at:

9,930,478 freemen  
500,000 Indians and  
1,000,000 slaves.

11,430,478

## SITUATION, LIMITS, SURFACE.

AFRICA.	Superficies	Population.
	Square Kilometers.	
Sahara zone . . . . .	6,180,426	2,500,000
Aequatorial zone . . . . .	3,972,880	47,000,000
Egypt (Nether- and Upper-) . . . . .	2,900,836	16,417,474
West-Soodan and Upper-Guinea . . . . .	1,993,046	43,600,000
Central-Soodan . . . . .	1,714,984	31,800,000
Galla- and Somali-lands . . . . .	1,897,038	15,500,000
Tripoli and Fezzan . . . . .	1,033,349	1,010,000
Portuguese Possessions on the	—	—
Westcoast and . . . . .	809,400	9,000,000
Eastcoast . . . . .	991,150	1,000,000
Marokko . . . . .	812,332	6,152,179
Alger . . . . .	667,065	2,867,626
Matebele-lands . . . . .	344,083	1,200,000
Muata Samwo's zone . . . . .	344,947	1,000,000
Kasongo's zone . . . . .	342,491	4,000,000
Marutse-Mambunda zone . . . . .	268,377	900,000
Tunis . . . . .	116,348	2,100,000
British Possessions . . . . .	677,218	1,728,492
Madagascar . . . . .	591,964	3,500,000
Transval . . . . .	285,363	815,000
Oranje-Vrijstaat . . . . .	107,439	133,518
Zulu-lands . . . . .	40,036	150,000
Swaise-lands . . . . .	14,035	40,000
Abyssinië . . . . .	333,279	3,000,000
Other countries . . . . .	3,384,167	10,408,971
Together . . . . .	29,823,253	205,823,260
<b>AUSTRALIA.</b>		
Australian continent . . . . .	7,627,832	2,193,200
New-Guinea . . . . .	807,956	500,000
New-Seeland . . . . .	272,989	534,578
Melanesia . . . . .	145,855	617,400
Tasmania . . . . .	67,894	115,705
Sandwich-Islands . . . . .	17,008	57,985
Polynesia . . . . .	9,791	121,500
Micronesia . . . . .	3,530	91,600
Australia . . . . .	8,952,855	4,232,000
Europe . . . . .	9,730,576	327,743,400
Asia . . . . .	44,580,850	795,591,000
America . . . . .	38,473,138	100,415,400
Africa . . . . .	29,823,253	205,823,260
Polar lands. . . . .	4,478,200	82,500
Together . . . . .	136,038,872	1,433,887,500

(†) According to the «Annual Statistics» of the United States of Venezuela, 1884, the area of that state amounts to 1,639,398 square kilometers with a population of 2,121,988 souls. — See page 10.

EUROPE.	ASIA.	AMERICA.	
Belgium	—	—	
Netherland	Java and Madura (a)	—	
England	—	—	
Italy	Straits Settlements	—	
	Japan	—	
German empire	China proper	—	
France	—	—	
Switzerland	British India	—	
Austria-Hungary	—	—	
Denmark	—	—	
Portugal	Annam	—	
	Ceylon	—	
Spain	Korea	—	
Greece	—	—	
Turkey	French Cochinchina	—	
	—	—	
	Philippine-islands	—	
	Soenda-islands	—	
Russia	British Birma	—	
	Kaukasia	—	
	Cambodja	—	
Sweden	—	—	
	Asiatic Turkey	—	
	Birma	—	
	Siam	—	
Norway	—	—	
		Central America	
		United States	
	Persia	—	
		Mexico	
		Chili	
		Columbia	
		Panama	
		Perú	
		Uruguay	
		Ecuador	
		Bolivia	
		Brazil	
		Venezuela	
		Paraguay	
		Argentine Republic	
Siberia		—	

W.-  
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Kas  
Port  
Aby  
Mar  
Gall  
Alge  
Egy  
Saha

AFRICA.	AUSTRALIA.	Population per square kilom.	Annotations.
—	—	188	(a) The population of Java and Madura consists according to the Official yearbook of Netherlands-India (Regeeringsalmanak, v. Ned.-Indië 1884) in
—	—	167	
—	—	123	
—	—	112	
—	—	104	
—	—	99	
—	—	95	
—	—	87	
—	—	84	
—	—	71	
—	—	71	
—	—	69	
—	—	61	
—	—	51	
—	—	48	
—	—	46	
—	—	41	
—	—	36	
—	—	33	
—	—	31	
—	—	27	
—	—	26	
W.-Soedan and Upper-Guinea	Micronesia	26	
—	—	22	
—	—	21	
—	—	17	
—	—	16	
Tunis	—	16	
—	—	16	
Aequatorial zone	—	12	
—	—	12	
Kasongo zone	Polynesia	12	
—	—	12	
Port. Possessions, W.-coast	—	11	
—	—	11	
—	—	10	
—	—	9	
Abyssinia	—	9	
—	—	9	
Marocco	—	8	
Galla and Somali-lands	—	8	
Alger	—	8	
—	—	7	
—	—	6	
Egypt	—	6	
—	—	6	
—	—	5 <sup>4</sup>	
—	—	5	
—	—	5	
—	—	4 <sup>5</sup>	
—	—	4	
—	—	4	
—	—	3	
—	—	2 <sup>5</sup>	
—	—	2	
—	New-Seeland	2	
—	—	1 <sup>8</sup>	
—	—	1 <sup>8</sup>	
—	—	1 <sup>4</sup>	
—	—	1 <sup>3</sup>	
—	—	1 <sup>2</sup>	
—	—	0 <sup>8</sup>	
Sahara	—	0 <sup>4</sup>	
—	Australian Continent	0 <sup>3</sup>	
—	—	0 <sup>3</sup>	

20,268,480.

(b) According to the «Annuaire Statistique des Etats-Unis de Venezuela. 1884.»

POPULATION AFTER DR. A. PETERMANN'S

<b>BRAZIL.</b>	Surface in square kilometers.	Population.
Amazonas . . . . .	1,897,020	57,610
Matto Grosso . . . . .	1,379,651	60,417
Pará . . . . .	1,149,712	275,237
Goyaz . . . . .	747,311	160,395
Minas Geraes . . . . .	574,855	2,039,735
Maranhão . . . . .	459,884	359,040
Bahia . . . . .	426,427	1,379,616
Piauhy . . . . .	301,797	202,222
S. Paulo . . . . .	290,876	837,354
Rio Grande do Sul . . . . .	236,553	434,813
Parana . . . . .	221,319	126,722
Pernambuco . . . . .	128,395	841,539
Ceará . . . . .	104,250	721,686
Parahyba . . . . .	74,731	376,226
Santa Catharina . . . . .	74,156	159,802
Rio de Janeiro . . . . .	68,982	782,724
Alagoás . . . . .	58,491	348,009
Rio Grande do Norte . . . . .	57,485	233,979
Espirito Santo . . . . .	44,839	82,137
Sergipe . . . . .	39,090	176,243
Municipio Neutre . . . . .	1,394	274,972
Together . . . . .	8,337,218	9,930,478
<b>Coffee-provinces :</b>		
Minas Geraes . . . . .	574,855	2,039,735
S. Paulo . . . . .	290,876	837,354
Rio de Janeiro . . . . .	68,982	782,724
Together . . . . .	934,713	3,659,813
<b>United States of VENEZUELA.</b>		
Upper-Orénoque . . . . .	310,310	18,478
Amazonas . . . . .	235,566	18,240
*Bolivar . . . . .	229,796	267,251
Yuruari . . . . .	210,164	18,799
*Guzman Blanco . . . . .	187,823	503,756
*Falcon . . . . .	93,815	188,903
*Bermudez . . . . .	83,532	55,677
Delta . . . . .	65,667	—
*Zamora . . . . .	65,317	240,635
Caura . . . . .	58,458	—
*De Andes . . . . .	38,134	301,420
*Lara . . . . .	24,085	238,157
Armisticio . . . . .	18,526	—
Goajira . . . . .	9,348	34,696
*Carabobo . . . . .	7,732	163,401
Colony Guzman Blanco . . . . .	555	1,595
Colon . . . . .	431	137
District Féderal . . . . .	117	70,198
Colony Bolivar . . . . .	22	645
Together . . . . .	1,639,398	2,121,988

NB. The provinces marked with an \* are the States forming together the Union; the others are Governments and Colonies, and the district of the Union. Of the surface of the United states 381,910 square kilometers belong to private persons and 1,257,488 square kilometers wilderness to the state. Of the grounds belonging to private persons 123,208 square kilometers are for agriculture, 246,400 square kilometers pasture-grounds, 12,302 square kilo-meters forests.

<b>United States of MEXICO.</b>	Surface in Square Kilometers.	Population.
Chihuahua . . . . .	272,716	180,758
Sonora . . . . .	204,600	139,140
Baja-California . . . . .	152,847	23,195
Coahuila . . . . .	152,517	104,131
Ialisco . . . . .	126,825	994,900
Durango . . . . .	110,463	190,846
Yucatan . . . . .	84,585	285,384
Tamaulipas . . . . .	75,191	144,747
Nuevo Leon . . . . .	74,033	194,861
St. Luis Potosi . . . . .	71,210	506,799
Veracruz . . . . .	71,116	504,970
Oaxaca . . . . .	70,838	718,194
Zacatecas . . . . .	68,596	413,603
Guerrero . . . . .	68,568	308,716
Campeche . . . . .	67,539	86,299
Sinaloa . . . . .	67,152	167,093
Michoacam . . . . .	55,693	648,857
Chiapas . . . . .	43,930	219,735
Tabasco . . . . .	32,935	93,387
Puebla . . . . .	31,120	704,372
Mexico . . . . .	25,972	696,038
Hidalgo . . . . .	21,693	434,096
Guanajuato . . . . .	20,276	788,202
Querétaro . . . . .	8,300	179,915
Aguascalientes . . . . .	7,199	140,430
Colima . . . . .	7,136	65,827
Morelos . . . . .	4,536	154,946
Tlaxcala . . . . .	3,898	133,498
Districto Federal . . . . .	231	354,340
<b>Total . . . . .</b>	<b>2,001,715</b>	<b>9,577,279</b>

<b>The Different Coffee producing Countries.</b>	Surface in Square Kilometers.	Population.	Population per Square Kilometer.
<b>AMERICA.</b>			
Nicaragua . . . . .	133,800	300,000	2
Guatemala . . . . .	121,140	1,252,497	10
Honduras . . . . .	120,480	350,000	3
Cuba . . . . .	118,833	1,424,649	12
St. Domingo . . . . .	53,344	250,000	5
Costarica . . . . .	51,760	185,000	4
Haiti . . . . .	23,911	550,000	23
S. Salvador . . . . .	18,720	554,785	30
Jamaica . . . . .	10,859	580,804	53
Portorico . . . . .	9,144	754,313	82
<b>AFRICA.</b>			
Natal . . . . .	48,560	364,338	7 <sup>5</sup>
Liberia . . . . .	37,200	1,068,000	28 <sup>8</sup>
Bourbon . . . . .	1,979	176,648	89
<b>ASIA.</b>			
Sumatra . . . . .	443,234	3,802,000	8
Spanish Possessions . . . . .	296,182	6,300,000	21
Celebes . . . . .	200,132	1,000,000	5
Java and Madura . . . . .	131,733	20,268,480	154
Bali . . . . .	5,396	200,000	37
Ceylon . . . . .	63,976	2,606,930	41
British India . . . . .	500,000	68,800,000	137
(Coffee aréa Madras and Bombay.)			

The greater part of the Empire consists of one large plateau or table-land, lying between the Atlantic Ocean and the great Continental depressions of the Amazone and Paraguay basins which almost connected by the valley of the Madeira and of its confluent, the Guapore, form the western limits of the table-land, and thus nearly, if not quite, cut it off from the mountainous plateau of the Andes. The Empire also comprises part of the Guyana-plateau, nearly the whole of the vast valley of the Amazone and that of the Paraguay.

Besides these four natural divisions, there is also the Atlantic border region occupying a narrow strip between the Ocean and the Eastern border of the great continental plateau.

The average height of the plateau is from 300 to 1000 meters, and the mountains rise from 1000 to 2000 meters higher. <sup>1)</sup> Though the Brazilian table-land is commonly represented as exceedingly mountainous, it consists to a very great extent of vast table-lands which from the deep excavation of the immensurable river valleys have become very much accidented so as to present a mountainous aspect.

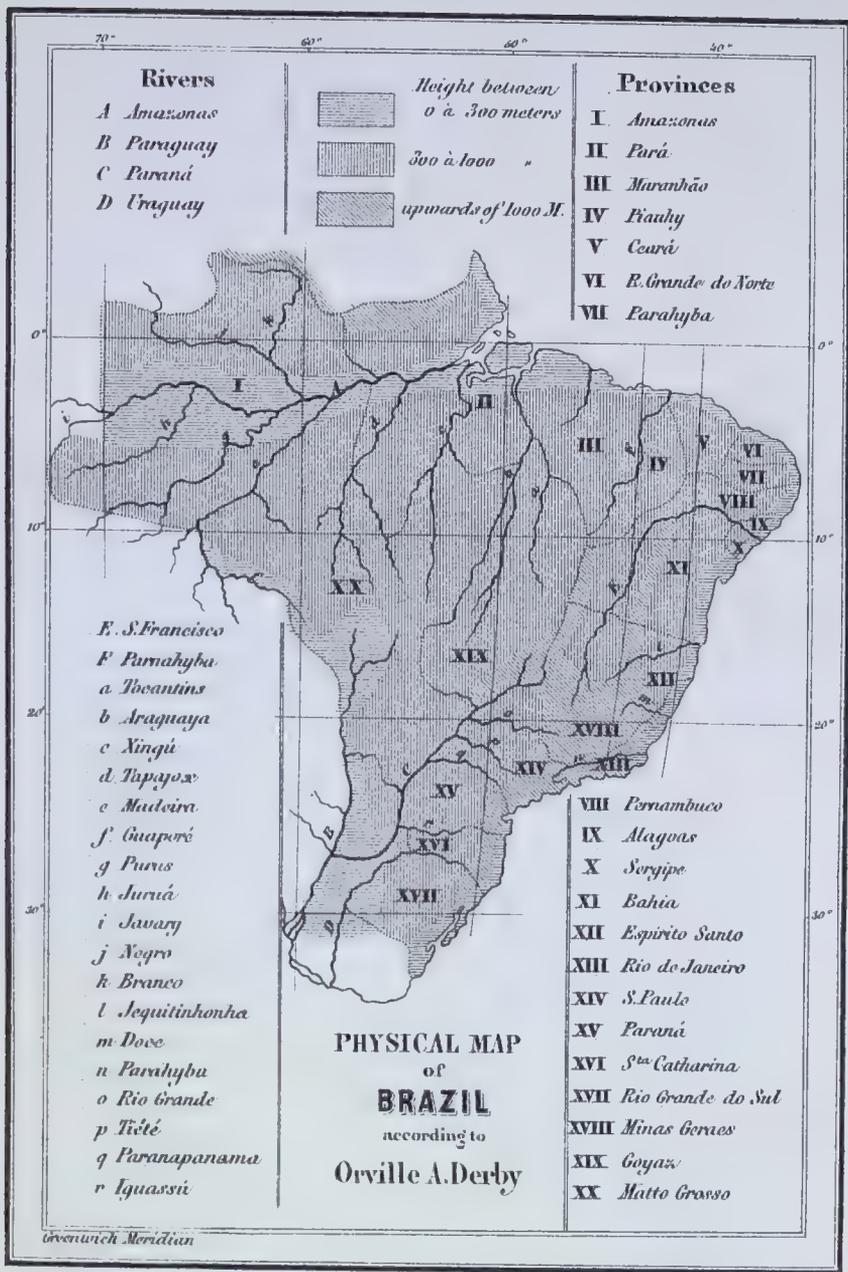
The real mountain ranges — if we limit the expression to the elevations formed by upheaved strata — are chiefly to be found in the Eastern and Western parts of the Empire, and are usually looked upon as forming two groups which may be said to be divided by the table-land verging upon the Paraná and St. Francisco basins.

The Eastern or Maritime group runs along the coast of the Atlantic, at a short distance from the sea, i. e. from the North-East part of the continent near Cape St. Roque, up to or near the Southern frontiers of the Empire.

The central or Goyaz-group, comprises part of the Southern half of the province of Goyaz and part of the province of Minas Geraes, to the West of St. Francisco river, and is connected with the Maritime group by a transverse ridge extending Westward across southern Minas Geraes.

This transverse ridge forms, together with the mountains of the Goyaz group, part of the Eastern and Western water-partings of the continent and is more generally known by the name of Serra dos Vertentes, a rather improper designation,

<sup>1)</sup> 1 Meter = 1,093 Yards.  
1 Yard = 3 feet.





as a considerable part of the waterparting is not, properly speaking, mountainous.

The mountain range of the Eastern group forms a long, but comparatively narrow streak, about twenty miles in breadth in the provinces to the South of Rio de Janeiro; but which extends to four or five times that width in the Southern part of the province of Minas Geraes, and then narrows further North East beyond St. Francisco river to a breadth of 50-60 miles.

In the provinces of Paraná, St. Paulo, Rio de Janeiro, Espírito Santo and the Southern part of the province of Minas Geraes, where this group attains its greatest development, we find two separate and distinct parallel chains, viz.,: The Serras do Mar and da Mantiqueira, which extend from the South West to the South East.

The highest points in the former chain are the peaks of the Organ mountains, against the Northern background of the Bay of Rio de Janeiro, which attain a height of 2232 meters, whereas in the latter range, at the exact point where the three coffee-provinces Rio de Janeiro, Minas Geraes and St. Paulo converge and meet, the Itatiaia (2712 m.) is regarded as the highest summit in the whole Empire. — A little to the North of the parallel chain of the Rio de Janeiro, the succession of elevated peaks of the Serra da Mantiqueira, which runs in a N. E. direction, trends into a lateral branch, which under the name of Serra do Espinhaço, runs further North East along the Eastern margin of the St. Francisco basin.

The highest points of this range are the Itacolumi (1752 m.) the Caraça (1955 m.) near Ouro-Preto, the Piedade (1783 m.) and the Itambé (1823 m.) in the Diamantina district.

The mountains of this Eastern group are lower to the North and to the South of the three above-mentioned provinces, and are represented, to the northward of the St. Francisco, by short detached ranges and isolated tops only.

The Western mountain group consists of at least two distinct ranges, viz.: those of the Serras da Canastra and Matta da Corda, which generally stretch in a Northern direction from the sources of the St. Francisco up to the Southern edge of the basin of its great Western affluent the Paracatu, — and

the mountains of Southern Goyaz, which run North East between the sources of the Tocantins—Araguaya and those of the Paraná.

The Serra da Canastra is an offshoot from the broad Western lateral branch of the Serra da Mantiqueira which intersects the Southern part of the province of Minas Geraes. Its highest summit (1282 m.) bears also the name of Serra da Canastra and contains the sources that feed the St. Francisco river. The limits and extension of the Goyaz chain cannot as yet be exactly determined, as the accounts of the geology of that region are too meagre and indefinite to enable one to determinate between the true mountains of upheaved and the ridges produced by denudation from horizontal strata. The highest summits of this range are the Montes Pyreneos near the city of Goyaz; they are estimated at 2310 m. and at 2932 m. in height; the former being probably nearest correct.

The great table-lands of horizontal, or nearly horizontal strata, of the Brazilian Highland are those of the Paraná, Amazonas, St. Francisco and Parnahyba basins.

That of the Parana basin, which may be said to contain also the basin of the Uruguay, consists of the greater part of the provinces of Rio Grande do Sul, St. Catharina and St. Paulo, part of South West Minas Geraes and Southern Goyaz, together with the more elevated portion of the province of Matto Grosso, and that part of the Republic of Paraguay lying between the rivers Paraná and Paraguay.

The highest elevation along the East boundary of the provinces of Paraná and of St Paulo is estimated at 1000 meters; while the average height is a few hundred meters lower toward the South West; as the result not only of denudation, but also of a general lowering of the surface.

The Amazonian table-land comprises the greater part of the provinces of Matto Grosso and Goyaz, a considerable part of Southern Pará, a comparatively small portion of South Eastern Amazonas and of Western Maranhão.

It is drained by the Tocantins-Araguaya, Xingú, Tapajos and the lower part of the Madeira river with its affluent the Guaporé, all of which descend from the plateau in a series of waterfalls and rapids at a distance of about 100—200 miles

from the Amazone. The Southern margin of this extensive table-land consists of a slope of 800—1000 meters high, quite opposite to the waterparting of the Paraguay and Guaporé rivers, to which the name of Serra dos Parecis has been given.

The table-land of the St. Francisco stream lies chiefly to the West of that river, in the Westerly part of Minas Geraes and Bahia and attains an elevation of about 800 meters.

It is uncertain whether it stretches beyond the waterparting, so as to form a connected whole and continuation with the valleys of the Tocantins and the Parnahyba.

The Parnahyba plateau comprises the whole or nearly the whole of the province of Piauhy, part of South Maranhão, of Western Ceará and is perhaps connected with the Amazonian plateau by the waterparting of the rivers Parnahyba and Tocantins.

All these table-lands are deeply channelled and furrowed by numerous river valleys which give it, nearly over its whole extent, a mountainous aspect; the ridges and heights between those valleys and dales have (even on modern maps of Brazil) been wrongly represented as so many ranges and chains.

The Brazilian portion of the Guyana plateau is but imperfectly known.

Chains of 2000 meters and higher, form there the waterparting between the rivers that flow and issue into the Ocean and those that empty themselves into the Amazone.

Between the mouth of the Rio Negro and the sea at different points and at but a few miles' distance, this high land approaches the firstmentioned giant stream.

This region is drained by the Rio Negro and its affluent the Rio Branco, and a number of smaller rivers, the principal of which are the Jamundá, the Trombetas, Parú, Iary and the Araguay.

The great Amazonian depression is relatively narrow in the lower part from the mouth of the Rio Negro, the average

width in that part not amounting to more than 100—200 miles.

In the upper part between the Rio Negro and Madeira river and the foot of the Andes it grows considerably broader, so as to present a bottle or flask shape.

The Amazon river is generally bordered by low alluvial plains often of considerable breadth, subject to periodical floods and covered with shallow lakes or lagunes and numerous offshoots from the great river and from the lower parts of its tributaries. The higher lands are either plains of less than 300 meters in height, formed by different deposits peculiar to these parts, or by the outrunners or divergent ranges of the Continental plateaus situated on both sides, or by those of the Andes chain which lie more to the West.

The Brazilian part of the Paraguay plateau comprises the upper portion of the immense plains of the river basin of that name, which form a great part of the Argentine Republic, of Paraguay and East Bolivia. These plains are situated a few hundred meters below the average height of the table-land, that enclose them and the numberless mountain ranges and outrunning ridges which project above them.

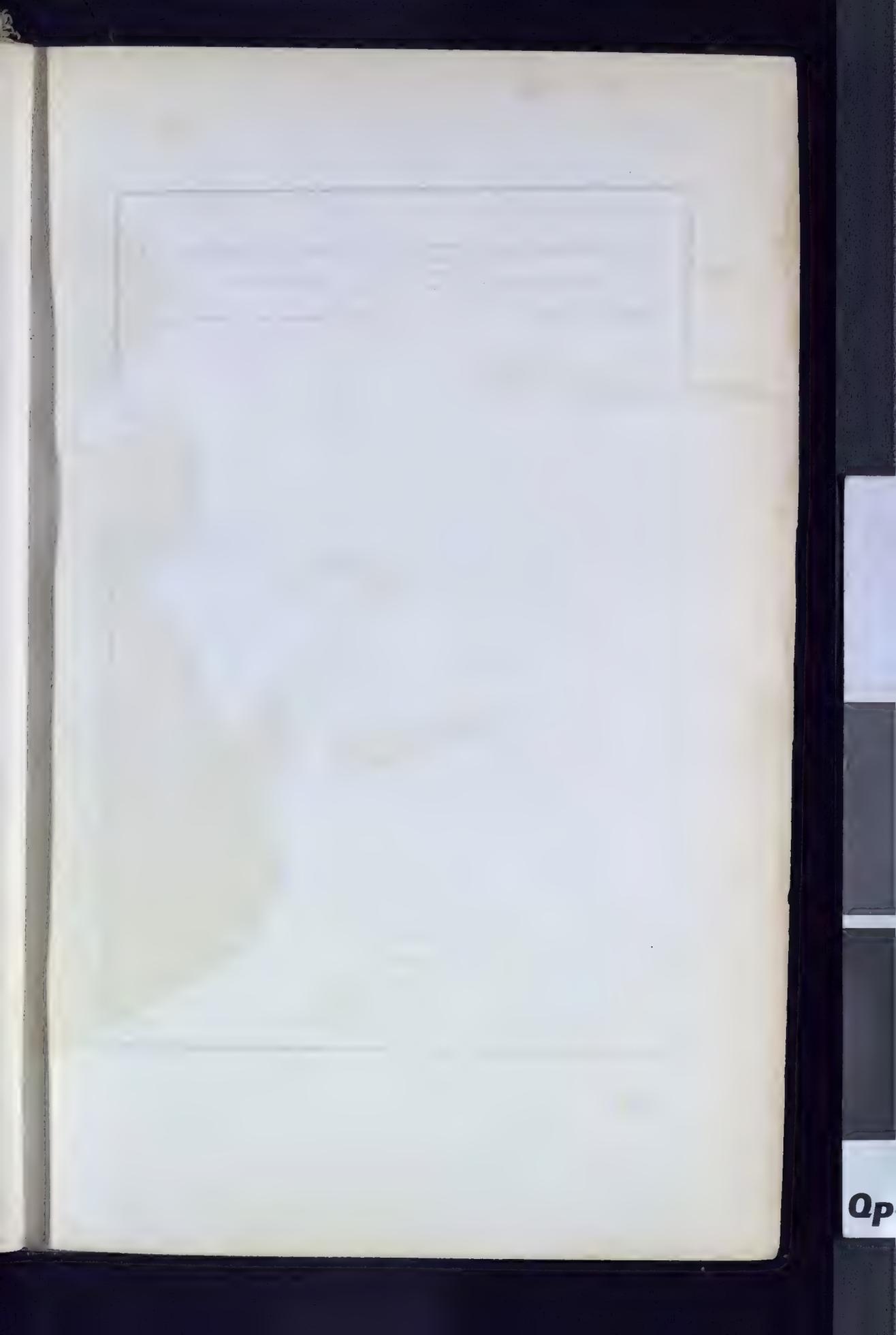
For the greater part they are but slightly elevated above the surface of the river Paraguay and its tributaries, which intersects them, so that during the rainy season they are changed into morasses, marshes or lakes, to a great extent.

The Atlantic border region consists of a strip of low land, averaging a few miles in width, between the Ocean and the borders of the Central plateau.

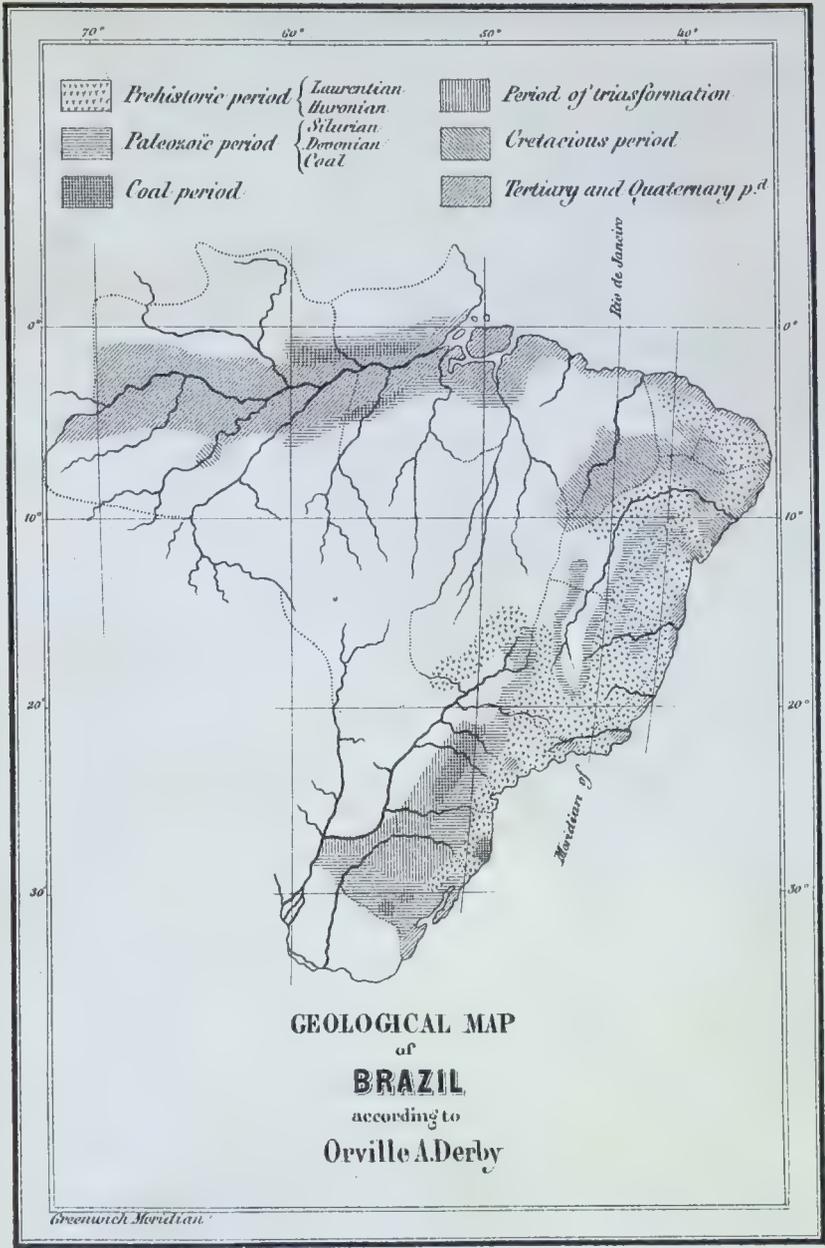
To the South of Rio de Janeiro it consists of low sandy plains full of pools or lagunes and of the denuded spurs and outliers of the plateau.

To the North of the said capital we find also sand plains and in addition to these hills (morros) and table-lands of formations peculiar to this coast, but which do not attain a higher elevation than 100—200 meters.

Relatively little is known of the geology of the vast area of the Brazilian Empire.



Qp



Before the year 1867 the fossils of the Brazilian formation may safely be said to have been nearly unknown; for the researches of Eschwege, Sellow, Martius, Pissis, d'Orbigny and others were entirely geognostical and mineralogical. And though the results of these investigations have proved to be of the highest importance, yet neither the identification nor the classification of the formations can be based thereon, as their inferences and deductions have neither been confirmed nor corroborated by observations concerning the fauna and flora of the antediluvian period.

The basis of a real and true paleontological division have been laid by the latest researches of Hartt and his fellow-explorers, and though only a beginning has been made, a clearer conception of the geological structure of the country has been obtained.

The basis of the great Brazilian plateau consists of ancient metamorphic rocks, which besides forming the greater part of the principal mountain ranges and rugged elevated tablelands, show themselves in isolated patches in the plain portions wherever the later rocks of the surface have been extensively denuded.

They may thus be found in all parts of the country at the bottom of almost all the river valleys.

They are subdivided into two great series, the oldest of which, consisting of highly crystalline rocks, such as granite, syenite (a granite rock in which hornblende replaces feldspar), gneiss and micaschist, traced by Hartt to the Laurentian system of the North American geologists, a classification completely verified and confirmed by the discovery at different points of the Eozoon Canadense which is so characteristic of that layer.

The second, less perfectly crystalline series, composed of quartzites schists, besides iron- and calcareous or limestone minerals, may with almost equal certainty be referred to the Huronian system.

The Laurentian system is most highly developed in the regions of the Serras do Mar and da Mantiqueira, where it forms the principal heights.

It is also seen in the other mountains, but there it is subordinate to the Huronian system or to the more recent

formations, where these present themselves as elevations of a mountainous character. In the Serra do Mar the most abundant and characteristic rocks are composed of granitic gneisses, which, from the abundance and large size of the feldspar crystals often present a porphyritic aspect, especially on account of the strata not being clearly distinguishable.

They show themselves in the form of magnificent, elevated, cupolator dome-like tops and sharp peaks in the mountain-range along the coasts of Rio de Janeiro, S. Paulo and Paraná. A great part of this gneiss is granitic.

Though the principal heights of the Serra da Mantiqueira are formed of granite or granitoid gneiss, yet the predominant rocks are schistose gneisses and micascists.

Marble is often found in this formation, except in very thin and extensive beds. Nor is the Laurentian range rich in minerals of economic value, so that in this regard, it is strikingly inferior to the next series. Extensive deposits of iron ore occur in it, while gold is sparingly distributed among the upper members of the series.

In Eastern Minas Geraes various precious stones are found, such as Chrysolites, Aqua-marines, green and red Tourmalines, Amethysts, besides transparent Andalusites and Triphanas (spodumene), which are used more or less in jewelry and are thus eagerly sought after.

In the same region fine deposits of graphites (the plumbago of commerce) are known.

The Huronian rocks are most characteristic of the regions of the Serras do Espinhaço, da Canastra and Matta da Corda, and of the mountains of Goyaz, in which they form the principal elevations of the surface.

They occur also, along with the Laurentian system, in the mountainous table-land of Southern Minas Geraes, in the Southern part of the Serras da Mantiqueira and do Mar, in the hilly portion of the upper Paraguay valley, and in general nearly always in those valleys in which the fundamental metamorphic rocks of the country have been exposed to view through denudation.

The predominant rocks of this series are the hydro-mica-

ceous and chloritic schists and schistose quartzites, at times flexible, to which the name of Itacolumite has been given.

The mica of the quartzites is often replaced by micaceous iron, giving a peculiar rock called Itabirite; which by the disappearance of the quartz, passes to massive beds of hematite and sometimes, though not so frequently, of magnetite. These iron beds of extraordinary abundance and extension place the Huronian regions of Brazil among the richest in the world in iron ores.

The weathering of these rocks produces on its surface a crust of conglomerate of more recent formation, consisting of masses of iron ore cemented by limonite, which is known as Tapanhoacanga, and which covers large areas often miles in extent.

The almost general schistose character of the Huronian strata, which is everywhere hilled up at a high angle, gives a peculiar notched, jagged and dentated appearance to the mountains in which they form the principal elevations, — which contrasts with the pointed, needle-formed and dome-like mountains of the Laurentian system.

As we have already stated, it is in this series that the Brazilian minerals are most abundant.

The extraordinary abundance of iron ores of the very best quality has already been mentioned.

These furnish the material to a considerable number of small furnaces, which however work on a small scale by the direct process.

Nearly all the gold found in Brazil, in the different provinces, (Minas Geraes, St. Paulo, Paraná, Goyaz, Matto Grosso and Bahia) is „fetched” in these districts, either from mines or from the alluvial beds produced by the weathering and wear and tear of the said rocks.

The iron-conglomerate or Tapanhoacanga is worked over a large extent of ground, as the Itabirite of which it chiefly consists is very rich in gold, which appears in the irregular seams formed by a peculiar mixture of iron and manganese oxydes, called by the miners Jacutinga, and which to all appearances is peculiar to the Brazilian gold-fields alone.

In the other rocks of the series the gold occurs in veins of

quartz mixed with sulphurites of iron, arsenic and, though less frequently, with copper, bismuth, lead and anthimony. Several of those pyritiferous veins are of extraordinary size and constancy.

The topaz mines of Ouro-Petro are found in veins of lithomarge and quartz traversing the schists of this series.

It was long supposed that there existed a connection between the Huronian rocks and the diamondbearing alluviums of the provinces of Minas Geraes, Goyaz, Matto Grosso and Bahia; the latest explorations of Derby and Gorceix have clearly proved that in the vicinity of Diamantina diamonds are found only in veins very similar to those bearing topazes near Ouro-Petro, and like these are connected with the Huronian schists.

Thus it is probable that they have the same origin all over Brazil and that the gravel-beds from which, with the exception of a single mine, they are exclusively drawn, owe their existence to those rocks or to later formations, the results of their wear and tear.

The Serra do Espinhaço throughout a great part of its length in Northern Minas Geraes and Central Bahia, is capped by a great sheet of Sandstone passing at times to conglomerate and which in its finest parts shows a strong resemblance to the Itacolumite of the Huronian formation, with which it is often confounded.

It lies in broad simple bends on the higher skirts of the Laurentian and Huronian strata.

As no fossils have as yet been found in it, its geological age is still doubtful; we may however with some certainty refer it to the Silurian period. Most probably we must reckon a part of the Sandstone layers, in the mountains that form the waterparting between S. Francisco and Tocantins and the Amazon and Paraguay basins, as belonging to the same period.

The Southern end of the Mantiqueira in the South of S. Paulo and in Paraná, besides some of the mountains on the edge of the Continental plateau, to the East of Serra do Espinhaço in Northern Bahia and Sergipe present us with another formation, consisting of sandstones, shales and limestones which is most likely of a younger date than the Huronian

and may perhaps be reckoned as belonging to the Silurian period.

The Table-lands of the Paraná-basin consists for the greater part of horizontal, or nearly horizontal, Sandstone beds and clay and limestone layers, some of which, if not all, belong to the Devonian and carboniferous ages.

Up to the present moment the exact limits and division of the two formations have not been exactly defined.

From an examination of its fossils we only know that the Devonian formation covers a great part of the Campos Geraes of Paraná.

The layers of the carboniferous strata cover a much greater extent, more to the North of the above-mentioned province, to the South and in the middle of S. Paulo, and also in the provinces of S. Catharina and Rio Grande do Sul.

Both formations will most likely be found in the Western part of Minas Geraes and in Matto Grasso.

In the three first-mentioned provinces seams of coal have been found and in Rio Grande do Sul some are even in full working. The strata of both these formations are traversed by numerous immense dykes, and intrusive masses of Diorite, which on decomposition afford a dark red soil known as terra roxa and famed for its fertility.

To the West of the Devonian and carboniferous strata we find that a very great part of the centre of the Paraná basin is taken up by Sandstone layers, together with numerous dykes and eruptive sheets of Amygdaloid Trapp 1), very similar in aspect and mineral contents to the triassic trass of Europe and North-America, to which for the moment we beg to refer our readers.

This rock covers in Santa Catharina the Eastern margin of the great plateau, and forms extensive ribs and high lands to the West of the provinces of Rio Grande do Sul, Paraná and S. Paulo.

Especially in the „amygdaloid trapp” fine amethysts and agates are often found, and exported in considerable quantities by the Southern provinces of Brazil and by the neighbouring Republic of Uruguay.

If this Trap-formation, as is generally supposed, belongs to

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1) A somewhat obsolete name for Diabase or Greenstone.

the Secondary age, it is most likely that a great part of the sandstone accompanying it, must belong to the same period.

The table-lands of the Amazon-plateau are, like those of the Paraná-basin, composed for the greater part of sandstones and shales on metamorphic rocks which are exposed in the rivervalleys.

Up to the present moment no fossils have been found there, so the geological age of these strata cannot as yet be determined.

D'Orbigny referred the beds in the neighbourhood of the mouth of the Guaporé to the carboniferous age, most probably on account of their resemblance to the fossiliferous carboniferous beds of Eastern Bolivia.

The Devonian as well as the carboniferous strata are found along the Amazonian margin of the plateau, and it is very probable that these layers stretch into the plateau itself — at least form part of those table-lands.

The evident resemblance between the Amazonian and the Paraná tablelands confirms this view.

On the other hand we may suppose that the secondary strata of the Parnahyba- and S. Francisco-basins extend beyond the waterparting of the Tocantins basin and form some portion of the Amazonian plateau.

Besides the above-mentioned formations two or perhaps three distinct formations have been recognised in its centre on both sides of the S. Francisco basin.

A. The first and oldest consists in hard and bluish Sandstone shales (in part altered to slates) and limestones, which, according to the indications of the few and unsatisfactory fossils it contains, may be reckoned to the Silurian or Devonian age.

These beds are disturbed presenting simple folds, which bringing the limestone several times to the surface has given rise to the idea, that this is the predominant rock of the series, a rather erroneous inference, for as far as thickness is concerned it is much less important than the others.

These beds form high ridges on either side of the valley and run parallel to the Huronian period, though to all appearances they do not attain the same elevation.

Similar and perhaps identical formations are found also in the valley of the Tocantins and in Central Bahia to the East of the Serra do Espinhaço.

Saltpetre caves are abundant in the limestone of this series which furnished to Lund a fine collection of the remains of Mammalia of the Quaternary period.

Argentiferous lead ore is found in different places.

B. The second formation consists of horizontal beds of Sandstone and shale, forming extensive plateaus in the upper part of the valley, to the West of Minas Geraes and Bahia.

These beds have not yet yielded any fossils to enable us to form an opinion as to the geological age to which they belong.

By most writers they are considered as belonging to the secondary, and by some, to the tertiary period, while others again place them in the Carboniferous or Devonian formations of the Paraná-basin.

C. In the lower part of the valley in the provinces of Pernambuco, Bahia and Alagoas, sandstone and shales of a somewhat different composition occur, which have afforded cretaceous fossils and are most probably connected with the formation of the Parnahyba-basin.

Though they seem to be of the same formation as those mentioned under letter B, there are good reasons to suppose that they actually differ from each other.

In the whole of this region the ground is saturated with salt and it is therefore probable that salt beds or briny layers will be encountered there.

The Parnahyba-basin consists almost exclusively of a large sandstone formation affording calcareous nodules, containing excellently preserved fossil fishes of the Cretaceous age.

The same formation is also met with in the province of Ceara, a little beyond the limits of the basin.

The tertiary formation is represented at different points of the plateau, such as in Upper Parahyba and the Upper Tiété valleys, in S. Paulo, and in different places between the mountains of Minas Geraes by small basins of a Fresh water formation in which lignites are often found.

Similar sedimentary deposits will most probably also be met with at other points in the river valleys; but, on the contrary, nowhere do we find on the great Continental plateau marine tertiary formations.

The Quaternary period is represented by fluvial and lacustrine deposits and by a crust covering the greater part of the plateau, as the result of a subaerial denudation.

True glacial drift is not positively known to occur within the limits of the Empire, though there are many sediments, whose nature has not yet been clearly determined, that have been referred by some geologists to glacial action.

From the little that is known of the Brazilian part of it, we may conclude that the whole of the Guyana plateau is nearly of the same geological structure.

The fundamental rocks belong to the Laurentian and Huronian formations, whereas the highest mountains are capped by a great sandstone sheet of an age that has not yet been determined, but which may perhaps be compared with that of the Serra do Espinhaço. On the Southern borders of the Amazonian plateau the table-lands rest on crystalline series; it has however not yet been clearly made out how far they extend over the plateau itself.

In the Amazonian depression the Upper Silurian, Devonian and Carboniferous formations, each with its characteristic fossils which are exceedingly rich and various especially in the two last formations, occur in the narrow portion of the valley below the mouth of the Rio Negro.

They consist of sandstones and shales with the addition of limestones in the case of the carboniferous series and occur in long but comparatively small streaks or belts on the banks of the river and extend up to the edge and perhaps even beyond the plateau.

Part of the Silurian shale is alum bearing.

Diorite dikes are very numerous and extensive here.

The beds of these three formations are more or less disturbed and present in general a gentle inclination from each side towards the centre of the valley.

However in the vicinity of the town of Monte Alegre they show a fold with a contrary inclination containing beds of

sandstone with petrified leaves, Dicotylidona (double-lobed plants) which are most probably cretaceous.

Above these older formations are found horizontal beds of soft splendidly coloured sandstones and clays forming flat tabular hills or "morros", about 300 meters high, which apparently may be reckoned to the Tertiary age.

In the Upper Amazonian region cretaceous beds with their characteristic reptilian fossils occur on the Purus river, while Tertiary deposits, in which Lignites and an abundance of fossil molusks (Foraminifera) are found especially of the brine or brackish-water types, cover a considerable area along the Amazon, on both sides of the Peruvian boundaries.

The vast lowlands and plains of the Amazonian depression are formed by deposits belonging to the later Tertiary and Quaternary period, and rising only a few inches above the level of the river, are to a great extent exposed to periodical floods and inundations.

The Paraguay-basin is taken up by the low branches of the different mountain-formations of the plateau, and by the Pampean formation, famous for its fossils of gigantic Mammalia.

This formation belongs to the Tertiary and Quaternary period though it is not improbable that it consists of still older formations on the margins of the basin.

The geological features of the Atlantic borderregion consist in the out-runners or divergent ridges of the table-land formations, the recent sandplains, marshes and lagoons, but especially in a series of cretaceous rocks which occur in isolated groups in the provinces Northward of Bahia, and in a Tertiary formation which appears along nearly the whole of the coast from Rio de Janeiro up to the estuary of the Amazon.

The islands in the vicinity and the coast along the Bay of „Todos los Santos” belong to the Cretaceous age and are formed of sandstones and shales of freshwater-origin, containing abundant remains of reptiles and fishes.

These strata are more or less disturbed and rise till they form ranges of hills from 30—40 meters above the level of the sea.

In the provinces of Sergipe, Alagôas, Pernambuco, Parahyba

and Pará, in which this formation has been recognised, the beds are of marine origin, and also slightly disturbed.

They lie at the same low level.

The most interesting member of the series is composed of a sandy limestone abounding in various fauna, chiefly Foraminifera.

It has not yet been determined how far these coast-stratifications are related and allied to the more elevated cretaceous beds of the plateau.

The Tertiary formation stretches forth in a horizontal direction forming table-lands which rise to a height of 100 meters.

The skirts of these table-lands present, seawards, long rows of cliffs of splendidly coloured sandstone and clay, which gives to the North coast of the Empire a very characteristic and particular appearance.

Volcanoes do not exist in Brazil and there are not even any traces to be found of extinct volcanoes in the interior.

The small mountainous island of Fernando de Noronha facing the coast of Pernambuco is the only known point of volcanic origin to be found in Brazilian territory.

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It is a source of gratification to me to acknowledge the assistance vouchsafed me by the American Professor Orville A. Derby, who is undoubtedly the greatest geologist and paleontologist in the service of the Brazils.

Professor Derby, one of the few surviving members of the well-known scientific Hartt-commission, which for years has explored the geological condition of Brazil, had the kindness, in my visits to the Mineralogical Museum at Rio, to afford me full information as to the geology of the Empire in general and especially that of the Coffee provinces.

Besides his valuable communications concerning the geological and physical condition of the Empire the learned Professor was kind enough to forward me last May the commencement of the great work over Brazil now being published in the Portuguese language by order of the Imperial Government.

It is thus owing to his kindness that I have been enabled

to give the foregoing particulars concerning the situation, boundaries and surface of the Empire.

The statistical account of the extent of the territory and of the population of each province of Brazil has been made up according to the new map, published in 1883 under Government auspices, but which is not to be had of the trade, and from data given in „Le Brésil à l'Exposition Internationale d'Amsterdam, 1883.”

The same statistical accounts of Venezuela have been borrowed from the „Annuaire Statistique des Etats Unis de Venezuela, publié par ordre du Président de la République, l'illustre Américain Guzman Blanco. Caracas, 1884”; — for which work I am obliged to the Consul at Caracas; while those concerning the other countries have been taken from Dr. A. Petermann's „Mittheilungen”, Vol. XV, 1882. —

The geological maps given behind have been made according to the directions of Prof. Derby; that of the Coffee-zone has been made expressly for this report, at my own request.

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## CHAPTER II.

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### CLIMATE.

Central Brazil i. e. the real Coffee-zone which comprises the three principal coffee-producing provinces of the Empire is situated between  $21^{\circ}$  and  $24^{\circ}$  S. Lat.; thus at the same latitude as the Central part of Australia, namely: Queensland, de Witt's and Concordland.

This Coffee-zone lies therefore  $15^{\circ}$  South of the Isle of Java which stretches between  $6^{\circ}$  and  $9^{\circ}$  South Lat. Considering that the division of plants over the surface of the globe is chiefly regulated by the climate, in connection with the local humidity and rainfall, itself depending upon the seasons it appears to me not superfluous to give a short general view of the climate of Brazil (especially of the above mentioned Coffee-zone) compared with that of Java.

It may generally be said that the Coffee culture can be carried on, with more or less chance of success, in the broad belt of land situated between the Tropics.

As regards the distance from the equator which exercises a preponderating influence on the temperature and thence on the local fauna and flora, the above belt of land may be divided into two different climates, an Equatorial and a Tropical.

The former prevails in the countries that lie from 4 to 5 degrees above and below the Equator, while the latter actually extends 3 or 4 degrees beyond both the Tropics, i. e. to the boundary line of the temperate warm zone.

Up to the present moment not much coffee is cultivated in the Equatorial zone with a view to exportation. The principal exporting countries of this zone are to be found in our Dutch-Indian possessions, i. e. Sumatra and Celebes.

Of the Coffee districts lying in the Tropical zone the most

important are situated South of the Equator, such as Java, Bourbon, the African possessions of Portugal and Brazil, and to the North of it lie: the Philippines, Ceylon, India beyond the Ganges, Arabia, Liberia, Venezuela, Colombia, the West Indian Islands, Central-America and Mexico.

Let us now first consider the mean temperature.

In his treatise concerning the „Théorie mathématique des Oscillations du Baromètre”, Mr. Liais, Director of the observatory at Rio de Janeiro, has concluded from a series of weather-observations made at different points of the globe that the average or mean temperature above the sea level of a certain parallel can be fairly indicated (in degrees of the centigrade thermometer) by the formula:  $56^{\circ}7 \cos.l-28^{\circ}8$  in wick  $l$  denotes the latitude.

According to this formula the mean temperature of the Equatorial line is  $27^{\circ}9$ , that of the Tropics  $23^{\circ}2$ , while the mean of these two numbers,  $25^{\circ}55$  indicates the average temperature  $16^{\circ}33$ , latitude.

The actual mean temperature of Rio de Janeiro a town situated near the Tropic of the Capricorn is  $23^{\circ}1$ , a cipher that strikingly agrees with the one obtained from the said formula.

From his different and continued observations Liais comes to the following conclusions 1).

On the coast of Brazil to the south of Pernambuco, a temperature prevails which answers pretty closely to the latitude in which it lies, as the Ocean currents exercise no greater influence on it than that which they generally do on the division of warmth on the surface of the earth.

It is a different case on the North coast of Brazil, between Cape St. Roque and the mouth of the Amazone.

According to the local observations we may reckon the mean temperature of:

S. Luiz de Maranhão at:	$26^{\circ}8$
Pará. . . . .	$27^{\circ}$
Cayenne . . . . .	$26^{\circ}8$

According to the above-mentioned formula the mean tem-

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1) See: Climats, Géologie, Faune et Géographie botanique du Brésil, par Emmanuel Liais, directeur de l'Observatoire impérial de Rio de Janeiro.

perature of those respective places is found to be  $27^{\circ}8$ ,  $27^{\circ}9$  and  $27^{\circ}7$ ; differences therefore of  $1^{\circ}$ ,  $0^{\circ}9$  and  $0^{\circ}9$ .

These differences grow smaller as we proceed more to the north, up to the Gulf of Mexico where the formula indicates ciphers beneath the actual temperature.

This phenomenon is easily explained and is connected with the formation of the great Gulf Stream.

The comparatively cold Equatorial Stream, in its course from the Gulf of Guinea to the West, touches the coast of Brazil, northward of Cape St. Roque and follows it from this point to the North.

In these parts the Ocean lies quite open to the north and the supply of cold water goes on deep below the surface, from that direction.

The force of the stream in this part of its course, as far as Guyana continues not only undiminished, but is even more or less increased, — while its comparatively low temperature is kept up by the currents of fresh water from the north.

This fact explains the cooling of the otherwise too hot temperature on the said coast.

But off the coast of Guyana the trending of the coast lessens the influence of the circumstances that cause and give rise to the streams of cold water.

The temperature of the stream increases gradually from this point, while in consequence thereof its cooling influence on the temperature of the coast gradually lessens.

In its Northern motion the stream bends near Trinidad more westward to throw itself at length, after acquiring greater speed and a higher temperature in the narrow Caribbean Sea, at the expense of its width, with tremendous force into the Gulf of Mexico, between Yucatan and Cuba, whence it again reappears between Cuba and Florida as the true Gulf Stream.

Just as the coast of Brazil from Pernambuco southward remains quite free from the action of the relatively cold Equatorial Stream — which continues its onward progress in the direction of the northern coast of the Empire, — it also loses a great part of the influence of the warm waters from the parts south of the Equator; as those waters in their

sweep to the south (the Brazilian current) take an Easterly direction which is clearly discernible.

The nether current however in its course from the South to the North takes a more westerly motion along the coast.

Both these circumstances are the causes of the Brazilian streams exercising hardly any influence on the climate of the coasts along which they run.

This is also proved by the agreement between the actual mean temperatures on this coast and the ciphers obtained according to the formula of Liais, which, being deduced from a series of observations in both hemispheres only indicate the normal temperature of each latitude. At the Cape of Good Hope, however the upper stream of warm water from the warm zone, which flows to the West, prevents the rise of the lower colder strata from the Pole. There we find the temperature higher than it should be according to the parallel; just as, owing to the action of the Gulf stream, is the case with the temperature on the coasts of Europe.

But the formula that we have been mentioning indicates only the temperature of the coasts at the sea level, whereas above the sea level the warmth lessens with the height.

According the observations of Liais it may generally be reckoned that in Brazil the temperature falls  $1^{\circ}$  at every 203 meters' rise, except in the Northern part of the Empire where  $1^{\circ}$  more must be reckoned on account of the cooling influence that the Gulf Stream exercises there.

This last abatement however holds good only of the coast districts and may gradually decrease as we leave the coast, till it ceases altogether at  $1\frac{1}{2}$  or  $2^{\circ}$  in the interior. For by observation made in Europe it is well known that the influence of the sea on climate decreases as we proceed further into the interior. The sea climate that prevails in the provinces of Rio de Janeiro, Espirito Santo and in a small part of the province of Minas Geraes, ceases completely in the province of Soã Paulo. In the North Westerly part therefore, where coffee is cultivated, the continental climate predominates.

The influence of the climate depends also much on the changeableness and fluctuations of the wind-temperatures, for the maxima readings hardly differ in the Tropics and at the Equator. They appear on the contrary to rise towards the

Tropics and this is susceptible of easy explanation. In fact the sun reaches the zenith for all the points of the Torrid zone; but at the Equator it only keeps it in for a short time and soon passes over to the other side.

In the Tropics on the contrary the sun remains for a considerable time near the Zenith and at the same time more than 12 hours above the horizon.

In summer therefore it warms in the Tropics as much as straight above the Equator; but it warms during a much longer time, and besides the reduction of temperature during the night continues for a much shorter time. And this takes place during some days.

The consequence of the longer duration of the days is even of such a nature that the greatest heat on the earth is experienced at a certain distance from the Tropics, whenever the Polar winds do not prevent the heating process. The tremendous heat of Syria is well known and is much higher than that of Java and Rio de Janeiro. At the last-named place the mean temperature in the three hottest months is  $26^{\circ}1$ , and falls in the three wintermonths to  $20^{\circ}3$ .

Thus the difference between the average summer-and winter-temperature amounts there to  $5^{\circ}8$ . In the province of S. Paulo however the difference is greater, the winter temperature there being much lower than in the provinces of Rio de Janeiro and Espirito Santo.

The great and sudden decrease in the temperature of the atmospheric layers take place more frequently in the highlands of the interior than on the coasts where a maritime climate prevails. Thence it is that at the Eastern side of the coast-mountains hail is looked upon as a rare phenomenon; whereas tempestuous hailstorms annually occur in different parts of the province of S. Paulo as well as in the Parahyba valley.

In Rio de Janeiro, the capital, no hail has been seen for years. The most violent hailstorm is said to have fallen there on the 10<sup>th</sup> of October 1864 during a furious hurricane, when stones of the size of a fist are reported to have fallen. <sup>1)</sup>

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1) See Liais, l. 1.

In judging of the climate it is necessary to consider not merely the temperature, but also the rains, whose influence on the general appearance of vegetation in the Equatorial and Tropical regions is most prominent and powerful.

The annual rainfall on the coast of Brazil may, according to Liais, be reckoned at about 2 meters, and on some parts of the coast it is considerably higher.

In the provinces of Rio de Janeiro and Espirito Santo it rains at all times of the year, but, sectionally, more in summer than in winter. The driest months there are the winter months, June, July and August. In the Interior these three months are almost invariably dry, so that the seasons there may be actually divided into a rainy season from October—March and a dry season from April—September, as the following statistics will show.

In the rain monsoons the fall of rain is of much longer duration there than near the coast.

It is very peculiar and worthy of notice that on the coast of Pernambuco the months of June, July and August are especially those in which the rainfall is greatest.

This deviation from the general rule is remarkable and must be ascribed to the peculiar features and condition of the Continent at that latitude.

In fact the land there rises but slowly and gradually inland from the coast. The tremendous heat, to which the Tropical plateaus of the interior are exposed, causes violent atmospheric currents from the lower East to the higher South West.

The rising wind-current cannot however remain above the low country near the coast of Pernambuco, on account of its being attracted by the high lands where it has to repair the disturbed equilibrium of the air strata. It is only on arriving there, that the current can discharge the water with which it is saturated.

Thus it is that we have rain and wind in the interior and a dry climate on the North East coast (Maranhão, Ceará, Rio Grande, Parahyba, Pernambuco, Alagoas, Sergipe).

In the South, on the contrary, f. i. in the provinces of Rio de Janeiro and S. Paulo, where the Serras do Mar and da Mantiqueira are situated near the coasts, the cold stream gathers above those hills and mountain ranges, so that

the rain falls above the country through which they run.

In winter the contrary takes place; then the Interior plateaus are colder than the ocean, so that the aerial current takes in that season one general Eastern direction. In that motion it however encounters the South West Trade wind; both atmospheric currents then form a bent or curved resultant stream from the South to the North East.

It is this aircurrent that brings the winter rains to the coast of Pernambuco. In Ceará, more to the North the rainy months are from January—June, the dry season lasting from July—December.

From what we have stated, it is clear that the Trade winds, the Coast winds and the Mountain winds are the principal atmospheric currents that influence the climate of Brazil. The Mountain winds often give rise to local storms or *tufões* which are productive of great injury to the coffee-culture. Yet nowhere have precautionary or preventive measures been taken.

Besides these winds we find also the *pampero* which blows from the plains of the Argentine Republic, the influence of which is still strongly felt in the province of S. Paulo which, owing to its general inclination to the West, is of course most exposed to it.

It is a cold South West wind that often, during the dry season, is accompanied by long continuous rains and which is perhaps the cause of the frost or *giada* so much dreaded in S. Paulo.

On the coasts of Brazil the tension of the aqueous vapour contained in the air is very considerable.

The deposit of dew also is very great even in the dry season, especially on the banks of the rivers.

Mists and fogs rise on the great rivers in the interior, especially in the morning, and in winter often along the coast, frequently in the valleys, inlets and bays such as those of Rio de Janeiro.

These mists keep up the growth of vegetation along the river-sides during the dry season; the trees in those parts retain their foliage, whereas many trees far from the banks frequently lose their leaves owing to the drought and unnatural dryness of the atmosphere.

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RAINFALL

STATISTICS.

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MONTHLY RAINFALL (in millimeters) at MORRO VELHO,

MONTHS.	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865
January . . . . .	566	403	301	825	456	143	361	345	175	215	147
February. . . . .	215	282	94	268	76	130	273	142	74	159	417
March. . . . .	234	215	124	199	309	54	274	221	259	275	261
Jan.—March	<b>1015</b>	<b>900</b>	<b>519</b>	<b>1292</b>	<b>841</b>	<b>327</b>	<b>908</b>	<b>708</b>	<b>508</b>	<b>649</b>	<b>825</b>
April . . . . .	74	18	87	68	42	14	17	39	61	84	29
May . . . . .	5	25	49	17	24	90	12	39	40	29	14
June . . . . .	0	4	46	0	113	17	18	4	0	39	0
April—June	<b>79</b>	<b>47</b>	<b>182</b>	<b>85</b>	<b>179</b>	<b>121</b>	<b>47</b>	<b>82</b>	<b>101</b>	<b>152</b>	<b>43</b>
July . . . . .	0	9	3	40	0	0	64	43	11	9	5
August. . . . .	19	8	20	88	10	0	27	0	0	30	0
September . . . . .	8	11	141	40	33	99	84	3	65	26	127
July—Sept.	<b>27</b>	<b>28</b>	<b>164</b>	<b>168</b>	<b>43</b>	<b>99</b>	<b>175</b>	<b>46</b>	<b>76</b>	<b>65</b>	<b>132</b>
October . . . . .	142	168	70	183	145	71	151	67	114	129	30
November . . . . .	236	289	213	203	208	394	195	124	284	202	106
December . . . . .	339	762	427	289	331	429	555	480	227	376	518
Oct.—Dec.	<b>717</b>	<b>1219</b>	<b>710</b>	<b>675</b>	<b>684</b>	<b>894</b>	<b>901</b>	<b>671</b>	<b>625</b>	<b>707</b>	<b>654</b>
Total for the Summer	1732	2119	1129	1967	1525	1221	1809	1379	1133	1356	1479
» » » Winter	406	346	75	253	221	220	222	128	177	217	175
Total for the year . .	<b>1838</b>	<b>2194</b>	<b>1475</b>	<b>2220</b>	<b>1746</b>	<b>1441</b>	<b>2031</b>	<b>1507</b>	<b>1310</b>	<b>1573</b>	<b>1654</b>

Winter Months.

pro  
186  
14  
19  
16  
50  
9  
2  
1  
12  
2  
1  
5  
9  
26  
42  
77  
128  
17  
14

ELHO,

province of Minas Geraes.

Height above the sea 695 meters.

	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	Ge- middeld.
1865															
147	147	397	380	265	132	303	126	99	142	500	134	316	371	222	299
417	197	192	184	147	204	147	523	59	183	208	339	687	75	225	221
261	163	146	34	111	214	301	178	121	141	308	227	21	177	232	192
825	<b>507</b>	<b>735</b>	<b>598</b>	<b>523</b>	<b>550</b>	<b>751</b>	<b>827</b>	<b>279</b>	<b>466</b>	<b>1016</b>	<b>700</b>	<b>1024</b>	<b>623</b>	<b>679</b>	712
29	94	17	31	65	28	52	70	24	70	52	75	64	40	92	52
14	21	57	100	11	21	100	35	14	95	2	40	16	18	25	36
0	13	0	1	0	2	18	4	6	34	10	2	0	5	37	15
43	<b>128</b>	<b>74</b>	<b>132</b>	<b>76</b>	<b>51</b>	<b>170</b>	<b>109</b>	<b>44</b>	<b>199</b>	<b>64</b>	<b>117</b>	<b>80</b>	<b>63</b>	<b>154</b>	103
5	5	25	0	0	1	1	20	2	10	1	0	38	0	0	11
0	27	0	13	0	17	4	0	1	2	1	41	20	0	4	13
127	19	58	38	2	136	12	62	75	1	88	85	56	8	39	53
132	<b>51</b>	<b>83</b>	<b>51</b>	<b>2</b>	<b>154</b>	<b>17</b>	<b>82</b>	<b>78</b>	<b>13</b>	<b>90</b>	<b>126</b>	<b>114</b>	<b>8</b>	<b>43</b>	77
30	91	74	158	210	63	132	88	129	82	243	90	140	122	135	121
406	265	250	318	311	345	261	224	137	321	140	217	133	330	152	284
518	420	362	366	452	468	194	394	487	377	137	468	175	407	305	390
654	<b>776</b>	<b>686</b>	<b>842</b>	<b>973</b>	<b>876</b>	<b>587</b>	<b>706</b>	<b>753</b>	<b>780</b>	<b>520</b>	<b>775</b>	<b>448</b>	<b>859</b>	<b>592</b>	745
1479	1283	1421	1440	1496	1426	1338	1533	1032	1246	1536	1475	1472	1482	1301	1457
175	179	157	183	78	205	187	191	122	212	154	243	194	71	197	180
1654	<b>1462</b>	<b>1578</b>	<b>1623</b>	<b>1574</b>	<b>1631</b>	<b>1525</b>	<b>1724</b>	<b>1154</b>	<b>1458</b>	<b>1690</b>	<b>1708</b>	<b>1666</b>	<b>1553</b>	<b>1498</b>	1637

MONTHLY RAINFALL in the province of S. PAULO.

MONTHS.	SANTOS.	CRUZEIRO, height above sea-level 512 metr.		
	1880. inches.	1881. inches.	1882. inches.	1883. inches.
January . . .	11,18	?	15,79	12,83
February . . .	8,22	3,71	16,77	14,71
March . . .	10,39	4,90	6,59	8,87
April . . .	3,04	1,59	2,79	5,20
May . . .	8,86	0,96	3,77	0,72
June . . .	4,85	0,00	0,42	1,36
July . . .	13,98	0,44	0,48	0,28
August . . .	4,57	0,48	0,00	1,41
September . . .	12,20	?	3,70	2,87
October . . .	6,88	?	3,82	3,60
November . . .	10,00	?	5,53	8,29
December . . .	6,24	?	4,24	13,26
Total . . .	100,41		63,90	73,40

At PARANACIACABA (Alto da Serra do Mar). Height above sea-level 799 metter.

MONTHS.	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883
	inches	inches									
January . . .	14,0	14,7	18,1	6,7	15,4	12,4	19,5	31,4	20,2		11,6
February . . .	7,3	17,5	19,1	15,8	20,1	12,1	14,1	28,0	22,5		12,6
March . . .	27,8	6,9	17,0	14,6	10,4	17,2	10,2	16,0	27,6		15,8
April . . .	8,4	31,5	10,5	4,5	13,0	12,6	7,1	13,3	19,7		9,5
May . . .	7,2	8,3	5,2	6,7	10,5	12,0	4,3	7,4	4,2		13,3
June . . .	6,7	10,8	7,9	7,2	7,2	9,6	6,4	6,6	14,7	Wanting.	10,2
July . . .	6,8	11,0	8,6	0,8	5,3	6,9	2,5	2,7	8,9		17,9
August . . .	9,0	4,9	3,1	8,8	13,9	12,0	5,4	3,1	9,7		11,2
September . . .	9,4	9,7	8,9	5,3	7,0	10,8	5,4	11,7	9,4		15,2
October . . .	10,3	13,8	9,3	17,8	13,7	9,7	3,7	9,6	4,8		11,8
November . . .	10,5	3,7	8,1	14,7	14,1	13,9	2,9	13,4	12,8		13,8
December . . .	14,0	19,0	28,1	18,1	11,0	16,1	11,8	17,3	14,4		4,9
Total . . .	131,4	151,8	143,9	121,0	141,6	145,3	93,3	160,5	168,9		147,8

At SÃO PAULO.

S.Lat. 23° 32' 58'.

Height above sea-level 728 meters

MONTHS.	1879. inches.	1880. inches.	1881. inches.	1882. inches.	1883. inches.
January . . . . .	47,13	45,27	41,41	46,59	2,21
February . . . . .	8,27	12,87	5,38	9,90	2,96
March . . . . .	3,69	6,86	7,94	2,67	3,46
April . . . . .	3,46	7,37	1,79	4,27	1,77
May . . . . .	0,97	0,94	1,73	4,39	3,43
June . . . . .	1,39	1,03	5,47	3,87	1,10
July . . . . .	0,69	1,62	1,65	2,76	5,04
August . . . . .	0,13	1,19	1,36	0,19	3,00
September . . . . .	1,16	8,81	1,03	2,86	3,19
October . . . . .	0,99	3,82	0,87	4,86	2,67
November . . . . .	3,18	5,14	5,11	2,35	2,76
December . . . . .	9,62	7,34	8,20	5,69	3,90
Total . . . . .	50,68	72,26	51,94	60,40	35,49

At UBERABA.

S.Lat. 19 44 30".

Height above sea-level 750 metres.

MONTHS.	1880. in millimeter.	1881. in millimeter.	1882. in millimeter.	1883.
January . . . . .	360	285	280	Wanting
February . . . . .	333	226	405	
March . . . . .	109	138	180	
April . . . . .	181	27	120	
May . . . . .	19	45	60	
June . . . . .	2	3	70	
July . . . . .	41	4	26	
August . . . . .	2	6	80	
September . . . . .	70	12	97	
October . . . . .	190	102	120	
November . . . . .	274	142	100	
December . . . . .	219	290	125	
Total . . . . .	1,770	1,250	1,663	

## CHAPTER III.

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### HISTORICAL AND POLITICAL VIEW OF BRAZIL.

In order to form a correct opinion of the present political and economical condition of the great American Empire and to venture on a not unfounded prediction as to its future, we shall endeavour to trace its rise and gradual development.

We do not purpose giving a full sketch of the history of this Empire, a short historical account since the Liberation-War and the Declaration of Independence will perhaps suffice.

Of all the Portuguese possessions, the Brazils alone may be said to have enriched and assisted the mother-country, even at so early a date as the 17<sup>th</sup> century. About the second half of that period, the revenues increased to such an extent that the Portuguese Government (with admirable frankness!) were perfectly justified in calling these magnificent provinces its milk-cow (*sua vaca de leite*).

Thus in 1660 during the war with Spain, when the political condition of Portugal was such that the court had to prepare for flight from Lisbon it was to the rich Brazils that all eyes were directed. Happily the fortune of war turned in favour of poor Portugal, so that the court relinquished its plan of quitting the country, notwithstanding all the necessary preparations had been made by the Portuguese statesman Francisco de Brito Freire for the reception of the royal family at Pernambuco.

The same plan was again brought forward during the Spanish Succession-War 1740, but was likewise abandoned on account of French policy veering in favour of Portugal.

Only in this century and not before did the event occur that has exercised such a tremendous influence on the fate of Brazil. The first cause is well known. Napoleon considering

his power over Northern Europe firmly established by the peace of Tilsit, fixed his eagle-eye on the Iberian Peninsula and determined to have the supremacy of France acknowledged there too. With the support of the court of Madrid he was enabled to collect a considerable force near Bayonne and to place John VI, (who as Prince Regent had seized the reins of Government for his mother Mary I), before the alternative of either siding with him against England or of submitting to the chances of war.

The Prince Regent tried to gain time hoping that the turn of events might prove favorable to Portugal. He feigned to yield to Napoleon's demands. It was however his intention to send his eldest son Dom Pedro, a child of nine years, to the Brazils and himself to stay and see what turn affairs would take in Europe. But before the preparations for the departure of the young prince were concluded news arrived at Lisbon, that France had concluded a treaty at Fontainebleau in which, among other things, it had been stipulated, that the Portuguese colonies should be divided between the two contracting powers.

Meanwhile England insisted upon a speedy decision. The English envoy, Lord Strangford, demanded that the whole of the Portuguese fleet should be delivered and surrendered into the hands of England or that the court should leave for Brazil escorted by the English squadron which, commanded by Sir Sydney Smith was blockading the mouth of the Tagus. There was no choice, for the French army under Junot was encamped in the immediate vicinity of Lisbon and might be expected to appear within a very short time before the gates of the town. Partly under convulsion and partly under the conviction that he should not be able to save his country in another manner, he embarked after issuing a proclamation on the 29th November 1807 in which he declared his intention of absenting himself from his Lusitanian Kingdom until peace and order should be restored in Europe.

The united Portuguese and English fleets were still in sight when Junot marched into Lisbon and took possession of the town in the name of his potent sovereign, the lord and master of France.

After a voyage that lasted more than three months John VI with his family and retinue entered the Bay of Rio de Janeiro,

where he was joyfully and enthusiastically welcomed by the townspeople.

From this epoch dates a change, the like of which is not to be met with in the annals of any other colony. From a state of absolute dependence upon the mother-country, this colony was now raised to a state of semi-independence. By the settlement of a provisional government, on which the mother-country in its turn became dependent and to which foreign ambassadors were accredited, by opening the ports to foreign trade and erecting schools and other educational establishments, Brazil acquired a real ascendancy over the mother-country, which afterwards led it to insist on greater independence and liberty. At Rio de Janeiro an Art Academy had been instituted.

Acting under this pressure, John VI by his decree of the 15<sup>th</sup> of November 1815 raised the former colony to the rank of a kingdom and declared it an integral part of the United Kingdom of Portugal, Algarvia and Brazil.

But though the Government was kind and gracious to the new kingdom, it could not be led to grant all the demands of the patriotic party. The Brazilians were as yet for the greater part still unfitted to take a share in the government of the country. Nor must we forget that the Portuguese statesmen who had left their country with their prince had still to be invested with certain dignities.

This excited the envy and jealousy of the patriots who seeing their country liberated hoped to gain a fair share in the government. „Brazil for the Brazilians,, soon became their device and complete separation from the mother-country the wish of all parties.

But they might have waited a long time before their wishes were fulfilled, if Portugal herself had not caused and hastened the complete independence of the Brazils.

In Portugal as well as in other parts of Europe the revolutionary movement was in full vigour; those ideas of liberty found an echo and sympathy in the Brazils, where the people in general leant towards democracy and round which the Spanish-American Republics were seen to rise and gradually assume an enduring form. It was chiefly the Northern provinces that aspired to a greater degree of independence owing

to their jealousy of the little province of Rio, where the seat of government was established.

In March 1817 the banner of rebellion was unfurled at Pernambuco. This rising would nearly have succeeded, if the slaves to whom liberty was offered had participated in the rebellion. The greater part, however, of the population of the capital of that name were against this revolutionary movement, as was also the case with the inhabitants of the more Southern provinces of the Empire. By the help of the patriots of the South and with the assistance of the English fleet, which blockaded the port of Pernambuco, the Government at length succeeded in quelling the rebellion.

It was not before the year 1821 that the revolutionary party in the Brazils began to show its power, in consequence of similar movements in the mother-country. In Pará as well as in Bahia, where the army had sided with the rebels, constitutional liberty was demanded. John VI clearly saw that he should at last have to yield, as the movement was ever gaining ground, not only in Portugal itself, but also in his more immediate circle. By decree of 18<sup>th</sup> of February, a committee was appointed of about 20 members, most of whom were Brazilians, charged with the preparing of a constitution similar to that which was projected for Portugal itself. This however did not seem to satisfy the revolutionary party. They wished for an immediate decision i. e., that the constitution which was to be settled in Lisbon should be adopted „by anticipation”. In order the more surely to attain their purpose, they succeeded in prevailing upon the army to make a „Pronunciamento”; which was done on 26 February following.

The troops under general Francisco Joaquim Caretti, assembled on the present „Praça da Constituição” and demanded from the Crown Prince who had meanwhile arrived on the scene to inquire into the causes of this military movement, that he should give his sanction to the Portuguese constitution „exactamente como as Côrtes a viessem a decretar”, thus demanding what was as yet unknown, from mere distrust of the Government, which had promised them the same constitution but modified in according with the requirements of the Brazilian state.

The Crown Prince reported this to the King who, for the

sake of order and tranquility, declared that he would accept the Lisbon constitution for the Brazils and the other possessions of his Crown.

But even his declaration was not deemed satisfactory. They went even further and required that the King should swear to the constitution then making, and form a ministry.

Though averse to such radical reforms, John VI reluctantly consented hoping by this means he should be able to check the military rebellion without bloodshed.

The revolutionary party in Rio as well as in the adjoining provinces now flattered themselves that they had gained what they wanted, but they were soon undeceived, and found that the Portuguese constitution would by no means assure them those guarantees of liberty and independence that they had hoped to find in it.

It soon became obvious that the revolutionary party in the mother-country had not the least idea of granting to the Brazils the same rights and privileges they had claimed for themselves: in short the liberals in Portugal by no means wished to make common cause with their brethren in Brazil. Their respective interests clashed and were too divergent for that. It was already an eye-sore and wormwood to them that their king continued to reside in one of their Colonies, that it was the wealthy Brazils and not Portugal that was looked upon as the most important section of the United Kingdom, that the colony had precedence of the mother-country. Besides the decline in the Portuguese trade, and the rise and extension of that of the Brazils, gave great offence and excited the jealousy of all parties at home.

So it was not to be wondered at that the Cortes in their manifesto of 26 January strongly insisted on the return of the King and his court. Though John VI would have greatly preferred to stay in the Brazils and would fain have sent the Prince Royal in his stead, he felt that it was to the interest of his dynasty that he should yield, especially now that the Cortes were backed by England whose policy saw in that change of government the means of extending its influence and commerce.

By a decree of 7 March 1821, the King declared his resolve to return to the old capital of his united kingdom, as such

a course was incumbent upon him; but that he would leave his eldest son as Prince Regent.

That the departure of the Court was a subject of general regret with all parties is evident, when we consider that the highest state-dignitaries, the principal families and the greatest capitalists hurried on their preparations to follow the example set by his Majesty. This was considered but a natural, though most unpleasant fact, especially as a monetary crisis was apprehended as a consequence of the very large capitals withdrawn from the different banks of the capital. Moreover people dreaded, and the fear was but too well founded, that with the retirement of the Court, the relation between the two divisions of the kingdom might undergo a change and that the result would be a return to the former state of dependence on the mother-country.

In a meeting held 21 April 1821 at the Exchange a resolution was adopted, to send a deputation to the King, that he might graciously be pleased to grant to Brazil the Spanish constitution of 1812, as it was feared that that of Portugal, about to be proclaimed, might prove obnoxious to the people and injurious to the best interests of the country.

To this the King in his quality of Portuguese Prince could and would not consent. He however foresaw that the Revolutionary party were bent upon opposition and thus found himself constrained to order the Portuguese troops (in this matter wholly on the side of the Government) to surround the building and disperse the meeting. This dispersion was not effected without bloodshed and excited the patriots to increased aversion, and even hatred of the Portuguese. This energetic course of action on the part of the King had its effect, as the opposition may be said to have vanished.

By degree of 22 April the Crown Prince Dom Pedro was appointed Regent of Brazil and invested with full sovereign powers. A new ministry with the Count dos Arcos as president was appointed and 26 April His Majesty left the Bay of Rio.

It was only after the King's departure that the Brazilian National party grew conscious of the wide separation and divergence of their own interests and those of the Revolutionary party at home in Portugal.

This gulf was now clear and evident to the meanest understanding.

It soon became evident that Portugal was aiming at the destruction of the existing connection between the Brazilian provinces, the more easily to reduce the old „Capitanias” to their former state of dependence. This policy found favour with the provinces of Pernambuco and Bahia, then still the most influential parts of the Empire. People there sided with Portugal, not so much because they thought the state of affairs would improve, as prompted by jealousy of Rio de Janeiro which had hitherto enjoyed a marked precedence and had exercised a dominating influence in the state.

In the provinces of Rio de Janeiro, Minas Geraes and São Paulo however, a strong Anti-Portuguese feeling prevailed. In the last-mentioned district, it was José Bonifácio de Andrade e Silva, one of Brazil's greatest statesmen, who came forward as the leader of the Opposition, which grew in strength and power proportionately as the Cortes by their resolutions betrayed the drift and purpose of the Portuguese party.

Dec. 10. 1821 the Cortes' Resolution of the 29 Sept. previous was published and people began to conceive why Portugal demanded 1<sup>o</sup> that the Prince Regent should resign and return to Lisbon via England, and 2<sup>o</sup> that instead of the Central Administration that had existed ever since 1808, fourteen Capitanias should be re-instituted whose Governors should be appointed by the Portuguese Government; it was then that the indignation of the people knew no bounds.

Public and private meetings were held in which resolutions were adopted, urging upon the Prince the advisability of his ignoring the said demands and remaining; a course most likely to conduce to the real interests of the land. The Prince Regent received addresses to that effect from all sides and from the different provinces. Under the general pressure brought to bear upon him, he resolved to comply with the expressed wish of the people.

By this his first act of opposition to the resolution of the mighty Cortes at Lisbon he saved Brazil from the anarchy which would surely have been her fate had he left the country in accordance with their wishes. The opposition he still encountered in the ministry (in which some Portuguese also

had seats) was baffled and broken by the appointment of a new cabinet with José Bonifácio as President.

Meanwhile instructions had been sent to all the Portuguese Consular agents abroad (by order of the Cortes, who foresaw and feared the Revolutionary movement in Brazil) to stop and prevent as far as possible the export of arms and ammunition to Brazil.

As soon as this became known at Rio, Dom Pedro, in compliance with the popular wish, was invested with the dignity of „Defensor Perpetuo do Brazil” and by a decree of June 2 summoned an „Assembléa Geral Constituyente e Legislativa” to meet at Rio.

With the exception of Bahia which (against its wish) was still held by the Portuguese, all the provinces had sided with Dom Pedro.

The opposition against the arbitrary measures of the Cortes grew sharper and stronger and at length increased to such an extent that the Prince Regent found himself constrained to notify to the Cortes that in his capacity of Regent and Defender of the Brazils, he must cease all official intercourse with the mother-country and take the necessary measures for the defense of the country entrusted to him by his father, so that he could no longer allow the presence of Portuguese troops in Rio.

In a manifesto of the same date (1 Aug. 1822) he informed the people that he would defend their rights against the Cortes. At the same time the Foreign Powers were acquainted with the state of affairs in Brazil. But though till now Dom Pedro had contrived to avoid even the appearance of having sought and promoted the political independence of Brazil for his own ends, yet by the course of events he was soon forced to take up an altogether independent position even as regarded his own father, the King of Portugal.

On his journey through the province of São Paulo, where his presence was required, he received Sept. 7. 1822 near the village of Ipiranga, urgent despatches from Lisbon which called forth the exclamation: „Independencia ou Morte”, a cry which was enthusiastically caught up and repeated by the assembled multitude, and from that time has remained the device of Brazil. On his return to Rio, the Government de-

clared in its resolution of Sept. 21, that the nation had chosen and elected the Prince Regent, Constitutional Emperor of Brazil.

A month after, on his birthday, Dom Pedro accepted the title in the „Campo da Acclamação” in presence of the assembled people and of the troops; and (Dec. 1. 1822) was solemnly crowned.” Imperador e Defensor Perpetuo do Brazil.” In the commencement Dom Pedro promised to be successful in his interior administration and policy.

With the assistance of the English, he soon succeeded in driving the Portuguese from the Northern provinces. It was also owing to English influence that Portugal was at length prevailed upon to acknowledge the independence of the new empire by the ratification on the 15 Nov. 1825 of the treaty of 29 Aug.

After the first excitement had subsided the country relapsed into its former dissensions and discord. All their wishes had been satisfied and all their hopes realised, but the ease with which they had gained their purpose caused them to long and yearn for more. At first the Emperor, with the help of the Andradas — two of whom (José Bonifacio and Martim Francisco, respectively ministers of the Interior and of Finances) and the third, Antonio Carlos as a deputy, supported the Conservative cause, — succeeded in governing the country according to constitutional and monarchical principles.

The Democratic party, however, allowed the administration no peace, especially when the Andradas, prompted by insane ambition, deserted the Emperor and his cause, and ranged themselves under the banners of Democracy; considering, as they did, that more brilliant prospects awaited them than they could possibly hope for on the Conservative side.

The contest between the two parties ended in the exile of the brothers, but the opposition did not yet cease.

March 25. 1824 the Constitution was solemnly proclaimed. Not everywhere however could it be said to meet with unqualified approval. The Republican party had evidently cherished greater expectations and eagerly fastened upon the opportunity of making fresh demands. In the Northern provinces Pernambuco, Parahyba, Ceará and Rio Grande do Norte internal troubles were the order of the day, which would cer-

tainly have assumed greater proportions, had not the Emperor (through the mediation of the English Lord Cochrane, the gallant naval hero), succeeded in stifling those revolutionary movements. In several other provinces also there reigned a certain excitement, public opinion was moved and though this discontent did not show itself in action or deeds as it did in the North, yet it was sufficient to encourage the opposition against the Government. This opposition was still increasing, when in 1825 the war broke out between the young Empire and the Argentine Republic, in consequence of which Brazil not only lost the province of Cisplatina (Uruguay Republic) which since 1823 had formed an integral part of Brazil, but was also burdened with a heavy debt and its consequent charges.

The general discontent reached its highest pitch when it was found that the Government expended large sums of money for the benefit of Dona Maria da Gloria — in whose favour her father had resigned the Crown of Portugal with a view of placing her on the throne. The press grew bolder and bolder and at last grew so outrageous and unbridled, that in 1830 a law was enacted to restrain its licence.

The radical party, led by Pater Diogo Antonio Feijó, came more and more to the front and at length demanded the abolition of slavery, the regulation of the finances by the law, a diminution of the expenses for the army and the fleet and, that the foreign legion should be immediately disbanded. At length the Emperor was fain to grant these demands, more or less; amongst others: the Abolition of the Slave „Trade”, as he saw no other means of calming the public mind, which was still more excited by the news of the July Revolution in Paris. Those revolutionary ideas penetrated even into the army, so that no reliance could be placed even on the troops, as was soon after clearly proved.

In Parliament the Emperor thought he could stem the tide by appointing a new ministry composed of his most faithful followers.

Alas! It was too late. In consequence of the disbandment of the Foreign Legions, it was out of the power of the Emperor to suppress the approaching revolution. For as soon as it got abroad that the new ministry consisted entirely of adherents of the Emperor, the excited people assembled in the „Campo da Acclamação”

and insisted on the restoration of the former cabinet. The army under command of general Francisco de Lima e Silva, one of the chiefs of the liberal party, sided with the people.

The demagogues succeeded in getting a deputation sent to the Emperor, requesting him to restore to power the previous administration „which possessed the confidence of the people.”

The Emperor pertinently refused and replied that he was willing to do everything for the people, but that he would not allow himself to be dictated to by the people.

This message was sufficient: the army declared openly for the revolutionary party. This was the easier as, strange to say, all the troops in the capital were under the command of the three brothers de Lima e Silva, respectively Governor of the town or Local Commandant, General-Adjutant of the Emperor and Commander of the Imperial Life Guards.

The three Andradas had contributed most to the elevation of Dom Pedro; the three Limas, on the contrary were the chief instruments of his fall. This perfidy grieved the Emperor sorely, as it came quite unexpectedly, and they owed everything to him, who had ever been their benefactor. The whole Body Guard left the Imperial palace, one officer and three soldiers remained faithful to their master.

Deserted by all, the monarch still persisted in his resolution, even when General Francisco de Lima sent him his adjutant to insist once more upon the restoration of the preceding ministry. — Seeing that this general revolution could no longer be averted, except at the cost of his Imperial dignity, Dom Pedro made up his mind to resign in favour of his six years old son. Without consulting any of his „entourage”, he penned with his own hand the following decree:

„In pursuance of the right guaranteed and granted to me by the Constitution, I hereby declare that I voluntarily resign the Crown in favour of my dearly beloved son Dom Pedro de Alcantara.”

Given at Boá Vista, under my hand and seal, 7 April 1831, in the 10<sup>th</sup> year of the Independence of the Empire.

Then approaching the Adjutant-Major Vasconcelles, he said: „esta é a unica resposta digna de mim, abdiquei a corôa e saí do Imperio; sejam felizes na sua patria” (This is the only

answer worthy of me; I lay down my crown and shall leave this empire; may you be happy in your country!)

He then acquainted the Empress and the English and French ambassadors with the resolution he had taken.

After appointing, by a decree, dated (or rather antedated) 6 April, José Bonifacio de Andrade e Silva who had meanwhile returned from exile, governor of his son, he the embarked next morning on board the English war-ship "Warspite".

It was 13. April following that Dom Pedro with the Empress and her daughter, the Queen of Portugal left the land that owed him almost everything, and which now repaid him with ingratitude. On September 24<sup>th</sup> 1834 he died at Lisbon.

This voluntary and altogether unexpected action on the part of the Emperor took the people and their leaders by surprise, and saved the country by baffling the expectation and the aspiration of the leaders of the revolutionary party. The news brought by Vasconcelles not merely stemmed the revolutionary current, but turned it altogether in favour of the monarchical party: undoubtedly a disappointment to the "Exaltados" who saw their secret plans frustrated, and whose aim had evidently been to establish, if possible, a Brazilian confederation on the lines of that of the North American Union.

The people raised loud shouts of applause, and welcomed Pedro II as their future Imperador. At a meeting of senators and deputies who were present in the capital, at which also the members of the former ministry assisted, it was resolved to entrust, provisionally the government to Senator de Campos Vergueiro, General Francisco de Lima and the Marquis de Caravellas, until such time as a regency should be appointed in accordance with the Constitution. It was only on the 17<sup>th</sup> of June that the lawful Regency assumed the reins of power.

Besides General de Lima, José da Costa Carvalho and João Braulio Muniz were appointed co-regents by the Assembléa Géral.

Though the legality of the appointment was denied, José Bonifacio was, agreeably to the desire of the Emperor, confirmed in his office of governor to the young prince.

During the minority of Dom Pedro II, the country remained, as was to be expected, the scene of the greatest confusion. Not only between the conservative or Portuguese and the National-liberal parties, but even, in the highest degree, in the bosom of the latter a most violent struggle was raging.

While the „Moderados” or moderate Liberals under the leadership of the brothers Andrada desired to maintain the Empire and strengthen it by tightening the bands that bound the several provinces together, the „Exaltados” under the brothers Lima wished for nothing but decentralisation of power, i. e.: the autonomy of the different parts of the Empire.

By dint of intrigue and defamation and by covert hints, the latter party succeeded in bringing about the dismissal of José Bonifacio as governor of the young prince, and at the same time, by the adoption of the „Acto Adicional” they contrived the extension of the power of the different provinces.

By the same State Paper the important resolution was taken to change the constitutional and permanent regency of three members into a one-headed regency for the space of four years. On the 12<sup>th</sup> of October 1835, one of the heads of the Ultra Liberal party, the Senator for Rio de Janeiro (who was at the same time Bishop of Marianna in Minas Geraes), viz.; Pater Diogo Antonio Feyó acted in that capacity. In the beginning he set to work with energy, but soon discovered how difficult it was to govern a country, torn by civil dissensions and a prey to party hatred. Riots and intestine quarrels were the order of the day. In the provinces of Pará and Maranhao in the North, as well as in Rio Grande to the South, troubles arose which cost the Government much pains and many sacrifices to suppress, and was the cause of Pater Feyó also losing his popularity. Disappointed in all his expectations, he resigned of his own free will, December 17<sup>th</sup> 1837.

Pedro de Araujo Lima (afterwards marquis de Olinda) was appointed in his stead on condition, however, that he should remain regent till Dom Pedro attained his majority. But de Lima himself also encountered violent opposition. Under this regency a serious revolt of the slaves took place in the province of Bahia, which was however speedily suppressed. This

event, however, led to a certain degree of reconciliation and concord. The different provinces of the North now saw the danger that menaced them from the part of the slave population, if the revolutionary propaganda should chance to reach them. In the South the troubles continued. The province of Rio Grande do Sul proclaimed its freedom and the Republic, on 16. December 1837.

As the Government could not easily suppress the revolt there, the opposition led by Martim Francisco and Antonio Carlos de Andrada, turned this opportunity to account to raise suspicion against the Regent, to the effect that he had a secret understanding with the chiefs of the revolt, and at the same time demanded, that Dom Pedro II should be declared of age, July 1840. This claim met with an enthusiastic reception in the Chamber; the Regent in vain endeavoured to oppose it.

In compliance with the proclamation of Antonio Carlos, the patriots left the council-chamber, and in the van of an ever-increasing multitude, they rushed to the Senate House, where with the Senators they convoked a general assembly in which it was resolved to send a deputation under Antonio Carlos to the young Emperor to ask his consent to the declaration of his majority. Dom Pedro consented and thus put an end to a movement that had been raised for the mere purpose of promoting personal interests.

On the 23<sup>rd</sup> of July 1840 in a combined session of the Chamber, and the Senate, and contrary to the constitution, the young Emperor was declared of age and solemnly took the oath according to the fundamental laws of the State. On 18<sup>th</sup> of July 1841 the coronation was solemnized. Those who had seriously imagined that the Emperor's coming of age would be the means of improving and purifying the corrupt political condition of the Empire, soon found themselves undeceived. The old Portuguese element, the party of the „Restauradores” was forced into the background, but the gulf between the Liberal and Conservative parties grew deeper and the line of separation between the two more sharply defined, and it was more and more evident, that the contest would be carried on for selfish ends. — These parties were known: the National Liberals by the name of Santa-Luzias, after a parish (freguezia)

of that name, which had witnessed their defeat by the Conservatives during a rebellion in the province of Minas Geraes; and the Conservatives under that of „Saquarêmas”, after a fazenda or plantation of a minister, belonging to their party. With reference to their former anti-national policy, they were also sometimes called „Gallegos” by the people.

Now one party gained the upperhand now the other, but the contest proceeded and the struggle became so violent, that it is no exaggeration to say that the land was given over to anarchy; which was clearly seen by the then Conservative Premier Carneiro Leão, marquis de Paraná. To bring about a change for the better, he inaugurated the so called „Politica de Conciliação”, in which he declared, that all, who possessed the requisite talents, capacity, and fitness, should, without any distinction of party, have a share in the government of the Country.

A natural consequence of this policy was, that party-cries and watchwords gave way to personal ends and considerations. Defection from one faction to another, provided it appeared necessary for the gratification of private ambition, was rendered much easier and came to be viewed as natural, nay even was almost looked upon as honorable; for was it not „a sacrifice and offering of one’s own particular views on the altar of the country?”

Out of this chaos arose the new Liberal and Conservative parties. In reality, however, up to the present moment no other parties do exist than the one that governs and the one that wishes to govern, i. e. the party in power, and the party in opposition striving after place and power.

It was under this ministry that a stop was put to the unlawful slave-traffic (Sept. 4. 1850).

Up to the year 1863 the so-called Conservative party retained the exclusive management of the affairs of the State in their own hands, when the Caxia cabinet of the day had to make room for the semi-liberal ministry of Zacharias de Goês through the Liberals having acquired a majority in Parliament.—.

It was not long though before he too had to run the gauntlet of factious opposition to all his measures.

Under these circumstances the Emperor was fain to order a dissolution, and appointed a new ministry with the Marquis de Olinda as President: but even this ministry found no favour in the eyes of the representatives of the people, the majority of whom were also liberals.

Zacharias now came forward for the second time in the capacity of Cabinet-„maker” and with a new policy, „liberal progressista,” which, though liberal in name, proved to be far more conservative than his predecessor’s had been. All this of course gave rise to a storm of most vehement opposition from the side of the liberal majority in the Chamber. The downfall of this ministry was brought about by a comparatively insignificant question — the Limitation of the Coasting Trade — which was however made a „Questão de Gabinete” of; so that there was now room for the administration of the liberal President of the Second Chamber Furtado.

It was during the existence of this cabinet that the war with Uruguay broke out (1864), almost coinciding with a tremendous commercial crisis that deeply agitated the public mind, and which was caused by the failure of several of the principal banking-houses at Rio, including that of Souto. Furtado found himself compelled to suspend the operation of part of the Commercial Code and to decree a „moratorium” or general pay-day, there being no other means of warding off an imminent panic, which at that moment would have brought the land to the brink of ruin.

As if this alone were not sufficient to embarrass the government, it found the difficulties of its task enhanced by the Paraguay question. But Furtado was equal to the emergency. The Brazils possessing hardly any troops, he established the corps of „Voluntarios da Patria” and brought the war against Uruguay to a happy conclusion. But the diligence and zeal he displayed in his country’s service were not generally valued in the Chamber: the non-governing parties and fractions seemed even to look askance and grudgingly at the energy he displayed in surmounting the difficulties by which he was encompassed.

Seeing no chance of successfully opposing his policy, they endeavored to oust him by indirect and tortuous means which, with a man like Furtado, cost them but little.

In the election for the Presidential chair of the 2<sup>nd</sup> Chamber they ignored and set aside the Government-candidate and chose the one put forward by the Opposition, feeling convinced as they did, that Furtado would regard it as a slight and be induced to resign. And this really did happen. After a crisis that lasted four days the Liberal Progressive Marquis of Olinda met the Chamber on May 17. 1865 with a new cabinet and no further programme than:

„Preservation of the Status quo throughout the whole empire” and „Conclusion of the War.”

Though the ministry did not at all please the Chamber, no direct opposition could be offered, as the Liberal party was not unanimous and strong enough to take the government into its own hands. When however, it was seen that the Paraguayan war far from nearing its end — notwithstanding the capitulation of Uruguayana and the successful naval battle of Riachuelo, — might last still a long time, the Conservatives also temporarily joined the opposition against the Liberal-Progressive cabinet.

What might have been foreseen, happened. The ministry to the great satisfaction of all parties resigned . . . . but the expectations of the Liberal party were not realised. At the request of the Emperor, Zacharias, the head of the Reform-party again took upon himself to form a ministry.

As the cabinet formed by him enjoyed the support of the Emperor and His confidence, this period 1866—1868 is generally called „The Progressismo Imperialista”. The influence of the court-party was plainly shown by the appointment of the Conservative general Caxias as commander-in-chief of the army sent against Paraguay.

It was during this ministry that the necessity of a gradual liberation of the slaves was first mentioned in the Imperial speech from the throne. The administration of Zacharias was distinguished by decision and firmness of policy. He himself, however, does not seem to have been personally liked, not even by his own party, because of his pride which often degenerated into arrogance. To this we must attribute his resigning his office in opposition to the wishes of the Emperor, (July 15. 1868), chiefly because he was angry that the prince had not appointed the candidate he

had recommended for the senatorship of Rio Grande do Norte.

On the 16<sup>th</sup> of July the new Conservative cabinet appeared before the Chamber with the Viscount Itaborahy as Premier. Although the country and the press cordially welcomed the new ministry, as they believed the premier to be a financial specialist and therefore entertained the highest expectations from his knowledge and management of that department, yet it found but little favour with the Chamber. It was immediately received with a motion of want of confidence from the member of Parliament José Bonifacio d'Andrada.

This motion was of such a grave nature that the Emperor dissolved the Chamber that very day in order to prevent a crisis and maintain the Cabinet. Happily the Conservative party had the majority in the new Chamber and the ministry could count upon it in the fulfilment of its difficult task.

Itaborahy's first care was to strengthen the exhausted treasury. He began by giving six months' notice of the levying of the additional import duty of 40 % already granted by the Chamber. The natural consequence of course was that the import houses immediately ordered goods enough to last for some years; which consequently caused an increase of the custom duties amounting to a very large sum. This met with unqualified disapproval from the side of the Liberal party.

On the battlefield all went on satisfactorily, and all the operations were crowned with success. On the 15<sup>th</sup> of January 1869 Caxias made his triumphant entry into Assuncion and returned to Rio with the title of Duke, declaring that the war was now over. He was replaced by the count d'Eu as commander in chief. But though Lopes had taken to flight and the great war might be considered as over, yet a fierce guerilla had to be carried on which cost the country heavy sums of money and lasted for more than a year.

Money must be had, but how to get it? Itaborahy knew no other means of raising it than by doing what his predecessors had done, viz. the bringing of paper money to an amount of 40000 contos into circulation and raising a loan of 30000 contos. 1) Prices which had run up on the appointment of this financial specialist to an abnormal rate, fell as rapidly

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1) 1 conto = 100. pd. st.

after this operation. The confidence of the public in Itaborahy's financial genius was greatly shaken.

The liberal party now seized the opportunity to reconstruct itself. It now felt so strong that in 1869 it issued a manifest in which it demanded: 1° the Autonomy of the municipios (electoral districts); 2° the Self-government of the provinces; 3° the Limitation of the Imperial power; 4° Religious liberty and liberty of conscience 5° Naturalisation on a large scale; 6° the Abolition of conscription 7° the Appointment of the judges by election etc. etc.

It is clear and evident that the programme could not have been more complete, even if the abolition of slavery had formed part of it.

„Reforma ou Revolução”, was the watchword, the device of the Liberal party; let us see how this programme was carried into execution when the Liberals had come into power.

In spite of the fierce opposition it met with, the Itaborahy ministry contrived to exist; the Government even succeeded in strengthening the Conservative party by carrying the election of several of its most influential members, who were thus enabled to bring their influence to bear upon the Chamber. Its position even seemed to be on the point of becoming stronger, when at the death of Lopes, March 1<sup>st</sup> 1870, that great stumbling-block and bugbear, the war with Paraguay was removed for good and all.

But the financial policy of the Government was not successful. It must certainly have been presumptuous assurance or overweening confidence caused by its late success, that led it to make the Emperor state in his speech on the first of May, that, „as the Paraguayan war was drawing to its close, the revenues of the Country would be certain to increase to such an extent as would ensure a favorable balance on the budget.” That there were no grounds for expecting such a surplus was clearly proved at the end of the session.

Though the Cabinet enjoyed the full confidence of the Emperor, it soon found itself obliged to tender its resignation. The public feeling and opinion had turned completely against it. Several provinces whose financial condition had been favorable, if not flourishing, now found themselves, during the last two years, loaded with debts. This of course led to an increase of the provin-

cial taxation. At length the reaction made itself so strongly felt that Itaborahy tendered his resignation withoutstating any positive reason leaving to his successor a deficit of 26 000 contos.

The Viscount de São Vincent who also enjoyed the confidence of the Emperor now became Minister-President; he inserted the Emancipation of the Slaves in his programme. To meet the deficit recourse was had to that common household-remedy, the emission of paper-money. Under those circumstances, it is clear that the Liberal party must again come to the front. São Vincent who soon saw the impossibility of carrying on the government with the existing Chamber sent in his resignation which was accepted.

On March 7<sup>th</sup> 1871 Paranhos, better known as Viscount de Rio Branco entered the sphere of politics as Premier.

Before his departure for Europe on the 25<sup>th</sup> of May of the same year, the Emperor opened in person the session of the chambers in which not alone the Emancipation of the Slaves, but also the reorganisation of the electoral and penal laws was declared urgent. As to the financial condition of the country, he found it incumbent upon him to acknowledge that the expectations roused by the ministry as to a surplus had not been realised, but that the treasury was again burdened with a considerable deficit.

This speech from the Throne made a deep impression especially on the planters, among whom even now many so-called liberals are to be found who look upon the Abolition of Slavery as the beginning of their total ruin.

Scarcely had the Emperor departed, when the Government brought in the Bill for the Emancipation of the Slaves. The immediate consequence was, that the Conservative party was divided into two groups. In the Senate the ex-minister Itaborahy and Muritiba spoke against the Bill and in the Second Chamber this was the case also with the deputy Paulino José Soares de Souza and his friends. The rupture became a fact and gave rise to a war of extermination between the two fractions of the Conservatives. But the opposition however violent, yea, even passionate, was of little avail. The Government backed by the masses, by the bulk of the people; carried the day.

They succeeded not only in passing the Bill, „do Ventre

livre," as it is called in daily life, through the House by an enormous majority, in a most brilliant manner but also in bringing about a reform in the administration of justice (Sept. 28. 1871).

The whole empire celebrated that memorable day as a national feast. In Rio, Paranhos and his colleagues were almost buried under flowers and bouquets as they left the Parliament-House. To the Emperor, however, is due the honour of having taken the initiative in this matter. But for His determination and the energy displayed by the Infanta who as Regent contrived with rare perseverance to carry out the wishes of her absent father against the opposition of the powerful and wealthy planters, the Bill would certainly not have become law.

How far, however, the good intentions which gave rise to this Bill, have been realised will be shown hereafter.

The Paranhos ministry enjoyed the general confidence of the public and would certainly have become the most popular if it had been able to improve the state of the finances.

But this it was not able to do; the debt had increased every year on account of the considerable sacrifices caused by the Paraguayan war. To meet the pecuniary necessities of the moment, Rio Branco was even obliged to confiscate all the deposits of the Orphan Funds.

Meanwhile the Emperor had returned from Europe April 1872 and the ministry underwent a modification, in as much as Baron de Itaúna, the Emperor's confidential adviser, became a member of the ministry. The opposition, both in the Senate and Second Chamber grew more violent and passionate every day. The crisis which could no longer be averted, took place on the 22<sup>d</sup> of May 1872. A vote of want of confidence in the Government was carried with so large a majority that the Emperor felt constrained to dissolve the Chambers.

The new elections took place under circumstances highly favourable to the Government, as the treaty of peace with Paraguay just at that moment had to be ratified. In nearly all the provinces they turned out favourable to the ministry. The Liberal party suffered a heavy loss, many of its ablest members not being reëlected.

Though the Conservatives were in the majority, yet the Liberals began the struggle with confidence in the future and that trust was still further strengthened, when soon after,

in the session of 1873, a rupture took place in the bosom of the Conservative party. The Conservatives of the North who were for the greater part abolitionists and who had the Governor of Bahia, João Alfredo for their leader on the one side: and the Conservatives of the Southern provinces who, being slaveholders, acknowledged as their chief the deputy Paulino José Soares de Souza.

The very same year Rio Branco brought in a reformbill which was passed unchanged, but afterwards proved insufficient in practice.

The vigorous action of the Government increased public confidence, especially when the financial state of the country altered for the better owing to the rise in coffee. To this it must be ascribed that one indulged in the luxury:

1°. of increasing the allowances to the members of the Senate, and of the Second Chamber, to 75 and 50 milreis a day respectively, and

2°. to build a gigantic iron-clad to be called „Independencia” at a cost of 5000 contos (about 500 000 pd. st.)

Very soon, however, regret began to be felt at this unnecessary liberality and profuse expenditure on what might be turned an article of pride and luxury, for the improvement in the financial position proved but transient. The first resolution could not be changed without incurring the serious displeasure of the entire Senate and Second Chamber. Afterwards it was found necessary to sell the „Independencia” This vessel which had cost 1000 contos more than the estimate, owing to a crack in the plates at the launch, was afterwards disposed of for half its cost, viz 3000 contos, and one rejoiced to be able to get rid of such an Independencia even at that price!

It was during this session (1873) that the famous „Questão religiosa” arose. Rio Branco was appointed Grand Master of the order of the Freemasons, which animated the Clergy to such a pitch that the bishops of Pernambuco and Pará, without asking the „placet” of the Government, published the bull in which he was excommunicated. Freemasons being found among all parties, it may easily be imagined what a sensation was caused throughout the land by this high-handed action of the Bishops. Rio Branco first tried to compromise the matter

by an appeal to the mediation of the Papal Court, but the negotiations failing he was fain to have the Bishops arrested and confined as State prisoners in the fort on the isle of „das Cobras” in the bay of Rio.

Such was the State of affairs on the eve of the session of 1874. Rio Branco who till now had reigned as an „All-powerful Protector”, for so the Liberals called him, began to feel sensible that his popularity was fast waning and the more rapidly as the financial progress was only fictitious and illusory. Instead of the surplus of 6000 contos that also had been held out the year before, the country had now again to face a deficit of fully 16000 contos. The financial condition had even grown so critical that the Government convoked a special meeting of Parliament in which it was proposed and resolved to apply the loan of 50 000 contos, raised in England for the construction of railways in the southern provinces, to meet the current expenses and further as has already been stated, to turn the „Independencia” into money at any price.

The session was to a great extent passed in unproductive labour and but little was effected. Everything seemed depressed and to foreshadow the great commercial crisis of 1875, which was so sharp that even one of the greatest banking-firms of Rio de Janeiro, Mauá and Co., could not stand and had to stop payment. 1) As a thunderclap came the intelligence, that the Government would also be a loser by this failure to the tune of thousands of contos. This news was the drop that made the cup of bitterness run over. Liberals combined with Conservatives in a fierce attack on the unfortunate ministry which at length under the pressure of an adverse

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1) It was under the impression of this tremendous commercial crisis that a general liquidation took place between all the »commissarios firmas” and the »Banco do Brazil” and other financial establishments. Not a single »commissarios firma” could hold out, and all had to wind up and surrendering their claims on the »fazendeiros” must agree to pay from 5 pCt. to 25 pCt. of their remaining debts to the Bank. It was only owing to the temporary rise in the Coffee-quotations that ensued, that the financial establishments with the »Banco do Brazil” at their head were able to tide over these difficult times and avoid a compulsory winding-up and consequent suspension of payments.

public opinion was forced to retire after a four years' run of power.

On the 25<sup>th</sup> of June 1875 the Duke of Caxias appeared for the second time as Premier. The first act of his new Conservative cabinet was to release the imprisoned bishops on the occasion of the birth-day of the Prince of Grão-Pará, first son of the Crown-princess.

Under this ministry the Emperor undertook a second voyage abroad, to North America, leaving the Crown Princess as Regent. Her regency was this time signalised by the terrible „Secca” or drought, and the consequent famine in the province of Ceará which raged almost uninterruptedly for years, and which cost the Government, according to the valuation made in 1880, more than 74 million milreis and carried to the grave more than 500000 people. 1)

In the newly elected Chamber the opposition grew more vehement than ever and so obstructive that the Government found the performance of their task of governing the country well-nigh impossible. And to fill the cup to the brim, the then Minister of Finances, Baron de Cotegipe, was also found to be deeply implicated in the scandalous affair of Masset and Co.

This firm with which Cotegipe was connected as sleeping-partner, was caught in the very act of carrying on smuggling operations on an enormous scale. During the legal inquiry it also turned out that the third partner was no other than the Superintendent (conferente) of the Customs. Nevertheless the Minister of Finances retained his seat in the Cabinet.

The desperate straits to which the Exchequer was reduced, led the Ministry to resort to an unheard of administrative measure. In the law directing the issue of 60 million milreis (afterwards reduced to 40 millions), it was inter alia appointed that every year 6% of the emission should be withdrawn from circulation, and the notes burnt. This now was not only not done, but they reissued in secret (for this came out in the „Relatorio” of the Finance Minister of 1879) the notes that had already been redeemed to the amount of 2 400 000 milreis. 2)

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1) Rio News, May 15. 1880 and Sept. 15. 1880.

2) Rio News, May 24. 1880.

Meanwhile the Emperor returned (25 Sept. 1877). He saw at once the distressful state of affairs and appeared convinced that under the circumstances the Conservative party could no longer remain in power. Caxias himself who was very ill at the time, was of the same opinion, and sent in his resignation towards the end of December. And thus did it come about that the Liberals after a lapse of ten years again resumed the reins of power.

On Jan. 5. 1878 the new Cabinet with the Counsellor of State João Lins Veira Consação de Sinimbu as Minister President, entered into office. This cabinet whose chief was also Chairman of the „Reforma“-club which issued the manifest of 1869 mentioned above, was composed of the ablest members of the Liberal party. This was the great Liberal cabinet. Everything promised well for the Government. Public opinion was favourably disposed. The new elections for the Second Chamber resulted to their satisfaction and as the Liberals gained an overwhelming majority, Conservative officials were superseded by Liberal functionaries and by this substitution the coöperation of all was felt to be certain. It soon, however, became evident that no thorough policy or vigorous action on the lines of the famous Liberal program could be expected from this ministry.

The modification of the electoral laws in a more liberal sense which was to be proposed in the first place, soon gave rise to dissensions between the members of the Cabinet, as they could not agree on one cardinal point i. e. the electoral emancipation and eligibility of the non-Catholics and of the naturalized foreigners. For this reason a few members withdrew from the Administration and took their seats on the opposition-benches.

Sinimbu reconstructed the Cabinet, but did not succeed in forming a wholly homogeneous ministry. By these continual retirements and changes in the composition of the ministry the Government lost its prestige and influence so that even among the Liberal party it met with but little support. 1) Even Sinimbu himself completely failed as a statesman; among other cases, we need but mention his mission to China,

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1) The British and American Mail 1879 and Rio News 1883.

which, according to the statement of the Minister for Foreign Affairs, in the session of July 14. 1882, cost the Government no less a sum than 161,444 milreis, without any corresponding advantage. His action in the matter of the introduction of coolies was also doomed to failure; and in his private capacity he was deeply compromised in the case of the „Banco National”. For this financial establishment, of which he had been director from Feb. 18. 1876 up to January 5. 1878, failed fraudulently on the 7<sup>th</sup> of June following with a deficit of several millions, after a short existence of 8 years. By a sentence of the „Tribunal da Relação” the Board of Directors were declared guilty. Although this sentence pronounced against each member individually would expose him to the suspension, or rather loss of all civil rights, this could not be in the case of the Premier, who, as even his most violent opponents acknowledged, was utterly guiltless, and who, conscious of his innocence, was not to be prevailed upon to resign.

The matter was the subject of serious debate in the Chamber. On the 30<sup>th</sup> of August 1879 the Committee of Inquiry laid their report on the table of the House, on grounds of which the Chamber decided that the sentence of the Court of Justice did not make it incumbent upon the Premier to quit office. He himself however was perfectly aware that his prestige as leader of the party was gone; and that in consequence his administration had forfeited all the popularity it once possessed.

Public opinion turned completely against his government, when, to strengthen the empty treasury, a tax (vintém) on the travelling public was introduced.

The pecuniary pressure was so severe that the Emperor surrendered to the State a tenth of his civil list, which example was followed by the Duke of Saxony, the Crown Princess, and the Count d’Eu, who each presented a twentieth of their official revenue to the Treasury.

It was on account of this monetary crisis that the ministry undertook the notoriously unsuccessful speculation in coffee, employing as their agents the Banco do Brazil and Messrs. Francisco de Figueiredo & Co.

Seeing that it was impossible for him to continue longer at the head of affairs, Sinimbú resigned on the 8<sup>th</sup> of March

1880, and was succeeded by the José Antonio Saraiva Cabinet, for which it was reserved to carry through the Reform Bill which still continues in operation. This bill was carried on the 29<sup>th</sup> of January 1881, by a majority of only four votes. The principal articles are:

1. Direct election of Senators, (40 years), and Deputies (25 years) instead of as heretofore by means of a Board of Electors.

The provincial list consists of three candidate-senators; the definitive choice being made by the Emperor.

2. Granting of the franchise to all graduates and holders of diplomas, as well as to all men of full age (21 years) in possession of an annual income of 200 milreis.

3. Granting of full civil rights to all Catholics and naturalised foreigners, provided they have resided six years in the Empire;

4. Registers to be drawn up of the electors in each district.

5. All officials, ecclesiastics, and judges, are prohibited from coming forward as candidates for election in the district where they exercise their functions.

6. Deputies to be elected separately and by districts, instead of collectively and by provinces.

On account of this law the Chambers were dissolved, and a new election decreed for 1881.

On this occasion the Minister President set an unprecedented example (for Brazil) of political impartiality and honesty. He made no attempt to influence the elections; that is to say, he forbore to make them a government question.

The unfortunate result was that two ministers had to retire because they were not re-elected; while the conservative party in the new Chambers received such an accession of strength that Saraiva, seeing his position as chief of a Liberal Cabinet so much enfeebled, voluntarily tendered his resignation. During his administration the detested „vintêm”-tax was abolished.

The leader of the Liberal majority in the former Parliament, Privy Councillor Martinho Alvares da Silva Campos, was now charged with the task of forming a ministry. As he had been constantly in opposition for more than a quarter of a century, and thus acquired the name of the Radical-Liberal, but also of the great champion of slavery, his rise could

not fail to cause a general sensation. 1) Public expectation was strained to the utmost: everybody looked for the speedy realisation of the liberal programme of 1869.

But seldom indeed have such well-founded hopes been so cruelly disappointed. It soon appeared that the „eternal” obstructor, the terror, more especially of the conservatives, the man whose support every minister for years had prized so highly and sought in vain, — it appeared, we say, that this very man was not so gruff and refractory on closer acquaintance as people had taken him to be.

To the Chambers he simply remarked that, his antecedents being so well known, it was unnecessary to trouble them with a detailed programme. This of itself astonished the Chambers and his party. But soon they beheld the French dictum verified in him: „Que la critique est aisée, mais que l'art est difficile.” He himself saw too well that he had forfeited all claim to the support of his former comrades in the liberal camp, not to court the good offices of his former antagonists, the Conservatives. And his suppleness secured him these; thus Brazil beheld the strange and unwonted spectacle of a liberal government entirely dependent on the conservative minority.

The inexplicable attitude of Martinho Campos compromised the liberal party, which, to avenge itself, opposed his measures vehemently. Moreover, his violent temper and unseemly expressions soon embroiled him with the Conservatives. During the sitting of March 30<sup>th</sup>, 1882, a dispute arose between him and Baron de Cotegipe, President of the Senate; this dispute ran so high that the Emperor was compelled to interfere.

Within five months the Minister had forfeited the name he had contrived to maintain for more than five and twenty years: that of the most liberal statesman in the land; he then resigned (2<sup>d</sup> July, 1882) to the delight of all parties.

Martinho Campos was succeeded by Viscount de Paranaguá,

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1) Quando o gabinete Rio Branco emprehenda a lei da emancipação, o honrado Sr. Martinho Campos, foi um adversaria decidido firme, energico desse medida; e todas as suas sympathias, todo o seu apoio, todo o seu concurso, era para os conservadores dissidentes, que nesta camara mantinham a idéa de deixar-se intacta a escravidão.

Joaquim Nabuco; Debate of August 30. 1880.

who explained his political programme in the House on July 5<sup>th</sup>, declaring that, although he desired to see the liberal shibboleth of 1869 realised, he would have to confine himself meanwhile: 1<sup>st</sup>. To securing the greater independence of the judicature. 2<sup>d</sup>. To the administrative decentralisation and autonomy of the municipal Councils, bearing in mind the expediency of dividing the public revenues between the State, the Provinces, and the Municipalities. 3<sup>d</sup>. To the advancement of education among the people. At the same time he declared that Government would not leave the slavery-question a moot point as its predecessors had done: nay, that he had no objection to hasten the abolition of slavery by augmenting the Emancipation-Fund, and imposing a tax on the transport of slaves, as well as the interprovincial slave-trade. By this statement he won the hearts of the abolitionists, who, small though their numbers might be, were already a growing power, acknowledged and feared as such.

On the 4<sup>th</sup> September, 1882, Senhor Leandro Ratisbona of Ceará introduced a bill proposing to limit the slave-traffic and the transport of slaves within and between the several provinces. This proposal fell through, however; chiefly because various provinces had already taken action in the matter. 1)

On the whole, this ministry did not meet with the support it merited, a support, moreover, which it would doubtless have received, had it not declared so openly that it would encourage and facilitate the emancipation of the slaves. This question touched too nearly the interests of the magnates as that it was possible for a man to attempt carrying on his views regarding it without running the risk of meeting antagonism everywhere.

After several ex-ministers and senators had declined the honour of forming a Cabinet, a senator from the province of Minas Geraes, Lafayette Rodriguez Pereira, formerly a Republican, now a moderate Liberal, suffered himself to be persuaded to construct a ministry.

On the 24<sup>th</sup> of May, 1883, it took office, stating its programme thus: 1<sup>st</sup> Retrenchment; 2<sup>d</sup> Reform of the magistracy; 3<sup>d</sup> Decentralisation of the Government; 4<sup>th</sup> Localisation of

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1) See Chapter IV «Slavery and Emancipation.»

slavery with augmentation of the Emancipation Fund.

According to the consensus of public opinion, this ministry would actually have effected important reforms, had it met with less obstruction from the Chambers.

In Brazil as elsewhere, finance is now a problem difficult of solution. It seems to be considered impossible to effect the desired end by economy alone; consequently Government, in the end of 1883, resolved to carry out the law passed in 1870, which directed that the Church-lands should be converted into Government-bonds. This seems to have precipitated its fall.

Soon after the opening of the Chambers in May 1884, Lafayette became aware of the fate that awaited him. He tendered his resignation on the 4<sup>th</sup> of June, and made way for the existing Cabinet, consisting of Senator Manoel Pinto de Souza Dantas, of Bahia, President of the Privy Council and Minister of Finance; Senator Felipe Franco de Sà, of Maranhão, Minister of the Interior; deputy Francisco Maria Sodrè Pereira, of Bahia, Minister of Justice: deputy João da Matta Machado, of Minas Geraes, Minister of Foreign Affairs; Senator Joaquim Raymundo de Lamare, of Matta Grosso, Minister of Marine; deputy Candido Luiz Maria de Oliveira, of Minas Geraes, Minister of War; deputy Antonio Carneiro da Rocha, of Bahia, Minister of Agriculture, Trade and Public Works.

In essentials the programme formulated by this Ministry is identical with that of its predecessor.

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If, after this slight sketch of the contemporary history of Brazil, we may presume to form an opinion of the existing political conditions of that Empire, I think it may be conveniently summed up in the following statements, which — so far as I have been able to test them by the views of various distinguished and well-informed personages with whom I came in contact — represent with tolerable accuracy public opinion on the subject.

The parties existing at present may be classed under three heads:

1<sup>th</sup>. The comparatively small, but very powerful body of landed proprietors or large planters, split up into Liberals and Conservatives.

2d. The Republican party, the „young Brazil”, comprising both the landed and non-landed, but talented men, who desire to make a career; and who support or oppose the governing party, as may best advance their own interests.

3d. The great uneducated masses, under which definition must be classed not only the slaves, but nine tenths of the free population of Brazil.

In reality there is no essential difference between Liberals and Conservatives; their interests are too similar. They call themselves liberal or conservative according to circumstances, — according to the party their friends or acquaintances belong to, for instance, — rather than out of any strong conviction or political principle. Hence it comes that men change sides often; and republicans become moderate liberals, — to end their political career as thorough-paced conservatives. As I hinted above, it would be more correct to designate the different parties according as they happen to be in power — as the Governing Party and the Opposition.

The republican party is always called „the malcontents”: it comprises those that have made no name as yet, and who hardly know themselves whether they ought to call themselves liberals or conservatives. To begin with, they endeavour to attract public attention by coming forward as journalists or abolitionists, that in this way they may influence the masses. Many of those republicans belong already to the liberal or conservative party.

That there can be no question of liberals and conservatives in the strict sense of the word, is obvious when we consider that they all without exception belong to the possessing classes, and thus have common interests. A few examples will suffice.

Notwithstanding that people thought there was a liberal party, it was just a very conservative Cabinet that carried the Emancipation Bill of 28<sup>th</sup> September 1871 in the teeth of the great majority of the liberals; yet the conservatives also opposed it strongly. Without the will of the Emperor that bill would never have become law.

Among the liberals as well as the conservatives there are eager supporters of slavery and the large landed estate system. Among those that are against abolition but for the granting

of full civil rights to Catholics and naturalised foreigners, there are republicans and ultra-liberals as well as strict conservatives.

Violent ultramontanes, ultra-protectionists, are to be found in all camps, as the abolitionist, Deputy Joaquim Nabuco, for instance, declared in the sitting of 18<sup>th</sup> May 1880. 1)

On no single question of the day is there unanimity between the parties or among their respective members. They politicise eternally, without asking themselves what it is that they really want, without appearing to see that, to use a homely metaphor, the game is often not worth the candle. In my opinion this delight in verbiage on the part of the Chambers is the reason why no party has as yet attempted to improve and put into practice the old Land-act of 1850 (lei das terras 2); to perfect the working of the Immigration-act, and — which does no credit to either party — that in this they have not loyally carried out the provisions of the Emancipation-Bill of 1871; nay, rather hampered the working of it: 1<sup>st</sup> by doing nothing in behalf of the „ingenuos” or riobrancos, as the law prescribes; 2<sup>d</sup> by applying to other purposes — and that during a number of years — the money belonging to the Emancipation-Fund, not even applying the surplus to purchasing the liberty of slaves. 3)

Circumstances being so, it is a blessing for the country that the Emperor stands superior to party, and with his rare knowledge of human nature, and skill in state-craft, makes the politicians of the various fractions plastic to his hand. 4) But on this very account the great American Empire is threatened with a danger which, in my opinion,

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1) O partido liberal no Brazil como em toda a parte, tem infinitos matizes O liberalismo não é de uma só cor, não representa só uma disposição de espirito; no partido liberal ha conservadores, ha liberaes, ha radicaes e ha até republicanos.

2) See Chapter «Agrarian Conditions.»

3) See Chapter IV »Slavery and Emancipation.»

4) Vos, vos queixas do governo pessoal do imperador porque os vossos partidos não estão organizados, porque elles podem ser materia plastica nas mãos do imperador.

Quoted from the speech of General Mitre by Joaquim Nabuco, in the sitting of 18th May, 1880.

may conduce more to its disintegration and ruin than the labour-question, more even than the financial problem itself.

The fate, I had almost said the very existence, of this gigantic empire, depends wholly and entirely on the life of Dom Pedro II. It is universally acknowledged that his decease would occasion a political crisis, the consequences of which are as yet incalculable. It is therefore to be hoped in the true interests of this country that the Emperor may be spared many years to rule the State as its Constitutional Head, that he may long continue to bear the title of Defensor Perpetuo do Brazil.

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## CHAPTER IV.

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### SLAVERY AND EMANCIPATION.

Four years after the Declaration of Independence; which England, under the Canning Ministry, was the first to recognize, Brazil concluded a treaty with that kingdom (23<sup>th</sup> November 1826), with the purpose of restricting the slave-trade, and, on the 13<sup>th</sup> of March, 1830, abolishing it altogether.

As is well known, this trade was first prohibited by the Bill passed 7<sup>th</sup> November 1831, when all persons engaged in it were rendered liable to punishment. It was provided at the same time that, from that day forward, all slaves smuggled into Brazil should be free.

It is, however, equally well-known that this law remained a dead letter for nearly twenty years, the principal reason being that even the magistrates in Brazil were connected with this traffic.

Notwithstanding all the attempts of England, the illegal import of slaves could not be suppressed, not even when the English Government, acting authoritatively and arbitrarily in this matter, provided, by the Aberdeen Bill of 1845 (which was not repealed till March 1869) that all such Brazilian ships and subjects, whether in Brazilian waters or in the open sea, as the English cruisers suspected of being engaged in the slave-trade, should be dealt with according to the laws of England.

The English Government, under Russell, spurred the Brazilian Government on to greater activity and vigilance, and at length -- by the law passed 4<sup>th</sup> Sept. 1850 -- compelled it to employ sharper measures for the suppression of this scandalous and illegal traffic.

By this the slave-trade was rendered punishable as piracy and it was likewise provided that the purchaser as well as the importer of slaves should be made liable to the pains and penalties of the law.

The enactments of 1831, this among others: that all slaves smuggled into Brazil after 7<sup>th</sup> November of that year, should receive their liberty, — were confirmed by this new law. Those slaves were free to return to their own land; but seeing they were unable to pay the passage-money, it was provided by the Bill of 28<sup>th</sup> Decr. 1853 that they should be sent back at their masters' cost, after working fourteen years for board only.

The result of this strange enactment, inhuman as it was in all respects — was simply this, that these *Emancipados* as they were then called, were as a rule far worse off than the actual slaves or *escravos*. The term of their bondage being fixed, they were literally worked to death. This state of affairs gave just cause for very serious complications between the English and Brazilian Governments from 1861 to 1864. This time also the spirited interference of the English Government dealt a severe blow to slavery in Brazil.

By the law passed 24<sup>th</sup> September 1864, 33 years after the abolition of the slave-trade, the unlawfully imported slaves, the „*Emancipados*”, received their freedom, and that..... unconditionally, without placing them in a position to return to their own country, as the law of 1853 had prescribed!

It is only since 1864 that the institution of slavery in Brazil itself, has met with opposition. The hard fate of the *Emancipados* seems to have convinced many persons of the inhumanity of the system. The Emperor took the initiative, and the third Zacharias Ministry tabled a bill (19<sup>th</sup> April, 1867), the principal articles of which ran as follow:

- 1d. That slavery be abolished in 1900.
- 2d. That the then holders of slaves be indemnified by the State.
- 3d. That all children born after this bill became law, should be free, but that those brought up at the expense of the mother's owner, should serve him until their twenty first year.
- 4<sup>th</sup>. That in every town an Emancipation-Fund be established to assist the slaves to procure or purchase their liberty.

The Ministry could fully rely on the Emperor's support;

for which reason this phase of Brazil's political life is termed the *progressimo imperialista*. But yet they failed to carry the bill. Nevertheless, the conflict between the supporters and opponents of slavery continued to rage unabated.

At length, 15th September, 1869, the abolitionists contrived to pass a bill which enacted, that no slaves be henceforward sold by public auction, that man and wife be not sold separately, nor children under fifteen parted from their parents; while at the same time arrangements were made whereby the slaves could purchase their own liberty.

Soon afterwards the law of 28th June 1870 prescribed the manner in which the lands and slaves belonging to religious orders and institutions were to be converted into Government bonds. 1)

At length, 28th September 1871, under the regency of the Crown Princess, and the Ministry of Paranhos, Viscount de Rio Branco, the law now in operation — number 2040 — received the imperial assent. The principal provisions are as follow:

1. The children of slave-mothers, born after the date of this bill, are free.
2. These children shall, during their minority, remain under the care and control of their mother's master: he however, is obliged to maintain them until their eighth year; he may then choose between delivering them to Government, receiving an indemnity of 600 milreis in Government bonds, due thirty years after date, with an interest of 6 %, or availing himself of the services of these children until they have attained the age of twenty one years.
3. On paying the owner of the slave-mother a sum proportionate to the above-mentioned indemnity, any person may purchase the immediate enfranchisement of one of these minors.
4. The owner of female slaves is also obliged to maintain such children of these slaves' free-born daughters as are born during the time that the mothers, being minors, are in his service. If the free-born mother die, he may place her children at the disposal of Government.

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1) The administration of this law is regulated by that of December 22d, 1883,

5. The slave mother who acquires her freedom has the right to retain those of her children who have not yet reached the age of eight years. In case the slave-mother is sold to another master, she has a right to take her free children with her, her new proprietor being obliged to maintain those children under the above-mentioned conditions, as his predecessor had done before him.

6. If it should appear from a judicial investigation that aforesaid minors have been ill-treated by the owners of their mothers, they shall instantly receive their liberty.

The Government may temporarily confide the free children of slave-mothers, that according to the provisions of this law have either been surrendered to it, or removed from their masters in virtue of art. 6, to legally recognized institutions or private persons recommended by the magistrate, which institutions or persons shall have a claim to the services of these children until their twenty-first year, and are at liberty to hire them to another person, but on conditions :

*a.* That the children be cared for to the satisfaction of the judge appointed guardian of orphans;

*b.* That private or individual savings-boxes (*peculio*) be kept for their benefit, in proportion to their earnings.

*c.* That when they come of age a suitable situation shall be sought for them.

7. Government reserves to itself the right to place said minors in the State institutions, on the conditions enumerated above.

8. Every year and in every province the liberty of as many slaves shall be purchased as the means of the General Emancipation-Fund will allow.

This Fund shall be raised in the following manner:

*a.* From a slave-tax.

*b.* From the tax on the transport of slave-property.

*c.* From the profits of six lotteries per annum, which shall be exempt from taxes, and from ten per cent of the profits of all lotteries that shall be set up at Rio after the date of this law.

*d.* From the fines incurred by the violation of this law.

*e.* From the sums to be set apart for this purpose in the general, provincial, and municipal Budgets.

f. From the gifts and legacies that may be received for this purpose.

The sums granted exclusively in behalf of certain provinces, comarcas, municipalities or parishes, must not be diverted from their appointed purpose, or paid into the General Emancipation-Fund.

9. A slave is at liberty to keep a private savings-box. On his death the half is to be paid to his wife or the woman who has lived with him as his wife, and the other half to his heirs-at-law, in default of whom the money is to be paid into the General Emancipation-Fund.

10. A slave, who possesses a sum equal to his market value, has a right to purchase his liberty.

If this price cannot be amicably agreed on between him and his master, he is entitled to call in the assistance of the judge.

Moreover he has a right — provided he obtains the consent of his master and the judge — to hire himself to a third person in order to obtain means to purchase his freedom: but this agreement must not be entered into for a period exceeding seven years.

11. A slave who is the joint property of several masters, and receives his freedom from one of them, retains that right, provided he pays the other proprietors an indemnity proportionate to their share in his person.

This indemnity can be paid in money-value, or in unpaid labour during a period not exceeding seven years.

12. A slave who receives his freedom conditionally, does not forfeit that freedom though he fails to fulfil the condition. But he may be compelled to fulfil it by forced labour, either in a government institution or in virtue of an agreement with private persons.

13. In case of sale or exchange of slaves, it is forbidden to separate a man from his wife, or children under twelve years from their parents. The transgression of this law renders the contract null and void.

Should there, when a slave-property is to be divided among heirs or shareholders, be a family that must be kept together, none of the parties interested desiring to retain them, — then said family must be sold, and the proceeds divided among the proprietors.

14. The societies established for the emancipation of slaves shall be subject to judicial supervision; they can claim from the slaves, whose freedom they have purchased, services proportionate to the sums expended on said purchase.

16. The following slaves are declared free from the day when this law comes into operation.

a. Slaves belonging to Government, including those serving at the Imperial Court.

b. Slaves belonging to unowned estates.

c. Slaves abandoned by their masters. 1)

If it appears that these have been abandoned because they were no longer able to work, the masters are obliged to maintain them, unless they themselves are found to be in straitened circumstances; in which case the magistrate is bound to see that the slaves are provided for.

17 All slaves that receive their liberty under the provisions of this law, shall remain under Government supervision for five years.

They are obliged to work, on pain of being committed as vagabonds and condemned to hard labour in one of the Government establishments, until and while they can obtain settled work.

18. In disputes concerning freedom, the case is to be treated summarily; while, the verdict be unfavourable, an appeal is admitted *ex officio*.

19. It is enacted that all slaves in the Empire be registered with statement of name, sex, condition, fitness for work, and, as far as possible, parentage. The slaves who remain unregistered through the wilful neglect of parties interested, shall be considered free a year after the closing of the register. A duty of half a milreis is fixed on the registration of each slave, if such registration is effected within the stipulated term. After that term it is increased to one milreis. 2) These moneys are to be used to cover Regis-

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1) This seems to occur rather frequently. According to the Rio News of 5th August 1880, no less than 246 slaves were abandoned at Rio, alone between 1871—1880.

2) A milreis is equal to two shillings.

stration expenses: the surplus to be paid into the General Emancipation-Fund.

The children of slave-mothers, whose freedom is secured by this law, shall be registered also, but in a separate class. By neglecting to comply with this provision the masters incur a fine of 100 to 200 milreis for each child, besides legal prosecution for proven fraud.

The priests of the various parishes are obliged to keep a special register of the births and deaths of said children. For each instance of neglect they incur a fine of 100 milreis.

20. All transgressions of this law are punishable by a maximum fine of 100 milreis, and imprisonment for a term not exceeding one month.

21. All enactments contrary to the provisions of this law are hereby repealed.

It will be observed that the Rio Branco Bill does not go so far as the scheme of Zacharias, seeing that by the former act the final abolition of slavery is postponed indefinitely.

We may be certain, then, that unless some new measures be taken to hasten that abolition, slavery in Brazil will not be at an end until the decease of the last slave; that is to say, not until full sixty years have passed away.

Compared with the Rio Branco arrangements, the Emancipation laws of Cuba, where the slave-trade was not abolished till 1866, are framed in a spirit far more liberal and humane.

In 1870, nearly a year before the Rio Branco act came into operation, all slave-children born there after the battle of Alcoléa, in September 1868, were declared free, on condition that they serve their mother's master until their 22<sup>d</sup> year.

This law is now superseded by the new Emancipation act of May 8<sup>th</sup> 1884, by which it is enacted that slavery in Cuba shall be abolished by degrees, namely by the enfranchisement of a certain number annually, to be drawn by lot.

On the 31<sup>th</sup> December 1883, there were in that island upwards of 137,000 slaves. Although the first drawing will not take place till May 1885, the number of slaves has sensibly diminished; the slaveholders, mindful of the periodical allotment, seek to get rid of their slaves as quickly as possible, so that the value of these is reduced, and they are thus enabled to

purchase their own freedom. According to the ex-Consul of Cuba, Mr. I. V. Crawford 1) it is expected that, should the diminution continue in the same ratio, the slave-system in Cuba will be a thing of the past before the third or fourth drawing of lots — that is to say, in 1887 or 1888.

This may indeed sound a little too optimistic as yet; nevertheless it is tolerably certain that by 1890 slavery in Cuba will have ceased to be.

In prospect of to this final abolition, slaves frequently receive their liberty conditionally that they may be withdrawn from the periodical lot. The masters grant them freedom, on condition that they continue to serve a certain number of years for four dollars a month.

As free labourers receive 30 or 40 dollars a month, such enfranchisements are not disadvantageous to the slaveholder.

Since the year 1880, Emancipation has again become in Brazil one of the burning questions of the day.

Successive Governments had persistently shunned this weighty problem; and with reason, seeing that nothing had been done all these nine years to carry out the provisions of the Rio Branco Bill.

Once only during that time had a small portion of the Emancipation-Fund been applied to its legitimate purpose, while the greater part of it was employed — albeit as a temporary loan — for totally different ends. For instance, 25 per cent of the Fund was, during several years, applied to the benefit of the *rio-brancos*, for whom Government ought to have provided in another way.

In one word, during nine years there were only 4584 slaves enfranchised by means of the General Emancipation-Fund!

Moreover, the „matriculation”, or registration of slaves, has been conducted in such a slovenly manner, that no man living in the whole Empire would be able to state the exact number of slaves.

In the sitting of the Chambers, 24<sup>th</sup> August, 1880, the

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1) Rio News, May 4th 1881. Speech delivered by Mr. Crawford at the meeting of the British Anti-Slavery Society, London, 23d March 1881.

question was brought forward anew — for the first time since the passing of the law.

After the delegate from Pernambuco and leader of the abolitionist party, Senhor Joaquim Nabuco, had obtained permission from Government to raise this question, and to table a proposal to alter the Rio Branco Bill, so as to secure the abolition of slavery on January 1<sup>st</sup> 1890, — the year in which the nation hopes to celebrate the fiftieth anniversary of the Emperor's accession, — most of the liberal members absented themselves, so that the interpellation could not take place till August 30<sup>th</sup>.

The entire liberal party, however, with Senator Martinho Campos at its head, supported the Government, in whose name the Minister President, Saraiva, declared that the ministry considered Senhor Nabuco's proposal to revise the Rio Branco Bill, to be ill-timed, and would be constrained to make the acceptance of it by the Chambers a cabinet-question. Government was of opinion that men ought to wait patiently till the effects of the existing law showed themselves.

„My private opinion, however,” remarked president Saraiva in the course of his speech, „is that such a radical alteration of the law as Senhor Nabuco proposes, would merely lead to license, and the reciprocal extermination of slaves and masters. 1)

In this remarkable debate, the chief of the liberal party, Senhor Martinho Campos, acknowledged that the slaves are the only agriculturists in Brazil, and that free labour counts for little in the coffee-planting, nay is absolutely null. 2)

We perceive then, that the Brazilians tremble for the consequences of a speedy abolition of slavery, which, according to Senhor Belforte, „must be regarded as the palladium of Brazilian civilisation.” „Slavery is indispensable to Brazil as

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1) «A luta entre o escravo e o senhor, a anarchia en todos as fazendas, o exterminio do escravo e o exterminio do senhor.

Debate of August 30th 1880.

2) «Os unicos trabalhadores, pode-se dizer, para o nosso principal ramo agricola, são os escravos.»

«O trabalho livre representa uma parte muito insignificante, se não nulla na cultura do café.»

Debate of August 30th 1880.

yet, nay, it must be maintained for the sake of the slaves themselves," said senator Martinho Campos; „as for the abolitionists, I regard them as robbers against whom I can use my revolver. 1)

In the sitting of 4<sup>th</sup> September Senhor Nabuco endeavoured to persuade the minister to further emancipation at least by introducing a slave-tax of 1 per cent ad valorem on the fazenda slaves and 1½ per cent on the town slaves.

But this proposal likewise was rejected, with the following remarks from the Minister President.

„I have more experience in this matter than the honourable member. The difference between the honourable member and the minister lies in this, that I have more practical knowledge of the slavery question than he. The tax on the country-slave will not press on the master at all, but only on the slave, for he will then be forced to work an hour longer in order to pay the tax.”

If these words are actually a true picture of the general state of affairs, — and we are constrained to believe it since the Minister President is not only a fazendeiro himself, but is thoroughly acquainted with the manners and customs of the country, — if these words, I say, express the naked truth, — then we are bound to give some credence to the frightful abuses which the press brings to light now and then.

For my own part, it stands to reason that I cannot speak from personal knowledge of facts. During my residence in the interior, I was unable to make the treatment of the slave-population a particular subject of study. Even had I wished to do so, time and opportunity would have failed me to search into the heart of the question.

Being a visitor, it was impossible, and moreover it was repugnant to me, to ask questions and find out information regarding such subjects. It would have implied a sort of offensive suspicion on my part. Consequently I am unable to speak from personal observation concerning the ill-treatment of slaves.

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1) «Os abolitionistas são salteadores, mas para esses eu tenho o meu revolver.»

«A escravidão deve ser mentida por amor dos proprios escravos.»  
Debate of Sept. 4th 1880.

Wherever I have been, in the fields and in the establishments, I can only praise, so far as it was in my power to form an opinion, the way in which those slaves were fed and treated.

On the estates of the great planters the diet given to the slaves may be pronounced excellent, nay, it is decidedly extravagant.

The clothing, in winter as well as summer, is more than sufficient, while in case of actual sickness the treatment could not be better. The sickwards, as well as the dispensaries, which are mostly conducted by Germans, are on the whole admirably managed, while the medical attendants are thoroughly trained physicians, who serve as a rule on from five to eight establishments. On many of the fazendas I visited, although not exactly on all, there are elementary schools for the riobrancos, where they are taught reading, writing, and arithmetic, the girls even the making and mending of clothes. On some fazendas the half-grown youths are taught music if they show any turn for it, and they form afterwards an amateur-corps whose performances contribute greatly to brighten up the dull, monotonous life of the Brazilian interior. On several of the fazendas there are bands of musicians, whose repertoire has proved far from unsatisfactory to the audience.

I admit that I have seen these things from outside, and that the veil which perhaps hides the reality neither has been nor can be lifted by me.

It is true that slaves are sometimes severely treated; this is acknowledged by most of the fazendeiros with whom I have spoken; but this severity does not necessarily exclude strict justice. The almost unanimous declaration of the fazendeiros was that their slaves prefer corporal chastisement to any other form of coercion, such as solitary imprisonment, for some days suspension of rights and privileges, or otherwise. But, on the other hand, the same persons have generally assured me that the slaves belonging to the small landed proprietors and to many families whose living depends on their daily work, are by no means so well off.

Setting aside those statements, which, undoubtedly, appear somewhat partial, I myself — taking into consideration what I have learned from various dailies concerning the ill-treatment

of slaves — feel justified in asserting the same. And the reason for such different treatment is not far to seek. On the large fazendas, where there are from 80 to 200 slaves and upwards, the arrangements are mostly better and more liberal. On such estates it is necessary to rear more provisions than are wanted, because a large stock of cattle has to be maintained for the use of the slaves.

On all the establishments I have visited it may be accepted as a rule, that so much food has to be prepared for the slaves that the pigs kept are partly fattened on the offal. In one word, there are no stinted messes on the great fazendas. The slaves eat meat, even, daily to their heart's content, an article which, assuredly, is a Sundaytreat to 75 per cent of the population of Europe.

Nevertheless, bearing in mind the condition of the slaves above-mentioned, the unconditional abolition of slavery can certainly not take place too soon.

Taking it for all in all, it may be stated that the slaves in Brazil, as formerly in the Dutch Indies, 1) are well treated, and that people have no right, though some slaves are cruelly treated, to accuse all the slaveholders, and first of all the fazendeiros, of cruelty and inhumanity.

The opponents of slavery have a way of availing themselves of certain isolated facts, and representing them so as to produce the gloomiest pictures of the ill-treatment of slaves.

It must not be forgotten that a slave represents at present such a considerable capital that it may reasonably be expected that even constitutional cruelty will be curbed by the stronger instinct of self-interest.

The actual ill-treatment of slaves has been put an end

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1) How little is known abroad of the principle whereon the government-plantations in Java are conducted, appears from the following extract from «Die Deutschen im Brasilischen Urwald von Hugo Zöller». 1883. Vol. I. page 149.

«Es ist mir aus der Geschichte (?) nur ein Fall bekannt, wo die Sklavenbefreiung ohne grosze wirtschaftliche oder politische Umwälzungen vor sich gegangen, und dieser Fall ist derjenige der Holländer in Ost-Indiën.

Auf Java und anderen Sunda-inseln hat men es verstanden, die Sklaverei durch Frohndienste und Zwangsanbau des Kaffees zu ersetzen!»

to, since the action taken by the abolitionists, especially owing to the restrictions placed upon the inter-provincial slave-trade, which gave rise to such abuses, that the conservative Deputy Marcolino Moura, describing the cruelties to which he had been involuntarily an eye-witness, declared that the atrocious traffic in human beings made such a deep impression upon him, that it would almost be enough to turn him into a revolutionary. 1)

Already in the Sitting of 12<sup>th</sup> August 1880 the ex-minister and Deputy from the province of São Paulo, Moreira de Barros 2), proposed the prohibition of the inter-provincial slave-trade.

Besides the abuses inseparable from this traffic there was another reason why it seemed desirable to place restrictions on it. People thought they discerned an effort on the part of the Northern provinces, where the slave-system is more troublesome than profitable, to shift their slaves gradually on to the coffee-producing provinces, in order — without damaging their own interests — to insist on the emancipation of the slaves as soon as the clearance had been effected.

Although the aforesaid proposal fell through, it caused the various provinces to take measures to restrict this trade, if not to render it impracticable.

In 1881 and 1882 it was enacted by provincial laws that on the export and import of slaves the following duties should be levied:

a. In the province of Pernambuco, an export-duty of 200 milreis per slave.

b. In the province of Bahia, an export-duty of 200, and an import-duty of 800 milreis per slave.

c. In the province of Ceará, an import-duty of 1000 milreis per slave; while in the coffee-producing provinces of Rio de Janeiro, Minas Geraes and S. Paulo, the import-duty was fixed respectively at 1500, 2000, and 2000 milreis per

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1) «Esse commercio iniquo me impressiona ha muito tempo, e me fará até revolucionario.» (Debate September 4th 1880),

2) Senhor Moreira de Barros, to whose powerful influence I owe much weighty information, is the only Grand Cross of the Netherland Lion in Brazil, with the single exception of His Majesty the Emperor.

slave. Over and above this, the slave-trade is restricted by new taxes on the sale and transport of slaves.

The abolitionist-movement in favour of the slaves has, as it proves, not remained fruitless.

Indeed, as I have been assured by fazendeiros and commissarios it may be taken for granted that this movement will gain in extent and vigour day by day. Good statesmanship demands that the Brazilian authorities be not over-mastered by this movement, but place themselves at its head. Now, however, that the demand for the speedy emancipation of the slaves has become so strenuous that even statesmen like the Senators Silveira Martino, Otaviano, José Bonifacio, Correa, João Alfredo and others, desire to see January 1<sup>st</sup> 1890 fixed as the death-day of the slave-system, — now comes the great question: Which danger is the greater — from an economical as well as a social point of view, — to give the slave his freedom, or to withhold it from him until the times themselves demand it for him?

When the slave-emancipation and its consequences are discussed, it is usual to point — although in my opinion very mistakenly — to the fate of the Southern States of the North American Union.

Such an analogy seems to me altogether false. To appraise the consequences of the slave-emancipation in those states, it is necessary to take a glance at the political situation of the American Union before the secession war.

For a couple of centuries the import of slaves continued to be a part of the commercial system of North America without a single voice being raised against it. The whole land was one huge slave-market even after the rupture with England. When that great event took place, the several States of the Union were quite independent of each other. During the War of Independence, and likewise posterior to it, it was perceived, however, that better co-operation, greater unity, was urgently demanded for a vigorous foreign as well as an active home policy.

Under the presidency of the great Washington a meeting was held, wherein the various delegates agreed as to the form of a National Government. A Constitution was very speedily

framed which clothed it with supreme authority. It was, however, enacted that the powers of the National Government should not extend over the domestic arrangements of each state in particular.

Now, the slave question was one of those subjects which only the states immediately concerned had a right to discuss.

In the course of time, however, there arose in the North, towards which the tide of European immigration set strongest, a repulsion and vigorous reaction against slavery and the slave-trade. Attempts were made here and there to restrict slavery to particular parts of the Union, and this led naturally to the discussion of the question: by what authority the end should be effected.

In consequence of the request of Missouri — a new state, where slavery existed — to be admitted into the Union, the National Government resolved to draw a line at 36° 30' N. L., and to declare that all beyond this should be free territory.

Intestine dissension was thus postponed for a few years.

But, when new territory was acquired after the war with Mexico, the great question of the exclusion of slavery was once more passionately debated. A powerful party was organised to advocate free soil. They did not desire to interfere with the domestic arrangements of the various states regarding the slave-system, but merely demanded its absolute exclusion from territory beyond the boundaries of certain states designated.

With this party the ablest statesmen of the Union identified themselves. The so-called „free soil”-party waxed greater day by day, gained in power and influence, and at length succeeded in seating one of its chiefs, Mr. Lincoln, in the president's chair.

In the South, however, where most of the slave-holders had established themselves, it began to be feared that, now the powerful free-soil-party had got the upper hand, the loyal protection of the National Government, at whose head one of their leaders was placed, could no longer be reckoned upon. And, seeing that in that case the reason why the Union was originally formed would have ceased to exist, it was considered better to withdraw from the Union, and

by this step to secure a satisfactory solution of the problem. But now arose a hot dispute over another question: Whether an individual State could withdraw from the Union at its own good pleasure?

This was the true cause of the Civil War, not — as was shortly afterwards imagined by political opinionists — the endeavour of the Northern States to abolish slavery, coming into collision with the desire of the Southern states to retain and secure that institution.

What of the consequences?

Many persons believed that the emancipation of the slaves would give rise to dangers and disorders in the Southern States; that it would be the ruin of that portion of the Union, that agriculture could not be carried on by the whites in those intertropical regions; that negroes would never be got to work without compulsion, etc. etc.

To the honour of the liberated slaves, however, it must be declared that they have given no cause for complaint. During the war on which their liberty depended, the slaves behaved in a manner unparalleled by any in a similar position; there was no attempt to revolt, and in many instances they protected the families of their masters, who were in the army fighting against the Northerners that were to give them their freedom.

Also after the war, after their enfranchisement, the bearing of the slaves was worthy of all praise. Notwithstanding that they were goaded, as it were, by political agitators, they never once abused their position in regard to their former masters.

And this says much. For after the war an unexampled spectacle was presented. Men of colour were suddenly raised to offices and dignities; while their former masters were shut out from such. In a word, they were not only emancipated, they were even afforded an opportunity of governing in their turn.

It appears to be due to the unprincipled practices of certain adventurers, that after the war so many left the places where they had worked, to seek employment in the towns, and drag on a wretched existence there.

The sudden liberation could not fail, in the very nature

of things, to exercise an immense influence on the economic conditions of the South. The free labour system began to work far sooner than even optimists ventured to hope. It stands to reason that there were individuals among the five million emancipated slaves, who regarded idleness as the badge of freedom. That they succumbed in the struggle for life, is self evident. Nevertheless, far sooner than was expected, most of the coloured population applied themselves to work.

From this slight sketch of the political situation before and during the Secession War, it appears:

1<sup>st</sup> That the emancipation of the slaves in the Southern States of the American Union was a strategic measure, consequently an effect of the war and not the cause of it.

2<sup>d</sup>. That the temporary ruin of these states was the result of war rather than emancipation.

3<sup>d</sup>. That the coloured population did not join with the North against their masters, and did not shrink from steady work after they gained their freedom, though they might not toil quite so hard as formerly.

The most important consequence of the slave-emancipation of 1863 consists, however, in the fact that since that time the Southern half of the Union has been thrown open to European immigration.

A mighty stream of emigrants from Europe as well as the Northern States of the Union, flocked into the South, where their superior knowledge, larger capital, and improved system of agriculture, greatly increased the productive powers of the land.

It is my conviction that in Brazil also the abolition of slavery is the only means of encouraging the immigration of European agriculturists of small capital.

So long as slavery is maintained there, no calculation can be made on free labour.

As I mean to show in the chapter on Coffee-planting, there is not a trace of actual free labour just now in Central Brazil. As yet everything there depends on slave-labour.

That the abolition of slavery implies the ruin of many persons, requires no demonstration. But I think that, alas! it is just

on this ruin that the future of Brazil must be founded. Everything depends on the management of the existing agrarian conditions in that Empire, while these very conditions bar the way against immigration and colonisation.

In this difficult question, in this struggle between general and individual interests — we cannot and must not calculate on the all-sacrificing cooperation of the land-owners. We must patiently await the hour when, compelled by the circumstances of the times, they must divide their then valueless lands into parcels, in order to dispose of them to small capitalists.

By that time the tide of immigration will be setting more strongly towards Brazil; for no country in the world will then be able to offer more advantages to the colonist. Like the Southern States of North America, Central Brazil has a privilege denied to all other countries where slavery has existed or does exist; a climate: in which it is possible for whites to perform agricultural labour.

The labour-question is a difficult problem for Brazil. Her statesmen are between the horns of a cruel dilemma. Shall they, in deference to the requirements of the moment, postpone the emancipation of the slaves for an indefinite period, according to the Rio Branco Bill — and so doing surrender all hope of reviving agriculture by means of European immigration?

Or shall they secure a future for their country by the unconditional abolition of slavery at the cost of temporary ruin to large numbers of people?

In my opinion a middle course would be very difficult in this particular case. For, as the Minister President Saraiva rightly observed, every attempt to facilitate the emancipation of the slaves, either by levying taxes in behalf of the Emancipation Fund, or by fixing a definite time for the final abolition of slavery, will, I fear, prove a new burden laid upon the slave.

And, circumstances being as they are, any new burden might lead — to the emancipation of the slaves by violence. For it must be said, to the shame of the liberal party, that they frequently resort to less permissible means in order to gain their ends.

That the slaves after their liberation will not join the ranks

of agitators and vagabonds, but settle down quietly as respectable citizens, is a fact that admits of no manner of doubt.

As a striking example of sense of duty on the part of the slaves, I shall cite the following incident, which took place during my residence at Rio.

On the 14<sup>th</sup> of January 1884 a serious riot arose among the prisoners confined in the great jail at Rio. When the military that were present proved unable to quell the revolt, a hundred slaves, who were locked up by themselves because they had refused to work, run away, and what not, — volunteered their assistance. They were supplied with arms, helped the soldiers to restore order, and then gave up their weapons and went back to their cells. Their behaviour made such an impression on the inhabitants of Rio that Government purchased their freedom. The Emperor himself presented each of them with his enfranchisement.

After this occurrence the Town Council of Rio declared its resolution to support emancipation in general; and in order to facilitate the liberation of the slaves of the „Município Neutre,” that is of Rio de Janeiro and the surrounding districts — to keep a „Livro de Ouro” or Book of Gold, in which should be inscribed the names of all such as were ready to contribute to that laudable purpose. It is needless to say that the Emperor and the members of the Imperial family were the first to prove the interest they took in the good work, by liberal donations.

It would surprise me greatly if the condition of the slaves be not considerably worse already than it was ten years ago; that is to say, if they have not to do more work than formerly when the same amount of money could purchase twice as much working power. They are better treated, better fed and cared for; but they must work harder. As a rule — at least it was the case on all the fazendas I visited — the slaves are awakened by a bell at four o'clock in the morning, to get ready to go to work. At half past four or five they must march to their labours in troops or turmas from twenty-five to thirty souls — in order to start work at half past five or six. They toil on — dinnertime excepted — till at least seven o'clock; then the troop marches homeward. This is in the less busy season; in harvest they have

generally to work by artificial light, whether in the drying-fields, the terreiros, or in the factories (engenhos). When work is finished they are mustered; they fall into line, each sex separate; they are counted over, and on a given sign from the overseer or feitor, having performed the usual salutation or „salve,” they are permitted to stroll about for an hour within the fenced enciente of the fazenda. About ten o'clock, as a rule, they are locked up in the dormitorios — each sex apart till the following morning.

The question whether many Brazilian slaves be not illegally held in bondage, has been eagerly discussed both within and without the Chambers, as well as by the press. We can now state as matters of fact:

1<sup>st</sup> That among the aged slaves there are many „emancipados”, smuggled into the country after 1831; they as well as their descendants have a clear right to their freedom. 1)

2<sup>d</sup>. That, contrary to the spirit of the Rio Branco Bill the free-born children of slave parents are sold, under the pretext that it is their services, not their persons that are thus marketed.

3<sup>d</sup>. That thousands of Indian children from the Amazon Valley are unlawfully doomed to slavery.

The Government could not exactly deny these facts, but in reply to a question from Senator Silveira da Motta, alleged that it could not interfere in this matter without infringing on the rights of the legal authorities. (Debate 29<sup>th</sup> June, 1883.) On this point Brazilian jurisprudence appears not yet to have made up its mind. Yet I can cite examples of judicial verdicts in favour of slavery illegal on the ground of prescription.

A great sensation has been caused, especially in England, by the fact that the English S. João d' El-Rei Mining Company kept upwards of 385 people in unlawful slavery at their mines near Morro-Velho (Minas Geraes) and that for more than twenty years, although the Board of Directors in London knew that they had a right to freedom.

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1) The legal aspect of this question has been discussed by a jurist, Dr. Pedro Ferreira Vianna in one of the Rio dailies, the *Gazeta da Tarde* 30 June 1884. According to this lawyer, more than the half of the slave-population are descended from emancipados so that they are legally free!

After a legal investigation, demanded by Deputy Joaquim Nabuco, Mr. Williams, and Mr. St. John, English Chargé d' affaires, — the „Juiz de Direito”, or district Judge, Dr. F. A. Alvares da Silva, decreed (14th October 1879) that the remaining slaves, 165 in number, should receive their freedom, while the Company had to pay the costs and disburse arrears of wages from 1860, estimated at 70,000 pounds sterling! This sentence was enforced by arrest of the Tribunal da Relação of June 22<sup>d</sup> 1882.

Following the example of the Saraiva Ministry, the succeeding Cabinet of Martinho Campos refused to grapple with the emancipation question.

Not until July 1882, did the Minister President Paranaguá, speaking for Government, declare that although it could not undertake the solution of that weighty problem, it had no objection to hasten the abolition of slavery by all lawful means. 1)

This statement created a great sensation, as it was evident that the abolitionists had acquired so much influence in the Chambers and the Senate, that the Government could no longer ignore them. And that this influence actually exists, was abundantly proved a year later, when the Lafayette Ministry on taking office, made the localisation of slavery and the hastening of emancipation by augmenting the Emancipation Fund, the fourth article of its political programme.

The abolitionists soon came forward with a bill, which was introduced September 5<sup>th</sup> 1883 by Deputy Leopoldo de Bulhões. The Bill ran:

I. From the day when this bill becomes law, all the slaves throughout the Empire shall be free.

II. The persons enfranchised by this act are bound to remain in the service of their former masters for six years, except:

*a.* Those that immediately purchase exemption, in which case the value of services for said period must not be estimated at more than 800 milreis;

*b.* Those above fifty years of age; while those that reach

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1) See Historical and political view.

that time of life within said period have from that moment a right to their liberty free of cost.

III. The services secured to the master by the preceding article may be transferred to another person, but not without mutual consent.

IV. Existing agreements, entered into in virtue of previous enactments, remain valid.

V. In the regulations for carrying out this law Government will settle and determine the consequent relations created between the ex-master and the liberated slave.

VI. All previous enactments contrary to this act are hereby repealed.

It was too late, however, to discuss this Bill in the same session. It is difficult to say what may be its fate. In all probability the Emancipation-question will soon find a solution. At all events some decision must be come to. The new cabinet, which took office, July 9<sup>th</sup> 1884, has consented to the discussion of this important question.

The new Minister-President Dantas acknowledged before the Chambers and Senate that, after Finance, Emancipation is the question that demands the most serious attention of Government.

„In this last matter”, said the Premier, „the Government must take energetic action, for now that the question has been so often debated in the Chambers, we can neither recede, (Retroceder) nor assume an attitude of watching and waiting (parar), while in no case must we decide the case precipitately (precipitar).

„It is therefore” — ran the gist of the Minister’s speech, „the firm resolution of Government to treat the question fully and thoroughly: not only in order to gratify the generous sentiments and benevolent efforts of so many here present, but also for the sake of the very important interests connected with it, not the least important being those of the States whose finance are dependent on agriculture, which, alas! is in our country so closely intertwined with this institution repugnant to human nature as it is.

It is the imperative duty of Government to mark off, with the assistance of the legislature, the bounds within which prudence permits us and civilisation obliges us to act,

that it may be placed in a position to check those transgressions and excesses which, instead of facilitating the solution of the problem, render such solution difficult or impossible. Government, therefore, deems it an urgent necessity that some general principle (*disposição*—disposition) be found, by which to localise slavery within the provinces, and also by levying a tax on the non-slaveholding population as well, to strengthen the Emancipation-Fund in such a way that it may contribute more than has been possible hitherto to the speedy abolition of slavery.

„Moreover, Government considers it just and right in all respects that such slaves as have attained the age of sixty years or thereabouts, immediately receive their liberty.”

Although a Government programme like this by no means justifies the conclusion that the emancipation of the slaves will take place in the near future, yet it cannot be denied that the last four years have brought this problem a long way nearer its solution.

While the Saraiva ministry so late as 1880 threatened to make a cabinet-question of Nabuco's declaration of urgency, the present Ministers consider a speedy settlement of the Emancipation-question urgently necessary.

I believe with most of the fazendeiros that the days of slavery in Brazil are numbered, and that there is reason to expect that on the celebration of the Emperor's jubilee in 1890 the joyful tidings may be proclaimed that there is no longer a slave throughout the length and breadth of the land!

One province has already set the example. On March 25th 1884, the anniversary of the swearing of the constitution, all slaves in the province of Ceará received their freedom. Seeing that Ceará may now be termed a city of refuge for fugitive slaves, the neighbouring provinces will be constrained to make haste to emancipate their slaves. 1)

It may be expected that the emancipation question will be discussed in the Chambers during the session of the present year.

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1) According to reports received from Brazil, the province of Amazonas also abolished slavery, (10th July 1884) and the provinces of Rio Grande do Sul and Goyaz propose shortly to follow the example.

In how far the facts here stated and the conclusions I have drawn from them are in keeping with actual conditions, may appear from the speech of Senator Christiano Ottoni, delivered in the Senate, 9<sup>th</sup> June 1884, the gist of which is as follows. 1)

„I consider,” said the Senator, the slavery-question to be a very important one, and as I wish to support Government in this matter, I think I shall do well to draw the attention of the Senate to it. Permit me beforehand to allude to — I shall not say a doubt which has suggested itself, but a fear which I entertain.

Since the Emancipation-question has advanced less or more into the foreground, I have often heard it said by the greatest supporters of slavery, the „escravocratas:” I am for having the slaves emancipated too, who would not be in favour of that?

„We are all for it; but whenever a means is suggested for facilitating the desired emancipation, the cry is raised directly. „That plan won't do: it would be the ruin of the planter!”

They all desire emancipation, they say: but no means calculated to accomplish that end finds favour in their eyes. They desire a gradual dissolution, — I mistake, they only want to keep up the mystification of the law of 28<sup>th</sup> September 1871.

„We are all for emancipation,” they repeat; „not one of us advocates slavery, but we desire the gradual reduction of it according to the law of 28<sup>th</sup> September.” But if the law remains a dead letter, as it has done hitherto, when may the end of the slave-system be anticipated?

„Since 1871 at least half a million of slaves have died, while the State has not freed 20.000 during that time: a number so trifling that it is not worth speaking of!

„Let us consider about what time the end of slavery may be expected, if the present state of affairs continues. The youngest slaves were born in 1871 before the passing of the law: many of them will live to be eighty, some even a

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1) This Chapter was already in the press when I read Senhor Ottoni's speech: it agreed so fully with the information I had collected, that I could not resist the temptation of incorporating the essence of it.

hundred; but if we calculate the maximum age to be eighty years, then, not till 1950 — in the middle of the 20th century — will death finish the work of emancipation. But such a thing, gentlemen, is unworthy of a civilised nation.

„Considering the ministerial programme, however general be the terms it is couched in, I esteem it my duty to support the Government, in whose candour and good faith I fully believe, in the consideration of this important question, and at the same time to draw attention to the very serious occurrences that take place in this country; occurrences which, disturbing though they be, are left as if by tacit understanding unspoken of in this House.

„I know not if I am a pessimist: God grant it may be so, and that I am taking too gloomy a view of things! but the present situation of Brazil appears to me exceptionally perilous and full of difficulty.

Various events have taken place around us which, in my opinion, are very dangerous to public peace and order, since they hinder the execution of the laws, weaken the authority of the bench, and must at length conduct us to a state of cruel and bloody anarchy. I consider it my duty to explain those grave assertions.

„In the first place the effrontery of the slaves and their offences against their masters and overseers have increased in a grievous and disturbing degree during the last years.

„This is a pitiable fact, which demands closer investigation on the part of the proper authorities.

„When the attention of the Second Chamber was drawn to this, it was declared to be nothing new — such things had happened before; but this answer displays — if sincere — very little reflection.

„What we behold now, was never seen before. The few offences of that nature, committed at long intervals, were not of the serious character they display now. They did not occur so often, nor did they offer the same characteristics we observe at present. The culprit fled or denied the deed, or he tried to escape legal punishment; now he commits murder and goes direct to the magistrate to give himself up, saying: I have done the murder; I deserve punishment.”

„This it is, gentlemen, that makes the affair so serious in

my eyes. And yet this increase of crime goes hand in hand with a universally acknowledged improvement in the treatment of the slaves.

„There is something else, that is worth our consideration.

„I have reached my 73d. year, Mr. President; for upwards of half a century I have been in full possession of all my faculties. I see, I hear, I observe; so that I may be regarded as a living tradition; one, moreover, who has helped to shape the history of our country.

„In this capacity, and because of my personal experience, I am prepared to give evidence of what I have just stated, that the treatment of slaves in Brazil has been steadily improving.

„Before the slave-trade was abolished, while the slavers still inundated our coasts with numerous cargoes of Africans, 1) who were sold for an old song, the slave-holders, with very few exceptions, gave themselves small concern about the lives of their slaves; even those, and they were fortunately the greater number, who would have scorned to ill-use them or punish them cruelly, thoughtlessly sacrificed the slave's life by overworking him.

„Besides twelve or fourteen hours' hard field labour in rain and sunshine, the slaves had two hours' work at night to prepare their own food and that of the cattle, and an hour in the early morning to clean the earthen drying-fields on the coffee-plantations; in one word they had from fifteen to seventeen hours' hard labour daily, a strain which no constitution can bear. Moreover they were scantily clothed, and their food was poor in quality and insufficient in quantity. 2)

„The general calculation among the slave-holders — I

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1) According to Deputy Leopoldo de Buhões, Africa has furnished more than fifty million slaves to Brazil.

2) In this respect there is a great improvement, as will be shown in the Chapter on Coffee-Planting. As for that occupation, although the slaves are not made to work in the rain when it can possibly be avoided, yet at present they have to work 14 or 15 hours a day. According to the committee appointed to inquire into the prospects of colonisation in the Parahyba Valley, „O escravo é empregado em trabalho seguido 14 ou 16e até mesma 18 horas por dia . . . para beneficiar 3000 ou 4000 pés de Café  
Jornal do Commercio 22<sup>d</sup> February 1884.

have heard many of them state it plainly — is, that the profits of a year's work was quite equal to the value of a slave; that is to say, the second and following years yielded a clear profit.

„But after the slave-trade was stopped the price of the slave rose, and consequently he was better treated.

„After the cholera epidemic, 1) which worked terrible havock among the slave-population, his situation was still further improved; more care was expended on lodging and clothing him, his work was so arranged that he was not required to stay in the fields during bad weather.

„It is now proved beyond dispute that the condition of the slave in Brazil is in no respect worse than that of the day-labourer in Europe. And yet: though his lot is so considerably improved, — his refractoriness, his savagery, is steadily increasing.

„This is a fact well worth attention from all those who feel interested in the future of this country. All the more too, since almost in the same hour most deplorable acts have been committed, acts that in my opinion must be considered the more blameable, that they have been committed by free men.

„I allude to the expulsion of the judges that pronounced certain verdicts, not by the mob but by armed and united citizens; I allude to the banishment of the lawyers that insisted in the Courts of Justice on the legal enfranchisement of the slave; and also to still worse excesses — to the breaking of the prisons in order to effect the illegal removal of those confined there, that they might be hewed in pieces in public places. And what makes all this more serious, more fear-inspiring, is the deep silence observed regarding these facts.

„The expelled Judge removed the seat of government to another district; but the citizens whose rights are infringed are left to defend themselves, while up to the present moment no man has heard that the committer or committers

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1) Cholera showed itself first at Rio de Janeiro in 1849, and seems to have been brought over by an English ship.

This disease, however, has never appeared again these last years.

of one of those attacks on the prisons, the murderers of the imprisoned slaves, have been discovered.

„People are pleased to say that this is the Lynch Law.

„But granting that such conduct was actually according to the law which has been put into operation in some parts of the United States, permit me to ask all who are responsible for public order and safety, whether they would desire such customs to take root in this land.”

„Is that what we here consider worthiest imitation?

„For my part, Mr. President, I wish no such thing!

„But even were this the case there is a vast difference between the Lynch Law of the United States and the occurrences that have taken place here.

„There a man may now and then take the law into his own hands; he is excused by tradition and custom, as well as by a law which, though unwritten, is more or less respected by the authorities and the entire population; there men will not break into the jails in order to drag the prisoners out of them by violence; nay, as a rule this law is only executed on some scoundrel or other who has contrived to elude justice and escape his rightful punishment.

„In such cases the people seize the scoundrel and execute judgment with their own hands. But there the executioners stand openly forward and shrink not from the light of day. They do not hesitate to take upon themselves the responsibility of their deeds.

„Here among ourselves the people go out masked of nights, or they hire anonymous bravos, to whom they secure impunity for all the crimes committed.

„And what is done to prevent this? Merely this — that a few weeks afterwards the police magistrate, who is sometimes concerned in the affair himself, writes to the president of the province that, notwithstanding the most diligent investigation, the police have not succeeded in tracing the culprits.

„These facts, considered in connection with those I mentioned above, have a very threatening aspect, if they do not already indicate the commencement of civil strife, of a bloody war of extermination between the two halves of the population, a struggle in which the authority of Government and

the prestige of the law will soon go to rack and ruin.

„And these unprecedented atrocities will be aggravated by the race hatred that will soon be awakened.

„I wish the Ministry may be clear about this point, and would openly speak its mind on the subject.

„I think I do not speak without due reason when I say that those facts must be regarded as the result of a propaganda, of a succession of ideas, which are now already rounded into a system.

„I beg the earnest consideration of the Senate for what I have now to communicate.

„It is not unknown to any of us that there is an agreement among the representatives of the planters' party in the Southern districts of the Empire, which is worth attention from the proper authorities: I mean the extensive union that has been formed among them for the purpose of biasing the jury so that they acquit the slave-criminals. In that case the accused are sent back to their masters, who then take the law into their own hands.

„I wish to learn from Government whether it approve and applaud the practice that a part of the public arrogate to themselves the right to sit in judgment on themselves, and, moreover, assume authority to exercise the *jus vitæ et necis* over their fellow-men.

„That such disposition is general among the coffee-planters is a fact well known to me, a fact I can attest by the information I have received from various districts.

„Besides, I have heard the truth of what I have said now, confirmed by no less than three influential planters, one of whom is universally admitted to be thoroughly acquainted with the present state of affairs.

„And it has actually been the case in several districts already, that slaves whose crimes were fully and clearly proved, were acquitted by the jury and sent back to their masters.

„I repeat therefore what I said a few minutes ago, that if this is not a threat, it is the commencement of a frightful race conflict.

„The Senate will please observe the drift of the planters' unions that have been established in almost every district of Rio de Janeiro, Minaes-Geraes and S. Paulo.

„So long as the planters come together to defend their rights and maintain them by lawful means; so long as they will support the appointed authorities in their difficult task, by suggesting the measures that, in their opinion, tend to confirm those rights; so long the development of a principle of mutual association must emphatically be applauded and encouraged.

„But they exceed the bounds of the permissible; the statutes of many clubs contain articles from which we must gather that they want to constitute themselves members of an imperium in imperio, and to set aside the operation of the laws and the authority of the powers by law established.

„I request the undivided attention of the Senate to what I shall now read from the Statutes of one of those Planters'-Unions.

„Art. 8. The Managing Committee is empowered to organise a corps of paid and armed district-police, consisting of ten or more persons according to circumstances.

„Art. 9. These policemen shall be under the orders of the Managing Committee, and may be employed to assist the district authorities, if these so desire, and forward their request in writing to said president.”

„This last provision is characteristic.

„The President of a private Union which has a considerable sum of money, organises an armed force, does with it exactly what he likes, and yet has the goodness to assist the legal authorities, provided they submit a written petition for help!

„But there is more to come.

„Art. 10. The Managing Committee is empowered to take whatever measures they think proper against those who favour the abolitionist propaganda in the district, or those that have any share in it either within or without the district.”

„This means that the Managing Committee can employ its police force to expel from the district not only the lawyers and all those that aim at solving the Emancipation question, but the judges themselves.

„How severe and general the tension is, appears from art. 10. „Those that receive abolitionist dailies, shall be regarded as suspected persons!”

„So this is a law that treats receivers of newspapers as suspected persons!

„According to it a man cannot subscribe to a daily without receiving, if he happens to be suspected in the district, a warning to . . . make himself scarce.

„Such an enactment is unprecedented, and, to my mind, absurd (*desatinos*).

„In other statutes I read:

„Art. 4. (secret); art. 5. (secret); art. 10. (secret).”

„That which shuns the light cannot have law for its basis: what do those secret articles signify?

„In the very nature of things, they must commend and direct the preposterous acts of which we are witnesses.

„Now then, all these matters are so very serious, that we must no longer confine ourselves to the investigation and punishment of individual offences; but — and it is to this that I invite the attention of Government — we must take the single, the true means of effecting any possible improvement in the existing state of affairs, by tracing out the causes that have led to such effects.

„Before going farther, I must here declare that inquiring into the causes of the facts I have pointed out, does not seem to me to offer any great difficulty; but the means of preventing such evils in future, will, in my opinion, be less easy to find.

„The principal causes are few in number and matter of general knowledge.

„In the first place then, the population of the agricultural districts, which are the chief seat of slavery, consider that their safety is by no means assured, so that their situation leaves much to be desired.

„Unquestionably something ought to be done to soothe the disturbed minds and to make that part of the nation feel themselves safe; but that is not the only cause of the irregularities I speak of; the principal, perhaps the most important cause of those disturbances, is the opinion current among the slave-holders that it is the custom here to strain the right of reprieve to such a degree as to endanger and undermine their security. In one word, they believe that their safety is secured or endangered according to the greater or lesser activity of the gallows!

„This opinion is very generally disseminated among them; and I must add, that I have heard the same theory advanced by an excellent jurist, for whom I have the deepest respect.

„But Government, but the Legislature, but those who, in however slight a degree, are responsible for the proper conduct of affairs, are bound to give this important question their particular, their undivided attention, seeing that the gravest consequences may be expected to flow from it, in one word seeing that upon it depends the public peace, order and safety; they are all called upon to investigate the problem with the utmost care; and I wish the Government, the members of the Legislature, at least those who are accustomed to lift their voices in parliament — to declare individually their opinion in regard to the views that prevail among the planters' party; for they are all more competent to treat this subject than I am.

„The question at issue is, whether or not there are grounds for complaint on the part of the planters' party in the Southern provinces of the Empire, regarding the use made of the prerogative of pardon. This is the question I put to Government.

„Should it appear that there is just reason for these complaints, Government is bound to declare that it will no longer bear the responsibility of such deeds; and that the penal laws shall henceforth be properly applied and executed.

„Are there no reasonable grounds for that opinion?

„Even in that case, the authorities are not relieved from the duty resting upon them, that they should make this public; for a mistaken notion which is generally entertained, and which gives occasion to the pitiable occurrences I have already mentioned, ought to be opposed and exploded, that those who have erred in good faith, may be better informed and convinced of their mistake.

„And this question can never be better discussed than in a solemn and serious moment like the present.

„I have said that most, if not all of those I appeal to, are more competent than I am to throw light on this grave question, and at the same time that I — entreating them to pronounce their opinion distinctly and without prejudice — have merely expressed my personal views, and the impression I myself have received of the affair.”

After having discussed the right of reprieve, and drawn attention to the fact that capital punishment, owing to the new theory regarding it, is abolished almost everywhere, Senhor Ottoni proceeded thus:

„It is alleged, as a lamentable consequence of the commutation of capital punishment, that the slaves now prefer the galleys to slavery.

„I have already shown that, in former times, when they were on the whole in a far worse condition, not a single slave ever showed such a preference.

„Why then is he changed so radically now, when he is treated so much better and more humanely?

„I deny that the slave really prefers the galleys to slavery; but I do believe that he defies death now, because he is in a strained and excited frame of mind.

„This being so, it is to be expected that the slave that braves the galleys to-day, will snap his fingers at the gallows to-morrow.

„In my opinion we have here reached the point where, according to criminalists, capital punishment ceases to be intimidating and preventative.

„The answer to the question: We are imperilled; how shall our safety be assured? depends on inquiry into the causes of the crimes complained of.

„When the nature and the number of these crimes is spoken of, it is always argued that the abolitionist movement is the only cause of them. Granted that this allegation is not wholly unfounded, still, permit me the question: How is it that this movement entails such consequences?

„Would the results be such, if public opinion were not in favour of the movement?

„The cause must be sought in the history of what — to the disgrace of civilisation — is called among us gradual emancipation!

„For full five years, from 1866 to 1871, the promise of emancipation for the unhappy slaves, streamed like a dazzling sunbeam from the throne to the remotest province of this realm.

„We all remember vividly the progresses made through the interior by the honoured and beloved Head of the State: we

all remember vividly how the slaves, — on their holidays — crowded the roads by which the Emperor was to pass, there to kneel down, behold and bless their liberator. Those five years of glad hope, of joyous anticipation, are past; the hour of their liberation according to the law of 28<sup>th</sup> September came... and alas!... the disappointment of these poor unfortunates was great, poignant, and complete!

„The law provided that those yet to be born should be free; but in truth they are not so, for they can be kept in servitude till their twenty-first year.

„The law, however, promises them liberty on their majority: but what is done for the present generation?

„The law speaks of their gradual emancipation in terms which we are accustomed to regard as *para inglez ver!* 1)

„In his latest report the Minister of Agriculture justly lamented the fact, that up to the present day the State has not been able to purchase the freedom of more than 19000 slaves, while, according to the report, 191000 have died during the same space of time.

„But how much keener must the noble ex-minister's regret and disappointment be when he reflects, that this portion of his report is based on statistics which, as is well-known to everybody, are simply and entirely false!

„Simply and entirely false, as has already been demonstrated in the Second Chamber, without any steps being taken since to correct the abuse.

„According to the official statements the annual death-rate amounts to 1, or at the utmost, 1½ per cent.

„But who here present is ignorant of the fact that the deaths of fazenda-slaves are never entered in the registers?

„Who here present is not aware that a certain class of large planters have private burying-places on their own estates, where their slaves are buried without information lodged with any authority, without any magisterial supervision whatever?

„According to the „Regulamento” of the law of 28<sup>th</sup> September, information of the death of registered slaves must

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1) Literally: That the English may see it; actually, a mystification, a blind.

be lodged with the authorities on pain of fine: but the stipulated information is never lodged! but the stipulated fines are never inflicted! Those whose duty it is to carry out this law, have applied the unsatisfactory enactments badly; as for what good there was in it, they have simply stifled it.

„And the consequence is this, that while Government could grant liberty to no more than 19000 slaves, death has broken the bonds of from 400,000 to 500,000 of those unfortunates who in their life-time looked vainly for deliverance.

„This condition of affairs must be altered: it cannot possibly be maintained longer. It may be said, perhaps, that this is contrary to all expectation, that no one dreamed that the emancipation process would have such results. But neither will this excuse serve us.

„Call to mind the parliamentary debates in this House, read over again what a Minister of Justice said once in the Second Chamber, what the press announced concerning the drift of the law. Even then already the present working of it was predicted; even then the large planters' party was assured: Set your minds at ease; this has nothing to do with the slaves you possess; the law bears only on those that are yet unborn.

„In the debate on the Emancipation Fund in the Council of State, Viscount de Inhomerim, — whom we all know for a man of high character — said, that an annual subscription of 100,000 milreis would be but a drop in the ocean, seeing that 5 or 6 million would hardly be sufficient for the speedy accomplishment of the laudable purpose of the act.

„We have seen how scantily the Emancipation Fund has contributed to the liberation of slaves, and how difficult it is to reduce slavery in this way.

„And what has been done during all these years, to effect the cure of those evils? Nothing, absolutely nothing!

„Now that there is a firm conviction that it is necessary to regard the work of emancipation as a serious matter, it is said: ‚We will gladly co-operate, but the planter would never be able to rally from that blow.’

„After this discussion the Chamber surrendered a part of the taxes to the Emancipation Fund; but this measure also proved a new mystification, for the Fund was not percepti-

bly augmented, because the tax surrendered was dependent on the slave-trade, which owing to the restrictive enactments gradually ceased to exist. From the report of 1882/83 it appears that the increase amounted to only about 130,000 milreis.

„Last year the then ministry admitted the urgent necessity of reinforcing the Emancipation Fund, and proposed to levy a tax of 500 reis per slave.

„And yet, that same ridiculous proposal to levy one shilling per slave, remained undiscussed during the entire session, notwithstanding that the ministry could rely on a large majority in the Chamber. It is since this last disappointment that the exasperation of the slave population has actually disclosed itself.

„It is said that the abolitionists stir up the slaves, while in reality the latter, in consequence of the exasperation and despair into which they have fallen because of the successive disappointments they have experienced, have worked themselves into a state of excitement, which causes them to be reckless of everything.

„Let the principle of the act be applied and its promises be redeemed; let the gradual emancipation, as the present Cabinet desires, be effected on a large scale, and you will see not alone the hopes of the slaves revive, but at the same time the safety of the masters secured.

„Let Government take decisive action in this direction, and it may rest assured of my support. But then it must not come forward with a slave tax of 500 reis per head: to effect anything it must deal with millions, instead of the „tostões” with which its predecessor thought to advance the cause.” 1)

After pointing out the distinction between emancipationists, who desire the actual liberation of the slaves on a large scale, the owners to be indemnified by the State, — and the abolitionists, who demand that the slave have his freedom immediately without any indemnification, Senhor Ottoni declared that the emancipation propaganda is entirely in the spirit of the Rio Branco Bill, and therefore ought to be supported by Government.

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1) Plural of tostão = 100 reis.

Although as a matter of principle he objects to a general tax for the benefit of the Emancipation Fund, he will not on that account withhold his aid from the Government. In his opinion, however, it would be fairer to tax the slave-holders alone, since it is they who reap the profits of the slaves' labour.

He desires to settle the slave-tax on the following footing:

As it is not practicable to determine a standard rate according to age, since persons of the same years may represent a different amount of working power, he thinks it worth consideration that the slave-holder himself should fix the value, though not above a certain maximum sum for each age. Such sum to be settled by law.

When this slave-tax must be paid *ad valorem*, and it is likewise enacted that the lowest valued slaves shall have their liberty purchased first by the Emancipation Fund, then, according to Senhor Ottoni, it may be expected that the friends of speedy emancipation will rate their slaves at a low price, with the two-fold purpose to pay less taxes, and to receive compensation for their slaves at an earlier date.

On the other hand those that advocate the continuance of slavery, those who rate their slaves at the maximum legal value, will have to pay the tax at a higher figure and for a longer period.

Bearing in mind the gradual decrease in the value of slaves, by reason of age and otherwise, Senhor Ottoni considers it scarcely fair to levy the tax on the first valuation: he proposes to calculate for the second and succeeding years, by the valuation of the previous year reduced by ten per cent.

In this way he desires to accomplish emancipation, not exactly within ten years, but before 1900.

As I said above, I myself consider a general tax for the benefit of slave-emancipation scarcely expedient.

Not, however, because of any unfairness towards the non-slave-holders; to my mind there would be no injustice in taxing them also, who insist so urgently on speedy emancipation; — but exclusively on account of the consequences which, I fear, will accrue from it.

The non-slave-holders, that is to say the great mass of the people, desire immediate emancipation, because they have

nothing to lose by it. This is an undeniable fact. So long as men are men their individual interest will appeal to them more strongly than the public good.

Well then, if for the sake of emancipation on a large scale the masses, the non-slaveholders likewise are taxed, and that heavily — for otherwise no progress will be made, as Senhor Ottoni rightly observed — then the demand for unconditional abolition will make itself more strongly felt, seeing that the putting down of slavery will then be a purely monetary question between the opponents of emancipation, who lose everything with the slaves, and the friends of it, who must pay taxes as long as the institution is maintained.

The system of taxation proposed by Senhor Ottoni would undoubtedly be better if only it were capable of being reduced to practice.

And this I doubt: firstly on account of the almost insurmountable administrative difficulties that attend such a system in an extensive empire like Brazil, where everything finally depends on the clergy in the interior; and secondly because of the passive resistance to be expected on the part of the large planters, from whom the tax would have to be raised.

What this resistance implies, has been proved by the registration of slaves and the non-execution of the entire Rio Branco Bill. What may still be expected in that way may be gathered more or less from the opposition which the present Cabinet encounters from the Chamber: an opposition which is only temporarily broken by its dissolution on July 30<sup>th</sup> 1884.

The new settlement of the emancipation question will not, I fear, be effected without a violent political struggle, and even then we shall have to ask ourselves, how it is to be carried out.

By the proposed bill of the Minister Dantas, which if it passes will render the above-mentioned motion of De Bulhões null and void, — freedom is desired for all slaves:

- a.* That have attained their sixtieth year.
- b.* That have not been registered previously.
- c.* That have been removed from their legal domicile.

It is further enacted:

- d.* That all liberated slaves of sixty years of age and upwards have a claim to board and lodging as long as they

remain with their former masters; but cannot insist on payment for work performed: this is left to the good will of the master.

*e.* That, if the liberated slaves leave the service of their masters, they shall be maintained by the State.

*f.* That within a year after the passing of this Bill there shall be a new registration of slaves — based on that of 1871—73 — stating name, age, colour, size, nationality, parentage, physical capabilities, calling, and value. All slaves not re-registered are free.

*g.* That the registration-fee shall be one milreis per head.

*h.* That the value of the slaves be estimated according to age, and must not exceed:

800 milreis for those under 30.
700     "     "     "     between 30—40.
600     "     "     "     "     40—50.
400     "     "     "     "     50—60.

*j.* That the compensation paid out of the Emancipation Fund shall be calculated according to that standard, with this understanding, that the slaves valued lowest shall be the first to be bought out.

*k.* That a tax shall be paid of 5 per cent in Rio de Janeiro and the seven largest provincial capitals, 3 per cent in the other towns, and 1 per cent in the interior.

*l.* That from this time forward there shall be levied a tax of from 10 to 25 per cent on slaves changing hands by inheritance; 5 to 25 per cent on legacies inter vivos; and 10 per cent on sales.

*m.* That the ecclesiastical orders, after the conversion of their lands into Government bonds or „apolices” shall have to pay a duty of 20 per cent on the interest of these apolices.

*n.* That the slave legal domicile shall be considered to be the province where he is on the day the Bill becomes law, always excepting such as are attending their masters on a journey.

*o.* That all slaves whose liberty has been bought out of the Fund, shall be required to continue work for five years in the district they are in, on pain of fine, forced labour on public works, or imprisonment.

*p.* That all workagreements, which must not be entered into for more than three years, shall be registered.

q. That the minimum wages to be paid to the emancipated slave shall be determined annually by specially appointed judges and arbiters.

r. That no traffic in slaves shall be carried on on pain of a fine of 5000 milreis for each offence.

s. and lastly, that all existing state taxes on slave-property, transport, etc., are repealed on the day this law comes into operation.

It is alleged that, if this motion should be adopted, a very great portion of the present slave-population will be able to claim their liberty by reason of the following fact:

At the registration of 1871—73, the slaves imported after 1831 were represented by their owners as older than they really were, for fear they should, as emancipados, be declared free.

It seems now that thousands of slaves who have not actually attained 60 years, are according to the old registers officially above that age, and consequently, have a right to claim their freedom.

Owing to the reasons mentioned the exact number of slaves in Brazil cannot be ascertained within a few tens of thousands.

In the National Library at Rio I have, with the assistance of the various Relatorios, drawn up the following table, showing the number of slaves, according to the official reports, registered in the different provinces.

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PROVINCES.	Ult. 1871	Ult. 1874	Ult. 1876	Ult. 1879	Ult. 1880	Ult. 1881	Ult. 1882
Amazonas . . . . .	996	4,183	4,130	994	974	942	4,716
Pará . . . . .	15,683	44,611	25,916	28,746	30,623	28,174	25,393
Marenhão . . . . .	45,121	74,939	63,967	63,469	63,164	63,080	60,059
Piauhv . . . . .	47,591	25,533	24,318	21,119	21,216	20,839	18,691
Ceará. . . . .	47,899	38,409	33,409	33,409	25,783	21,327	19,588
Rio Grande do Norte . . . . .	6,087	13,484	12,858	10,282	10,282	10,149	10,051
Parahyba . . . . .	14,172	26,025	26,033	26,033	25,596	25,817	25,817
Pernambuco . . . . .	66,499	92,855	93,752	91,992	91,992	97,066	84,700
Alagoás . . . . .	19,220	33,242	30,216	30,317	30,397	29,606	29,439
Sergipe . . . . .	25,351	32,974	27,634	26,514	26,381	26,514	26,173
Bábia . . . . .	103,095	173,639	165,403	165,403	116,108	165,403	165,403
Espirito Santo . . . . .	18,126	22,738	22,659	21,216	21,216	21,865	20,717
Municipio Neutre . . . . .	47,260	47,260	44,775	43,409	43,409	49,837	35,568
Rio de Janeiro . . . . .	207,709	304,744	278,212	279,326	289,239	278,841	268,831
S. Paulo . . . . .	82,843	169,964	154,861	168,950	168,950	168,950	174,622
Paraná . . . . .	8,042	10,715	9,792	10,088	10,088	8,348	7,668
S. Catharina . . . . .	10,641	10,551	13,884	12,829	12,829	12,448	11,049
Rio Grande do Sul . . . . .	83,760	69,366	77,633	81,169	75,937	81,169	68,703
Minas Geraes . . . . .	208,103	235,115	298,496	289,919	289,919	279,527	279,010
Goyaz. . . . .	1,819	10,174	7,888	6,963	6,963	6,711	6,399
Matta Grosso . . . . .	2,253	6,932	7,130	7,051	7,051	7,051	7,051
	1,002,240	1,409,453	1,419,966	1,419,168	1,368,097	1,403,664	1,346,648

According to the Relatorio of 1874, there were 1,002,240 registered slaves on Decr. 31<sup>st</sup> 1871. There it is asserted that this figure cannot be augmented to any considerable degree, (este numero não poderá ser consideravelmente alterado pela definitivo apuração.) In the Relatorio of 1875, however, it is stated that, according to the registration completed on Decr. 31<sup>st</sup> 1874, there were 1,410,668 slaves in the empire, (more consequently than the State names) — besides 49 municipios or districts, the statistics of which had not yet been received. The entire number was estimated at 1,431,300 souls!

It appears, however, from the following tables, that no such number was ever registered. In the last Relatorio, that of 1883, the number of slaves on Decr. 31<sup>st</sup> 1873 is stated to have been 1,540,796 souls; how or why that number has been fixed on, I have been unable to discover. I suspect that it is an arbitrary estimate, meant to display a decrease of 1 $\frac{1}{4}$  percent.

But it is universally known at Rio that the death-rate among the slaves is not beneath the average, so that the number of living slaves at the end of 1883 can assuredly not be estimated at more than one million; most of the deaths are left unregistered, in the first place because registration costs money, in the second because this formality costs the fazendeiros too much trouble, they living, over and above, at too great a distance from the ecclesiastics with whom information must be lodged, to apprise them bel-times of every death.

Information lodged after the legal term would expose them to a fine.

Many fazendas have their own consecrated burying-places.

On Decr. 31<sup>st</sup> 1873 there were 56,165 Riobranco inscribed in the birth-registers; according to the last Relatorio, Decr. 31<sup>st</sup> 1882, there were 173,776 slaves' children registered, of whom 86,012 were males and 87,764 females.

On Jan 1<sup>st</sup> 1883, since the working of the Rio Branco Act, there were only:

12,898 slaves freed out of the Emancipation Fund,  
while 18,051 had obtained their freedom by judicial verdict,  
and 56,056 were liberated by their masters. The sum total  
is thus 87,005 slaves. So, if we accept the (in my opi-

nion arbitrary) estimate of . . . . . 1,540,796  
 slaves at the close of 1873, then after subtracting the  
 number of slaves stated to be living at the close  
 of 1882, . . . . . 1,346,648  
 we obtain a difference of . . . . . 194,148  
 of whom, therefore, 107,143 must be considered to have died  
 in slavery.

So, out of 1,540,796 slaves scarcely seven per cent have  
 died in nine years!

That says much, either against the slave-statistics or  
 for the good care taken of slaves in Brazil.

According to the latest Relatorio issued by the Minister for  
 Agriculture, Commerce, and Public Works, there were in the  
 beginning of 1883, in the province of:

Rio de Janeiro . . . . .	268,831 slaves
Minaes Geraes . . . . .	279,010 "
S. Paulo. . . . .	174,622 "
Total	722,463 "

According to the provincial Relatorios of the same year,  
 however, there were, as appears from the subjoined, detailed  
 tables, in

Rio de Janeiro . . . . .	268,831 slaves
Minaes Geraes . . . . .	311,666 "
S. Paulo . . . . .	174,622 "
Total	755,119 "
	32,656 "

so that we discover a discrepancy of . . . . .  
 in the province of Minas Geraes alone.

TABLE, showing the number of slaves in the province of  
 S. PAULO in the year 1883.

Amparo <sup>1)</sup> . . . . .	4,630	Brotas. . . . .	1,214
Arêas . . . . .	2,293	Belém do Descalvado . . .	2,860
Atibaia . . . . .	936	Capital . . . . .	3,285
Araraquara . . . . .	2,247	Campinas . . . . .	15,665
Apiahy . . . . .	595	Cunha . . . . .	1,744
Araçariguama . . . . .	293	Casa-Branca . . . . .	3,915
Bananal . . . . .	7,168	Caçapava . . . . .	2,609
Bragança . . . . .	2,157	Cannanéa . . . . .	381
Batataes . . . . .	2,312	Cutia. . . . .	393
Botucatu . . . . .	1,812	Caraguatatuba. . . . .	115

1) The names in spaced type are those of the principal coffee-districts.

Cabreuva . . . . .	617	Piedade . . . . .	233
Conceição . . . . .	136	Queluz . . . . .	2,255
Campo Largo . . . . .	339	Ribeirão Preto . . . . .	1,386
Cajurú . . . . .	597	Rio Novo . . . . .	325
Caconde . . . . .	1,769	Rio Bonito . . . . .	131
Cruzeiro . . . . .	1,000	Redempção . . . . .	394
Conceição de Itanhaem . . . . .	48	Silveiras . . . . .	1,685
Dous Corregos . . . . .	620	Santos . . . . .	1,858
Divino Espirito Santo . . . . .	1,358	S. José dos Campos . . . . .	1,618
Franca . . . . .	2,497	S. Luiz . . . . .	2,072
Guaratinguetá . . . . .	5,312	S. João da Boa Vista . . . . .	1,569
Itú . . . . .	2,878	Sorocaba . . . . .	2,175
Itatiba . . . . .	3,019	S Roque . . . . .	650
Iguape . . . . .	1,288	S. João do Rio-Claro . . . . .	4,852
Itapetininga . . . . .	1,787	S. João de Capivary . . . . .	3,612
Itapeva . . . . .	1,410	S. Sebastião . . . . .	395
Indaiatuba . . . . .	1,667	S. Bento . . . . .	667
ItapecERICA . . . . .	197	S. Amaro . . . . .	224
Jacarehy . . . . .	1,478	S. José do Barreiro . . . . .	2,986
Jundiah. . . . .	1,631	S. Barbara . . . . .	241
Jahú . . . . .	1,876	S. Isabel . . . . .	313
Jaboticabal . . . . .	937	S. João Baptista . . . . .	17
Jambeiro . . . . .	269	S. Sebastião do Rio Preto . . . . .	219
Lorena . . . . .	2,464	S. José do Parahytinga . . . . .	97
Limeira . . . . .	3,624	S. Vincente . . . . .	84
Lençoes . . . . .	684	S. Antonio . . . . .	517
Lagoinha . . . . .	381	Serra Negro . . . . .	441
Mogy das Cruzes . . . . .	1,048	S. Carlos do Pinhal . . . . .	3,405
Mogy-mirim . . . . .	3,429	S. Simão . . . . .	1,194
Mocóca . . . . .	1,372	Socorro . . . . .	381
Monte-Môr . . . . .	649	S. J. Baptista do Rio Verde . . . . .	312
Mogy-guassú . . . . .	795	Sarapuh. . . . .	318
Natividade . . . . .	298	Santa Rita . . . . .	641
Nazareth . . . . .	412	Santa Branca . . . . .	839
Patrocinio . . . . .	2,596	S. Barbara do Rio Pardo . . . . .	426
Pinda monhangaba . . . . .	4,177	Santa Cruz . . . . .	253
Parahybuna . . . . .	1,159	Taubaté . . . . .	5,155
Porto-Feliz . . . . .	1,124	Tatuhy . . . . .	1,110
Pirassinunga . . . . .	3,550	Tiété . . . . .	1,527
Piracicaba . . . . .	5,840	Ubatuba . . . . .	706
Patrocinio de S-Isabel . . . . .	442	Una . . . . .	534
Parnahyba . . . . .	398	Villa Bella . . . . .	690
Penha do Rio do Peixe . . . . .	1,354	Xiriricá . . . . .	545
Paranapanema . . . . .	253	Ypiranga . . . . .	107

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 174,622

NB. See table for Rio de Janeiro on pages 120—23.

TABLE, showing the number of slaves in the province of MINAS GERAES in the year 1883.

Abathé . . . . .	1,784	Minas Novas . . . . .	3,368
Alfenas . . . . .	5,022	Oliveira . . . . .	5,630
Ayuruoca . . . . .	3,092	Ouro Preto . . . . .	2,539
Araxá . . . . .	2,735	Passos . . . . .	5,623
Arassuahy . . . . .	2,990	Prata . . . . .	1,662
Bomfim . . . . .	2,919	Pouso Alto . . . . .	2,439
Bom Sucesso . . . . .	1,919	Haracatú . . . . .	1,638
Barbacena . . . . .	8,983	Para . . . . .	2,717
Bagagem . . . . .	2,963	Piumhy . . . . .	2,227
Baependy . . . . .	6,306	Patrocínio . . . . .	2,253
Carmo de Rio Claro . . . . .	1,227	Pouso Alegre . . . . .	3,465
Campo Bello . . . . .	646	Pomba . . . . .	6,392
Cataguazes . . . . .	7,124	Piranga . . . . .	4,851
Carmo do Parnahyba . . . . .	786	Pitanguy . . . . .	3,189
Conceição . . . . .	3,588	Ponte Nove . . . . .	7,251
Caethé . . . . .	1,310	Queluz . . . . .	4,322
Campanha . . . . .	3,779	Rio Preto . . . . .	6,120
Caldas . . . . .	2,720	Rio Novo . . . . .	7,336
Curvelho . . . . .	3,217	Rio Pardo . . . . .	3,667
Cidade Viçosa de S. Rita . . . . .	3,028	S. S. Sacramento . . . . .	1,574
Cabo Verde . . . . .	1,510	Serro . . . . .	4,473
Cidade de S. Francisco . . . . .	408	S. J. do Paraiso . . . . .	1,890
Christina . . . . .	5,599	S. P. do Muriahé . . . . .	7,775
Dores da Boá Esperança . . . . .	2,455	Sete Lagoas . . . . .	2,527
Diamantina . . . . .	7,510	S. Barbara . . . . .	3,379
Formiga . . . . .	3,352	S. Luzia . . . . .	2,399
Grão Mogol . . . . .	2,604	S. Antonio do Monte . . . . .	1,512
Itajubá . . . . .	3,960	S. Antonio dos Patos . . . . .	1,060
Itabira . . . . .	5,305	S. J. Baptista . . . . .	2,680
Januaria . . . . .	997	S. Sebastião . . . . .	3,814
Juiz de Fora . . . . .	21,808	S. João & S. José d'El-Rey . . . . .	10,281
Jaguary . . . . .	1,172	Sabarã . . . . .	3,123
Lavras . . . . .	6,322	Tres Pontas . . . . .	2,817
Leopoldina . . . . .	16,001	Turvo . . . . .	2,262
Marianna . . . . .	6,389	Tamanduã . . . . .	2,851
Mar d'Hespanha . . . . .	15,183	Ubã . . . . .	6,020
Monte Alegre . . . . .	1,366	Uberaba . . . . .	3,212
Montes Claros . . . . .	3,249		1) 311,666

1) According to information received from Brazil, this number was already diminished — July 1st 1883 — to 298,831, slaves.

From the detailed tables we may learn how many slaves in the coffee-districts are employed in agriculture on the whole.

The principal coffee-districts are:

*a.* In the province of RIO DE JANEIRO:

Cantagallo . . . . .	with	21,621	slaves
Nova Friburgo . . . . .	"	4,937	"
S. Fidelis . . . . .	"	18,994	"
S. Maria Magdalena . . . . .	"	12,891	"
Vassouras . . . . .	"	18,630	"
Valença . . . . .	"	25,344	"
Parahyba do Sul . . . . .	"	15,369	"
Barra Mansa . . . . .	"	11,246	"
Rezende . . . . .	"	8,240	"
Pirahy . . . . .	"	11,360	"
Supucaia . . . . .	"	7,377	"
Total . . . . .	"	<u>156,009</u>	"

*b.* In the province of MINAS GERAES:

Juiz-de-Fora . . . . .	with	21,808	slaves
Leopoldina . . . . .	"	16,001	"
Mar d'Hespanha . . . . .	"	15,183	"
S. Paulo do Muriahy . . . . .	"	7,775	"
Rio Novo . . . . .	"	7,336	"
Cataguazes . . . . .	"	7,124	"
Rio Preto . . . . .	"	6,120	"
Pomba . . . . .	"	6,392	"
Ubá . . . . .	"	6,020	"
Total . . . . .	"	<u>93,759</u>	"

*c.* In the province of S. PAULO:

Pindamonhangaba . . . . .	with	4,177	slaves
Bananal . . . . .	"	7,168	"
Taubaté . . . . .	"	5,155	"
Guaratinguetá . . . . .	"	5,312	"
Jacarehy . . . . .	"	1,478	"
Lorena . . . . .	"	2,464	"
Caçapava . . . . .	"	2,609	"
Mogy das Cruzes . . . . .	"	1,048	"
Queluz . . . . .	"	2,255	"
S. José dos Campos . . . . .	"	1,618	"
Campinas . . . . .	"	15,665	"

Amparo . . . . .	with	4,630 slaves
Belém do Descalvado . . . . .	”	2,860 ”
Casa Branca . . . . .	”	3,915 ”
S. João do Rio Claro . . . . .	”	4,852 ”
Jundiáhy . . . . .	”	1,631 ”
Itatiba . . . . .	”	3,019 ”
Pirassinunga . . . . .	”	3,550 ”
S. Carlos do Pinhal . . . . .	”	3,465 ”
Brotas . . . . .	”	1,214 ”
Botucatú . . . . .	”	1,812 ”
S. João de Capivary . . . . .	”	3,612 ”
Jahú . . . . .	”	1,876 ”
Penha do Rio do Peixe . . . . .	”	1,354 ”
S. Simão . . . . .	”	1,194 ”
Mogy-guassú . . . . .	”	795 ”
Mogy-mirim . . . . .	”	3,429 ”
Piracicaba . . . . .	”	5,840 ”
Limeira . . . . .	”	3,624 ”
Monte-Mór . . . . .	”	649 ”
Total . . . . .	”	<u>102,270</u> ”

In whole, then, there are employed for agricultural labour in the principal-coffee-districts of the three principal coffee-producing provinces, 352,038 slaves.

As will be shown in the Chapter on Coffee-planting there are only 284,008 of these employed exclusively in Coffee-culture!

My calculation, thus, proves to be tolerably accurate, as a difference of 68,030 slaves is very insignificant, if we consider, firstly, that there are also towns in these districts where many slaves are kept; and secondly that there are other crops besides coffee cultivated in those parts, albeit on a smaller scale. Moreover, we must not forget that, as I said above, the number of living slaves is smaller than the official registers assert!

An exact calculation is, in the nature of things, impossible. The statistics I have collected are too incomplete for such a purpose.

As a proof, however, that the slaves in the coffee-districts are not employed exclusively in coffee-planting, I subjoin a more detailed table of the slave-population in the province of Rio de Janeiro, which I have drawn up from a table contained in the Relatorio of said province, 1883.

DISTRICTS.	NUMBER OF SLAVES.			
	on 30. Septem- ber 1873.	imported since.	exported since.	died since.
Angra dos Reis . . . . .	3,807	298	891	719
Araruama . . . . .	7,470	800	1,481	1,115
Barra Mansa . . . . .	11,397	4,057	1,641	2,142
Barra de S. João . . . . .	3,534	644	835	518
Cabo Frio . . . . .	6,318	468	1,174	931
Campos . . . . .	35,668	3,459	2,237	5,822
Cantagallo . . . . .	17,562	9,746	1,495	3,800
Capivary . . . . .	3,608	1,306	941	589
Estrella . . . . .	2,613	136	305	603
Iguassú . . . . .	7,350	629	915	1,244
Itaborahy . . . . .	6,964	727	772	973
Itaguahy . . . . .	5,430	381	1,003	956
Macahé . . . . .	9,094	1,273	1,904	1,676
Magé . . . . .	8,268	555	3,458	1,072
Mangaratiba . . . . .	1,513	46	343	234
Maricá . . . . .	5,775	578	920	856
Nietheroy . . . . .	10,743	3,791	2,389	1,448
Nova Friburgo . . . . .	4,576	2,481	1,022	899
Parahyba do Sul . . . . .	18,801	4,632	4,196	3,216
Paraty . . . . .	2,025	137	399	371
Petropolis . . . . .	674	301	196	72
Pirahy . . . . .	13,386	1,924	1,418	2,264
Rezende . . . . .	9,185	3,109	2,068	1,668
Rio Glaró . . . . .	2,398	293	749	338
Rio Bonito . . . . .	6,621	610	1,183	874
S. Anna de Macacú . . . . .	4,090	860	1,128	738
S. Maria Magdalena . . . . .	10,003	6,607	1,485	1,902
S. Fidelis . . . . .	15,693	7,716	2,391	1,732
S. João da Barra . . . . .	5,145	481	565	648
S. João do Principe . . . . .	7,810	632	1,055	1,460
Sapucaia . . . . .	—	8,355	210	648
Squarema . . . . .	5,639	441	1,069	932
Valença . . . . .	27,099	7,339	2,885	5,288
Vassouras . . . . .	21,093	3,104	1,566	3,521
	301,352	77,886	46,289	51,269
Males . . . . .	164,581	42,753	25,203	30,538
Females . . . . .	136,771	35,133	21,086	20,731

	SINCE EMANCIPATED.			Number of slaves 31 <sup>st</sup> July 1882.	Engaged in agriculture.	In th. towns as domestic servants.	Without definites calling.
	By purchase.	By their masters.					
		uncon- ditionally.	condi- tionally.				
19	23	186	87	2,199	2,017	123	59
15	58	214	32	5,370	3,663	680	1,018
42	54	344	27	11,246	8,206	252	2,788
18	19	93	20	2,693	1,812	377	504
31	36	242	20	4,383	2,891	436	1,056
22	273	1,264	144	29,387	22,116	1,102	6,169
00	110	255	27	21,621	11,099	6,641	3,881
39	25	91	—	3,268	2,418	16	825
03	19	105	33	1,684	755	670	259
44	34	185	134	5,467	4,486	91	890
73	56	231	20	5,639	3,246	1,064	1,329
56	36	220	85	3,511	2,700	66	745
76	67	328	18	7,374	5,377	931	1,066
72	32	174	78	3,009	1,388	880	741
34	18	34	—	930	509	170	251
56	34	279	46	4,218	2,580	558	1,080
18	86	1,533	15	9,063	6,094	2,969	—
09	37	157	5	4,937	3,183	802	952
6	103	549	—	15,369	12,632	108	2,629
71	16	192	—	1,184	743	227	214
72	6	71	4	626	375	162	89
54	89	178	1	11,360	9,886	93	1,381
38	64	242	12	8,240	7,262	231	747
38	17	43	—	1,544	1,500	44	—
74	43	186	28	4,917	3,264	693	960
38	29	281	42	2,732	1,794	338	600
02	81	244	7	12,891	12,825	66	—
2	99	190	3	18,994	16,062	110	2,822
8	42	246	—	4,125	2,965	229	931
50	42	177	3	5,705	5,668	37	—
8	54	66	—	7,377	7,305	72	—
2	33	214	8	3,794	2,526	405	863
38	189	732	—	25,344	18,804	421	6,119
41	55	410	15	18,630	11,016	4,907	2,716
59	1,979	9,956	914	268,831	199,167	25,980	43,684
38	967	4,200	440	145,986	111,858	11,179	22,049
31	1,012	5,756	474	122,845	87,309	14,801	20,735

According to the provincial Relatorio there were on July 31<sup>th</sup> 1882 of the

a. 111,858 men engaged in agricultural labour.  
 under 21 years 35,715  
 between 21—60 „ 69,031  
 over 60 „ 7,112

87,309 women engaged idem.  
 under 21 years 28,743  
 between 21—60 „ 53,712  
 over 60 „ 4,854

b. 11,179 men in domestic service,  
 under 21 years 4,174  
 between 21—60 „ 6,744  
 over 60 „ 261

14,801 women idem.  
 under 21 years 7,329  
 between 21—60 „ 7,172  
 over 60 „ 300

c. 22,949 men without definite calling  
 under 21 years 20,806  
 between 21—60 „ 1,491  
 over 60 „ 652

20,735 women idem.  
 under 21 years 19,157  
 between 21—60 „ 1,033  
 over 60 „ 545

From the above table it appears that on September 30<sup>th</sup> 1173 there were. . . . . , . . . . 301,352 registered slaves.

From that date to July 31<sup>th</sup> 1882 were

imported. . . . . 77,886  
 exported. . . . . 46,289

excess of import over export 31,597

Total 332,949

Died within the same period . . . . .	51,269	
Freed:		
Out of the Emancipation Fund . . . . .	1,979	
By private persons unconditionally . . . . .	9,956	
Conditionally . . . . .	914	
	12,849	
		64,118

Number accounted for by registers furnished up to  
31 July 1882. . . . . 268,831

Of these

are engaged in agricultural labour. . . . .	199,167
"      in the towns . . . . .	25,980
without settled occupation . . . . .	43,684

The numbers according to age are:

under	21	years	115,924
between	21—60	"	139,183
over	60	"	13,724

We see, thus, that full 74 per cent of the slave-population of Rio de Janeiro are occupied with agriculture. In the 11 most important coffee-districts of Rio de Janeiro there are, according to this table, 156,009 slaves; of whom only 118,280, or full 75 percent are engaged on the plantations.

Thus if we take it for granted that 25 per cent of the 352,038 slaves in the principal coffee-districts, are not engaged in agriculture, it follows that there are only 264,030 slaves employed on the coffee and other plantations, consequently nearly 20,000 fewer than I, calculating from the statistics I collected, made out to be engaged on the coffee plantations alone. 1)

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1) See the Chapter on Coffee Planting. There it will appear that my estimate of the number of slaves engaged, is founded on different statistics.

This discrepancy does not diminish the value of my calculations, seeing it must be borne in mind that I have taken only the principal coffee-districts, while coffee plantations may be found here and there in the sugar districts, and the lower-lying regions.

I invite particular attention to these calculations, the more that it seems to be generally supposed in this country that coffee-planting in Brazil requires more hands than is actually the case. In the chapter on coffee planting, we shall learn how it becomes possible, with so few people, to manage a crop of more than six million bales.

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## CHAPTER V.

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### IMMIGRATION AND COLONISATION.

It is remarkable what an universal and firm belief in a future immigration on a large scale, exists among the born Brazilians, the *filhos da terra*. To their minds it seems enough that they should will that immigration, in order to cause the stream of emigrants from all ends of the earth, to flow into Brazil. This belief is assuredly not founded on past experience; for the history of colonisation there points to a very different conclusion.

In my opinion that faith is not based on any such grounds, but exclusively on the strikingly pronounced complacency with which the Brazilians regard their native land. I shall not say that they think it perfect in all respects; — far from that; — many — far too many of the higher classes I am told — sound the praises of their native land from the great cities of the Old World. But the praises and enthusiasm continue to be lavished on the immense treasures buried there in the lap of earth; on the incomparable beauty and unparalleled fertility of the land. In one word, it has become a *chapa*, a favourite catchword, to speak habitually of the rich, the favoured Brazil, of the *terra abençoada*, of the *filha dilecta do Evangeho!*

Very general, then, was the surprise, not to say the disappointment, when I, being questioned on all hands as to what impressions I had received during my travels in the interior, was compelled by regard for truth to return a far from enthusiastic answer.

People are so accustomed to hear all travellers speak so glowingly and excitedly of Brazil's marvellous riches, beauty and fertility, that they quite lose sight of the fact that,

although any comparison between Europe and Brazil cannot fail to be gratifying to the latter, such is not necessarily the case if we put any other tropical region in the place of the former. And — I am firmly convinced of this — an impartial comparison with our beautiful Insulinde must, of necessity, be unfavourable to Brazil.

The soil — I speak here exclusively of the three provinces I have visited in person — is certainly unusually fertile. The vegetation undeniably very beautiful and luxuriant, yet we find the same in Java and all the islands of the Indian Archipelago. But what we do not find in Brazil, what may be sought there in vain, — that is the variety of alternating crops, the broad expanse of cultivated hills and valleys which a tour through every province, every district of Java presents to us, that is — and here lies the chief reason why an excursion through the interior of Brazil is so monotonous, so fatiguing and disagreeable — that is, I say, the cheerful activity, that life, in short, which is there found lacking, but which greets the beholder everywhere throughout Java with its 35,000 or more villages.

The Brazilian landscape has something monotonous, something melancholy about it; is bare — unfurnished, as it were. Only here and there do we meet with fazendas or plantations, which are usually some hours' journey distant from each other.

In São Paulo travelling is still more exhausting than in the two other provinces; for hours one may steam past campos and serrados 1) through barren and untilled lands, before one descries another station and some signs of life.

Centres of industry, particular fazendas excepted, are found seldom, and exclusively along the railway.

Roads, with the exception of the ungravelled cart-roads, do not exist. Only one highway, that from Petropolis to Juiz de Fora, in the province of Minas Geraes, with a branch to Rio Novo, has any claim to the designation.

The cultivated coffee-zone does not present the least

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1) Campos are those grass-fields that are unsuitable for most crops, and serrados, the extensive plains, sprinkled thinly here and there with low brushwood.

variety; I think one could not imagine anything in a tropical country more monotonous.

The great plantations in Rio and Minas are chains of round, dumpy hills, planted almost exclusively with coffee-shrubs, but without trees yielding shade. The variety is no greater in S. Paulo; there also the fazendas are scattered like little oases, amidst a wide expanse of fallow land.

A strange thing, to my mind, was, that on none of my tours in the provinces of Rio, Minas, and S. Paulo, did I see a single sign of game. Even in the primeval forests or *mattas virgem* I did not descry a single monkey. If the macuco 1), a bird about the size of a hen, had not now and then uttered its monotonous note, I should have fancied I was travelling through a land devoid of life.

It is needless to say that such a country must be disappointing to those who, like the great majority of European immigrants, have imagined Brazil to be a new Arcadia, an earthly paradise, where, under the shade (?) of the palm-tree, they may amass an American fortune with little labour. And the disappointment will be the bitterer, in proportion as Europeans get less accustomed to hard, exhausting labour. That those exaggerated suppositions have led to miscalculations, and these again to disturbances in the young colonies, is proved by the many and frequent irregularities that occur there, for instance, in 1873 in Bahia, Paraná and Rio Grande do Sul.

The schemes of colonisation in Brazil date so far back as 1812, and even previous to that year; for more than half a century experiments have been trying; yet... all has proved fruitless, and fruitless will remain every endeavour to colonise that beautiful country, so long as slavery continues to be the key-stone, the palladium of Brazilian civilisation.

Brazil has already spent millions and millions on colonisation, and with what results?

Let us briefly examine these.

Among the oldest settlements are those of:

S. Agostinho	in the province of	Espirito Santo	1812
Leopoldina	„	Bahia	1818

1) *Trachypelmus brasiliensis*.

Nova Friburgo	in the province of	Rio de Janeiro	1819
S. Leopoldo	" "	Rio Grande do Sul	1825
Tres Torquilhas	" "	idem	1826
Pedreiras	" "	Santa Catharina	1827
Rio Negro	" "	Paraná	1827
S. Pedro de Alcantara	" "	Santa Catherina	1829
Petropolis	" "	Rio de Janeiro	1843
S. Isabel	" "	Santa Catherina	1845
Blumenau	" "	idem	1850
Dona Francisca	" "	idem	1851
Mucury	" "	Espirito Santo	1852
Rio Novo	" "	idem	1856
Santa Leopoldina	" "	idem	1856
Santa Maria da Soledade	" "	Rio Grande do Sul	1857
S. Lourenço	" "	idem	1858
Itajahu	" "	Santa Catherina	1860
Cananéa	" "	S. Paulo	1860
Assunguy	" "	Paraná	1860
Pedro II	" "	Minas Geraes	1860
Theresapolis	" "	Santa Catharina	1860
Principe S. Pedro	" "	idem	1867

Well, these colonies are among the fifty-four or fifty-five survivors of the 148 that were established in rapid succession. 1) All the others proved utter failures. And of those 55 or so, there are very few indeed which have not been merged in mixed settlements. In the year before last, the youngest subsidised colony was declared free.

The above-mentioned German Colony, Dom Pedro II, I have visited in person. The colonists, who, for the most part, have lost their nationality and, with a few exceptions, speak Portuguese, earn their bread as workmen or artisans. So far as I could learn there were no agricultural labourers among them.

About their cottages they have a patch of ground where they rear some flowers, vegetables, and potatoes. A double row of these peasants cottages bordering the road, constitutes the entire colony, consisting of about 1000 souls.

1) Allgemeine Deutsche Zeitung für Brasilien. 1883.

Between the years 1847 and 1870 the Imperial Government concluded nineteen contracts with various private parties, for the establishment of agricultural settlements. But most of these were never carried out, and yielded nothing but disappointment.

About 1869 or 1870, a German, Herr Grüber, who had lived many years in Brazil, and was what is called „at home” there, proposed to the Government, that it should place him in a position to assist the immigration of about 80,000 Russians from the banks of the Volga. At first the then Government seemed disposed to entertain the proposal favourably, but the succeeding Ministry let the matter drop. They seemed afraid of consequences, for they had already learned by experience that the great majority of immigrants, more especially from Eastern Europe, are not well fitted for agricultural labour. And besides, they had already been obliged to send five or six hundred turbulent Polish colonists back to Europe.

These persons had been entrapped by unprincipled speculators, and thought to get more in the new country than they could justly be allowed.

In 1871 and following years Government seemed to pluck up heart again, for when Lopez died in March 1870, it was expected that the war with Paraguay would soon be at an end, and that consequently the Treasury would be better furnished. Contracts were concluded right and left, which once more led to fresh disappointments.

According to the „Algemeine Deutsche Zeitung für Brasilien,” 1883, the following contracts were concluded then:

1871.	With Tripoti in the province of Paraná for	2,500
	immigrants; a very small part of this contract was executed.	
	With Dr. Bento da Costa for . . . . .	15,000
	immigrants; this contract was never carried out.	
	With J. Beaton for . . . . .	5,000
	immigrants; fidibus.	
	With the Immigration Company in S. Paulo for	15,000
	immigrants; fidibus.	
1872	With General Franzini for . . . . .	50,000
	immigrants; fidibus.	

	With a Joint-Stock company for . . . .	100,000
	immigrants from Piedmont; fidibus.	
	With Montenegro for. . . . .	1,000
	immigrants; not performed in full.	
	With Pinto and Holtzweiszig for . . . .	40,000
	immigrants; in 1883 hardly begun	
	With Polycarpo Leão for . . . . .	10,000
	immigrants; dropped after a short trial.	
1873.	With Paes Beme for . . . . .	500
	immigrants; not entirely executed	
	With Moreira & Co. for . . . . .	10,000
	immigrants; no commencement made.	
	With Serwank, for. . . . .	200
	families; not fully executed	
	With Kitto, for. . . . .	10,000
	immigrants; scarcely begun.	
	With Tabachi, for. . . . .	700
	immigrants; fidibus.	
	With Barday & Co., for. . . . .	500
	immigrants; fidibus.	
	With the Brazilian-Transatlantic Steam-boat Company, for . . . . .	50,000
	immigrants; suspended on account of fraud being discovered.	
1874.	With Gaetano Pinto, for. . . . .	100,000
	immigrants; not quite completed.	

How many of these 400,000 immigrants who were to have been brought over, have ever set foot on Brazilian soil?

It is difficult to ascertain, for nothing is more uncertain and deceptive than Brazilian statistics. 1)

People there are so accustomed to handle enormous figures that we must not mind a discrepancy of a few hundreds of thousands — more, often! It is a fixed rule to consider all third class passengers, that enter Rio and the other harbours, as immigrants and intending colonists. The fact is quite lost of sight that many third class passengers are already settled

1) Não contamos um só ramo de administração ao qual a estatística projecte luz. Todo o que possuimos neste genero é rudimentar e deficiente.

residents, who are coming back from Europe; and besides, that many only stay temporarily in Brazil on their way to the Argentine Republic, towards which the stream of Italian immigrants seems now to be flowing.

According to the Relatorio of the Minister for Agriculture, Commerce and Public Works, there arrived in Rio alone during the last official year, 25,845 immigrants, only 1,086 of whom came over under agreement.

According to the Rio News of 15<sup>th</sup> February 1884 the following numbers arrived at Rio.

In 1874 19,942 immigrants.	In 1879 22,189 immigrants.
„ 1875 11,091 „	„ 1880 22,859 „
„ 1876 30,567 „	„ 1881 21,727 „
„ 1877 29,029 „	„ 1882 25,845 „
„ 1878 24,205 „	

45 per cent of whom were probably Portuguese; 40 per cent Italian, and 8 per cent Spaniards and Germans.

In Brazil the necessity for immigration for free labourers, is universally acknowledged; but, as it seems, that necessity is not yet so urgent as to spur all men on to will, to act. There is a great deal of talk, whole treatises are written on the subject, but this does not lead to vigorous and united action; a few fazendeiros make isolated and, for the most part, fruitless efforts; that is all. And the reason of this?

In my opinion the Brazilians hardly know yet what they really want.

If one talks with the large planters, one must suppose that they support immigration in the exclusive interest of coffee and sugar-cane planting, that they only want colonists to work their lands in place of the slaves. They do not want free colonists, but labourers — *instrumento de trabalho* — for the benefit of their enterprises. Hence it comes that the friends of free immigration receive little support or co-operation from the large planters. And without such co-operation all attempts to draw immigrants to Brazil, must of necessity prove fruitless.

People know and feel this powerlessness: therefore they look for everything from Government, forgetting that it has

done a great deal already, that it has made considerable sacrifices to attain the desired end. Between 1847 and 1878, f. i. Government spent no less than thirty-three million milreis: and the result is so discouraging, that one almost despairs of future immigration on anything like a large scale.

It is true that this is partly Government's own fault, due to incessant postponement of the most urgently necessary measures, especially those bearing on the surveying and division of the Government lands or *terra devolutas*. Nevertheless the general political and social conditions of the land itself have contributed very largely to neutralise measures good in themselves, and to bring immigration to Brazil into discredit in Europe. Permit me to cite a few examples.

Owing to the efforts of Senhor Tavares Bastos and Herr H. Haupt, the Prussian consul, it was resolved in 1856 to establish an International Immigration Society (*Sociedade internacional de Imigração*); the proposal was enthusiastically discussed, everyone approved, there was universal applause, the idea was excellent, but... when it came to money matters, very few were inclined to put their hands in their pockets; so that after one year's barren struggle, the society collapsed.

In 1867 the Minister-President, Zacharias, resolved to encourage immigration by offering to reimburse immigrants their travelling-expenses to New-York and thence to Rio. All Brazilian consuls, in Hamburg, Bremen, Antwerp, Havre and elsewhere, received instructions accordingly. This measure would doubtless have given an impulse to immigration to Brazil, which offered many other advantages besides, had the Itaborahy ministry not issued contrary orders when it took office in 1868.

In 1876 there arrived at Rio a deputation from a body of 46,000 German-Russian immigrants, to ascertain how far the coming of those people, many of whom were farmers, might be expedient. Government invited Herr Grüber to assist the deputation. This gentleman accompanied them to the provinces of Paraná and Santa-Catharina, where they spent four months in exploring the 150 square miles of waste lands which still remained Government property.

The investigation proved satisfactory; and Government

supplied Herr Grüber with the means of bringing over 5000 colonists. But by the time they came the Ministry was fallen, and the new Cabinet would have nothing to do with the matter, alleging that there was no legally ratified agreement, that the undertaking was merely an experiment.

Herr Grüber was at his wits' end; but he persuaded the immigrants to go to Paraná nevertheless; there, however, they received such wretched lands, that most of them left the country again, and went to Europe, North America, or the Argentine Republic.

The fate of these Russian immigrants caused Herr Grüber to write to Hungary and dissuade the 30,000 intending immigrants there from coming.

Such examples of lack of energy, lack of savoir faire, are numerous. People console themselves with the thought, that matters will improve as time goes on, that they are now in a period of transition.

With all this, there is the fear not openly acknowledged as yet — of the national party, that they may at some time be over-mastered by the foreigners. The danger exists; but it is not of such a nature that immigration on a large scale should be thwarted because of it. General experience goes to prove that, even should all the immigrants retain their nationality and their pride in it, this is assuredly not the case with children born and bred in Brazil. These are, and remain, in the first place Brazilians.

That in the province of Rio Grande do Sul, where the German element is at present most numerously represented, the descendants of the Germanic immigrants speak of themselves with a certain pride as *Deutschländler*, in contradistinction to the born *Deutschen*, — is not so much that they dote on Germany and the social conditions there as that they count their extraction higher than that of the Brazilians of the colonial period. Of all immigrants the Germans are those that lose their nationality first, whether it be voluntarily, whether it be under compulsion. By far the greater number fall into the latter category, because they have left their „heimath” without having provided themselves with the necessary documents.

In Germany the Government is more or less opposed to

immigration on the whole. Immigration to Brazil seems to be regarded with special disfavour, seeing that the act carried in 1859 by the Minister von der Heydt is not yet repealed.

The „Algemeine Deutsche Zeitung für Brasilien” states, that there are now 180,000 Germans settled in that country, who have forfeited all claim to the diplomatic or consular support of their Government. They are actually in the very peculiar position, — that they have no nationality. Not till after the German-Brazilian treaty of 15<sup>th</sup> July 1882, was there a German consulate at Rio.

Besides the reasons stated above, we must mention the mania for speculation as having militated powerfully against every project of colonisation in Brazil.

Brazil has not been fortunate in the choice of her agents in Europe. According to Von Tschudi, one of the most trustworthy writers on Brazil and Brazilian conditions, the immigration set on foot by the Mucury Society, f. i. failed because — through the connivance of the officials — jail-birds, from the prisons of Potsdam more especially, had been despatched instead of agricultural labourers. On the same grounds arose the once notorious dispute between Senhor de Campos Vergueiro, planter and Senator, and the Swiss Government.

That such colonists are not received with open arms, and are not treated exactly as brethren, stands to reason, and appears to me the most natural thing in the world.

In a speech delivered on occasion of the second Coffee-Exhibition at Rio, 30<sup>th</sup> October, 1882, Senhor Rio Bonito, one of the greatest coffee-producers in Brazil, said among other things that he had more than 600 contracts in his hands, in performance of which European correspondents had sent shoemakers, tailors, and such-like people, to be employed in coffee and sugar-cane planting. It may be safely assumed, then, that three-fourths of the colonists in Brazil have been drafted from the capitals of Europe.

An immigration of agriculturists to Brazil, is a vital necessity for that empire. Simply to maintain coffee-planting as „grande lavoura” after the emancipation of the slaves, there are — as I shall explain in the chapter on Coffee-planting, at least 700 or 800 thousand colonists required.

So long as Brazil herself has not broken with the system of

delusion pursued hitherto, that of representing the conditions of the country to be far finer than they actually are, so long shall immigration on an extensive scale continue to be impossible: 1) One unsuccessful experiment is enough, by reason of the disappointment it occasions, to ruin the cause for years.

In England, f. i. Government has felt bound to dissuade the people from immigrating to Brazil because of the unsuccessful colonization project of the Kitto-Company. From the subjoined document it will appear how fully this warning is justified.

As it appears that renewed efforts are being made to stimulate emigration to Brazil, the subjoined Notice, originally issued in February, 1875, is now re-issued by direction of the Secretary of State.

Government Emigration Board,  
Downing Street, 19<sup>th</sup> June, 1876.

BRAZIL.

Caution to Emigrants.

Her Majesty's Government having been informed that another scheme is in progress for promoting emigration from the United Kingdom to Brazil, the Emigration Commissioners have been directed by the Secretary of State to remind intending emigrants of the unhappy results that have attended previous schemes of emigration to that country. In 1872 and 1873 several parties of emigrants, amounting in the whole to about a thousand souls, emigrated from the United Kingdom to Brazil under promises of being provided with land on favourable terms, and of assistance in its cultivation until they could support themselves, and in the expectation that they would be able to get their first crop at the end of six months. These promises and expectations were not fulfilled. The emigrants did not obtain their land, sickness broke out among them, many died, and those who were able to do so made

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1) Mas o grave erro na materia foi querer fazer immigração official, aceitando-se tudo quanto os agentes na Europa mandavão para cá a tanto por cabeça e deixando se correr, á conta do Brazil, as promessas as mais extraordinarias, enganadoras e irrealisaveis.

A. d'Eseragnolle Taunay,  
Member of the Second Chamber.

their way down to the capital in the hope of obtaining assistance from Her Majesty's minister there. Since then some of the widows and children of the men who died have been sent home, some of the emigrants have been removed to other settlements, and Her Majesty's minister is still engaged in endeavouring to obtain from the Government of Brazil assistance for those that remain. The accounts which these emigrants give of their present situation, show that they have suffered great hardships and privations, and have been far from improving their condition by emigration to Brazil.

The settlement which it is now proposed to form appears from the prospectus put out by the promoters to be situated on the high lands where the climate is healthy and the soil fertile. But, on the other hand, it is remote from any market at which the settlers could sell their surplus produce, or procure the supplies they might require; the nearest town of any size, Curitiba, the capital of the province, being at the distance of 62 miles. A tramway will, it is said, be constructed between the settlement and Curitiba, but such works are unavoidably slow in construction in a country where labour is scarce and expensive.

The distance of the port being 114 miles, and the voyage from thence to Rio de Janeiro by steamboat 40 hours more, the alleged market to be found at Rio for all produce may be put out of account.

Emigrants should also remember, that in going to Brazil, they go to a country where the language, the laws, the religion, and the habits of the people, will be strange to them; and although it is promised that a church and schools shall be hereafter provided, neither at present exists. It is very important that before making up their minds to emigrate to Brazil, emigrants should well consider these facts, and should understand that if they decide, notwithstanding this caution, to do so, they must accept the responsibility of the result.

By order of the Board,

Government Emigration Board,

RICHARD B. COOPER.

Downing Street, S. W.

10<sup>th</sup> February, 1875.

In a meeting of the „Sociedade Central de Imigração,” held on Dec. 15<sup>th</sup> 1883 at Rio, the President said in the course of his speech, that Italian colonists had many a time come to him with tickets signed by a Brazilian agent, which bore the following words in large capitals: Every colonist is entitled to six months board and lodging gratis. 1)

It is superfluous to say that promises like this appeal to the vagabonds in the first place, and give occasion to complaints on their side. The vagabonds and fugitives from justice remained in Rio or went to other towns in the interior; the good colonists, however, the agricultural labourers, complained to the Italian consul, who either sent them back or supported them until such time as they were able to maintain themselves.

The result of all this is, that the Italian Government likewise regards immigration to Brazil with disfavour, and does nothing whatever to further it.

The reports regarding maltreatment of the colonists, seem to me to be very much exaggerated. That there have been and are differences between labourers and employers of labour, admits of no manner of doubt: but to infer from this that the immigrant is worse off in Brazil than elsewhere, would be very far beside the truth. In this question I am inclined to take the part of the planter, and that for two reasons.

In the first place the existing law of contract, (*lei da locação de serviços*) favours the labourer more than the employer. Besides, most of the immigrants that come here under agreement very soon become aware that they can obtain easier and better-paid work on the railways. They then do their best to slip out of the contract. They often give reason of complaint in order to be discharged. If frustrated in this, they go farther, and provoke the fazendeiro into committing acts that enable them to legally break the agreement. Many simply desert the plantation leaving debt behind them, and although they may be compelled by law to return to the fazenda

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1) Quantas vezes, imigrantes Italianos não me mostrarão uma papeleta assignada por um intitulado commissario brasileiro, em que se lião em letras maiores as seguintes palavras:

Ogni colono avrà diritto a sei mesi di vitto ed'alloggio gratis!

a planter very seldom avails himself of this enactment on account of the expense of obtaining a judicial verdict.

The great fault of the fazendeiro is, that he has not the knack of dealing with free labourers. As a rule he is too kind; at first he is too lenient and allows the immigrants more liberties than they are justly entitled to. If he comes to see afterwards that his kindness and liberality are misplaced, then he begins to behave as a contractor-employer; but it is now too late. The colonist knows he can get work anywhere, while the fazendeiro will find it difficult to replace him. Accustomed to deal with slaves only, he thinks it no harm to interfere with the colonist's domestic arrangements. He inclines, f. i. to make matches between the young people, without paying much heed to their mutual sentiments. To get what he thinks a fine couple married to each other, in the interests of colonisation, he will move — so to say — heaven and earth. Very often he bears the expenses of the wedding, and portions the young couple. All this gives him a right, he thinks, to be consulted on all domestic matters, and to interfere in family disputes. In short, he regards the colonists as dependents and serfs, rather than free labourers.

The Immigration and Colonisation question is a very difficult problem, the practical solution of which will perplex many a Brazilian statesman yet.

The ex-minister, Senhor Diogo Velho, told me that his experience as a statesman and fazendeiro left him little hope of the speedy and satisfactory solution of the labour-question. He himself made an experiment on his establishment. The immigrants were Portuguese. In May 1879 he brought over from Madeira at his own expense several Portuguese families, fifty-one souls all told.

With the adults he concluded an agreement for five years; the conditions were as follow:

1. They had to work 10 hours a day for a settled sum of 240 milreis a year, besides:
2. Travelling expenses from Madeira to the plantation.
3. Free house, medical attendance, and nursing.
4. Children of 12 years could earn 12 milreis a month, if they worked well.
5. The younger children received primary instruction gratis.

6. And lastly, the colonists received land gratis on which to grow provisions for their own consumption.

Every family got a certain portion of the existing coffee-grounds to work. Half the crop went to the landlord, the other half was indeed to be delivered up to him, but for this the picker received payment equal to market-price.

Notwithstanding those advantageous conditions almost all of them left the plantation before they had worked two years; most of them were encouraged to leave by Senhor Diogo Velho himself, because they did literally nothing. Only a dozen remained on the plantation, and were there when I visited it. They worked on a verbal *parceria*-agreement. 1)

According to Senhor Diogo Velho, it is vain to reckon on Portuguese immigrants for the *grande lavoura*. They prefer to be day-labourers in the large towns.

The Italian colonists — especially those from Northern Italy — give on the whole greater satisfaction. They are satisfied with little, very frugal, and more easily managed than the German colonists, who appear to have little taste for coffee-planting.

Although the projects for colonising Brazil date from the beginning of this century, it is just in the principal coffee-producing provinces that the fewest colonists are found. In Rio and Minas together there are not a hundred families engaged in coffee-planting. In that respect S. Paulo is in advance of the others. The number of colonists employed on the coffee-plantations there amounts, according to statements made to me, to 1000 households. The first colonists in this province were Germans, who came over in 1829 to the number of 926 souls; their passage being paid by the State. They seem to have given little satisfaction; for after they were dispersed there were no more European immigrants brought over for 20 years. In 1847, Senator Vergueiro brought over 80 Swiss families for his coffee-plantation, Ibicaba. 2) It is principally owing to his efforts and those of his son, the present owner of that *fazenda*, that the so-called colonisation of S. Paulo is

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1) *Parceria*-contract: agreement for half the crop.

2) See: A Provincia de S. Paulo. Trabalho estatístico, histórico e noticioso pelo senador do Imperio Dr. J. F. de Godoy, 1875:

so far advanced, in comparison with the other provinces.

The agreements made with the colonists in regard to coffee-planting, differ very greatly. Scarcely anywhere are the conditions alike. Roughly speaking, those agreements may be classed as common and *parceria* contracts.

The common agreements are of two kinds, — either a definite sum to be paid for working and picking, or a fixed wage per day.

The *parceria*-contracts may also be divided into two sorts, according as the payment is dependent on the market-price of coffee, or independent of it. In the first case the clear profits of the crop are divided, in the second a price is fixed previously, for the half of the product, prepared or unprepared.

As I shall return to this subject in my chapter on coffee-planting, I shall simply note here that in Campinas the usual conditions are as follow.

For picking the coffee the planter pays 500 reis — (a shilling) per *alqueire* of 40 liters for the fruit of old plantations and only half that sum for the crop of young trees. As nothing is paid, however, for the dressing of the old gardens, the keeping of the new ones must be paid for separately. These must be dressed at least five times a year, each dressing being paid at the rate of 250 reis per thousand trees, or half a crown a year per hectare.

In the Colonies of Soutinha and Sete Quedas in the district of Campinas, the colonists receive no remuneration for keeping the plantations in order, but they are paid 36 per cent of the nett profit of the crop of the old gardens, and 50 per cent of the new. It is assumed as a rule that 3 *alqueires* of 40 liters of picked coffee are equal to 1 *arroba* or 14,69 kilograms prepared.

The colonists of Soutinha and Sete-Quedas are engaged on the following terms:

1. The travelling expenses (about 120 francs from Genoa to Rio) are advanced without interest by the *fazendeiro*.
2. The travelling expenses from Rio to the *fazenda* are cleared by the state and the province.
3. As indemnification, moreover, they receive from the province a gift of 40 milreis for each person upwards of 12

years, and 25 milreis for each child under that age.

4. Instead of provisions they receive money in advance, in proportion to their earnings. These advances are not subject to interest, and are paid once a fortnight.

5. The new colonists require to leave 20 per cent of their earnings standing, as security for performance of the contract. On that money they receive 8 per cent interest. In case of breach of contract, — that is to say, if they quit the plantation within five years, — they forfeit that 20 per cent.

6. And lastly. Besides a free house they receive a piece of arable land.

As the great planter Senhor Moreiro de Barros rightly remarked when he held the portfolio of Foreign Affairs under the Sinimbù Ministry, little reliance can be placed on European immigration for the *grande lavoura* (coffee-planting) because the Europeans will only work for their own hand and on their own lands 1), while labourers are required to take the place of the slaves on the existing plantations.

Senhor Moreiro de Barros has here touched the seat of the evil. Until agrarian conditions in Brazil undergo a radical transformation, European immigration, no matter what efforts are made in its behalf, will continue to be restricted within very narrow limits. And as long as slavery continues to exist no change can take place. Not till emancipation has been effected will the immigrant-farmer have a chance of acquiring land of his own in proximity to a sea-port, and at a fair price. For it may then be anticipated that the huge landed estates must be divided.

Would Government further encourage small farming, by abolishing the 6 per cent tax on sales of landed property, and especially by reducing the high provincial and state export-duties on the products, then only could immigration on a large scale be secured.

At present the colonist is obliged:

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1) A colonisaçào européa se pôde dar aqui de uma unica forma é que os immigrantes desta procedencia estabeleçave-se em propriedades suas e trabalhem por propria conta.

Mas não é disso que o governo se preoccupa tratando da immigraçào da China; mas sim de dar trabalhadores à agricultura já constituida.

1. either to work for the fazendeiro under a *parceria*-contract on a plantation worked partly by slave labour;
2. or to hire himself as a day-labourer on the railways and other public works;
3. or to buy land in the interior of those remote provinces where Government still possesses *terras devolutas*, and there enter on a life of care and anxiety.

For their crops are unsaleable: in the first place because, the population being so sparse, there are no markets yet in the vicinity; secondly, because the cost of transport is so great that they cannot send the products to the sea-ports for sale.

Government has at present an opportunity of giving practical assistance to European immigration. In Dec. 1883, however, it was resolved to convert the estates in mortmain into Government bonds. If Government would itself take those estates at a valuation 1) — they are all surveyed, and situated in inhabited neighbourhoods — divide them into parcels, and place them at the disposal of the colonists, then, I think, we might confidently expect a rapid and considerable increase in the numbers of immigrant-farmers.

Unfortunately Government is in such urgent want of money just now, that it will hardly permit itself such a sacrifice.

It seems strange that no fazendeiro as yet has struck out the idea, or at least put it to the proof, to divide his plantation into shares, and to make the colonists shareholders, thus securing their personal interest for the undertaking. It is true that the permanence of coffee-planting would not be secured by this, — because the shareholders would have to make their own choice of the crop to be raised; but, on the other hand, the value of the estate would not be reduced after the final abolition of slavery.

Without immigration on a large scale agriculture must of necessity retrograde, seeing that after their emancipation the slave-population will raise no more than they require for their own use, especially during the first years of their freedom.

The only obstacle to the colonization of Brazil, — the

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1) From certain Rio newspapers I see, that offers have already been made to buy those estates en bloc, for an approximate sum of 25 million milreis.

large landed estate system — neither can nor will be removed, at least for the present. In my humble opinion, however, the efforts being made to attain the end by circuitous ways, are doomed to disappointment.

On the 22<sup>d</sup> of April, 1881, the Government issued a new law bearing on immigration, a law which, according to the conceiver of it, the minister, Buarque de Macedo, solves the great problem. „Se pode esperar a solução definitiva da problema da imigração, said he in defending his Bill. According to this law Government allows the immigrant nothing except:

1. Eight days' quarters at the cost of the State on the little island das Flores in the bay of Rio;
2. A free passage to the place of his destination;
3. The right to purchase a piece of the terras devolutas to be paid by instalment.

All other favours and privileges granted by former acts, are thereby withdrawn.

Nevertheless, the very next year, Government resolved to deviate from this law, and again to enter into contracts for the transport of colonists. By decree of 30<sup>th</sup> December 1882, the old contract concluded with the Hamburg Colonisation Company in 1849, was renewed for five years, and that on the following conditions.

The above mentioned Company undertakes:

1. To bring over 1000 colonists annually for the use of the colony of Dona Francisca (Rio Grande do Sul) or any other place indicated by Government.
2. To build an hospital in that colony, and to appoint a clergyman, a priest, a doctor, and an apothecary, to officiate among the colonists.
3. To build and maintain highways, on which they must expend at least 20,000 milreis a year.
4. To sell the 202 square kilometers land, granted to the Company by Government at the price of  $\frac{1}{2}$  real per 4,84 square meters, to the immigrants in small parcels at a moderate price, and a long date, without interest for the first two years, and afterwards at a maximum interest of 6 per cent a year.

On the other hand Government binds itself to pay the Company:

1. An annual subsidy of 70,000 milreis.
  2. A premium of 78 shilling for every colonist between 10—45 years, and 87 shilling for every child between 4—10.
- Moreover the Government undertakes to expend 5000 milreis per annum on keeping up the road between Joinville and Rio Negro in order to facilitate communication between those places.

The various provincial Governments seem likewise to anticipate little good from the so-called free immigration which Senhor Barque de Macedo wishes to encourage.

On December 12<sup>th</sup> 1881, the province of Minas Geraes concluded a contract with Messrs. John Petty & Co. for the importation of 1000 colonists per annum from the Canary Islands. That contract has now passed into the hands of Messrs. Agostinha Pires & Co. 1)

In virtue of the provincial law of 24<sup>th</sup> October 1881. 2) No. 2819, the fazendeiros of Minas that import colonists for agricultural purposes, receive a certain subsidy.

Similar arrangements exist for Rio and S. Paulo likewise.

In the latter province an act was carried, March 15<sup>th</sup> 1884, in accordance with which a sum of 400,000 milreis a year on the provincial budget will be allotted to paying the passage of immigrants coming to settle in the province, whether voluntarily or under agreement. The travelling expenses, however, must not exceed 70 milreis for immigrants upwards of 12 years, 35 milreis for children between 7—12, and 17<sup>1</sup>/<sub>2</sub> milreis for children between 3—7. For 8 days after their arrival they will be fed and lodged at the expense of the province.

To cover the expenses, a provincial slave-tax has been introduced, of 3 milreis per annum for a fazenda slave, and 5 milreis per slave in the towns.

After the unsuccessful attempt to introduce Chinese coolies, there has been more interest shown again in European immigration. Whether the Brazilians will suffer themselves to

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1) See: Falla que O Exm. Sr. Dr. A. G. Chaves dirigio à Assembleia legislativa provincial de Minas Geraes. 1883.

2) See: Collecção das leis, resoluções e regulamentos da provincia de Minas Geraes. 1881.

be taught by experience, and contrive to shun the rocks whereon former endeavours suffered shipwreck, time must try.

Brazil offers European immigrants a splendid chance of making a good living. The only question is, whether they can get land in a situation where, considering the means of transport, agriculture can be made a paying business.

Even before the passing of the Rio Branco Bill, the Brazilians had considered the question of Chinese immigration.

By decree of 9th July 1870, supplemented by those of 1872 and 1874, certain privileges were granted to a company for the purpose of importing Chinese coolies. 1). By means of this company 1000 Chinese were brought over in 1874, mostly with a view to the cultivation of the tea-shrub. It appears that there are about 100 of these Chinese settled in Rio and other towns, in Rio especially as cooks.

As their employers were tolerably well satisfied with them, it was natural that a desire should be felt to encourage Chinese immigration in behalf of agriculture, since European immigrants failed to present themselves.

Under the Sinimbú Ministry the subject was discussed anew.

From the Records of Parliament, (Annaes do Parlamento Brasileiro) of 1879, we may learn what European and Chinese immigration was expected to do for agriculture.

The then Government had little hope of reviving Coffee-planting by means of European colonisation and therefore turned its eyes towards China, in the hope of introducing cheap labourers from thence to take the place of the slaves. 2)

1)... «que já em 1870 o governo julgou necessario e conveniente conceder favores a uma companhia, no intuito de promover a immigração chineza para o Brazil, e para isso expediu o decreto de 9 de Julho de 1870, prorogado por um de 1872 e outro de 1874.

Minister Moreira de Barros.

Debate of 3 Sept. 1879.

2) «Então como agricultor, e hoje como ministro, nunca considerou o introdução de Chins como elemento de colonisação, mas como um das meios de auxiliar a transição do trabalho.»

Minister Moreira de Barros.

Debate of 3 Sept. 1879.

Another means of saving this staple industry did not occur to Government, so it requested the opposition to come forward with a contra-motion, if a better expedient presented itself to them. 1)

Hard pushed by the minister, the opposition could find nothing to urge against the Government proposal, except that it feared the Chinese immigration would „Mongolise” the Brazilian population. It was on that occasion that the deputies Joaquim Nabuco and Antonio de Siqueira lamented that the Netherlands no longer swayed the sceptre over Brazil, saying that in that case the realm would, in their opinion, have been farther advanced on the path of development and prosperity. 2)

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1) »Si o governo chegou ao resultado de procurar este, è que està convencido de que não encontra outro.

Si espiritos mais atilados, mais concededores do assumpto sabem outro meio, indiquem-no francamente!

. . . . Considerando que a fmmigração européa no Brazil, sendo de vantagem problematica para a grande lavoura e não tendo apparecido outro meio de substituir este estado de difficuldades em que nos achamos, o governo lançou os olhos para esse paiz” (China). Senhor Moreira de Barros, in the Debate of 3d Sept. 1871.

2) »Mas eu disse que a sorte do paiz talvez fosse outra, si os hollandezes não tivessem abandonado o nosso territorio. No estado de adiantamento em que a Hollanda encontrou este paiz, ella já tinha meios de desenvolver-se e prosperar por si só, não se tratava, pois de uma nova raça que viesse conquistar e subjugar a brasileira.

O que a Hollanda trouxe para este paiz novo, para esse norte do Imperio, no qual se estabeleceu, foram certos principios generosos que comparei as luzes cambiantes de um pharol allumiando os mares da America no seculo XVII: a liberdade do commercio, e a liberdade da consciencia!” Joaquim Nabuco.

»A Victoria dos portuguezes foi uma fatalidade para o Imperio!” Antonio de Sequeira.

However gratifying the above statement may be to the Netherlands, it must not be forgotten that it was made by the opposition in the heat of debate. Not only in Rio but also in Bahia, several people assured me that it was universally supposed that a Dutch supremacy would have developed the resources of the country earlier and perhaps to better purpose.

This assurance implies a censure on the colonial policy of Portugal, but not on the want of push and energy displayed by the patriotic Government since the Declaration of Independence.

From a practical point of view — that is to say, if we put ourselves in the planter's place — I myself, believe that the introduction of Chinese coolies, provided their wages are not too high, is the only means to sustain coffee and sugar-cane planting as *grande lavoura*.

But assuming that Chinese coolies can be introduced, it still remains to be seen whether they could be made useful for coffee-planting. In my opinion the Brazilians pay too little attention to the following facts:

1. Chinese farmers do not emigrate; so that there as in Netherland India it is only the vagabonds and proletaries from the maritime provinces that can be persuaded to come over. For this reason Chinese immigrants are of little use for agricultural work in general, and for mountain coffee-planting in particular.

How much difficulty there is to get good coolies for Deli on the East Coast of Sumatra, a country so close to China! When we have to bring over to Deli coolies from British India, because the Chinese labourers are useless for field-work, how can the Brazilians employ these people in coffee-planting?

2. The wages in Brazil are too high to allow of free labour being employed on the coffee-plantations. According to the statistics with which I have been furnished, the planter pays at present:

At Porto-Feliz (S. Paulo) on the sugar-plantations, from 16, 17, up to 20 milreis 1) a month, with board: daylabourers receive from 1,280 to 1,500 reis, if they work in the fields, and from 1,200 to 2 milreis if they are employed in the factory. 1)

The children that work in the factory receive from 200 to 800 reis per day.

One milreis is paid for cutting, binding, and loading a cart-load of sugar-cane, weight about 1500 kilograms.

Piracibaca. S. Paulo. Field labourers are paid there from 25 to 30 milreis a month, with board: day-labourers from m 1,400 to m 1,500. Factory hands m 1,500 to m 2. Navvies m 1,700

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1) A milreis is 2/6. These statements are taken from a letter written me by Mr. J. Demoulin, Engineer, agent for Messrs. Brissonneau Brothers & Co. of Nantes, now charged with appointing agents for the central sugar manufactories.

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to m 2,400. Children from 500 reis to m 1,200 according to age and work.

For cutting, binding, and loading a cart of sugar-cane, 1 milreis.

Lorena (S. Paulo). Field labourers 12, 14, 16 up to 20 milreis a month, with board.

Day-labourers from m 1 to m 1,200; factory workers from m 1,200 to m 1,500.

As will be shown in my chapter on Coffee-planting, the payment for coffee-planting is somewhat higher.

As I have heard on various occasions, both in Rio and S. Paulo, the planter according to Mr. Tong King Sing — of whom more hereafter — must calculate on paying from 20 to 25 milreis a month per Chinese, besides board and lodging.

Under such conditions it is impossible that Coffee-planting, the market price being what it is at present, can yield any profit whatever.

In my opinion the Brazilians think too little of these facts; or they flatter themselves with the hope of high prices at a future time. They wish to introduce Chinese labourers to take the place of the slaves, as the only means of maintaining the coffee industry. It is urged that the trade must be saved by this means, or the planters must declare themselves bankrupt. There is no other resource open. 1)

If this be so, Coffee-planting is doomed. For as we have seen from Chapter III, the action of Government in regard to Chinese immigration, has led to no results.

When, in October 1883, Mr. Tong King Sing, Managing Director of the China Merchants Steam Navigation Company, arrived at Rio for the purpose of negotiating with Government regarding the establishment of direct Steam-boat com-

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1) Nos tratamos de importar o chim como braço do trabalho; coms substituto de braço escravo, como remedio immediato para que a lavoura não pereça . . .

Ou salvemos a lavoura, ou declaramos a bancarota!

Ou aceitar o substituto que se acha mais proximo, ao braço escravo, ou fazer a ruina do-paiz. Não temos outra salvação. Infelizmente estamos em taes condições.

Martim Francisco.

Debate Sept. 4th. 1879.

munication between China and Brazil, which would facilitate the introduction of Chinese coolies, — the planters were once more high in hope. But they were soon disappointed, as well as the agriculturists of Dutch Guiana, who desired to avail themselves of this opportunity to bring Chinese coolies into Suriname.

Public feeling in Rio was against Chinese immigration; so that Government refused Tong King Sing the desired subsidy of 100,000 dollars per annum.

On this Mr. Tong King Sing made a tour through the provinces of Rio, Minas, and S. Paulo, in order to speak with the various fazendeiros, and ascertain how far it was possible to get his countrymen placed there as free labourers.

In the meantime Unions were formed at Rio, both for and against Chinese immigration.

The Sociedade Brasileira de Imigração and the Sociedade Central de Imigração, which wished to further European immigration alone, protested against any importation of Chinese coolies, in the interests of the public: that is to say, for fear of a possible (?) mongolisation of the already mixed population.

On the other hand the Companhia Comercio e Imigração Chinezinha many of whose members were traders and landed proprietors, endeavoured to raise money from private sources so as to conclude a contract with Tong King Sing.

They would certainly have succeeded, if other people had kept on good terms with the aforesaid son of the Celestial Empire. He, however departed unexpectedly on the 9th of November 1883, after a sojourn of scarcely a month; in consequence, it was said, of a telegram from China via London. His precipitate departure was ascribed to the complications that had arisen between China and France.

Tong King Sing's intention of visiting the Dutch West Indies, was frustrated at the same time.

It is not improbable that the failure of the whole affair is due to the influence of England. Soon after Tong King Sing's arrival in London, the following letter appeared in the Anti-Slavery Reporter, Dec. 1883.

„To the Right Hon. the Earl Granville K. G. etc. Her Majesty, Principal Secretary of State for Foreign Affairs.

My Lord.

I have the honor and satisfaction to inform your lordship that the scheme for introducing Chinese coolies into Brazil has been put an end to by the prompt and energetic action of Mr. Tong King Sing, the managing Director of the China Merchants' Steam Navigation Company.

„Your Lordship was informed by a letter adressed to Lord Edmund Fitzmaurice, on the 27<sup>th</sup> of July last, that a deputation from this society had waited upon Mr. Tong King Sing respecting the contract which he contemplated making with the Brazil Government, and for which purpose he was about to proceed to Rio de Janeiro.

„After explaining fully to that gentleman the extreme danger that Chinese coolies imported into Brazil, under contract, would virtually become slaves, the deputation obtained a promise from Mr. Tong King Sing that he would not be a party to any contract for forced labor. This gentleman returned from Rio on the 4<sup>th</sup> instant and the next morning he requested me to call upon him to hear the result of his mission. He then stated that the scheme had fallen through, and that I was at liberty to inform your lordship of what had occurred.

„Mr. Tong King Sing stated that, to his surprise, he found that the large subsidy which was to be paid to his Steam Navigation Company was not payable by the Brazil government but by the planters.

„He immediately put the very pertinent question: *How are you gentlemen going to recoup yourselves for the money advanced.*” The reply was, what might have been naturally expected. „*Out of the labor of the coolies.*” Mr. Tong King Sing then said: „This scheme must fall through; I will be no party to bringing Chinamen here except as free immigrants.”

„He was to start last night for China to report the result of his mission, but he admitted that under these circumstances the Company's steamers will not, at any rate for the present, be sent to Brazil at all.

I am desired by the Committee to thank your lordship for the prompt measures taken by your lordship's directions, to call the attention of Her Majesty's Representatives at Rio and Pekin to the question of Chinese immigration into Brazil, and to express a hope that your lordship will request those Mi-

nisters still to keep this subject before them, as future similar schemes may, at any moment, be introduced, in which the planters might have to deal with gentlemen less astute and not so large-hearted as Mr. Tong King Sing.

I have the honour to remain,

*Your Lordship's obedient Servant*

CHARLES H. ALLEN,"

*Secretary.*

55 NEW BOND STREET.

Decr. 6th 1883.

The English Government appears then, judging from the conclusion of this letter, to have taken „prompt measures” to frustrate the project. And with it falls almost every hope of maintaining the *grande lavoura* after the emancipation of the slaves.

On the 14<sup>th</sup> of November 1883, a few days after the precipitate departure of Tong King Sing, the Companhia Commercio e Imigração Chinezã was dissolved.

From the inland population, more especially from the Indian tribes, there is nothing whatever to be expected. In this instance the Brazilians are reaping what their fathers have sown.

When the Portuguese under Martim Affonso de Souza founded the town of São Vincent in 1532, and that of Santos six years later, there were there, as well as on the coasts of Rio de Janeiro, numerous Indian tribes, who supported themselves by fishing. But the Portuguese soon compelled them to dig for gold and to cultivate the soil. It was the Jesuits who, at the instance of Fathers Nobrega and Paiva, protected them against the arbitrariness and brutality of the colonists; but they were not powerful enough to oppose themselves publicly to those adventurers.

Gradually the numbers of those Caryo and Tupy Indians dwindled, so that as early as 1628, the colonists were obliged to go farther inland for labourers.

Between S. Paulo and Jundiahy, in the valley of the Tiété, there was then a great kingdom, that of the Guarany Indians. But these were so numerous that the colonists dared not molest them. So they formed an alliance with the *Mamelucos* or descendants of former colonists by Indian women, for the

purpose of making kidnapping expeditions together into the kingdom of the Guaranies. On a single raid they succeeded in capturing upwards of 80,000 Indians, whom they reduced to slavery. 1)

In vain Pope Urban VIII, on hearing of this conduct, issued a bull by which he granted the Indians their freedom. The Pope's power did not reach so far.

In this way were the Indians hunted like wild beasts and driven back to the far interior, where many of them died of grief and starvation.

How little people thought of the future in the time of the African slave-trade, appears from the decrees of 2<sup>d</sup> December 1806 and 1<sup>st</sup> April 1807, by which the colonists were granted liberty to exterminate the Indians, while the prisoners taken in war might be made to work as slaves during 15 years from the day they were baptised.

This measure was deemed justifiable because people had arrived at the conviction that all humane means with regard to the „Indios anthropophagos” proved to be useless.

Only in 1831 were both decrees repealed for the public good.

On the 26<sup>th</sup> of October 1862 a Convention was concluded at Rome for the Catechese e Civilisação dos Indios.

If Portugal and Brazil had pursued a different policy towards the Indians, those people would undoubtedly have been of great benefit to agriculture.

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1) O despojo da conquista, constou de mais de oitenta a mil indios escravizados, distribuidos pelos de colonos de Piratininga e Santos. See: A Provincia de S. Paulo, trabalho estatístico, historico e noticioso pelo Senador do Imperio Dr. J. F. de Godoy. 1875.

## CHAPTER VI.

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### AGRARIAN CONDITIONS.

It is well known that the Portuguese Government strove persistently to extract as much profit from its transmarine possessions as it could extort by any means.

Brazil was to be a gold and diamond mine to the Government; agriculture was little encouraged, nay it was obstructed. Most Indian products, such as indigo and coffee, were not allowed to be grown, because it was feared that the import of these products from Portuguese India would diminish.

On this account, because of her mineral wealth, Minas Geraes was the best known and most populous province in Brazil. Before the sea-board provinces of Rio de Janeiro and Espirito Santo were begun to be cultivated, Minas Geraes was already connected, by mountain paths, with the capital of the empire.

Gold-digging, like the working of the diamond-mines, was a Government monopoly. Nevertheless there were many adventurers, who went by stealth to seek gold on their own account. Of actual gold mining there was no question. People only tapped here and there the richest veins.

Colonisation was not methodically conducted from a few starting points on the coast; the immigrants dispersed themselves in small bodies over the whole extent of the country, their sole purpose being to seek gold and precious stones.

The Government set its face against the gold-digging mania, less for the sake of agriculture than for the maintenance and defence of its monopoly.

So it chanced that a certain adventurer who had gained some reputation as a gold-digger, was obliged to conceal himself

from the police, who were after him. Flying from Minas he betook himself to the primeval forests of Rio de Janeiro, where he fancied himself safe, that region being little known as yet. It could not be reached from the capital, because there were no roads. On account of his spotted hand, he is better known in the provincial history of Rio de Janeiro, under the name of Mão de Luva. He concealed himself in the woods of Cantagallo, where he resumed his old trade and sought diligently for gold. Of his success in digging, nothing is known, but it is certain that several of his former comrades, being wanted by the police, fled to him and assisted him to plant the germ of the present town of Cantagallo.

The Government, learning that Mão de Luva was in those parts, sent a detachment of military police to take him prisoner. Having searched the province of Minas Geraes they arrived in the Cantagallodistrict. But they would have come on a bootless errand, had they not accidentally discovered the retreat of our fugitives by the crowing of a cock. From this incident the spot received the name of Cantagallo or Cock-crow.

It is generally held to be owing to this circumstance that the central portion of Rio de Janeiro became better known and was at length reclaimed.

The property in land gave occasion, very soon after Brazil was declared independent, to a number of difficulties and complications. This can be no matter of surprise, if we recollect the way in which the original division of land was effected.

It was in all probability the desire of the Portuguese Court to bind the newly discovered and annexed country to the Home Government by the strong ties of a landed aristocracy rendered patriotic by self-interest, — that caused it to grant large tracts of land to officials who had made themselves useful, and were therefore entitled to the favour of Government. Of surveying and fixing the bounds of these estates by easily discoverable landmarks, there could be no question whatever. Government therefore contented itself with granting a deed of gift, in which the situation and extent of the estates were very roughly indicated.

This manner of bestowing lands occasioned few complications in the colonial times, firstly because the estates were, as we have said, of very large extent, so that the owner had no

need to trouble himself about the exact boundaries of his property; secondly because they were of small value, for lack of means to cultivate them. Towards the close of the first half of our century, large tracts of lands were still disposed of for a hunting-piece and a small sum in ready money.

The entire province of Rio de Janeiro and a large part of Espirito Santo was once granted in fee to the Portuguese Admiral Martim Affonso de Souza, as a reward for the many and important services he had rendered on the discovery of Brazil.

After the expulsion of the French by the Viceroy of Bahia Men de Sà in 1567, Government resumed the province, and it was elevated as a Crown domain into a *Capitania* dependent on Bahia. In 1658 it was made virtually independent of Bahia, and placed under the administration of a separate Governor-General, who, however, did not receive till 1763 the title and prerogatives granted to the Viceroy of Bahia.

The last viceroy of Rio de Janeiro, the Marquis de Noronha, better known as Count d' Arcos, 1) resigned office in 1808 on the arrival of the Prince Regent, John VI.

After the Brazilian declaration of independence the government lands in the various provinces were split up into smaller portions, into *sismarias*, as they are called, and sold or granted to private parties.

These *sismarias*, however, were not all alike in form and extent. In Rio and Minas they were, as a rule, four-square, while in S. Paulo they more generally formed oblong squares. There are *sismarias* of 400 and others of 225 alqueires. 2)

In choosing the lands there was one starting point fixed, so that the square might often be shifted at will about that point, according as the purchaser wished to secure march lands. To prevent disputes regarding boundaries, there were broad stripes of ground left open between the *sismarias*. As time went on, those lands were occupied by squatters, who exercised the right of possession and cultivated the soil without showing any legal title.

As the Government put no check whatever on this usurpa-

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1) See page 45.

2) For further particulars see Chapter on Coffee-planting.

tion of land, and the owners of the sismarias let the small farmers alone as long as they did not trespass beyond their bounds; they at length obtained by prescription the title that the large landed proprietors had acquired by grant or purchase. After a time these titles were recognized by Government.

In this way the small estates or posses grew up beside, or to speak more correctly, between the large properties.

It seems that this distinction between the origin of those titles is always borne in mind; for I have often heard people in the interior speak of  $\frac{1}{4}$ ,  $\frac{1}{2}$ , or  $1\frac{1}{2}$  sismarias, and of large or small posses. For instance: very seldom does any one say „My estates are so many hectares or alqueires in extent;” they always speak of a fazenda or plantation of so many sismarias and so many posses.

It is superfluous to say, that the best lands belong to the sismaria-holders. Small estates are found more in the low-lying districts, in the serra abaixo, while in the higher-lying regions the large landed estate system has the upper hand. At the same time, large estates are beginning to be broken up there also, by grant, inheritance, or sale. In the north-eastern districts of Rio de Janeiro small plantations are frequently met with now, — fazendoles and sitios, as they are called, which range from 25 to 30 hectares, and whose owners busy themselves in agriculture with the help of from five to ten slaves.

When, about the middle of this century, it began to be realised, that along with the suppression of the slave-trade it was necessary to take effective measures for the furtherance and encouragement of free immigration, Government resolved to attempt some much-needed improvement in the chaotic condition of titles to landed property.

By the act passed 18<sup>th</sup> September 1850 (Lei das terras), which, however came first into operation upwards of three years later, by an order issued January 30<sup>th</sup> 1854, Government endeavoured,

1. To obtain a general settlement of private landed property, by sweeping away the various and complicated march disputes.
2. To ascertain with some accuracy what was private and what State property, seeing it desired to survey, and divide

the crown lands; in order to sell them to immigrants and so advance the interests of colonisation.

In pursuance of this order there was a department added to the Ministry of Home Affairs (*repartição geral das terras publicas*) which, however, was merged three years later, (1861) in the then established Department of Agriculture, Trade, and Public Works. To this department was confided the surveying, division and sale of the Crown lands, (*terras devolutas*), and also the superintendence of colonisation. To it are attached the inspectors that have to direct the geodetic operations in the various provinces. The rules drawn up for the use of the engineers prescribe the practical method of surveying and measuring; in carrying this out, particular attention must be paid that the detailed measurements of the *terra devolutas* fit into a previous calculation of the meridian and, moreover, they must be so arranged as to yield estates of two leguas 1) square.

Those square parcels are called *territorios*, and must be divided into twelve parts or *lotes* uniform in size and shape, whose boundaries must be distinctly and accurately marked off.

The sale of the *lotes*, guided by the demand, and by advices from the chief of the „*repartição geral terras publicas*,” is effected either by private bargain or by public auction, with ready money payment. They are divided according to quality and situation into four classes which may be sold at fixed prices. According to this basis, the prices per hectare

s d   ■   d s d   ■   d

are 2,0 $\frac{1}{2}$ , 4,1 $\frac{1}{2}$ , 6,2 $\frac{1}{2}$ , and 8,3 $\frac{1}{2}$ .

As a *lote* or tract of 1452 hectares may be divided into four parts, the small colonists may become landholders also.

Although this „*Lei das terras*” can certainly lay no claim to completeness or perfection, yet it has many good points about it, and may operate very usefully if it is only enforced. Up to this time, however, it is more a law *para inglez ver*, as laws and enactments impossible to reduce to practice, are currently called in Brazil.

For instance, that law enacts, that all land-owners, those

1) Legua Brasileira = 3000 bracas = 6,6 kilometers, 1 braca = 2,2 meters; 1 milreis = 2/6.

with a title acquired by grant or purchase, as well as the possessors of usurped estates or „posses”, are bound to have their lands surveyed within two years from the date of the order of 1854; and further that no unsurveyed land may be taxed or divided. In order to obtain a right to survey his estate, a man must bring proof either that he has a legal title or that he has *lived* on the land without legal title for at least four years, or that he holds his land in good faith, in virtue of having purchased it at second or third hand. By this law the priests of the respective parishes or freguezias are required to prepare the first country registers, from which the general registers are afterwards to be compiled.

As was to be expected in a country like Brazil, where almost everything has yet to be settled, and where the principal work, the keeping of trustworthy registers, rests practically on the clergy, the law was scarcely carried out at all. Up to this date, that is to say thirty years posterior to the fundamental law, no man knows the real size of the Crown domains, whereabouts the territorios and lotes are situated, and what extent of land has been appropriated by private persons. All that is known with certainty is this, that except the territory still occupied by Indians in the interior of S. Paulo, Government does not possess throughout the whole coffee area of Central Brazil a single hands-breadth of waste land; it all belongs to private parties.

As a proof how strangely the Brazilian Government still acts in the matter of concessions, I cite a fact universally known in Rio.

Some years ago Senhor João José Fagundes de Rezende e Silva received the exclusive right for 90 years to work all the mines that should be found within a tract of 1000 square leguas or 43,560 square kilometers land, near the sources of the Tocantins, Xingú, Maranhão, and Cayapó rivers. Up to this time Senhor de Rezende has been trying in vain, even in England, to raise funds for his gigantic mining and colonisation projects.

For this reason he is now better known by the nickname of Baron de Cayapó.

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## CHAPTER VII.

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### ECONOMIC CONDITIONS.

Seeing that agriculture is Brazil's principal, if not only source of prosperity, it is not surprising that the economic conditions of the country, owing to the pressing want of labourers, and insistence on the early emancipation of the slave-population, leave a great deal to be desired.

Nobody in Brazil, nobody who is at all acquainted with the state of affairs, will deny this; though most men are afraid to discuss the matter publicly, and to speak their mind frankly.

There was a great sensation, therefore, when Senhor Pereira da Silva, — Deputy and Director of the Bank of Brazil — a gentleman of great authority on matters of finance, rose in his place in Parliament (12<sup>th</sup> July 1883) and, discussing the financial situation of the Empire, said, that it is childish to deny or underrate the monetary difficulties under which Brazil is now labouring. He could not help blaming Government, therefore, because, misleading themselves and the nation as to the inexhaustible resources of the land, they went on increasing their expenditure, without duly considering the revenues of the Empire.

Before treating the financial situation in detail, it may be desirable to give a short sketch of the principal Government institutions in Brazil. 1)

The Government of that country is monarchical, hereditary,

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1) «Manual Parlamentar.» (Collection of the Principal Laws of the Empire.)  
Typographia Nacional, 1883.

constitutional, and representative. The reigning dynasty is that of the first Emperor Dom Pedro, of the Portuguese House of Braganza.

The son of this prince, the present Emperor, Dom Pedro II, was born December 2<sup>d</sup> 1825, and succeeded his father, April 7<sup>th</sup> 1831. He assumed the reins of Government on July 23<sup>d</sup> 1840, when he was declared of age. A year afterwards, July 18<sup>th</sup> 1841, he was solemnly crowned. On the 30<sup>th</sup> of May 1843 he married his present consort, Theresa Maria Christina, daughter of King Francis I of Sicily. As the two sons of this marriage, Princes Affonso and Pedro, died young, the Princess Royal, Dona Isabel, is presumptive heir to her father. She married Louis Gaston d'Orleans, Count d'Eu, son of the Duc de Nemours, and has issue three sons, the eldest of whom, Dom Pedro, born 15<sup>th</sup> October 1875, bears the title of „Principe de Grão Pará.” The Brazilian Constitution, established by Act of Parliament, December 1823, but altered and expanded by the Acto Adicional of 12<sup>th</sup> August 1834, differs from all other constitutions in so far that it considers the Empire as a political union of all Brazilians, 1) and recognizes four Estates instead of three, by dividing the Executive into Poder Executivo, and Poder Moderador, or Managing Power.

The Legislative Power, Poder Legislativo, for the whole Kingdom is, with consent of the Emperor, exercised by a General Assembly (Assembléa Geral), which consists of two branches, viz. the First Chamber or Senado, the members of which, 58 in number, are elected for life, and the Second Chamber or Camara dos Deputados, the members of which (122) hold office for four years only. The elections are regulated by act of Parliament, passed January 29<sup>th</sup> 1881, no. 3029.

In virtue of the Acto Adicional, the several provinces also possess legislative bodies or „Assembléas legislativas provinciaes.”

The members of those Chambers are likewise chosen direct according to the Election Act just cited. According to the

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1) Art. 1 O imperio do Brazil, é a associação politica de todos os cidadãos brasileiros.

number of free inhabitants in the province, the Chambers consist of 36, 28 or 20 members, who elect their own president. The President of the Province, the highest authority in his district, has no seat in the Chamber: at the same time the provincial laws, with a very few exceptions, can not be administered without his assent.

If this assent is refused, the Provincial Chamber is entitled to appeal to the *Assembléa Geral*.

Moreover, according to the Act of October 1st 1829 (*Lei das Camaras Municipaes*) every Municipality possesses a Council, consisting of 7 or 9 members and a secretary.

These Councils are administrative only.

The moderating power is the keystone of the entire political organisation, and appertains to the Emperor 1) alone, who, as Chief of the nation and its first representative, bears the title of *Imperador Constitucional e Defensor Perpetuo do Brazil*. As such he has the power Art. 101, to appoint Senators; to summon special meetings of the *Assembléa Geral*; to sanction laws; to confirm or veto provincial enactments; to protract or adjourn meetings of the *Assembléa Geral*; to dissolve the Chamber of Deputies; to suspend judges — in particular cases —; to grant reprieve, commutation of punishment or amnesty.

The Executive power appertains also to the Emperor, but he is assisted by responsible Ministers.

As head of the Executive body the Emperor can open parliament, appoint bishops and grant benefices; appoint judges and officials; name or discharge military and naval commanders; select diplomatic or commercial agents; manage political relations with foreign powers; contract offensive and defensive alliances and commercial treaties; conclude peace and war; issue decrees, instructions, and regulations for administering the laws; control the expenditure of the money granted by the General Assembly for the public service; give or refuse assent to the publication of ecclesiastical decrees; and to dispose of army and navy.

There are seven departments of public service; viz. Home

1) Art. 98. O poder moderador é a chave de toda a organização politica, e é delegado privativamente ao Imperador.

Affairs (Imperio), Justice, Foreign Affairs, Marine, War, Finance and Agriculture, Trade and Public Works.

As the Department of Finance is regarded as the most important in the public service, the former of a Cabinet, as President of the Cabinet Council, always reserves the portfolio of Finance to himself. The extent of ministerial responsibility is settled by Act of Parliament, 15<sup>th</sup> October 1827. The 61 articles of this Act describe the cases in which Ministers may render themselves liable to punishment. Besides capital punishment, the penalties named are, forfeiture of the nation's confidence, with temporary or permanent loss of all civil and social rights, imprisonment, banishment and fine.

Over and above the Cabinet Council there is a Council of State (Conselho do Estado), the members of which are 24 in number, (only half, however, being salaried) and appointed for life by the Emperor, who is President.

The Council of State must be consulted in all important business.

The judicature is independent of the other powers, and consists of Judges and Juries (Jurados) the first of whom must be qualified jurisconsults. The organization of the judicature was determined by Act of Parliament, 22<sup>d</sup> September 1828, and altered by Act 261 (3<sup>d</sup> December 1841), and Act 2033 (20<sup>th</sup> September 1871).

Besides Justices of the Peace (Juizes de paz), Municipal Judges (juizes de municipaes), and District Judges (Juizes do direito), there are likewise provincial Courts of Appeal (relações), and the High Court or Supremo Tribunal de Justiça. The Municipal Judge is usually also „Juiz dos Orphãos” or Guardian of Orphans: for instance on the falling in of legacies, where minors are concerned.

The State Church is Roman Catholic.

When on a peace footing the army consists of 13000 men; on a war footing, 32000.

The Navy consists of about 60 ships, 14 of which are iron-clads. The marines amount to 3000 men.

The Government Primary Schools are for a great part free.

Secondary instruction is given at the College Dom Pedro II, Rio de Janeiro, and similar institutions in the principal provinces; while academical instruction is given in the Poly-

technic School at Rio de Janeiro, where there is also a faculty school for students of medicine. Besides these there are Universities at S. Paulo (law) at Bahia (medicine) and at Recife (law). There is a school for mining engineers under the management of Prof. Gorceix, at Ouro Preto. (Minas Geraes.)

As I have voted above, the financial position of Brazil gives great reason for anxiety. From subjoined table showing the State Revenues and the expenditure from the financial year 1851/52 to 1882/3, and the expected receipts and expenditure voted for the financial years 1883/84 and 1884/85, we shall see that there have been deficits in the budget throughout the whole series of years, deficits which, during the last ten years, have amounted to an average of 29½ million milreis per annum.

T A B L E showing the **Revenues** of BRAZIL  
according to the Relatorios

RECEIPTS (in milreis) during the financial years.	IMPORT.	HARBOUR DUES (despacho- maritimo).	EXPORT.	Various tax and revenue.
1851—1852	24,840,292	558,576	4,538,307	4,466,726
1852—1853	24,758,151	199,157	4,982,343	4,702,748
1853—1854	23,527,068	199,559	3,833,442	5,045,895
1854—1855	23,687,616	239,511	4,476,455	5,906,599
1855—1856	25,485,032	249,082	4,662,446	6,229,737
1856—1857	32,856,263	249,446	6,910,999	7,065,738
1857—1858	32,213,399	264,477	6,661,891	7,945,089
1858—1859	29,021,792	280,057	7,380,070	7,921,970
1859—1860	27,247,146	282,103	5,569,626	8,329,532
1860—1861	30,027,626	265,128	7,266,289	9,107,819
1861—1862	31,365,424	281,496	8,226,810	9,427,715
1862—1863	27,438,011	259,868	8,344,988	8,880,865
1863—1864	30,795,406	245,708	9,081,797	9,510,631
1864—1865	34,477,663	258,512	9,663,379	9,343,887
1865—1866	33,441,461	288,369	10,967,099	9,319,886
1866—1867	37,640,093	298,843	10,768,577	11,658,657
1867—1868	35,873,877	292,686	15,368,075	17,137,307
1868—1869	45,346,973	393,780	18,608,159	19,374,916
1869—1870	52,369,597	444,820	17,843,447	22,255,776
1870—1871	52,994,472	460,958	14,915,887	22,379,345
1871—1872	58,599,584	500,460	17,229,353	22,554,722
1872—1873	60,281,045	568,770	19,337,651	25,401,323
1873—1874	56,306,638	579,973	17,345,535	25,386,761
1874—1875	55,464,097	419,275	18,770,258	27,490,279
1875—1876	54,736,929	257,207	16,206,373	26,543,738
1876—1877	53,938,889	124,336	16,310,156	26,513,568
1877—1878	56,852,606	131,499	16,342,341	28,310,485
1878—1879	59,308,767	133,520	18,138,007	31,850,684
1879—1880	64,756,265	248,329	18,542,448	33,976,438
1880—1881	67,860,959	385,611	20,434,538	36,398,505
1881—1882	72,194,723	396,287	19,353,607	34,358,437
1882—1883	72,190,000	390,000	19,000,000	34,090,309
1883—1884	75,000,000	2,680,000	17,500,000	34,623,962
1884—1885	75,500,000	2,750,000	17,500,000	35,509,400

<sup>1</sup> According to the last Budget, adopted by decree, 3d September 1884.  
See Rio News 15th September 1884.

since the financial year 1851/52.

of the Minister of Finance.

	SUNDRIES (peculiares do município.)	Extraordinary receipts.	AMOUNT.	DEPOSITS.	TOTAL.
726	984,899	398,021	35,786,821	1,925,776	37,712,597
748	1,163,807	584,826	36,391,032	1,711,770	38,102,802
895	1,191,722	718,769	34,516,455	2,531,761	37,048,216
899	1,305,260	370,037	35,985,478	2,590,565	38,576,043
737	1,426,058	582,001	38,634,356	3,307,869	41,942,225
738	1,531,753	542,215	49,156,415	3,599,694	52,756,109
889	1,742,639	919,512	49,747,007	3,664,159	53,411,166
970	1,571,918	744,188	46,919,995	3,455,728	50,375,723
532	1,759,827	619,112	43,807,346	3,503,609	47,310,955
819	2,506,940	877,901	50,051,703	3,525,426	53,577,129
715	2,079,497	1,107,957	52,488,899	3,381,913	55,870,812
865	2,119,405	1,299,052	48,342,189	3,138,049	51,480,238
331	2,088,882	3,078,985	54,801,409	3,555,436	58,356,845
387	1,989,544	1,262,943	56,995,928	4,062,491	61,058,419
886	2,056,829	2,449,726	58,523,370	4,988,130	63,511,500
357	2,078,269	2,332,404	64,776,843	5,309,410	70,086,253
307	—	2,528,982	71,200,927	4,467,489	75,668,416
916	—	3,818,706	87,542,534	5,043,504	92,586,038
776	—	1,933,702	94,847,342	4,572,307	99,419,649
345	—	4,134,616	95,885,278	5,450,123	101,335,401
722	—	2,402,473	101,286,592	6,370,188	107,656,780
323	—	3,591,274	109,180,063	6,865,936	116,045,999
761	—	1,780,637	101,399,544	8,984,871	110,384,015
279	—	1,407,521	103,551,230	9,180,034	112,731,264
738	—	1,593,770	99,338,017	9,443,452	108,781,469
568	—	849,210	97,636,159	9,984,484	107,720,643
485	—	6,540,342	108,177,273	11,411,613	119,588,886
684	—	1,327,824	110,758,802	13,343,049	124,101,851
438	—	1,693,627	119,217,107	17,192,387	136,409,494
505	—	1,996,750	127,076,363	16,852,417	143,928,780
437	—	1,717,345	128,020,399	19,901,446	147,921,845
309	—	1,717,345	127,387,654	?	?
962	—	1,560,000	131,363,962	?	?
400	—	1,790,000	133,049,000 <sup>1</sup>	?	?

T A B L E showing the **Expenditure** of BRAZIL  
according to the Relatorio

EXPENDITURE (in milreis) during the financial years.	HOME AFFAIRS.	JUSTICE.	FOREIGN AFFAIRS.	MARINE.	WAR.
1851—1852	3,377,473	1,916,368	3,039,846	4,764,742	15,679,741
1852—1853	4,400,085	2,190,527	816,730	4,473,296	8,190,302
1853—1854	4,781,379	2,478,188	1,389,551	5,299,643	9,142,064
1854—1855	6,000,713	2,862,495	1,108,403	6,066,008	10,637,966
1855—1856	7,992,885	2,873,961	640,462	5,201,162	11,013,196
1856—1857	6,656,227	3,309,733	639,374	5,510,458	10,641,768
1857—1858	8,342,890	3,730,665	1,598,670	10,496,298	11,207,026
1858—1859	10,304,411	4,731,776	892,178	9,561,469	12,539,546
1859—1860	10,029,719	4,713,184	860,586	5,306,837	12,925,386
1860—1861	8,046,407	4,017,175	858,884	7,905,254	11,505,723
1861—1862	4,363,923	2,857,904	787,471	7,502,891	11,364,755
1862—1863	3,872,468	2,903,412	1,633,102	7,927,237	11,865,598
1863—1864	4,342,235	2,841,966	767,318	8,776,764	12,397,769
1864—1865	5,122,028	2,976,324	4,094,072	13,317,543	27,302,988
1865—1866	4,364,419	3,013,236	3,222,004	19,928,421	60,400,257
1866—1867	4,365,011	3,092,934	1,353,359	17,588,476	54,478,783
1867—1868	4,421,582	3,115,560	2,158,792	23,854,595	74,942,170
1868—1869	4,101,404	2,972,147	804,636	18,040,709	63,217,036
1869—1870	4,557,375	2,902,175	772,045	16,952,738	59,888,153
1870—1871	4,708,500	3,616,030	1,100,385	12,854,671	19,210,732
1871—1872	5,026,201	3,780,569	835,991	15,179,870	15,531,219
1872—1873	7,214,859	3,994,662	1,047,684	17,895,444	24,147,585
1873—1874	7,464,438	4,873,137	1,165,711	19,983,152	19,398,030
1874—1875	8,314,932	5,264,346	1,365,056	20,677,516	19,669,204
1875—1876	8,028,991	5,855,733	1,124,260	18,414,903	19,769,826
1876—1877	11,041,038	6,017,744	1,056,043	17,841,637	17,920,535
1877—1878	22,414,591	6,462,647	1,008,465	12,603,463	15,834,787
1878—1879	48,859,779	6,499,065	840,462	9,415,759	14,606,529
1879—1880	14,863,360	6,722,819	804,200	9,882,057	14,231,399
1880—1881	8,964,154	6,425,780	831,732	11,234,352	13,613,089
1881—1882 <sup>1</sup>	8,891,544	6,336,954	940,508	12,450,981	15,026,622
1882—1883	—	—	—	—	—
1883—1884	—	—	—	—	—
1884—1885	9,168,295	6,823,094	815,407	11,112,898	14,925,633

1) The figures for the three last concluded financial years are not yet definitively settled.

BRASIL  
Relatorio

since the financial year 1851/52.  
of the Minister of Finance.

VAR.	FINANCE.	AGRICULTURE, TRADE & PUBLIC WORKS.	AMOUNT.	DEPOSITS.	TOTAL.
79,741	13,462,851	—	42,241,021	513,760	42,754,781
90,302	10,868,392	—	30,929,332	724,173	31,653,505
42,064	13,143,664	—	36,234,489	1,095,699	37,330,188
37,966	12,064,734	—	38,740,319	1,832,179	40,572,498
13,196	12,520,982	—	40,242,648	2,621,635	42,864,283
41,768	13,616,403	—	40,373,963	1,552,756	41,926,719
07,026	13,380,107	—	51,755,656	2,271,723	54,027,379
39,546	15,049,200	—	52,718,580	2,473,862	55,192,442
25,386	14,770,139	—	52,606,151	2,693,246	55,299,397
05,723	16,153,431	3,871,543	52,358,417	3,439,099	55,797,516
64,755	18,561,076	7,611,711	53,049,731	2,997,726	56,047,457
65,598	21,233,219	7,565,086	57,000,122	2,860,590	59,860,712
97,769	19,615,221	7,753,167	56,494,440	2,898,564	59,393,004
02,988	20,006,581	10,526,622	83,346,158	2,979,214	86,325,372
00,257	22,364,517	8,563,174	121,856,028	3,510,046	125,366,074
78,783	28,479,673	11,531,563	120,889,799	3,599,460	124,489,259
42,170	44,989,324	12,502,749	165,984,772	3,552,066	169,536,838
17,036	48,958,013	12,800,853	150,894,798	3,663,474	154,558,272
88,153	42,745,425	13,776,196	141,594,107	4,213,789	145,807,896
10,732	40,260,777	18,323,197	100,074,292	3,598,842	103,673,134
31,219	39,402,710	21,706,189	101,462,749	3,571,045	105,033,794
47,585	42,222,157	25,148,731	121,671,122	5,448,042	127,119,164
98,030	42,497,986	26,028,884	121,411,338	6,637,466	128,048,804
69,204	44,046,418	26,517,863	125,855,335	7,396,713	133,252,048
69,826	44,337,642	29,248,663	126,780,018	6,661,838	133,441,856
20,535	48,555,876	33,367,804	135,800,677	7,890,833	143,691,510
34,787	51,052,398	42,116,040	151,492,391	9,886,779	161,379,170
06,529	53,756,216	47,490,747	181,468,557	8,683,897	190,152,454
31,399	61,912,649	41,717,066	150,133,550	16,823,686	166,957,236
13,089	60,715,001	36,798,932	138,583,090	13,941,498	152,524,588
26,622	58,392,632	35,337,877	137,377,118	18,550,049	155,927,167
—	—	—	148,703,248	—	—
—	—	—	129,823,825	—	—
25,633	63,447,962	32,503,442	138,796,731 1)	—	—

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1) According to the last Budget, adopted by decree, 3d September 1884. See Rio News, 15th September 1884.

How these deficits are made up, may appear from the following:

Financial years.	MILREIS.	
1873—74	Income . . . . .	101,399,544
	Expenditure . . . . .	121,411,338
	Deficit . . . . .	20,011,794
	<i>partly covered by:</i>	
	Moneys from Deposit and Emanc. Funds . . . . .	3,540,123
	Treasury Notes . . . . .	14,050,700
	Nickel money . . . . .	226,824
	Balance Deficit . . . . .	2,194,147
1874—75.	Income . . . . .	103,551,230
	Expenditure . . . . .	125,855,335
	Deficit . . . . .	22,304,105
	<i>covered by:</i>	
	The loan raised in 1875 . . . . .	43,957,667
	Moneys from Deposit and Emanc. Funds . . . . .	2,880,601
	Government Bonds (apolices) . . . . .	4,600
	Nickel money . . . . .	55,622
		46,898,490
	<i>less</i>	
	Treasury notes withdrawn. . . . .	6,757,200
	Balance 1873—74 . . . . .	17,837,115
		24,594,385
		22,304,105
1875—76.	Income . . . . .	99,338,017
	Expenditure . . . . .	126,780,018
	Deficit . . . . .	27,442,001
	<i>covered by:</i>	
	Moneys out of Deposit and Emanc. Funds . . . . .	3,628,656
	Government Bonds . . . . .	8,693,044
	Treasury Notes . . . . .	4,775,500
	Nickel Money . . . . .	37,000
	Balance 1874—75 . . . . .	10,307,801
		27,442,001
1876—77.	Income . . . . .	97,736,159
	Expenditure . . . . .	135,800,677
	Deficit . . . . .	38,064,518
	<i>covered by:</i>	
	Government Bonds . . . . .	30,300,000
	Moneys out of the Deposit & Emanc. Funds . . . . .	3,263,272
	Nickel money . . . . .	90,240
	Balance 1875—76 . . . . .	7,468,206
		41,121,718
	less Treasury Notes withdrawn . . . . .	3,057,200
		38,064,518

Financial years.	MILREIS.	
1877—78. Income . . . . .		108,177,273
Expenditure . . . . .		151,492,391
	Deficit . . . . .	43,315,118
	<i>covered by:</i>	
Paper money . . . . .	30,000,000	
Treasury Notes . . . . .	19,962,600	
Moneys from the Depos. and Emanc. Funds	2,346,701	
Nickel money . . . . .	110,000	
	<u>52,419,301</u>	
less balance from 1876--77 . . . . .	9,104,183	
		<u>43,315,118</u>
1878—79. Income . . . . .		110,758,802
Expenditure . . . . .		181,468,557
	Deficit . . . . .	70,709,755
	<i>covered by:</i>	
Gold Loan of 1879 . . . . .	49,945,627	
Government Bonds . . . . .	40,000,000	
Paper money . . . . .	10,000,000	
Moneys from Deposit and Emanc. Funds	5,539,287	
Nickel money . . . . .	90,900	
	<u>105,575,814</u>	
less Treas. Notes withdrawn 18,171,100		
Balance 1877—78 . . . . .	16,694,959	34,866,059
		<u>70,709,755</u>
1878—80. Income . . . . .		149,217,107
Expenditure . . . . .		150,133,550
	Deficit . . . . .	30,916,443
	<i>covered by:</i>	
Balance 1878—79 . . . . .	31,021,988	
Advance on financial year 1880—81 . .	6,463,822	
Government Bonds . . . . .	612,500	
Nickel money . . . . .	105,000	
Moneys from Deposit. and Emanc. Funds	1,300,833	
	<u>39,504,143</u>	
less Treasury notes withdrawn . . . . .	8,587,700	
		<u>30,916,443</u>
1880—81. Income . . . . .		127,076,363
Expenditure . . . . .		138,583,090
	Deficit . . . . .	11,506,727
	<i>covered by:</i>	
Treasury Notes . . . . .	14,169,721	
Moneys from Deposit and Emanc. Funds	1,035,383	
Government Bonds . . . . .	6,800	
Nickel money . . . . .	107,000	
	<u>15,318,904</u>	
less addition from 1879—80. . . . .	3,812,177	
		<u>11,506,727</u>

1881—82.	Income . . . . .	128,020,399	
	Expenditure . . . . .	<u>137,377,118</u>	
		Deficit . . . . .	<u>9,356,719</u>
	<i>covered by:</i>		
	Treasury Notes . . . . .	3,995,900	
	Government Bonds . . . . .	2,500	
	Nickel money . . . . .	122,000	
	Moneys from Deposit and Emanc. Funds . . . . .	<u>1,825,359</u>	
		5,945,759	
	Uncovered deficit . . . . .	<u>3,410,960</u>	
			<u>9,356,719</u>
1882—83.	Income . . . . .	127,387,654	
	Expenditure . . . . .	<u>148,703,248</u>	
		Deficit . . . . .	<u>21,315,524</u>
	<i>covered by:</i>		
	Loan raised in 1883 . . . . .	35,063,113	
	Treasury Notes . . . . .	17,663,800	
	Nickel money . . . . .	174,959	
		<u>52,901,872</u>	
	less moneys from Depos. and Eman- cipation Funds . . . . .	1,269,904	
	Borrowed from financial year		
	1881—82 . . . . .	6,116,104	
	Balance . . . . .	<u>24,200,270</u>	
		31,586,278	
			<u>21,315,524</u>

In ten years, thus, there has arisen a deficit of 294,942,774 milreis.

Although the Budget of the financial year 1883/84, showed a surplus, yet according to the last accounts there is actually again a deficit of 25,855,063 milreis.

The financial year 1884/85 will probably likewise bring an equally large deficit.

In the year 1877 the Debt amounted, according to the quotations of that year, to.

Foreign Debt . . . . .	169,200,000
Home Debt, inclusive of that of 1868 . . . . .	324,500,000
Debts previous to 1827 (now liquidated) . . . . .	338,000
Moneys borrowed from the Orphan Fund . . . . .	15,130,000
»    »    »    private parties . . . . .	700,000
»    »    »    various properties . . . . .	2,630,000
»    »    »    the Savings Banks . . . . .	10,700,000
»    »    »    various deposits . . . . .	9,100,000
Treasury notes in circulation . . . . .	20,162,000
Paper money . . . . .	<u>149,347,000</u>
Total . . . . .	701,807,000

Five years afterwards, in 1883, the Debt already amounted, at the quotations of that year, to :

Foreign Debts inclusive of that of 1883 . . . . .	220,000,000
Home Debts . . . . .	407,800,000
Moneys borrowed from the Orphan Fund. . . . .	15,800,000
"          Various properties . . . . .	4,000,000
"          Savings banks . . . . .	18,200,000
"          Deposit & Emancipation Funds. . . . .	22,630,000
Treasury Notes in circulation. . . . .	46,651,000
Paper Money . . . . .	188,041,000
Total	923,122,000

In the course of a speech in parliament Senhor Pereira da Silva said, commenting on this state of things, „I have long striven to draw attention to the dangers of our financial position, now we are rushing rapidly towards the fatal abyss; yet little is being done to improve this untenable position; we are sleeping on the verge of the precipice, quietly and peaceably, as it seems, as if Divine Providence were obliged to extricate us from those difficulties which can only be surmounted by judicious measures on our part.”

In the sitting of 30<sup>th</sup> May 1884, the above-named Deputy contested the Government proposal to retrench the expenditure by reducing the interest on the Foreign Debt from 6 per cent to 5; and to increase the revenue by the introduction of several new taxes, the nett yield of which it is not possible to estimate.

In the given circumstances the Deputy considers it more expedient to retrench the expenditure on railways and education, f. i. and augment the revenue by increasing the official value (pauta) of exports.

Undoubtedly this would temporarily relieve the Treasury, but it would be at the expense of agriculture; or, to speak more correctly, of coffee-planting, as the principal branch of it.

If the official value of coffee, according to which the rate of export-duty is calculated, be augmented and made equal to the market-value of that product, then it will virtually be subject to an export duty of 13, nay 15 per cent at least, instead of 11.

This seems to me the proper place to say a word regarding the ruinous custom in Brazil to establish lotteries for all purposes.

Unless one has been on the spot, it is impossible to conceive the extent of these lotteries, especially in Rio de Janeiro. From the slave, dreaming of freedom, to the great capitalist, seeking merely to augment his colossal store, every one flings himself with a sort of frenzy into this Government-protected gambling, wherein few are winners and many lose their all. I think that even the gambling hells of Europe do not swallow up so much squandered capital as do these lotteries in Brazil. The statistics of the „Caixa Economica” show that the great lotteries empty the treasuries of the saving-banks; almost all the deposits being withdrawn at such times.

A man cannot take ten steps in some of the streets of Rio without being pestered with swarms of lottery-ticket-vendors: at the railway-stations, nay, often in the railway-carriages, as the train whirls along, one is offered an opportunity to try one's luck.

On an average there are sixty lotteries a year held in Rio alone.

By Imperial decree of 13<sup>th</sup> January 1883 the following lotteries were sanctioned. For the benefit of:

		Drawn	Autho- rised drawing in 1883	TOTAL	
1	Lunatic Asylum Pedro II, decree o.	1870	11	2	13
2	Santa Casa da Misericordia, Orphan Asylum; College Pedro II and Se- minary S. José.	1821	118	3	121
3	Montepio or institution for Government Servants.	1864	216	13	229
4	Blind, Deaf and Dumb Institute.	1877	21	6	27
5	Sacramento da Candelaria.	1873	18	6	24
6	Reformatory.	1835	94	5	99
7	Restoration of the S. Casa da Misericordia.	1877	4	1	5
8	Emancipation Fund. Act of	1871	65	6	71
9	Hospital de Misericordia. decree of	1839	42	1	43
10	Restoration of Lunatic Asylum Pedro II.	1877	20	4	24
11	Sanitation.	1850	95	4	99
12	N. S. da Batalha Institution.	1871	5	1	6
13	Restoration of the church N. S. Da Gloria	1873	7	2	9
14	» » S. Christovão	1873	7	2	9
15	» S. João Baptista da Lagoá.	1873	6	1	7
	» N. S. da Penha.	1873	10	1	11
17	Endowment Fund for Lunatic Asylum Pedro II.	1856	26	1	27
	Unspecified		1	1	2
			766	60	826

In addition to those Rio lotteries the gamblers have the innumerable provincial, municipal, and private lotteries, to try their luck in.

The suggestion made by certain agriculturists or fazendeiros, that the slaves should be enfranchised with the proceeds of a monster lottery, is not so eccentric and impracticable as it looks. The mania for lotteries is so universal that for all sorts of ends — even for building churches and schools and erecting statues — (the monument reared at Ipéranga in commemoration of Brazil's Declaration of Independence is a case in point) — lotteries are held in every province, town, and village of the Empire.

That this unbridled passion for gambling encourages and aggravates indolence is unfortunately proved by the astonishing number of idlers and beggars, especially in the capital. One is amazed to see a highly favoured country like Brazil so full of beggars, who earn their living easily by exercising their vocation a couple of hours a day.

Besides this unhappy thirst for gambling there is another fruitful source of pauperism: the injudicious and indiscriminate manner of almsgiving. People often give lavishly, but less to benefit the receiver than out of a religious sentiment, because they think they are performing a good work.

I have seen troops of from 40 to 50 well-dressed beggars marching in procession, or going by tram even, to the Imperial palace to receive their share of the sovereign's alms, which are distributed regularly every Saturday. And those beggars prefer this means of getting their bread to working for 30 milreis a month with board and lodging, as many worthy persons have told me.

In the interior of São Paulo, in the little town of Itú where there are 13 churches to a population of scarcely 4000 souls — the beggars go round on horseback at certain stated times to collect their alms.

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## CHAPTER VIII.

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### RAILWAYS.

Railway-building in Brazil dates from 1852. By decree of June 12<sup>th</sup> of that year, Senhor Irineo Evangelista de Souza, Viscount de Maúa, received the first concession, empowering him to lay down a line 18 kilometers long, from Maúa, a small village on the bay of Rio de Janeiro, to Fragoso, a little place at the foot of the Serra dos Orgãos or Organ-Mountains. Rather more than four years afterwards, in December 1856, this line was opened. In 1882, and not till then, it was extended to Petropolis, the summer residence of the Emperor.

Although the distance from Fragoso and Petropolis is scarcely 9 kilometers, there were very great difficulties to be surmounted owing to the nature of the ground, which is nearly 800 meters higher at the one place than the other. Thus the mountain section is built on the Riggensbach system.

On the 22<sup>d</sup> of June 1852 the Assembléa Geral sanctioned the laying of two other lines, from the city of Rio de Janeiro to the provinces of Minas Geraes and São Paulo, for the benefit of the coffee trade. Government guaranteed these with 5 per cent interest on a capital of 33 million milreis, for a period of 33 years. The grantees, however, who had jointly established the Dom Pedro II Railway Company, found so much difficulty in raising the requisite capital, that the province of Rio de Janeiro felt it necessary to give them financial support by passing a provincial act, (13<sup>th</sup> October, 1854) increasing the guaranteed interest by 2 per cent. The work was then started courageously and zealously, but it

was soon discovered that the estimate, which had been drawn up by English engineers not thoroughly acquainted with the ground, was far too low. So when, ten years after this, in 1864, the first and most difficult section (110 kilometers) to Barra do Pirahy was ready, the funds of the Company were exhausted and the works had to be suspended. Under these circumstances Government took the enterprise into its own hands (June 1865); and paid the shareholders with Government bonds, (apolicies) bearing interest at 6 per cent.

Slowly indeed, but without interruption, the line was advanced to completion.

As was to be expected, this railway-building in the coffee-producing provinces of Central Brazil, excited no small jealousy in the Northern and Southern parts of the Empire. Government was soon constrained either to build railways in those provinces also, or to guarantee interest — 7 per cent as a rule — on the capital required.

The Dom Pedro line does not yield more than 5 or 5½ per cent of the capital; as for the other government lines, most of them are worked at a heavy loss.

On the 26th of April 1856 a concession was granted for the line Santos-Jundiahy in the centre of the Santos coffee zone. The grantees sold their concession to a London Company. In 1860 the works were begun; on Feb. 16th 1867 the line was opened. The coffee-transport proved insufficient as yet to cover the expenses, so that up to 1872 Government had to pay the interest guaranteed. The advances made to that date — a sum amounting to 280,000 pounds sterling, are now nearly paid back, pursuant to the agreement that the company is required — should the receipts amount to more than 8 per cent of the capital, to pay half to Government in liquidation of the interest advanced. This line is now the most profitable in the whole empire. The line passes from Santos over Serra do Mar, (which is 800 meters high) by four steep inclines (cable-rail).

The Dom Pedro and Santos-Jundiahy railways form the basis of the railway system in the coffee area. Both lines, as well as the Oeste de São Paulo and Maúa Principe de Grão Pará Railways have a broad guage, all the other lines have a narrow guage.

From the subjoined tables, drawn up from data 1) given me by engineers and railway directors, we may learn how much the traffic has increased of late years.

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1) I gratefully acknowledge the kind assistance of — among others — Messrs I. P. Horta, Manager of Public Works; under the Ministry of Agriculture, Trade, and Public Works; C. A. de Miranda Jordão, commissioner Manager of the Centro da Lavoura e Commercio; J. M. R. Lisboa, Engineer of the Mogyana Railway; Baron de Parahybuna, President of the Mogyana Railway-Company; P. B. Paes Leme, Managing Director of the União Mineira Railway; M. T. Fegueira, secretary of the Dom Pedro II Railway.

Some Data regarding the working of the Dom Pedro II Railway.

Y. ars.	Kilometers in working (average).	WORKING (in milreis).				Gross receipts per kilom.	Coffee transported, in kilogrammes.	Passengers.
		Expense of working.	Nett receipts.	Gross receipts.				
1858	50,835	172,092	123,753	295,845	5,820		115,112	
1859	61,675	606,871	414,030	720,904	11,689		188,926	
1860	61,675	614,403	309,363	920,766	14,929		235,762	
1861	65,144	697,836	401,979	1,099,815	16,883		279,381	
1862	70,102	817,108	204,491	1,021,599	14,594		300,235	
1863	79,466	854,109	147,888	1,001,997	12,609		304,766	
1864	99,397	964,199	247,416	1,211,615	12,190		353,696	
1865	125,204	1,096,104	665,562	1,761,666	14,070		372,490	
1866	138,249	847,845	1,010,231	1,858,076	13,440		405,529	
1867	176,015	1,100,862	1,422,434	2,523,297	14,335		480,380	
1868	202,598	1,242,011	1,566,331	2,808,342	13,862		668,668	
1869	212,311	1,845,662	2,480,155	4,325,817	20,375		778,543	
1870	221,762	1,875,110	2,573,901	4,449,011	20,062	85,698,440	791,426	
1871	275,118	2,387,677	3,047,307	5,434,984	19,755	88,957,956	903,470	
1872	319,563	3,220,533	2,511,398	5,731,931	17,937	78,963,682	1,013,621	
1873	363,409	3,476,253	2,908,056	6,384,309	17,568	79,247,336	1,181,728	
1874	391,423	3,381,794	4,222,438	7,604,032	19,427	100,760,611	1,230,114	
1875	445,597	3,893,617	4,186,084	8,079,701	18,135	118,272,605	1,610,494	
1876	501,525	4,273,793	3,713,429	7,987,222	16,022	101,350,300	1,851,336	
1877	516,197	5,289,018	3,980,243	9,269,261	17,064	114,240,025	2,245,178	
1878	583,360	5,447,794	4,522,706	9,970,500	17,094	129,548,110	2,193,357	
1879	621,752	4,669,357	6,436,369	11,105,726	17,862	151,309,898	2,483,955	
1880	633,725	5,256,365	5,994,156	11,250,521	17,753	139,470,490	2,569,144	
1881	648,332	5,605,766	7,462,145	13,067,914	20,156	187,593,092	2,755,487	
1) 1882	682,571	6,482,340	5,946,979	12,429,319	18,210	171,491,726	3,278,128	

1) This line from Rio to Carandahy cost, inclusive of premises, rolling stock, and inventory 90,482,241 milreis or 132,561 milreis per kilometer. Narrow guage costs on an average 20,000—25,000 milreis per kilometer, exclusive of rolling stock.

1882.

1881.

2) Passengers

per S. Paulo—Rio de Janeiro Railway . . . . .	13,892,020	15,529,675
» Rezende—Aréas . . . . .	2,258,396	3,407,779
» União Mineira . . . . .	11,991,515	11,386,363
» União Valenciana . . . . .	8,783,877	10,676,457
» Ramal de Rio Preto . . . . .	4,749,057	6,496,383
» Carris de Ferro de S. Cruz-Itaguahy . . . . .	2,400	170,844

41,677,274

47,667,501

12

Receipts of the SANTOS-JUNDIAHY Railway.  
(Capital 23,555,850 milreis.)

	milreis.		milreis.
1867. . . .	932,283	1875. . . .	2,618,594
1868. . . .	1,143,622	1876. . . .	2,289,150
1869. . . .	1,440,316	1877. . . .	2,297,137
1870. . . .	1,206,978	1878. . . .	3,007,580
1871. . . .	1,863,459	1879. . . .	2,900,150
1872. . . .	4,016,109	1880. . . .	2,577,731
1873. . . .	1,847,443	1881. . . .	3,404,976
1874. . . .	2,456,732	1882. . . .	3,553,830

From 1865 to 1873 there was comparatively little done in the way of railways. After 1873, however, the railway fever broke out, which is raging to this day and exhausting the finances of Brazil. Everybody, even the very planters, besieged the Chambers with petitions for guaranteed interest on the capital of projected railways. Innumerable prospectuses appeared, holding out prospects of 10, 15, 20 per cent interest. Many fortunes were made in this way, for the drift of the whole matter was to procure a concession with guaranteed interest, in order to sell it to a Company at a profit of 5 or 10 per cent. A case in point is the Lavrinhas Tres — Corações Railway (Rio Verde), opened in the beginning of 1884, which is utterly superfluous, seeing that it runs through a quite unreclaimed district in the south of Minas Geraes.

The projectors have evidently been following the example of North America, forgetting that free immigrants will not settle there, so long as the land-owners do not offer their estates for sale in small parcels.

In order to give a general view of the railways existing in the coffee-producing area, I subjoin the following tables.

## Railways in the province of RIO DE JANEIRO.

NAMES OF RAILWAYS.	Opened in:	Bitola in meters.	KILOMETERS.		Total.
			in working order.	in prepara- tion.	
Dom Pedro II. Rio-Carandahy 1) . . . . .	1858—83	1,60	419,943		
Ramal de Gambôa . . . . .	1873—83	»	1,123		
» do Campinho . . . . .	»	»	1,524		
» de Santa Cruz-Matadouro . . . . .	»	»	34,090		
» de Macacos . . . . .	»	»	4,929		
» de São Paulo . . . . .	1871—75	»	157,198		
» do Porto Novo do Cunha . . . . .	»	»	63,764		
Carandahy-Itabira 1) . . . . .	»	»	—	103,608	786,179
Rio do Ouro . . . . .	1882	1,—	52,858	—	52,858
Cosme Velho-Corcovado . . . . .	1884	1,—	3,697	—	3,697
Maúa . . . . .	1856	1,68	18,—	—	18,—
Príncipe de Grão-Pará . . . . .	1882	1,68	8,810	—	8,810
Theresopolis . . . . .	—	1,—	—	5,000	5,000
Nietheroy-Cantagallo-Rio-Bonito . . . . .	1869—79	1,10	209,413	—	209,413
Cantagallo-Passagem . . . . .	1876—81	1,10	70,350	—	70,350
Macache-Campos . . . . .	1873—83	0,95	96,500	—	96,500
Barão de Araruama . . . . .	1875	0,95	40,500	—	40,500
Campos-S. Sebastião . . . . .	1873	0,95	18,200	—	18,200
Campos Carangola . . . . .	1877—82	1,—	156,000	31,000	2) 187,000
S. Antonio de Padua . . . . .	1880	0,95	79,000	14,000	2) 93,000
S. Fidelis . . . . .	—	1,—	—	14,000	14,000
Barra do Pirahy-S. Isabel . . . . .	1878—83	1,—	24,000	56,000	2) 80,000
Commercio-Rio das Flores . . . . .	»	1,—	17,648	9,840	2) 27,488
União Valenciana . . . . .	1870	1,10	63,350	—	63,350
Pirahyence . . . . .	—	1,—	—	56,000	2) 56,000
Rezende-Arêas . . . . .	1877—78	1,—	29,000	—	29,000
Rio Bonito-Jaturnahyba . . . . .	»	1,—	8,500	—	8,500
Bananalense . . . . .	»	1,—	27,000	—	27,000
Sumidouro . . . . .	»	1,—	29,000	—	29,000
Lavrinhas-Tres-Corações (Rio Verde) . . . . .	1884	1,—	?	?	?
			1,634,397	289,448	1,923,845

## Railways in the province of MINAS GERAES.

Rio-Minas . . . . .	—	1,—	—	163,400	163,400
Leopoldina . . . . .	1874—82	1,—	215,825	—	215,825
Pirapetinga . . . . .	»	1,—	31,500	—	31,500
Alto Muriahé . . . . .	»	1,—	19,000	121,000	140,000
Oeste de Minas . . . . .	1881	0,76	99,196	—	99,196
União Mineira . . . . .	1879—81	1,—	82,000	28,000	3) 110,000
Piau . . . . .	»	1,—	—	62,200	62,200
			447,521	374,600	822,121

1) From Entre-Rios the line runs through the territory of Minas; the branch from Carandahy to Queluz was opened in the beginning of 1884.

2) Opened in 1884.

3) Opened as far as Guarany in 1884.

## Railways in the province of São Paulo.

NAMES OF RAILWAYS.	Opened in:	Bitola in meters.	KILOMETERS		Total
			in working order.	in preparation	
S. Paulo-Rio de Janeiro . . . . .	1870—75	1,—	231,000	—	231,000
Santos-Jundiaby . . . . .	1867	1,60	139,500	—	139,500
Oeste de São Paulo . . . . .	1872—77	1,60	260,500	—	260,500
Sorocabana . . . . .	1873—83	1,—	186,000	—	186,000
Ituana . . . . .	»	1,—	160,000	—	160,000
Mogyana . . . . .	»	1,—	346,532	—	346,532
Bragantina 1) . . . . .	—	1,—	—	52,000	52,000
Carlos do Pinhal . . . . .	1878—83	1,—	77,000	—	77,000
São Paulo . . . . .			1,400,532	52,000	1,452,532
Minas Geraes . . . . .			447,521	374,600	822,121
Rio de Janeiro . . . . .			1,634,397	289,448	1,923,845
			3,482,450	716,048	4,198,498
in all the other provinces of the empire . . .			1,421,094	1,715,919	3,137,013
on the 1st of January 1884 . . .			4,903,544	2,431,967	7,335,511
In Java (Government Almanac 1884) . . . . .			604,—		
» Ceylon } Statistical abstract for the several colonial			178,—		
» Jamaica } and other possessions of the U. Kingdom 1884			25,—		
» British India (idem) . . . . .			10,144,—		

Although transport is much cheaper and more rapid now than it was ten years ago, yet it bears heavily on products of such small value as coffee and sugar, as the following tables show. From these tables we may learn at the same time the respective altitudes of the various places in the coffee zones, and the distances between them.

For the sake of completeness I also state the cost of carriage by sea and river; as, from S. Fidelis to Campos by the Parahyba river, 5 milreis per 1000 kilograms, and from Imbitiba to Rio double that sum.

Consequently the freight of a bag of coffee from Miracuma (S. Antonio de Padua Railway) is:

	milreis.
from Miracuma to S. Fidelis . . . . .	28,000 per ton
» S. Fidelis » Campos . . . . .	5,000 » »
» Campos » Imbitiba . . . . .	10,000 » »
» Imbitiba » Rio . . . . .	10,000 » »
	<u>53,000</u>

Costs of transport from the fazenda to Miracuma, of re-loading on the way, and insurance by sea . . . . .	4,000 » »
	<u>57,—</u> » »

or 3 milreis 42 per bag,

1) This whole line was opened, August 15th 1884.

STATIONS.	Height above the level of the sea, (in meters.)	Distance from commencement of the line (in kilometers.)	Carriage of coffee per 1000 kilograms 0 \$ 000
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## Dom Pedro II (Rio-Zone.)

Côrte (Rio de Janeiro) . . . . .	6	0	—
Officinas de S. Diogo . . . . .	—	2	—
S. Christovão . . . . .	4	4	—
Estação Imperial . . . . .	4	4	—
S. Francisco Xavier . . . . .	16	6	—
Riachuelo . . . . .	16	7	—
Engenho Novo . . . . .	17	9	1,620
Totos os Santos . . . . .	28	11	—
Engenho de Dentro . . . . .	27	12	2,160
Piedade . . . . .	35	13	—
Cascadura . . . . .	34	16	2,880
Rio das Pedras . . . . .	—	19	—
Sapopemba * . . . . .	17	22	3,960
Maxambomba . . . . .	26	36	6,480
Queimados . . . . .	29	49	8,820
Belém. . . . .	30	62	11,160
Bifurcação * } Ramal . . . . .	30	65	12,400
Macacos . . . . .	44	70	14,400
Oriente . . . . .	137	71	12,780
Serra . . . . .	213	76	13,680
Palmeiras . . . . .	326	82	14,940
Rodeio . . . . .	376	86	15,480
Mendes . . . . .	412	93	16,740
Sant' Anna * . . . . .	362	103	18,360
Barro do Pirahy * . . . . .	357	108	19,080
Ypiranga . . . . .	354	116	19,910
Vassouras . . . . .	344	129	21,460
Desengano * . . . . .	339	132	21,930
Concordia . . . . .	322	143	23,120
Commercio * . . . . .	318	147	23,600
Casal . . . . .	320	159	25,140
Ubá . . . . .	295	171	26,450
Parada do Barão . . . . .	—	178	—
Parahyba . . . . .	277	188	28,480
Entre-Rios * . . . . .	269	198	29,670
Serraria * . . . . .	305	212	31,450
Parahybuna . . . . .	335	226	33,—
Espirito Santo . . . . .	452	239	34,550
Mathias Barbosa . . . . .	475	253	36,210
Cedofeita . . . . .	515	257	36,690
Retiro . . . . .	620	267	37,880
Juiz de Fora . . . . .	676	276	38,950
Mariana Procopio . . . . .	677	278	39,190
Bemfica . . . . .	685	289	—
Chapéu d'Uvas . . . . .	705	304	—
Jeão Gomes . . . . .	837	324	—
Mantiqueira . . . . .	879	338	—
João Ayres . . . . .	1,115	352	—
Sítio * . . . . .	1,039	364	—
Barbacena . . . . .	1,135	379	—

STATIONS.	Height above the level of the sea, (in meters.)	Distance from commence- ment of the line (in kilome- ters.)	Carriage of coffee per 1000 kilograms 0 \$ 000
<b>Dom Pedro II.</b>			
Carandahy . . . . .	1,065	420	—
S. Amaro . . . . .	?	—	—
Queluz . . . . .	?	—	—
Ramal 1) de Santa Cruz-Matadouro.			
Sapopemba . . . . .	17	22	3,960
Realengo . . . . .	33	27	5,040
Campo Grande . . . . .	26	42	7,560
Santa Cruz . . . . .	9	56	9,900
Ramal Pirahyense.			
Sant' Anna . . . . .	362	103	18,360
Roza Machado . . . . .	—	—	23,360
Engenho Central . . . . .	—	—	24,360
Pirahy . . . . .	—	—	25,360
Bella Vista . . . . .	—	—	28,360
Passa Tres . . . . .	—	159	30,360
Ramal de São Paulo.			
Barra do Pirahy . . . . .	357	108	19,080
Vargem Alegre . . . . .	364	122	20,620
Pinheiros . . . . .	366	130	21,690
Volta Redonda . . . . .	374	145	23,360
Rarra Mansa* . . . . .	377	154	24,430
Pombal . . . . .	381	165	25,740
Divisa . . . . .	387	173	26,690
Suruby* . . . . .	—	189	28,600
Rezende . . . . .	395	191	28,830
Campobello . . . . .	408	204	30,380
Itatiaia . . . . .	446	211	31,210
Bôa Vista . . . . .	466	217	31,930
Queluz . . . . .	471	228	33,240
Lavrinhas* . . . . .	508	246	35,380
Cruzeiro . . . . .	—	252	36,210
Cachoeira* . . . . .	521	265	37,760
Ramal de Santa Isabel do Rio Preto.			
Barra do Pirahy . . . . .	357	108	0,—
NS. da Piedade das Ipiabas . . . . .	684	132	9,—
Conservatoria . . . . .	556	—	11,—
Santa Isabel . . . . .	555	—	13,—
Ramal União Valenciana.			
Desengano . . . . .	339	132	21,930
Quirino . . . . .	—	141	29,700
Esteves . . . . .	—	150	34,700
Valença . . . . .	557	157	37,700
Prado . . . . .	495	164	40,700
Flôres . . . . .	520	168	42,700

1) Branch.

STATIONS.	Height above the level of the sea, (in meters.)	Distance from commence- ment of the line (in kilome- ters.)	Carriage of coffee per 1000 kilograms 0 \$ 000
Ramal União Valenciana.			
Rio Bonito . . . . .	514	173	43,700
S. Delfina . . . . .	434	183	45,700
Rio Preto . . . . .	439	195	48,700
Ramal Rio das Flores.			
Commercio . . . . .	318	147	23,600
Marambaia . . . . .	484	155	31,600
Taboas . . . . .	544	165	36,600
Santa Thereza . . . . .	506	171	46,600
Ramal de Porto Novo.			
Entre-Rios . . . . .	269	198	29,670
Santa Fé . . . . .	260	206	30,620
Chiador . . . . .	280	217	31,930
Anta . . . . .	238	225	32,880
Sapucaia . . . . .	209	234	33,950
Ouro-fino . . . . .	194	241	34,780
Conceição . . . . .	163	251	35,970
Porto Novo . . . . .	155	262	37,280
Ramal Leopoldina.			
Porto Novo . . . . .	155	262	0,—
Pantano . . . . .	169	275	3,600
Volta Grande * . . . . .	210	289	8,100
S. Sebastião . . . . .	—	301	11,700
Santa Clara } Ramal . . . . .	—	309	14,400
Pirapetinga } . . . . .	141	320	17,400
S. Luiz . . . . .	275	299	11,400
Providencia . . . . .	263	305	13,200
Santa Isabel . . . . .	220	321	17,700
Recreio . . . . .	174	329	20,—
Campo Limpo . . . . .	175	341	23,—
Vista Alegre * . . . . .	163	350	25,200
Leopoldina (Ramal) . . . . .	227	362	28,200
Cataguazes . . . . .	175	367	29,200
Sinimbu . . . . .	200	383	33,—
D. Euzebia . . . . .	228	392	34,—
Santo Antonio . . . . .	243	399	34,700
Pomba . . . . .	280	410	35,800
Diamante . . . . .	306	418	36,500
Ubaense . . . . .	340	434	38,200
Presidio . . . . .	340	456	40,400
S. Geraldo . . . . .	380	465	41,400
Alto da Serra . . . . .	732	478	—
Ramal União Mineira.			
Serraria . . . . .	305	212	0,—
Silveira Lobo . . . . .	460	224	5,400
Socego . . . . .	420	231	8,100
S. Pedro . . . . .	560	243	13,500
Santa Helena . . . . .	480	251	18,—
Bicas . . . . .	600	261	19,800
Roça Grande . . . . .	330	284	22,500
S. João Nepomuceno . . . . .	360	294	27,—

STATIONS.	Height above the level of the sea, (in meters).	Distance from commencement of the line (in kilometers).	Carriage of coffee per 1000 kilograms. 0 \$ 000
<b>Ramal União Mineira.</b>			
Rio Novo . . . . .	390	308	32,—
Guarany . . . . .	350	322	35,—
<b>Ramal de Oeste-Minas.</b>			
Sítio . . . . .	1,039	364	—
Barroso . . . . .	—	412	—
S. José . . . . .	—	453	—
S. João d'el Rei . . . . .	—	464	—
<b>Ramal Banalense.</b>			
Barra Mansa . . . . .	377	154	24,430
Banamal . . . . .	382	181	—
<b>Ramal Rezende-Arêas.</b>			
Suruby . . . . .	—	189	0,—
Plataforma . . . . .	—	191	1,500
Babylonia . . . . .	—	203	7,500
Estalo . . . . .	—	207	8,800
Bambús . . . . .	—	213	11,300
Formosa . . . . .	—	218	13,800
<b>Ramal Lavrinhas-Tres-Corações (Rio Verde).</b>			
Lavrinhas . . . . .	—	—	—
Pouso Alto . . . . .	—	—	—
Tres-Corações . . . . .	—	—	—
<b>Ramal S. Paulo—Rio de Janeiro.</b>			
Cachoeira . . . . .	517	266	47,590
Lorena . . . . .	537	282	44,500
Guaratingueta . . . . .	527	294	41,820
Apparecida . . . . .	544	299	40,790
Roseira . . . . .	546	310	38,730
Pindamonhangaba . . . . .	558	327	35,230
Taubaté . . . . .	582	343	31,720
Caçapava . . . . .	564	365	27,400
S. José . . . . .	596	389	22,460
Jacarehy . . . . .	560	405	18,950
Guararema . . . . .	566	424	15,040
Mogy das Cruzes . . . . .	743	448	10,100
Lageado . . . . .	—	473	5,150
Penha . . . . .	—	489	—
São Paulo . . . . .	736	497	0,—
<b>Cantagallo.</b>			
Sant' Anna do Murahy . . . . .	23	0	0,—
Porto Velho . . . . .	—	5	—
S. Gonçalo . . . . .	—	8	1,400
Alcantara . . . . .	—	14	2,500
Gnaxindiba . . . . .	—	19	3,600
Villa Nova . . . . .	1	26	4,900
Porto das Caixas * . . . . .	4	34	6,100
Escurial . . . . .	—	39	—
Sambaitiba . . . . .	—	46	—
Sapucaia . . . . .	—	54	—
Jaguary . . . . .	—	55	—
Sant' Anna . . . . .	—	60	19,900
Cachoeiras . . . . .	49	74	25,300

STATIONS.	Height above the level of the sea, (in meters.)	Distance from commence- ment of the line (in kilome- ters.)	Carriage of coffee per 1000 kilograms 0 \$ 000
<b>Cantagallo.</b>			
Cima . . . . .	1,086	—	—
Nova Friburgo. . . . .	850	110	37,100
Rio Grande. . . . .	751	124	40,100
Bom Jardim . . . . .	602	138	43,300
Cordeiro* . . . . .	513	161	48,100
<b>Ramal de Rio Bonito.</b>			
Porto das Caixas . . . . .	4	34	6,100
Vendra das Pedras . . . . .	12	40	7,200
Tangáa . . . . .	20	53	9,500
Rio dos Indios. . . . .	29	58	10,600
Rio Bonito . . . . .	45	64	11,700
<b>Ramal de Macuco.</b>			
Cordeiro . . . . .	513	161	48,100
Macuco . . . . .	296	180	51,900
<b>Ramal Cantagallo-Passagem.</b>			
Cordeiro . . . . .	513	161	0,—
Cantagallo . . . . .	414	168	3,800
Santa Rita . . . . .	231	190	9,100
Boá Sorte . . . . .	165	220	12,600
Batalal. . . . .	92	225	} 17,500
Passagem . . . . .	88	230	
Aldéa de Pedra . . . . .	86	231	
<b>Macahe-Campos.</b>			
Imbitiba . . . . .	—	0	0,—
Macahe . . . . .	—	3	1,600
Sant' Anna . . . . .	—	17	4,600
Carapebús . . . . .	—	31	5,500
Triumpho * . . . . .	55	46	6,800
Dores . . . . .	—	62	7,700
Guriry . . . . .	—	74	8,500
Ururahy . . . . .	—	86	9,400
Campos . . . . .	—	97	10,100
<b>Ramal Barão de Araruama.</b>			
Macabú. . . . .	20	0	0,—
Paciencia. . . . .	28	14	6,700
Conceição . . . . .	52	30	13,300
Triumpho * . . . . .	55	41	16,600
<b>Campos.-S. Sebastião.</b>			
Campos . . . . .	—	0	—
Crus das Almas . . . . .	—	5	—
Sant' Anna . . . . .	—	8	—
São Gonçala . . . . .	—	10	—
Campo Limpo . . . . .	—	16	—
São Sebastião . . . . .	—	19	—
<b>Campos-Carangola.</b>			
Campos . . . . .	0	0	0,—
Travessão . . . . .	6	17	4,300
Penha. . . . .	24	30	7,500
Villa Nova . . . . .	34	39	10,—
Murundú. . . . .	45	50	12,500

STATIONS.	Height above the level of the sea, (in meters.)	Distance from commencement of the line (in kilometers.)	Carriage of coffee per 1000 kilograms 0 \$ 000
<b>Campos-Carangola.</b>			
São Eduardo (ramal) . . . . .	41	72	20,400
Cachoeira . . . . .	12	74	18,500
Barra de Carangola . . . . .	83	133	33,250
Natividade . . . . .	160	163	40,750
Tombos . . . . .	569	183	40,750
<b>S. Antonio do Padua.</b>			
S. Fidelis. . . . .	22	0	0,—
Coqueiro.. . . .	31	16	8,—
Vallão d'Antas. . . . .	40	24	12,—
Tres Irmãos. . . . .	45	34	16,—
S. Antonio de Padua . . . . .	86	69	25,—
Barra . . . . .	105	79	26,—
Miracuma . . . . .	113	93	28,—
<b>Principe de Grão Pará.</b>			
Maúa . . . . .	1	0	0,—
Inhomerim . . . . .	4	8	—
Raiz de Serra . . . . .	30	16	9,200
Petropolis . . . . .	812	27	14,200
<b>Santos-Jundiahy (Santos-Zõne.)</b>			
Santos. . . . .	1	0	18,540
Cubatão . . . . .	15	12	16,070
Raiz da Serra . . . . .	20	22	14,010
Alto do 1º plano . . . . .	207	—	—
Alto do 2º plano . . . . .	382	—	—
Alto do 3º plano . . . . .	591	—	—
Alto da Serra . . . . .	799	30	—
Rio grande . . . . .	747	43	7,620
S. Bernardo. . . . .	742	60	3,710
S. Paulo * . . . . .	736	80	0,—
Agua Branca . . . . .	722	86	1,240
Perus . . . . .	737	103	4,740
Belem. . . . .	771	119	8,030
Jundiahy* . . . . .	706	140	12,360
<b>Sorocabana.</b>			
S. Paulo . . . . .	736	80	0,—
Baruery . . . . .	721	109	6,190
S. João . . . . .	783	129	10,520
S. Roque. . . . .	794	147	14,230
Piragibú . . . . .	756	169	18,760
Sorocaba . . . . .	535	191	23,290
Villeta. . . . .	533	206	26,790
Ypanema. . . . .	548	208	27,620
Bacaetava . . . . .	520	212	30,290
Tiété . . . . .	498	266	38,740
<b>Oeste de São Paulo.</b>			
Jundiahy . . . . .	706	140	12,360
Louveira . . . . .	666	156	15,660
Rocinha . . . . .	701	163	17,300
Vallinhos. . . . .	660	171	18,950

STATIONS.	Height above the level of the sea, (in meters.)	Distance from commence- ment of the line (in kilome- ters.)	Carriage of coffee per 1000 kilograms 0 \$ 000
<b>Oeste de São Paulo.</b>			
Campinas*	693	185	21,630
Boá Vista	637	194	23,480
Rebouças	548	210	26,990
Santa Barbara	529	223	29,460
Tatú	513	235	31,930
Limeira	542	246	34,400
Cordeiro	632	258	36,670
Rio Claro	612	275	40,170
Carlos do Pinhal } Ramal	—	352	—
Araras	611	276	40,380
Goabirola	594	286	42,440
Leme	610	303	46,140
Pirassinunga	637	326	47,030
Porto Ferreira	532	341	47,930
Bélem do Descalvado	—	401	50,740
<b>Ituana.</b>			
Jundiahy	706	140	12,360
Itupeva	—	164	17,300
Quilombo	—	175	19,570
Itaicy	—	186	21,840
Salto-Itú } Ramal	—	202	25,130
Itú	—	210	26,780
Indaiatuba	—	192	23,070
Monte-Mór	—	213	27,400
Capivary	—	232	31,310
Mombuca	—	247	34,400
Rio das Pedras	—	262	37,490
Piracicaba	—	278	40,790
<b>Mogyana.</b>			
Campinas	693	185	21,630
Anhumas	614	195	23,690
Tanquinho	608	205	25,750
Jaguary	567	212	28,840
Pedreira } Ramal	586	230	30,900
Coqueiros	658	240	32,960
Amparo	658	250	35,020
Ressaca	604	239	32,750
Mogy-Mirim	613	261	37,290
Mogy-Guassú	606	270	39,140
Matto Secco	738	302	45,740
Caldas	652	314	49,240
Sertãozinho	631	329	—
Casabranca	720	358	57,270
Lage	700	397	57,310
Corrego Fundo	680	—	62,180
São Simão	650	440	67,240
Ribeirão Preto	520	532	—

## CHAPTER IX.

### COMMERCE AND BANKING.

#### a. General view.

In order to give a clear and accurate idea of the present state of trade in Brazil, and especially of Rio de Janeiro, the capital and chief emporium of the empire, it is necessary first of all to glance at the condition of that trade twenty or thirty years ago.

As a natural result of the old political relations between the mother-country and the colony — relations which, in that respect especially, continued to exist long after Brazil became independent — trade was almost wholly in the hands of the Portuguese, whose influence, although no longer so overwhelming as formerly, nevertheless continues to make itself felt to some degree even now. And when we proceed to reflect that, in those times of colonial dependence and political infancy, whose continuance was systematically promoted and secured by the narrowest and most short-sighted statesmanship, it was not exactly the best in the land that immigrated to Brazil — it can be no matter of surprise that the mercantile classes down to the latter half of the century consisted almost exclusively of half-educated people, who expatriated themselves temporarily in the hope of making a fortune in a short time.

Within the last 25 years even, an important part of the trade of Rio was still concentrated in the hands of a very few Portuguese houses, the heads of which, pious and ignorant as they were, distinguished themselves solely by their extreme severity to their employés, who were mostly countrymen; and by the veil of mystery they spread over their business. Not so much by successful speculation, — for which, by the way, they lacked the requisite capacity and tact, —

as by economy, the cardinal virtue of the Portuguese people, they succeeded in amassing great riches.

Very small was the number of Brazilian firms, which were mostly composed of men from the provinces of Minas Geraes (Mineiros), Rio Grande de Sul (Rio Grandenses), and São Paulo (Paulistos); that is to say, of the descendant of the first adventurers of the colonial period. Their transactions were mostly restricted to commission trade in the products of the country, such as coffee, cotton, linens, xargue or dried meat, etc. From six in the morning till ten in the evening they were regularly at their post; not until the „Aragão” sounded did they shut up their offices.

The Brazilians, excessively indolent and ease-loving by nature, have still an almost insurmountable horror and dislike of trade. When want of capital prevents them from working a farm, from being *lavradores*, they prefer a small official post, no matter how badly paid, to an active life in trade or industry.

Besides this set of tradespeople there were merchants of various nationalities: English, French, Germans, and Belgians, who all without distinction were and are designated *inglezes*, and whose commercial houses, several of which still exist under the same name, were engaged chiefly in the import-trade. These did not act up to Portuguese custom, but opened their magazines at nine in the morning, closing them, as a rule, at four in the afternoon. They did not live in the town either, but in the comparatively healthy suburbs. On the whole they contrived to get more enjoyment out of life than their Portuguese or Brazilian competitors, who were still too much enslaved to their ancestral habits to follow their example. Nevertheless the opinion of those foreigners is highly prized, both in business and daily life, and it is not improbable that the curiously characteristic Brazilian saying, *Para inglez ver*, 1) dates from those times.

Navigation was very much neglected by the Brazilians, sailing vessels alone being employed, so that a voyage that can now be accomplished in a few weeks took as many months in those days.

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1) „For the foreigner to see.” „To throw dust in the eyes”.

The land-transport was also very primitive, and effected only by means of the tropeiros, who conveyed the produce from the interior with their mules (mulas cargueiras) and brought back necessaries by almost impracticable mountain paths, beaten out, as it were, gradually and by the successive carriers themselves. Now, however, the tropeiros find their occupation gone, except in districts where the steam-engine has not yet made its appearance; that is to say in the far interior, between the plantations or fazendas and the railway-stations.

It is a curious sight to see a caravan of those quaintly and incongruously equipped animals, marching in single file after the mula da cabeçada which here takes the place of the „mother mare” or Madrinha 1). Decorated with a head-gear set with silver or copper bells, she guides the troop along the right way. A mule never carries more than two sacks of 60 kilograms weight, one at each side of the saddle, which — all its parts taken collectively — is called cangalha, but which is composed of the following pieces or divisions. Firstly a basket — woven — an esteira of a certain sort of reed is put on the animal's back; on this basket, by way of mitigating the pressure, is placed a small saddle of dry reeds (capim membeca) about a handbreadth thick. Above this comes the wooden saddle, with a high pommel covered with a leathern cap or capa; on this is hung the broacca, consisting of two leathern wrappers, fastened together by straps or cords, in which the coffee is packed. Instead of leather wrappers people sometimes use baskets Jacazes, made of plaited bamboo (taquara) and fastened together in the manner already described. In order to protect the bags against rain and damp, a tarred canvass or untanned leather cover is spread over the whole. It is needless to say that, on account of the mountainous road to be traversed, the cangalha is bound strongly on to the animal's back, by means of girthing, poitrel, and breeching.

It is clear that trade supplied in this way could not possibly be marked by the sleepless activity observable at present

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1) The madrinha is she-mule or mare about whom the mules and horses remain grazing, when they are loose in the pastos or pastures. The „mother-mare” is distinguished by a bell attached to her neck.

in the capital of the empire. While for instance, it takes scarcely twelve hours now to go from Barbacena to Rio, (379 kilometers), it took upwards of a month in former times. Commerce went on more composedly, more measuredly then. The axiom „Time is money” did not yet embody a truth. Communication between the Old and the New World, between North and South America, was still very rare. Reports from those regions were neither frequent nor regular. The arrival of a ship was quite an event for the Brazilians. Thence it came that the old the place of landing, lading, and unloading, — the name of which „Caes dos Mineiros” is still living, — was then the centre of activity, and formed a very strong attraction to a great proportion of the townspeople.

The chiefs of trade and industry on the other hand, the magistrates and military men, sought their favourite walk in the then famous „Caes de Pharoux,” a spot now known only by name. There people met each other, there they discussed the events of the day, there came paterfamilias accompanied by his daughters and his pequeno caixeiro, who coming from the mother country with a warm recommendation from the cura da freguezia (village priest), became as a rule eventually his son-in-law and partner in the firm.

Luxury in dress and household furniture was unknown in those times. Gentlemen dressed very plainly as yet, without show or pretension. A white coat, no vest, home-made nankeen trousers, a scarf flung loosely about the neck by way of collar, and a straw hat, of Brazilian manufacture but nevertheless termed *manilha*, constituted a „full dress” which might be pronounced „quite the correct thing” if a man could but compass a pair of European shoes from the then celebrated „Clark’s.” Very gradually a change appeared, brought about by „Young Brazil,” the youthful doutores whose pride it was to show themselves in an olive-coloured coat with large brass buttons, white or yellow trousers, patent leather boots, and a tall hat.

It is remarkable what a passion most Brazilians have for titles. It is actually a mania. Even students in their last year, no matter what profession they are qualifying for, are universally addressed and recognized as „Senhor Doutor,” albeit it is still extremely problematical whether they may ever

acquire that title. The darling wish of a father, and still more of a mother, was and is to be able to call the son Doutor. With intense pride he will be introduced to friends and relatives as „Eis meu filho o Doutor Fulano, um socio que me gastou muitos patacas, e si não descobriu a polvora é porque ja estava descoberta. 1)

In those times public amusements were beyond the reach of all but the very well-to-do, and consisted chiefly of performances in the S. Januario, S. Pedro, and Gymnasio theatres of melodramas like „Naufragio da fragata Medusa,” „Ignez de Castro,” „Sette infantes de Lara,” etc. which performances lasted regularly from 8 P. M. till 2 A. M.

Science and letters were very little studied among the mercantile classes in those times, nay I could cite examples of employés being discharged within the last twenty years, simply because they were — or were taken to be — *lettrados*.

Money-making was the one motto, the one watchword. As to the way to make it — that was left to the individual's own conscience. Granted that there were some who made that money in the sweat of their brow, by economy and frugality: — it is said of some that their chief source of wealth was the smuggling of slaves, while it is whispered that others made their fortunes in a few years by importing flour and hollow images of saints, wherein an enormous quantity of counterfeit banknotes was concealed. According to current belief, the large fortunes were amassed in those days.

This order of things has undergone a great and beneficial change, thanks to steam-power, which so greatly facilitates communication with foreign parts as well as the interior; thanks also to the wider dissemination of education both primary and classical.

Commerce, which was formerly confined to a particular quarter of the old town, to the vicinity of the rua Direita and rua dos Ourives, now extends to the most remote suburbs, which communicate with the centre by a very extensive and admirably managed system of tramways, such as perhaps could not be met with anywhere else.

The population of Rio de Janeiro, now estimated at from

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1) My son, Dr. So and So, a scholar who has cost me much money, and who would have discovered gunpowder if it had not been discovered already.

350,000 to 400,000, has indubitably trebled in the last twenty-five years, so that life there has become very expensive.

The rent of dwelling-houses and warehouses has risen enormously.

For well-situated coffee-houses, for instance, the rent is from 300 to 400 milreis a month, while in the rua do Ouvidor, the Regent street or Broadway of Rio de Janeiro, houses are let for that purpose at 1000 milreis a month, besides the good-will or louvas, which often amounts to a year's rent. For dwelling-houses in the suburbs people pay from 200 to 500 milreis a month. Very few people are rich enough to keep a carriage; for the monthly cost of this is from 500 to 600 milreis.

Meat is very good and exceptionally cheap, but all other provisions are comparatively dear. Almost everything has to be imported; for in the interior there are no articles of food raised except for private or local consumption.

A great convenience is, that the several branches of trade have concentrated themselves in particular streets and quarters. Thus the rua do Ouvidor is the street for millinery and haberdashery; the rua de Sete Setembro that of the shoemakers and dealers in comestibles; the rua do Rosario that of the sellers of Xarque, or dried meat, and also of the white-smiths; while the coffee trade has concentrated itself in the S. Bento, Municipal, Benedictinos, Visconde de Inhaúma streets, and the rua da Sauda by the docks of Pedro II for the commissarios and ensacadores; in the S. Pedro Alfandega, and General Camara Streets for the exporters; and in the ruas da Sauda and da Gamboá for the trapicheiros or owners of the wharf warehouses, where all the coffee that arrives per steamer or other vessel, is temporarily stored.

The Commercial Code of Brazil was drawn up in the year 1836 by a Commission appointed by Government; it is based on the Code Napoléon and the Spanish and Portuguese commercial codes which have been elaborated from it.

The old commercial courts (tribunães do commercio de segunda e ultima instancia) have been abolished since 1875. There are now only Junta's do Commercio, whose functions are restricted to the administrative department of commercial affairs: such as the registration of trade agreements,

signing commercial books etc., while the judicial department belongs to the Relações or Courts of Appeal for the whole province.

The president, members, and members in loco (Supplentes) of the Junta, are merchants, elected for a term of years by brother merchants; while the secretary, whose nomination rests with the Emperor, is required to be a jurist.

The laws of exchange are nearly the same as those of Europe.

From the following table, showing the revenue derived by the State during the last twenty-five years, from the Export and Import of goods, gold and silver, we may see how considerably the foreign trade of Brazil has increased of late years, notwithstanding the heavy taxes on the export and import of natural products and manufactured goods.

Financial years.	Export Duties in Milreis.	Import Duties in Milreis.	Source of Information.
1857—58	6,661,891	32,213,399	
1858—59	7,380,070	29,021,792	Relatorio da Associação
1859—60	5,569,627	27,247,146	Commercial do Rio de Janeiro,
1860—61	7,266,289	30,027,626	1877
1861—62	8,226,810	31,365,424	"
			"
1862—63	8,344,988	27,438,011	
1863—64	9,081,797	30,795,407	Proposta e Relatorio of the
1864—65	9,663,379	34,477,663	Ministry of Finance.
1865—66	10,967,099	33,441,461	1883
1866—67	10,768,577	37,640,093	"
1867—68	15,368,075	35,873,877	"
1868—69	18,608,159	45,346,973	"
1869—70	17,843,447	52,369,597	"
1870—71	14,915,887	52,994,472	"
1871—72	17,229,353	58,599,584	"
			"
1872—73	19,337,652	60,281,045	"
1873—74	17,345,535	56,306,638	"
1874—75	18,770,258	55,464,097	"
1875—76	16,206,373	54,736,928	"
1876—77	16,310,156	53,938,889	"
1877—78	16,342,341	56,852,606	"
1878—79	18,138,007	59,308,767	"
1879—80	18,542,448	64,756,265	"
1880—81	20,434,538	67,860,959	"
1881—82	19,353,607	72,194,723	"

The principal exports of the empire are coffee, sugar, caoutchouc, hides, tobacco, cotton, Paraguay tea, gold, and

diamonds. See subjoined table compiled from Proposta e Relatorio for 1813.

	1879—80 Value in Milreis.	1880—81 Value in Milreis.	1881—82 Value in Milreis.
Coffee. . . . .	126,259,900	126,134,000	104,752,700
Sugar. . . . .	31,333,700	25,935,100	36,445,900
Caoutchouc. . . . .	12,242,500	11,855,700	12,005,400
Hides. . . . .	8,979,900	8,269,500	7,894,100
Tobacco. . . . .	7,660,800	7,553,600	7,912,300
Cotton. . . . .	5,186,700	5,114,600	9,662,300
Paraguay Tea. . . . .	2,521,900	2,702,100	2,697,800
Cacao. . . . .	1,002,500	704,600	985,000
Castanha do Pará. . . . .	1,473,800	1,112,700	1,052,000
Diamonds. . . . .	1,007,100	1,307,500	861,200
Arrack. . . . .	336,500	309,400	281,200
Fibrines (cabello e crina). . . . .	309,500	275,800	334,100
Tapioca. . . . .	335,000	267,000	107,600
Flax. . . . .	138,800	142,500	151,200
Diverse products, including gold. . . . .	23,140,200	41,883,600	31,567,000
	221,928,800	233,567,700	216,709,800

The principal imports are calicos, silks, ready-made clothes and coffee-bags, porcelain, crystal and glass wares; furniture, jewellery, gold and silver articles; wines, beers, liquors, and mineral waters; butter, cheese, olive oil, and preserved provisions; rice, flour, potatoes, and European fruits; tea, spices; coal and machinery; petroleum, tar, portland cement, etc., — the greater part of which is brought from England, France, the United States, Germany, Portugal, the Argentine Republic, and Belgium.

The following table exhibits the respective shares taken in the import and export trade by the various sea-board provinces of Brazil during the financial years from 1879—80 to 1881—82.

PROVINCES.	IMPORT.			EXPORT.		
	1879—1880	1880—1881	1881—1882	1879—1880	1880—1881	1881—1882
	in milreis.					
Rio de Janeiro. . . . .	95,021,700	96,545,900	93,085,600	112,089,900	115,332,400	88,346,300
Pernambuco. . . . .	22,317,000	25,619,600	26,976,700	19,364,400	24,345,400	25,787,800
Bahia. . . . .	20,203,800	20,988,100	22,861,700	18,130,800	15,608,000	16,285,300
Rio Grande do Sul.	40,586,300	9,500,000	11,047,500	9,378,800	8,600,000	9,888,400
Pará. . . . .	8,017,700	8,429,600	9,046,000	14,459,200	16,036,000	16,772,300
Maranhão. . . . .	4,575,200	4,658,800	5,078,000	3,515,600	3,600,200	3,913,600
S. Paulo . . . . .	6,253,800	7,828,700	7,745,400	29,779,700	29,375,300	32,535,200
Parahyba. . . . .	253,600	184,100	240,600	970,200	694,100	915,300
Ceará. . . . .	2,679,500	2,948,300	3,093,600	2,382,000	2,552,000	2,713,700
Alagoás. . . . .	903,800	1,689,300	1,958,400	4,378,300	6,859,500	7,139,100
Sergipe. . . . .	62,500	226,900	360,500	2,308,400	5,096,900	6,086,600
Paraná. . . . .	234,200	276,100	808,500	2,268,900	2,046,800	2,675,300
Santa Catharina. . . . .	943,100	575,200	843,100	309,500	256,400	310,900
Rio Grande do Norte	105,100	264,300	205,300	1,216,100	1,909,500	1,592,300
Espirito Santo. . . . .	18,400	39,400	33,000	—	—	172,900
Piauhý. . . . .	124,100	254,700	248,500	428,600	502,400	638,600
Amazonas. . . . .	444,500	429,800	480,900	943,400	752,800	936,200
	172,744,300	180,458,700	184,113,300	221,928,800	233,567,700	216,709,800

The steam-boat communication between Brazil and Europe, as well as North and Central America, has extended very much of late years.

Considering how little the people of this country are acquainted with the various means of communication between Europe

and Brazil, I think it will not be considered superfluous if I subjoin a table, exhibiting the various steam-navigation lines, with the passage-money from the various ports to Rio de Janeiro, etc. besides a calculation of the value of some European coins according to the exchange of Rio on London.

Transatlantic Lines between EUROPE and BRAZIL.

NAMES of Lines and Places of Embarkation.	FROM	To	PASSAGE-MONEY.		
			1st class	2d class	3d class
1. Nord Deutscher Lloyd from BREMEN once a month.	Bremen	Rio de Janeiro	pst. 24-15-0	—	100 milreis
	Hamburg	»	» 24-15-0	—	100 »
	Antwerp	»	» 24-10-0	—	100 »
	Bahia	»	60 milr.	—	25 »
	Rio de Janeiro	Santos	20 »	—	10 »
	»	Montevideo	75 »	—	40 »
	»	Buenos Ayres	90 »	—	45 »
2. Hamb. Süd-Amerikanische-Dampfschiff-Gesellschaft. From HAMBURG on the 5th, 13th, 21st and 30th of every month.	Hamburg	Rio de Janeiro	pst. 30	—	100 milreis
	Lisbon	»	» 25	—	pst. 70 »
	Azores	»	» 27	—	7-10-0
	St. Vincent	»	» 20	—	70 milreis
	Bahia	»	60 milr.	—	30 »
	San Francisco	»	60 »	—	30 »
	Rio de Janeiro	Santos	25 »	—	12 »
	»	Montevideo	100 »	—	40 »
	»	Buenos Ayres	120 »	—	45 »
3. Messageries Maritimes. From BORDEAUX on the 5th, and 20th of every month.	Bordeaux	Rio de Janeiro	fr. 885	fr. 605	fr. 305
	Lisbon	»	» 750	» 500	80 milreis
	Pernambuco	»	100 milr.	75 milr.	28 »
	Bahia	»	80 »	60 »	20 »
	Rio de Janeiro	Montevideo	fr. 310	fr. 170	fr. 90
	»	Buenos Ayres	» 350	» 200	» 100
4. Chargeurs Réunis. From HAVRE.	Havre	Rio de Janeiro	250 milr.	220 milr.	120 milreis
	Lisbon	»	200 »	170 »	75 »
	Teneriffe	»	160 »	140 »	100 »
	Pernambuco	»	90 »	70 »	28 »
	Bahia	»	70 »	55 »	20 »
	Rio de Janeiro	Santos	25 »	— »	10 »
	»	Montevideo	100 »	70 »	40 »
	»	Buenos Ayres	100 »	70 »	40 »
5. Société Générale de Transports Maritimes à Vapeur. From MARSEILLES about the 14th and 29th of every month.	Marseilles	Rio de Janeiro	fr. 750	fr. 600	fr. 100
	Genoa	»	» 750	» 600	» 100
	Naples	»	» 800	» 650	» 110
	Rio de Janeiro	Montevideo	100 milr.	75 milr.	40 milreis
	»	Buenos Ayres	100 »	75 »	40 »

NAMES of Lines and Places of embarkation.	FROM	To	PASSAGE-MONEY		
			1st class	2d class	3d class
6. Oesterreich-Ungarische Lloyd. From TRIEST about the 10th of every month.	Triest	Rio de Janeiro	fl. 321	fl. 214	fl. 80
	Naples	»	» 334	» 220	» 90
	Pernambuco	»	» 60	» 40	» 6
	Bahia	»	» 28	» 18	» 3
	Rio de Janeiro	Santos	» 25	» 17	» 3
7. Società G. B. Lavarello & Co. From GENOA once a month, uncertain.	Genoa	Rio de Janeiro	fr. 800	fr. 600	100 milreis
	Naples	»	» 850	» 650	110 »
	Marseilles	»	» 800	» 600	100 »
	Rio de Janeiro	Marseilles	80 milr	60 milr	30 »
	»	Buenos Ayres	80 »	60 »	40 »
8. Società Rocco Piaggio Figlio. From GENOA once a month, uncertain.	Genoa	Rio de Janeiro	300 »	220 »	95 »
	Naples	»	350 »	247 »	102 »
	Marseilles	»	300 »	220 »	90 »
9. Società Schiaffino. From GENOA once a month, uncertain.	Genoa	»	—	—	—
	Naples	»	—	—	—
	Marseilles	»	—	—	—
10. Società di Trans- porti Marittimi Raggio & Co. From GENOA once a month, uncertain.	Genoa	»	—	—	—
	Naples	»	—	—	—
	Marseilles	»	—	—	—
11. New Zealand Shipping Company. From LON- DON once a month, un- certain.	London	»	pst 30	pst. 20	pst. 13
	Plymouth	»	» 30	» 20	» 13
	Madeira	»	» 25	» 12	» 8
12. Vapores Correos del Marquez del Campo. From LIVERPOOL once a month, un- certain.	Liverpool	»	Pesetas 700	Pesetas 450	Pesetas 180
	Bordeaux	»	»	»	»
	Lisbon	»	»	»	»
	Barcelona	»	»	»	»
	Valencia	»	»	»	»
	Pernambuco	»	200	150	100
	Rio de Janeiro	Montevideo	250	175	125
»	Buenos Ayres				
13. Liverpool, Brazil, and River Plate mail Steamers. From LIVERPOOL on the 5th and 20th of every month.	Liverpool	Rio de Janeiro	pst. 30	—	pst. 12—10 sh.
	London	»			
	Southampton	»			
	Antwerp	»	230 milr	—	70 milreis
	Lisbon	»			
	Bahia	»	70 »	—	25 »
	Rio de Janeiro	Santos	19½ »	—	11 »
	»	Montevideo	100 »	—	40 »
	»	Buenos Ayres	100 »	—	40 »

NAMES of Lines and Places of embarkation.	FROM	To	PASSAGE-MONEY		
			1st class	2d class	3d class
14. Pacific Steam Navigation Company. From LIVERPOOL every second Wednesday.	Liverpool	Rio de Janeiro	pst. 30	pst. 20	pst. 10
	Bourdeaux	»	—	—	—
	Santander	»	—	—	—
	Corunna	»	—	—	—
	Vigo	»	—	—	—
	Lisbon	»	» 25	» 15	» 8
	Pernambuco	»	—	—	—
	Bahia	»	—	—	—
	Rio de Janeiro	Montevideo	» 10	» 6	» 3—10
	»	Buenos Ayres	» 10	» 7	» 4
»	Valparaiso	» 45	» 30	» 15	
»	Arice	» 55	» 35	» 18	
»	Callao	» 60	» 37	» 20	
15. Royal Mail Steam Packet Company. From SOUTHAMPTON about the 1st, 10th, and 24th of every month.	Southampton	Rio de Janeiro	» 30	» 18	» 13
	Havre	»	» 30	» 18	» 13
	Antwerp	»	» 30	» 18	» 13
	Lisbon	»	» 25	» 16	» 8
	Pernambuco	»	90 milr	50 milr	27 milreis
	Bahia	»	70 »	40 »	25 »
	Rio de Janeiro	Santos	25 »	18 »	12 »
	»	Montevideo Buenos Ayres	pst. 10	pst. 6	pst. 4

Value of the various coins in milreis according to the course of Rio de Janeiro on London.

	20	20¼	20½	20¾	21	21¼	21½	21¾
1 florin =	1,237	1,222	1,207	1,193	1,179	1,165	1,151	1,138
1 franc, lire, or peseta =	0,472	0,466	0,460	0,454	0,449	0,444	0,439	0,434
1 mark =	0,729	0,720	0,711	0,702	0,694	0,686	0,678	0,670
1 pound sterling =	12,000	11,852	11,707	11,566	11,429	11,294	11,163	11,034
1 guilder =	0,993	0,981	0,969	0,957	0,946	0,935	0,924	0,913
1 thaler =	1,768	1,746	1,724	1,704	1,684	1,664	1,645	1,626
1 dollar =	2,528	2,497	2,466	2,437	2,408	2,379	2,298	2,271

	22	22¼	22½	22¾	23	23¼	23½	Par on exchange according to intrinsic value.
1 florin =	1,125	1,112	1,100	1,088	1,076	1,064	1,053	0,917
1 franc, lire, or peseta =	0,429	0,424	0,419	0,414	0,410	0,406	0,402	0,350
1 mark =	0,662	0,654	0,647	0,640	0,633	0,626	0,621	0,540
1 pound sterling =	10,909	10,787	10,667	10,550	10,435	10,323	10,213	8,889
1 guilder =	0,903	0,893	0,883	0,873	0,864	0,854	0,845	0,736
1 thaler =	1,607	1,589	1,571	1,554	1,537	1,521	1,505	1,310
1 dollar =	2,245	2,220	2,196	2,172	2,148	2,125	2,102	1,830

The Home Trade has also extended greatly within the last few years.

There is regular communication between the various sea-ports as well as between them and the South American Republics. The Brazilian government subsidises twenty Steam Navigation Companies for this purpose, at an expense of 3,300,600 milreis per annum.

The importance of the inter-provincial trade per cabotagem or coasting vessels will appear from the following table: 1)

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1) I gratefully acknowledge the kind assistance of Messrs. J. C. Ramalho Ortigão, Honorio de Araujo Maia, A. F. de Almeida, C. B. de Castro; J. Gordon and L. Alves da Silva Porto, who procured me the most precious data for this chapter.

PROVINCES.	IMPORT, in milreis.			EXPORT, in milreis.		
	1879—1880.	1880—81.	1881—82.	1879—80.	1880—81.	1881—82.
	Rio de Janeiro. . . . .	34,269,500	13,970,500	18,024,400	27,198,900	23,729,900
Rio Grande do Sul. . . . .	18,749,700	19,631,700	21,109,700	12,138,000	14,647,400	14,737,400
Pernambuco. . . . .	9,459,500	10,780,300	9,405,100	14,281,800	14,566,600	7,899,400
S. Paulo . . . . .	14,987,800	5,139,900	11,170,100	2,986,900	1,458,000	2,444,600
Pará . . . . .	6,978,400	7,198,400	7,797,200	4,986,000	5,622,000	5,834,400
Sergipe. . . . .	3,514,000	4,775,700	5,694,400	1,379,700	2,293,700	2,718,600
Alagoás. . . . .	3,154,700	3,795,100	3,658,400	2,010,100	1,467,300	1,510,800
Amazonas. . . . .	2,866,600	3,459,100	3,479,000	5,486,600	5,028,500	5,479,000
Paraná . . . . .	3,057,500	2,632,700	3,630,500	174,900	134,400	167,400
Maranhão . . . . .	1,080,400	1,189,300	1,249,100	1,284,900	1,410,600	1,482,400
Rio Grande do Norte . . . . .	1,774,500	1,304,000	1,132,700	106,100	56,300	127,900
Espirito Santo . . . . .	1,517,400	1,056,200	977,200	1,040,800	974,400	743,100
Santa Catharina . . . . .	1,390,100	924,100	1,272,800	693,000	406,600	604,700
Parahyba . . . . .	960,400	1,321,300	1,364,800	162,100	161,700	178,000
Ceará. . . . .	554,900	568,000	617,500	268,000	302,800	343,900
Bahia. . . . .	452,300	309,200	109,500	1,261,700	4,421,400	5,467,900
Piauhy . . . . .	381,800	697,800	736,500	103,800	208,700	245,200
	105,149,500	78,953,300	91,428,300	75,563,300	76,890,300	83,471,100

By far the most important import harbour is Rio de Janeiro. To give a notion of the enormous trade carried on there, I subjoin a view:

1st. of the number of ships that have sailed into and out of Rio during 1882/83.

2d. Of the value of exports and imports during the last 10 financial years.

3d. Of the goods exported during the last 5 years.

4th. " " " imported " " " 5 "

5th. Of the goods exported to various countries during the last 5 years.

6th. Of the goods imported from various countries during the last 5 years.

7th. A table by which it may be seen how high are the duties levied on the export and import of natural products and manufactured goods.

From these tables it will appear that the Rio trade alone yields almost half the custom-revenues of the empire.

Santos has not acquired so much importance yet, but is in a fair way to become speedily the second commercial town in South America.

From the subjoined table page 208 the gradual development of this emporium may be traced.

TABLE showing how many sea-going ships have entered and left Rio de Janeiro during the financial year 1882—83.

NATIONALITY.	Arrived Sail.	Arrived Steam.	Total.	Departed Sail.	Departed Steam.	Total.	SOURCE OF INFORMATION
English . . . . .	248	250	498	220	249	469	
North American. . .	80	7	87	68	7	75	
Norwegian . . . . .	75	—	75	77	1	78	
Portuguese . . . . .	67	—	67	34	—	34	
Spanish . . . . .	52	3	55	20	4	24	
German . . . . .	48	73	121	47	73	120	
Swedish . . . . .	31	—	31	27	—	27	
Brazilian . . . . .	19	67	86	6	58	64	
Italian . . . . .	15	27	42	14	17	31	
French . . . . .	8	112	120	7	115	122	
Dutch . . . . .	8	—	8	—	—	—	
Danish . . . . .	7	1	8	8	1	9	
Austrian . . . . .	4	—	4	1	—	1	
Russian . . . . .	4	—	4	3	—	3	
Argentine . . . . .	3	1	4	2	1	3	
Belgian . . . . .	1	25	26	—	24	24	
South American. . .	1	—	1	—	—	—	
	671	566	1237	534	550	1084	

N.B. During the first half of the financial year 1883—84,

the following number of ships according to the Boletim of 23d January 1884 — have entered Rio and again departed.

1286 ships, tonnage 1,437,371 ton from the open sea.

851 " " 374,045 " " coast navigation.

619 " " 118,857 " " canal and river ditto.

Total 2756 ships, of which 1530 were sailing vessels and 1226 steamers; 1218 being Brazilian vessels and 1538 foreign.

TABLE, showing the value of **Exports** from and **Imports** into Rio de Janeiro, and the duties levied therefrom, during the last 10 years.

Financial years.	Export <i>a.</i> in milreis.	Export duties <i>b.</i> in milreis.	Imports <i>c.</i> in milreis.	Import duties <i>d.</i> in milreis.
1873—74	86,995,877	8,045,201	95,385,778	30,703,180
1874—75	103,091,352	9,466,171	95,394,885	31,237,180
1875—76	100,544,413	9,112,892	97,690,838	30,103,788
1876—77	101,047,882	8,608,836	87,392,443	29,438,407
1877—78	92,339,465	8,436,412	90,227,430	30,759,092
1878—79	106,061,286	9,724,206	91,029,327	31,843,590
1879—80	112,089,911	8,732,145	95,021,682	32,565,220
1880—81	115,332,445	10,192,402	96,545,928	32,757,828
1881—82	88,346,310	7,814,672	93,085,637	32,582,379
1882—83	91,489,799	6,944,732	99,196,638	33,623,563

*a* and *c.* The estimates for the first five financial years are taken from the Relatório da Associação for 1880 and 1882, those of the last five from the Boletim da Alfandega do Rio de Janeiro, 25th July 1883, N<sup>o</sup>. 12, revised edition.

*b* and *d.* The estimates for the first nine financial years are taken from the Boletim da Alfandega de Rio de Janeiro 5th March, 1883, page 4; that for 1882/83 from Boletim 25th July 1883.

**Exports** from Rio de Janeiro according to the Boletim da Alfandega, 25th July 1883.

EXPORT OF:	1878—79 in milreis.	1879—80 in milreis.	1880—81 in milreis.	1881—82 in milreis.	1882—83 in milreis.
Coffee . . . . .	100,917,767	92,421,576	109,311,555	82,364,162	86,229,583
Gold in dust and ingots.	1,716,136	1,490,474	1,223,362	1,477,450	1,142,264
Tobacco and Cigars. . .	1,201,645	796,353	708,576	652,822	886,667
Hides . . . . .	1,007,959	846,862	955,444	919,001	799,796
Rough and lut Diamonds.	621,694	467,744	768,144	423,308	287,568
Jacarandá Wood . . . .	196,975	337,223	380,490	332,382	426,882
Flour (Indian Corn). . .	137,047	258,750	136,567	51,032	63,507
Sugar . . . . .	95,824	731,623	90,767	1,015,725	687,370
Brandy . . . . .	46,490	109,572	32,312	33,449	12,710
Medicinal Plants . . . .	37,776	47,137	70,575	60,073	28,380
Sundries, including, gold, silver and paper money	) 81,973	<i>a</i> ) 14,582,597	1,654,653	1,016,906	925,072
	106,061,286	112,098,911	115,332,445	88,346,310	91,489,799
<i>a</i> ) Coupons and bank-notes		11,056,000	Gold coin	3,341,607	
Silver . . . . .		45,161	Sundries	139,829	

Goods imported into RIO DE JANEIRO, according to the Boletim da Alfandega, 25<sup>th</sup> July 1883.

IMPORT OF	1878-79 in milreis	1879-80 in milreis	1880-81 in milreis	1881-82 in milreis	1882-83 in milreis
Cotton . . . . .	19,130,344	20,715,610	19,852,664	19,171,971	20,696,904
Meat, fish, etc. . . . .	9,699,765	10,095,284	9,167,005	8,883,632	9,106,150
Wool . . . . .	7,348,703	8,148,267	7,934,229	7,188,182	7,337,532
Vegetable juices . . . . .	7,191,676	6,916,434	6,824,595	6,773,523	6,604,177
Grains, vegetables, seeds .	6,482,746	5,443,952	5,605,084	6,586,110	6,691,122
Gold, silver, platina . . .	5,542,688	8,506,795	7,355,853	4,534,891	7,997,457
Coal, minerals . . . . .	3,731,510	3,751,315	4,575,504	5,124,597	5,897,219
Flax . . . . .	3,290,161	3,320,196	3,620,203	3,338,386	3,434,557
Iron, steel . . . . .	3,060,841	3,215,245	3,309,336	3,640,604	4,283,267
Perfumes and oils . . . . .	2,963,903	2,747,719	3,020,863	3,149,454	3,256,185
Leather and leather manu- factures . . . . .	2,989,557	2,990,022	3,524,938	3,058,106	2,717,237
Machinery . . . . .	2,605,669	1,880,449	2,886,676	3,335,718	3,324,292
Spices . . . . .	2,378,239	2,295,792	1,918,079	1,912,895	1,982,833
Chemicals . . . . .	1,949,780	2,268,846	2,231,225	2,150,159	2,113,206
Paper . . . . .	1,579,615	1,334,747	1,578,447	1,645,923	1,655,385
Silk . . . . .	1,472,878	1,647,541	1,877,161	1,828,389	1,980,836
Glass and earthenware . . .	1,110,343	1,065,376	1,115,422	995,099	1,026,304
Wood . . . . .	1,081,305	1,446,440	1,138,782	1,398,257	1,381,738
Copper and copper manu- factures . . . . .	1,045,590	978,145	982,782	1,005,797	1,447,429
Fresh and dried fruits . . .	542,358	536,096	607,121	505,997	489,595
Ivory, mother of pearl, and tortoise shell . . . . .	530,635	250,477	276,873	247,354	204,737
Lead, tin, zinc . . . . .	438,848	320,602	318,717	334,128	410,797
Ornaments . . . . .	462,148	397,734	311,157	296,495	329,813
Hair, feathers etc. . . . .	409,384	393,082	472,082	426,120	564,572
Clocks and watches . . . . .	407,665	519,119	614,917	514,453	556,240
Musical instruments . . . . .	368,763	323,684	314,417	327,567	327,895
Math. phys. en surg. in- struments . . . . .	280,343	284,916	288,859	323,118	412,026
Straw, sea-weed, fibrines . .	279,709	337,111	446,709	364,403	364,508
Knives . . . . .	297,602	319,065	307,965	248,630	253,095
Cattle . . . . .	147,902	171,261	182,243	218,183	241,080
Sundries . . . . .	2,208,658	2,400,360	3,886,020	3,557,596	2,108,450
	91,029,327	95,021,682	96,545,928	93,085,637	99,196,638

View of Exports from RIO DE JANEIRO.

EXPORTS FROM	1878-79 in milreis.	1879-80 in milreis.	1880-81 in milreis.	1881-82 in milreis.	1882-83 in milreis.	SOURCE OF INFORMATION.
1. United States of North America . . . . .	57,805,380	58,867,300	55,648,979	50,178,416		"Mappas Estatísticos do Commercio e Navegação do porto do Rio de Janeiro, organizados e publicados pela Alfandega com autorisação de S. Ex. O. Sen. Ministro da Fazenda" 1878-79 to 1881-82.
2. France . . . . .	12,999,898	9,161,033	17,111,018	9,035,093		
3. Great Britain . . . . .	12,731,749	18,806,902	11,006,995	7,114,927		
4. Germany . . . . .	10,087,520	11,098,028	10,873,686	10,309,960		
5. Belgium . . . . .	3,973,808	2,411,364	6,259,702	3,106,794		
6. Portugal . . . . .	3,362,613	4,522,365	5,063,843	2,341,145		
7. Uruguay . . . . .	1,254,918	1,996,032	2,523,288	1,524,257		
8. Argentine Republic . . . . .	1,259,059	945,490	1,791,925	1,305,462		
9. Cape of Good Hope and Africa . . . . .	—	1,562,997	2,185,868	1,426,063		
10. Channel v/o . . . . .	1,458,113	275,069	581,536	166,127		
11. Mediterranean Sea v/o. . . . .	572,887	569,160	672,708	429,781		
12. Italy . . . . .	228,292	180,841	394,750	102,760		
13. Chili . . . . .	97,155	37,680	44,764	82,277		
14. Denmark . . . . .	96,338	391,144	194,783	415,699		
15. Sweden and Norway . . . . .	84,430	—	2,671	124,049		
16. Spain . . . . .	34,403	5,506	104,479	7,658		
17. Gibraltar v/o . . . . .	—	657,612	770,708	502,911		
18. Austria . . . . .	—	14,370	100	168,398		
19. Sundry ports of Europa . . . . .	14,637	18,221	100,470	4,464		
20. » » » America (S. Thomas)	86	568,797	82	69		
	106,061,286	112,089,911	115,332,445	88,346,310	91,489,999	Detailed statistics of this year not forth coming.

## View of Imports to RIO DE JANEIRO.

IMPORT FROM	1878-79 in milreis.	1879-80 in milreis.	1880-81 in milreis.	1881-82 in milreis.	1882-83 in milreis.	SOURCE OF INFORMATION.
1. Great Britain . . . . .	a. 35,132,718	a. 38,135,439	b. 37,737,108	b. 37,615,875	Detailed statistics of this year not forth coming.	a. „Relatorio do Associação Com- mercial do Rio de Janeiro 1881.  b. „Mappas Es- tatisticos do Com- mercio e Navegação do porto do Rio de Jan. 1880-81 to 1881-82.
2. France . . . . .	16,984,837	16,141,122	17,499,921	16,697,658		
3. Portugal . . . . .	5,753,981	6,527,614	6,537,204	6,547,997		
4. Germany . . . . .	8,093,137	8,535,907	8,221,897	8,332,510		
5. United States North of America . . . . .	7,484,354	8,160,769	8,264,919	8,085,191		
6. Argentine Republic . . . . .	5,516,182	4,043,939	3,924,649	3,522,684		
7. Uruguay . . . . .	4,420,244	6,015,536	7,520,146	5,599,723		
8. Belgium . . . . .	5,231,629	4,730,556	5,089,052	4,370,494		
9. Italy . . . . .	909,777	882,130	727,434	754,097		
10. Spain . . . . .	804,051	549,923	205,797	403,666		
11. Sweden and Norway . . . . .	150,638	285,010	19,077	242,921		
12. Austria . . . . .	150,987	72,038	78,988	147,062		
13. China . . . . .	245,539	662,606	286,679	7,658		
14. Chili . . . . .	35,460	126,927	196,042	552,002		
15. Russia . . . . .	38,079	592	75,452	48,533		
16. Holland . . . . .	36,998	146,031	152,340	131,629		
17. Sundry Ports . . . . .	40,716	5,546	9,223	25,937		
	91,029,327	95,021,682	96,545,928	93,085,637	99,196,638	

TABLE, showing duties levied on **Export** and **Import** of natural products and manufactured goods.

Export duties levied during the financial year 1881/82.

1 % on	423,308	4,233	In November 1882 the export duty on coffee was reduced from 9 % to 7 % but this reduction of export duty is balanced by an increase of import duty since that date of 10 % above all <i>direitos de consumo</i> ; people pay now 60 % additional duty instead of 50 %.
1½ »	117,662	1,765	
2½ »	1,364,795	34,120	
5 »	190,570	9,529	
7 »	1,024,631	71,724	
9 »	84,306,938	7,587,624	
Free	918,406	—	
Wharfage	—	105,677	
	88,346,310	7,814,672	

Import Duties levied during the official year 1881/82.

	Direitos de Consumo.	Expediente.	Imposto de 50% and 40% do fumo.	Value.
2 % . . .	6,401	—	3,201	320,075
5 . . .	70,315	—	35,157	1,406,299
10 . . .	1,777,730	—	888,865	17,7 7,300
20 . . .	404,327	—	202,163	2,021,635
30 . . .	13,684,530	—	6,842,265	45,615,099
40 . . .	5,285,026	—	2,610,023	13,212,564
5 . . .	—	273,577	—	5,471,542
Free	—	—	—	7,261,123
Wharfage	—	—	—	—
and storage.	—	498,799	—	—
	21,228,329	772,376	10,581,674	93,085,637

TABLE, showing the value of **Imports** to and **Exports** from Santos, and the duties levied thereon, during the last ten financial years.

	EXPORTS in milreis.	Export Duties in milreis.	IMPORTS in milreis.	Import duties in milreis.
	<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>
1872—73	23,149,276	1,943,153	21,919,911	1,104,229
1873—74	31,949,106	2,688,248	22,860,003	1,284,903
1874—75	29,489,782	2,526,249	22,761,245	1,694,641
1875—76	25,487,451	2,051,532	20,291,134	1,650,979
1876—77	20,556,132	1,610,703	19,913,234	1,471,751
1877—78	29,887,258	2,485,924	19,682,926	1,777,016
1878—79	32,601,300	2,828,558	21,461,060	2,267,280
1879—80	31,208,992	2,707,237	20,449,072	2,690,659
1880—81	30,330,675	2,664,273	—	3,110,792
1881—82	32,807,271	2,882,277	—	3,109,024

*a.* The above figures, (export) are taken from the Relatorio da Associação Commercial do Santos, 1882 and 1883. The principal exports are coffee, cotton, tobacco and Bacon (toucinho).

*c.* These statistics are taken from the Relatorio of the province of S. Paulo, 1881.

*b* and *d.* These figures are drawn from a table showing the custom-revenues of Santos, which appeared in the Boletim da Alfandega do Rio de Janeiro, May 9<sup>th</sup> 1883.

### B. Measures, Weights and Currency.

By imperial decree of 26<sup>th</sup> July 1852, it was ordained that the French metric system should be introduced within 10 years from that date. But the measures required to enforce that decree appear not to have been adopted betimes, — no unusual occurrence in Brazil — for people were not prepared against the stipulated time; so it was found necessary to issue a decree, 18 September 1872, postponing the change till 10 July 1873. Even then preparations were not completed, so that the execution of the decree had to be postponed a

second time. Since 1<sup>st</sup> January 1874 the new system has been adopted as the official standard.

As was to be expected, however, the ancient system has not been abandoned altogether, especially in the interior. Coffee, for instance, is still sold by arroba, although auctioneers' accounts and quotations are reckoned per 10 kilograms.

The old weights and measures, which are still used a great deal, are as follow.

1 arroba = 14,688 kilograms.

1 alqueire = 36,27 litres. In the interior, however, the alqueire varies from 40, 45, to 50 litres.

As superficial or square measures several sorts of alqueires are used, as:

1 alqueire planta de milho = 27225 square metres.

1 alqueire paulista = 24200 "

1 alqueire géométrico = 48400 "

The formerly chaotic currency of Brazil has become more regular and systematic since 1870. Instead of the various Portuguese and foreign coins, there is now a national currency for the whole empire. The unit is the real, (singular of reis) which in point of fact does not exist. The Brazilians reckon by reis. The copper, nickel, and silver coins are regarded exclusively as change, and are exceedingly scarce. All payments are made in paper.

The small money consists of

a. Copper coins, which are very rare, as pieces of 10 reis (diz.-reis); 20 reis (vintém); 40 reis.

b. Nickel coins; 50 reis (this coin was struck but not circulated); 100 reis; 200 reis.

c. Silver coins: 200 reis (very scarce); 500 reis; 1000 reis (milreis); 2000 reis.

According to the law passed in 1847, Brazil has also a gold coinage; viz. 20 milreis pieces; 10 milreis pieces, and 5 milreis pieces. The first two coins are scarce; as for the third, it is almost out of circulation. In daily transactions it is little known: like the foreign gold and silver coins, it is regarded as bullion, and marketed as such according to the current quotations.

Brazil is richest in paper money, which has had a forced currency since 1819. There is State and Bank paper of the

following values: 500 reis, and 1, 2, 5, 10, 20, 25, 30, 50, 100, 200, and 500 milreis. The value of the milreis may be calculated at two shillings.

In the interior, especially among the negroes and the lower classes, they reckon a good deal still by tostões, crusados and patacas; then they say 1 tostão for 100 reis; 2 tostões for 200; 3 tostões for 300; 1 crusado for 400; 5 tostões for 500; 6 tostões for 600; 7 tostões for 700; 2 crusados for 800 reis, etc.

Reckoning by patacas is not so easy, seeing that 1 pataca is equal to 10320 reis, and people speak of a half and one and a half pataca.

It is difficult for a foreigner to distinguish the various coins and bank-notes from each other by the eye.

The nickel pieces of 100 and 200 reis, f. i., are so large (as large as a two-shilling-piece and even larger) and resemble the silver pieces of 1 and 2 milreis so greatly in appearance, that frequent mistakes are made.

The silver coins and the nickel are easily distinguishable by the touch, by the milled edges of the former pieces.

Bank-notes, which, as may be expected from their being in daily use, are very unsightly, may usually be distinguished from each other by the colour and the different size or shape.

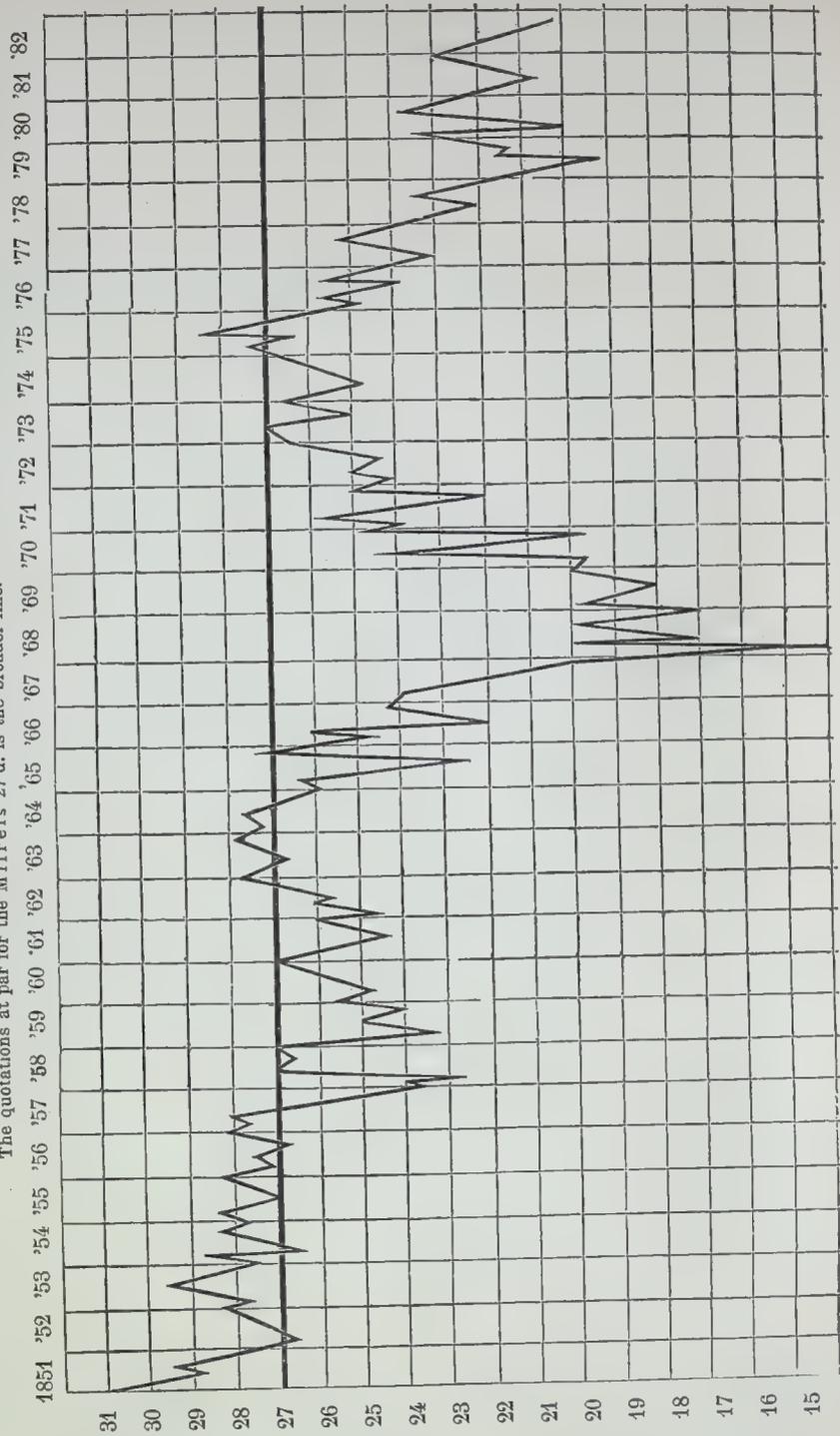
As is easily understood, this abundance of paper with forced currency gives rise to fluctuations of the money market, which exercise an immense influence on trade in general and the coffee trade in particular; seeing that even North America pays her debts with bills on London and Liverpool.

Since the English quotations, therefore, dominate the exchange, I subjoin a diagram showing the fluctuations of the Rio money-market during the last 33 years.

DIAGRAM, showing the fluctuations of the Rio de Janeiro Money-Market since the Year 1851.

The quotations are indicated by the horizontal lines the years by the spaces between the vertical lines.

The quotations at par for the Milreis 27 d. is the broader line.



### C. Coffee trade.

One must have been eye-witness of the immense bustle brought about by the coffee trade in Rio and Santos, must have observed the feverish excitement and the unprecedented rapidity with which it is all marketed, transported, unbagged, loaded, mixed, rebagged and shipped, before he can form a clear notion of the extent of that really gigantic business.

With close attention, I have watched everything, examined everything, for days and weeks together I have studied the various phases of this trade, down, so to say, to the most insignificant details: in short, I have made myself acquainted, as far as my brief stay allowed, with everything that, in my humble opinion, was important to the Dutch coffee-trade.

Should the following description of this trade display any little gaps, the reporter prays that the defect may not be ascribed to lack of desire for accuracy, but solely to the limited time he could devote to the study, considering the manifold and various difficulties with which he had to contend before he could accomplish his mission in its full extent.

At first, by far the majority of fazendeiros carried on coffee-planting on their own grounds and with their own money. The commissarios were really nothing more than the agents of the fazendeiros, middlemen between them and the buyers.

During the last 20 years this state of affairs has altered very much. The fazendeiros gradually began to raise more money from their agents than then could cover by consignments of coffee. The rich returns of agriculture tempted the fazendeiros into spending large sums on their households and in gambling. This latter passion especially has contributed largely to plunge the fazendeiro into his present dependent position. In this way the commissarios from being the agents of the agriculturists, became their bankers.

The following table will, I flatter myself, render it an easy matter to ascertain in how far the present relations between the coffee-planter in Brazil and his commissario are better or worse than the relations between the coffee-grower in Java and his consignee. Some 5 years ago, it cost the fazendeiro no trouble

whatever to raise money to work, improve, and enlarge his plantation or fazenda.

When he needed money he applied to the commissario, who made no difficulty of advancing what he asked, without other guarantee than a simple I. O. U. and the promise that the crop should be consigned to him for sale. If, however, the sum required exceeded 20 or 25 contos, the commissario demanded bills at 4 months, (in Rio seldom 12 or 18 months as it is in Santos), which bills, endorsed by the commissario, might be discounted at bank-rates by one or other financial establishment. As a rule the commissarios reckon 12 per cent annum interest on those advances, which interest is also placed to current account.

According to the circumstances of the borrower, these bills, are either extended when they fall due, or payment is insisted on at the stipulated time. In most cases the term is prolonged, and I have been told of commissarios that have more than 1000 contos, or 100,000 pounds sterling, lent out in this way to only three fazendeiros. From this it is clear that before a man can commence being commissario, he must have the command of a very considerable capital. As a matter of fact there are commissarios who carry on business with a private capital of from 300 to 2000 contos. Those that have a smaller capital of their own, and consequently have to discount the fazendeiros' bills at the Banco do Brazil, are spoken of by the wealthy commissarios under the nick-name of Bank bagsmen.

The commissarios are seldom fazendeiros or vice versa.

There are a few, however, such as Messrs. Friburgo filhos, and messrs. Araujo Maia Irmão of Rio, who sell for the most part their own crops and those of their friends. The partners of the former firma, the Viscondes de St. Clemente and de Nova Friburgo, may justly claim the title of coffee-princes. The clear income derived from their extensive fazendas alone amounts on an average to pst. 60583.6.8 per annum!

Since that time this great facility in raising funds for the fazendas has come to an end. Within the last five years even, the commissario — as one of themselves assured me — were still „uma pescaria de café,” angling after a fa-

zendeiro ready to consign the crop to him; now he thinks of possible liquidation and draws his purse-strings tighter and tighter. In these times the fazendeiro, if dissatisfied with his money-lender, will not so readily find another who not only at once pays off the arrears of debt, but bows the coffee-planter out with a grateful, „Much obliged to you.”

The crisis in all pecuniary affairs which Brazil is now on the verge of, or, to speak more correctly, upon which she has already entered, makes everyone fear the worst.

The Banco do Brazil has already been constrained, since the beginning of 1884, to demand 10 per cent to 11 per cent discount, with two substantial endorsers instead of one, for all the bills of the fazendeiros, while it requires from 9 per cent to 10 per cent interest on loans effected on security of stocks and chattels. And even this is regarded as a concession and granted with cautious hesitation, seeing that the greater part of the Bank capital must be held at the disposal of Government.

The approaching solution of the labour question, or rather the inevitable cutting of a knot impossible to be untied; the growing spirit of emancipation, and the abolitionist movement which is gaining strength and ground day by day; two scanty coffee crops in succession (1883—84 and 1884—85); the unsuccessful attempt to supply the first requirements of agriculture by means of Chinese immigration; the difficulty of attracting European labourers to the country in sufficient numbers; — these are the causes that have led to this crisis, and will aggravate its unhappy consequences more and more as years go on.

The condition into which the fazendeiro is now as a rule falling, is distressing; and in my opinion, allows very little hope of improvement. A few plentiful harvests along with high market-prices, may yet delay or mitigate his approaching fall; prevent or avert it they cannot, because of the pressing necessity for labourers to dress the already too extensive plantations, and to harvest the crops.

I must regretfully confess that I cannot range myself with those who entertain great expectations from the European immigration, not even if, which is highly improbable, Brazil should succeed in attracting two or three hundred thousand immigrants annually.

The present system of free labour, that is to say the colonists working under agreement, cannot maintain coffee-planting in its position as grand lavoura. In my opinion the system lacks any firm foundation, for if one sets aside the basis on which everything rests, viz. the slave labour by which the soil is cleared and planted, everything collapses at once.

As I shall show more fully in the chapter on coffee-planting, the colonists are not coffee-planters, but coffee-gatherers. They will only attend to a couple of thousand fruit-bearing trees a man, — not the third of the number, however, that a field slave has to plant and dress — but all this is done reluctantly, and solely because only on that condition can they procure land on which to raise food. Could they obtain ground to cultivate on any other terms, there is no doubt that they would plant it with crops they could turn into money without further trouble, such as Indian corn, beans, potatoes, mendioca, and vegetables. I am assured of this by not one only but several colonists and ex-colonists.

Few fazendeiros in the Santos zone will permit themselves to see this, or at least to confess it. In Rio, however, most of the commissarios and wholesale dealers in coffee are of my opinion; they likewise admit that as long as day-labourers receive such high wages, and a European immigrant in Brazil can make a comfortable living by other branches of agriculture, he is not likely to regard coffee-planting as the most lucrative and agreeable employment.

It is this uncertain condition of the grande lavoura that prevents capitalists from advancing funds to the coffee-planters, except on very good security.

They usually require a deed drawn up by a notary, which, as appears from the two agreements now in my possession, contains the following conditions:

1. That the debt shall be paid in five equal terms, to begin... and afterwards from year to year till...
2. That this debt shall bear (in the first agreement) 5 per cent and (in the second) 10 per cent interest to be paid half-yearly, beginning...
3. That payment shall be made at the office of the creditor or money-lender.

4. That the debtor shall give bills for the debt, payable at the stipulated terms.

5. That a fine of 1 per cent be exacted if payment is not made in proper time.

6. That the debtor shall consign to the money-lender all the produce of his fazenda, drawing no more of the nett proceeds that shall be considered necessary for agricultural expenses; the same interest being placed to his credit on the current account, as he has to pay according to agreement.

7. That the total debt may be demanded: a. If the instalment is not paid on the appointed day: b. If one or both of articles 5 and 6 be not complied with: c. On the death of the debtor: d. On the payment of first mortgage of the Banco do Brazil.

8. That if legal prosecution prove necessary, the debtor shall have to pay 10 per cent on the sum total, over and above the costs. The domicile is the place where the contract is concluded.

9. That the money-lender is not bound to accept the legal adjudication of the fazenda, but shall be entitled to call an auction — each time with a reduction of 10 per cent from the estimated value. — As often as is necessary to effect a definitive sale. If no bidder presents himself at these various sales, the money-lender has a right to seize, at his own choice, goods sufficient to cover the debt without detriment to the rights of the first mortgage.

[This last article is provided with a view, firstly to the coffee that may be found on the fazenda, and secondly to whatever personal or real estate may have been acquired since the first mortgage was effected, for instance a piece of land added to the plantation.]

10. That for more security that the debt shall be paid, a second and special mortgage shall be effected for the benefit of the money-lender on all property belonging to the debtor and deposited with the Banco do Brazil, consisting of...

Such deeds as this require simply to be registered in order to become a deed of second mortgage.

In Santos consignment agreements are now very rare.

The commissarios still advance money on bills payable at 6, 12, or 18 months, which can only be discounted at the

Bank for a term of 4 months. In exceptional cases a deed is executed before a notary.

When a fazendeiro is much behind-hand and cannot or will not pay, a lawyer is called in. When he has profited sufficiently by the transaction he helps the fazendeiro and commissario to come to a compromise, when the fazendeiro agrees to pay a composition of 70 or 75 per cent. In this case he grants a second mortgage as security.

Very few fazendeiros are free from debt at present; almost all of them have burdened their plantations, either to private parties or to banks and other financial establishments.

As will appear from the following tables, the Banco do Brazil and the Banco de credito real de S. Paulo alone, hold mortgages on 1032 fazendas, representing a value of upwards of 115 million milreis or 11,500,000 pounds sterling. And yet these fazendas are among the best.

## RIO ZONE.

TABLE showing how many fazendas in each district of the  
on the 30<sup>th</sup> June 1833.

DISTRICTS.	Number of fazendas.	Size of the fazendas in hectares.	Number of coffee-shrubs.	Num
Exclusively coffee-planting.	Cantagallo . . . . .	41	23,568	7,104,000
	Valença . . . . .	33	22,903	9,469,000
	Parahyba do Sul. . . . .	32	19,359	5,615,543
	Barra Mansa . . . . .	23	10,471	3,345,000
	Rezende . . . . .	20	16,602	3,437,000
	Santa Maria Magdalena . . . . .	13	7,839	1,912,000
	Nova Friburgo . . . . .	7	3,970	1,050,000
	Pirahy . . . . .	7	5,810	3,460,000
	Sapacuaia . . . . .	5	2,223	881,000
	Barra de S. João. . . . .	4	5,432	570,000
	S. Antonio de Padua . . . . .	3	1,096	345,000
Capivary . . . . .	2	430	400,000	
S. João do Principe . . . . .	1	242	50,000	
Coffee and Sugar-cane planting.	S. Fidelis . . . . .	191	119,945	2) 37,368,543
	Vassouras 1) . . . . .	48	43,568	5,122,000
	Campos . . . . .	44	31,750	7,362,000
	Macahé . . . . .	28	28,805	230,000
	Maricá . . . . .	10	11,069	502,000
	Araruama . . . . .	9	3,867	165,000
	S. João de Itaborahy. . . . .	6	2,504	580,000
	Itaguahy . . . . .	4	1,676	sugar —
	Iguassú . . . . .	3	1,151	id. —
	Estrella . . . . .	3	923	258,000
	Nictheroy . . . . .	1	2,341	id. —
	Rio Bonito . . . . .	1	953	30,000
	S. Antonio de Sá . . . . .	1	728	20,000
	Saquarema . . . . .	1	1,065	id. —
	1	476	id. —	
	351	250,821	51,907,543	

1) Except Vassouras, where sugar-cane planting, (for export) is of little account, the last 13 municipios are situated in the Serra Abaixo. For the last 10 years coffee-planting has been declining in the district of S. Fidelis likewise, owing to diseases in the coffee leaves.

2) A slaves has thus to keep and dress 3514 trees.

RIO ZONE.

the province of Rio de Janeiro were mortgaged to the Banco do Brazil

Number of slaves.	Value of the slaves. in milreis.	Value of the fazendas. in milreis.	TOTAL in milreis.	Money advanced. in milreis.	Remainder mortgage on 30/6 1883 in milreis.
1,995	2,433,750	2,765,383	5,199,133	2,167,008	1,491,491
2,893	3,460,100	3,573,403	7,033,503	3,143,784	2,392,464
1,468	1,744,350	2,036,886	3,781,236	1,664,316	976,665
1,051	1,209,200	1,254,962	2,464,162	1,088,380	614,092
926	1,056,550	1,597,639	2,654,189	1,171,163	691,968
549	679,400	699,864	1,379,264	615,500	406,475
287	320,000	380,031	700,031	448,000	179,103
844	829,550	1,019,158	1,848,708	808,814	621,479
259	375,200	322,759	697,959	326,000	286,708
296	279,250	193,790	473,040	191,000	65,954
62	72,500	135,740	208,240	90,000	90,000
54	45,400	108,068	153,468	60,000	32,525
28	25,700	32,465	58,165	25,000	11,494
2) 10,712	12,530,950	14,120,148	26,651,098	11,798,965	7,860,418
1,940	2,225,400	2,524,700	4,750,100	1,986,249	1,427,901
2,853	3,238,250	3,677,958	6,916,208	2,878,380	1,857,121
1,746	1,866,600	1,755,720	3,622,320	1,495,000	1,039,802
396	470,500	516,485	986,985	450,000	328,214
374	377,400	305,720	683,120	233,000	148,426
248	240,100	211,906	452,006	226,005	61,233
126	130,200	144,251	274,451	160,000	91,039
110	132,600	81,938	214,538	92,000	55,939
162	200,000	124,958	324,958	147,600	119,911
10	11,000	21,750	32,750	10,000	1,500
65	67,800	57,145	124,945	40,000	26,471
56	67,600	40,340	107,940	35,000	19,650
26	25,200	30,040	55,240	25,000	12,258
58	61,400	55,631	117,031	50,000	35,083
18,882	21,645,000	23,668,690	45,313,690	19,627,199	13,084,966

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## RIO ZONE.

TABLE showing how many fazendas in each district of the parts belonging to the Rio Zone, were mortgaged to the B

DISTRICTS.		Number of fazendas.	Size of the fazendas in hectares.	Number of coffee shrubs.	Num sl
MINAS GERAES.	Leopoldina . . . . .	42	29,554	4,790,000	1
	Mar d'Hespanha . . . . .	36	17,073	5,960,000	1
	Juiz de Fora . . . . .	26	13,577	4,334,000	1
	Rio Novo . . . . .	15	5,362	1,662,000	
	S. Paulo de Muriahé . . . . .	14	16,030	1,889,000	
	Rio Preto . . . . .	5	1,207	486,000	
	Ubá . . . . .	4	1,469	465,000	
	Cataguazes . . . . .	4	2,120	248,000	
	Pomba . . . . .	3	1,799	219,000	
	Pouso Alegre . . . . .	2	1,525	125,000	
S. José d'Alem Parahyba . . . . .	2	737	455,000		
		153	90,453	1) 20,633,000	1) 5
Esperito Santo	Itapémirim . . . . .	12	24,794	791,000	
S. PAULO.		165	115,247	21,424,000	6
	Pindamonhangaba . . . . .	14	7,495	1,925,000	
	Bananal . . . . .	12	5,706	1,877,000	
	Taubaté . . . . .	11	14,927	1,484,000	
	Guaratinguetá . . . . .	5	9,393	794,000	
	Jacarehy . . . . .	3	3,230	405,000	
	Lorena . . . . .	3	3,277	791,000	
	Caçapava . . . . .	2	895	205,000	
	Mogy das Cruzes . . . . .	1	968	104,000	
	Queluz . . . . .	1	1,089	170,000	
S. José dos Campos . . . . .	1	444	126,000		
		218	162,674	2) 29,305,000	2) 8
Province of Rio de Janeiro . . . . .	351	250,821	51,907,543	18	
In the entire Rio Zono . . . . .	569	413,492	81,212,543	27	
Banco de Credito Real de S. Paulo . . . . .	6	2,050	311,000		
		575	415,542	81,523,543	27
Banco Predical . . . . .	132	—	—	5	
		707	—	—	30
Total . . . . .		707	—	—	

1) A slave has thus to keep and dress 3706 trees (Minas Geraes).

2) " " " " " " " " 3964 " (S. Paulo) or in the Rio Zone (including the province of Rio de Janeiro) 3728 trees on an average.

## RIO ZONE.

parts of the provinces of Minas Geraes, Espirito Santo and S. Paulo, the Banco do Brazil at the date 30. June 1883.

Number of slaves.	Value of the slaves in milreis.	Value of the fazendas in milreis.	TOTAL.	Money advanced in milreis.	Remainder mortgage on 30, 6—1883 in milreis.
1,386	1,627,350	2,145,225	3,772,575	1,689,175	1,231,416
1,345	1,611,180	2,257,723	3,868,903	2,190,298	1,407,276
1,301	1,539,625	1,620,578	3,160,203	1,597,796	1,038,908
466	558,700	652,211	1,210,911	567,000	443,640
449	571,200	822,686	1,393,886	654,618	538,506
153	192,100	224,007	416,107	185,000	178,185
185	199,600	204,312	403,912	172,000	110,805
66	85,500	140,487	225,987	104,000	89,837
78	88,700	94,814	183,514	84,000	61,348
42	62,300	84,360	146,660	70,000	56,661
97	123,300	216,350	339,650	160,000	160,000
1) 5,568	6,659,555	8,462,753	15,122,308	7,473,887	5,316,582
569	550,600	506,028	1,056,628	365,252	201,278
6,137	7,210,155	8,968,781	16,178,936	7,839,139	5,517,860
444	565,900	731,626	1,297,526	575,000	404,735
688	793,600	612,632	1,406,232	579,528	330,959
370	465,300	709,956	1,175,256	516,000	371,199
176	243,000	402,427	645,427	262,000	209,046
111	125,200	344,912	470,112	190,000	175,555
30	40,200	387,000	427,200	174,000	168,651
51	79,200	80,918	160,118	78,000	67,544
42	62,600	102,520	165,120	80,000	19,988
42	34,300	107,380	141,680	60,000	39,249
33	53,000	54,920	107,920	53,000	46,446
2) 8,124	9,672,455	12,503,072	22,175,527	10,406,667	7,351,232
18,882	21,645,000	23,668,690	45,313,690	19,627,199	13,084,966
27,006	31,317,455	36,171,762	67,489,217	30,033,866	20,436,198
82	—	—	457,710	225,000	225,000
27,088	—	—	67,946,927	30,258,866	20,661,198
3,270	—	—	10,195,723	4,974,350	4,590,896
30,358	—	—	78,142,650	35,233,216	25,252,094

## SANTOS ZONE.

TABLE showing how many fazendas in each district of the province

DISTRITS.	Number of fazendas.	Size of the fazendas in hectares.	Number of coffee shrubs.	
Exclusively coffee planting.	Campinas . . . . .	49	26,189	5,023,000
	Amparo . . . . .	19	4,102	1,153,000
	Bélem do Descalvado . . . . .	14	15,215	1,396,500
	Casa Branca . . . . .	12	7,193	1,251,969
	S. João de Rio-Claro . . . . .	11	15,634	1,140,000
	Jundiahy . . . . .	9	4,895	514,000
	Itatiba . . . . .	5	840	334,765
	Pirassinunga . . . . .	5	3,848	365,000
	S. Carlos do Pinhal . . . . .	5	4,026	288,000
	Brotas . . . . .	2	2,954	172,000
	Botucatu . . . . .	2	1,315	190,000
	Capivary . . . . .	2	984	143,000
	Jahú . . . . .	2	769	241,856
	Penha do Rio do Peixe . . . . .	2	790	141,000
	S. Simão . . . . .	2	1,591	260,000
	Araras . . . . .	1	329	80,000
	Mogy-Guassú . . . . .	1	329	44,000
Serra Negra . . . . .	1	194	52,000	
S. João da Boa Vista . . . . .	1	621	68,000	
Tiéte . . . . .	1	624	46,000	
Coffee and Sugar. Tobacco and Cotton.		146	92,442	1) 12,904,090
	Mogy-mirim . . . . .	22	16,152	1,656,000
	Piracicaba . . . . .	20	16,462	1,415,000
	Limeira . . . . .	14	14,502	1,765,800
	Monte-Mór . . . . .	3	1,443	115,000
	Itapetininga . . . . .	1	1,389	15,000
Indatiatuba . . . . .	1	605	sugar —	
In the Santos Zone . . . . .	207	142,995	17,870,890	
Banco de Credito Real de S. Paulo . . . . .	76	31,283	4,607,940	
Banco Predical . . . . .	283	174,278	22,478,830	
	49	—	—	
Total . . . . .	332	—	—	

1) A slave has thus to keep and dress 2450 trees (see coffee planting).

SANTOS ZONE.

Rio S. Paulo were mortgaged to the Banco de Brazil at the date 30 June 1883.

Number of slaves.	Value of the slaves in milreis.	Value of the fazendas in milreis.	TOTAL in milreis.	Money advanced in milreis.	Remainder mortgage om 30/6—1883 in milreis.
2,613	3,662,200	4,912,092	8,574,292	3,439,623	2,270,908
397	575,400	914,820	1,489,920	681,000	538,035
486	695,300	1,438,888	2,134,188	1,034,000	713,404
461	631,200	1,073,817	1,705,017	812,000	749,776
332	446,800	956,134	1,402,934	668,000	404,299
260	335,900	554,596	890,496	373,000	175,590
108	168,300	245,869	414,169	201,000	181,149
133	202,000	314,385	516,385	241,000	182,406
88	123,800	252,069	375,869	175,000	107,232
42	59,200	201,875	261,075	125,000	114,560
32	49,800	201,361	251,161	110,000	94,557
73	99,300	144,070	243,370	116,000	89,602
72	117,200	185,992	303,192	148,000	141,799
26	35,800	130,275	166,075	75,000	75,000
31	43,800	197,658	241,458	115,000	115,000
18	21,400	59,756	81,156	30,000	27,077
14	21,700	40,256	61,956	25,000	23,200
11	16,200	41,816	58,016	28,000	25,984
35	43,100	81,441	124,541	60,000	58,602
34	43,500	34,090	77,590	35,000	25,654
1) 5,266	7,391,600	11,981,260	19,372,860	8,491,623	6,113,834
682	929,200	1,536,793	2,465,993	1,105,870	852,828
1,103	1,297,300	1,673,314	2,970,614	1,223,000	837,544
591	851,900	1,554,070	2,405,970	1,068,500	733,721
115	125,900	192,233	318,133	145,000	132,449
26	37,100	52,391	89,491	44,000	36,147
48	44,500	49,120	93,620	40,000	22,337
7,831	10,677,500	17,039,181	27,716,681	12,117,993	8,728,860
1,196	—	—	5,482,280	2,613,000	2,613,000
9,027	—	—	33,198,961	14,730,993	11,341,860
881	—	—	4,116,853	1,957,100	1,919,028
9,908	—	—	37,315,814	16,688,093	13,260,888

From these tables we learn: 1)

1. That in the Rio Zone alone there are mortgaged:

569 fazendas to the Banco do Brazil.

6 " " " Banco de Credito Real de S. Paulo.

132 " " " Banco Predial.

Total 707 fazendas with 30,358 slaves, value upwards of 78 million milreis.

2. In the Santos Zone are mortgaged:

207 fazendas to the Banco do Brazil.

76 " " " Banco de Credito Real de S. Paulo.

49 " " " Banco Predial.

Total 332 fazendas with 9,908 slaves. Value upwards of 37 million milreis. 2)

A large fazendeiro of S. Paulo, who is universally esteemed an authority on the present state of affairs, informed me that it might be accepted as a fact that only 20 per cent of the coffee-growers are free from debt just now, that 30 per cent at most would be able to pay their debts if they wound up their affairs, while 50 per cent are hopelessly involved, and beyond all possibility of retrieving themselves.

At present coffee-planting yields no profit whatever, or at most a very scanty return.

Senhor Diogo Velho, ex-minister and senator, proprietor of the fazenda „Fortaleza de Sant' Anna," in Minas Geraes, whom I had the honour of visiting on that plantation, and discussing with him the social, political, and agrarian conditions of the empire, assured me in the course of conversation — and one may safely rely on that assurance, as he is one of the few that keep an accurate account of the receipts and expenditure of his establishment, — that a fazendeiro who is quite free from debt, may think himself fortunate when he can average — prices being high — a profit of 1 milreis per arro-

1) These important data were vouchsafed me by the Presidents and Directors of said Banks.

Those of the two first mentioned banks were drawn up at my request. Compliance with my request cost the bank officials about 4 months work. Upwards of 730 mortgage deeds with accompanying documents had to be examined before everything could be stated in detail.

2) For information regarding the coffee-zones, see Chapter on coffee-planting, in which I shall return to these data.

ba; — that is to say 8<sup>s</sup>. 2<sup>d</sup> a bag of 60 kilograms. But such profits are very exceptional!

On the other hand a fazendeiro owning from 80 to 100 slaves, whose debts amount to about 200 contos, cannot possibly retrieve himself, not even if prices are exorbitantly high.

Under very frugal management, and by cutting off all expenses not absolutely necessary, coffee-planting in Brazil may still yield a very good living to land-owners obliged to cultivate their lands themselves if they desire to reap any profit.

In a far higher degree than in Java, the landed proprietors of Brazil are doomed to tie themselves down to coffee-planting. Fortunes are no longer to be made by this industry; at the present prices 10 or 12 per cent is the very utmost a man can make on his capital. And to do even this he must not be too far distant from the sea-ports.

According to the „Relatorio da Associação commercial de Santos” for 1882, page 15, the value of a fazenda with an average crop of 150,000 kilograms, may be estimated at:

Land . . . . .	60,000 milreis.
200,000 coffee shrubs at 500 reis. . . . .	100,000 ”
70 or 80 slaves . . . . .	100,000 ”
Buildings, machines, terreiros. . . . .	40,000 ”
Total . . . . .	300,000 ”
.150000 kilograms coffee at a nett profit of 2 \$ 450 per 10 kilograms, or pst. 1. 9 <sup>s</sup> . 5 <sup>d</sup> . a bag. . . . .	36,750 milreis
Fazenda and personal expenses . . . . .	12,000 ”
Nett proceeds . . . . .	24,750 milreis

or 8 $\frac{1}{2}$  per cent on the capital, a resultant which, in the case of most of the fazendeiros, who have to pay 10 or 12 per cent at least, shows a decided loss!

I beg to draw attention to the fact that these calculations are based on an average crop of 750 grams a shrub, or upwards of 51 arrobas per 1000 shrubs over the entire plantation, which in my opinion is too high an estimate, as appears from the statistics given in the chapter on coffee-planting; and moreover, that I have not taken into account the fall in prices, especially of the slaves.

The costs of transport are so heavy that many fazendeiros

in the far interior have to keep up their inferior crops, so as not to lower the selling price.

In 1882, for instance, most of the coffee-growers in the municipalities of Leopoldina, Mar d'Hespanha, Juiz de Fora (province of Minas Geraes), Itapémirim, Victoria, S. Matheus (provinces of Rio de Janeiro and Espirito Santo), Riberão Preto, S. Simão, Casa Branca (province of S. Paulo) have had to realise their crops at a heavy loss.

The proceeds were not sufficient to cover the carriage; so that very often the coffee was left on the hands of the railway company, which had to sell it by public auction.

People do not take the expenses of transport sufficiently into account when they assert that the coffee-producing district in any land whatever is unlimited as compared with the consumption of coffee. In Brazil the utmost bounds of planting have been reached if not exceeded.

Besides, as I shall demonstrate in the Chapter on coffee-planting by means of figures for which I can answer, there is no question whatever of any extension of that industry, even in case — and the supposition is inconceivable, — the price of coffee should be doubled in the immediate future.

Should a judicious settlement of the emancipation question enable Brazil to retain the slaves for some time as labourers, she will be able to maintain the cultivation of coffee at its present level, but not to extend it farther.

As I have already stated, the fazendeiros now experience the greatest difficulty in procuring capital to work their plantations because these are almost all burdened already.

The conditions on which money can be raised on mortgage, are almost the same at every bank. The calculation of interest is the only difference.

For instance, the Banco do Brazil is restricted by an agreement with Government to a maximum interest of 6 per cent per annum for a twenty-years' mortgage, while other banks, such as the Banco de Credito real de S. Paulo, demand 8 per cent for mortgages from five to ten years, and 9 per cent for those from fifteen to twenty years.

As we see from the subjoined statutes of the Banco do Brazil, the legal amortisations and annual payment of interest must be attended to on pain of interest being raised from 6

per cent to 12 per cent. This payment is either made direct or through a commissario, whose interests are concerned in the regular transaction of the business.

The annual amortisation amounts to 5 per cent of the original capital, so that the borrower has the invaluable privilege of being able to work unmolested for twenty years, instead of being dependent on the caprice of the mortgagee, who, by calling in the debt arbitrarily at any moment the fancy strikes him, might destroy the very existence of a plantation, or at least endanger it seriously.

Notwithstanding that the Banks have advanced money on the fazendas, they make no difficulty of discounting the bills of the various proprietors, provided these are endorsed by a substantial commissario. The Banco do Brazil, however, requires two substantial endorsers.

I believe that nowhere in the world — at least not in Netherland India — are agriculturists granted so many legal securities to enable them to cultivate their lands in peace, as just in Brazil.

That with all these advantages they have made so little money these last years, must be attributed exclusively to the fact that labourers are now so scarce and wages so high.

Besides the mortgage Act, they have for their protection, so to say, a system of laws and usages which, so far as I know, is met with nowhere else. For instance, they are secured against a precipitate judicial execution, firstly by the tardy movement and the unusually high costs of a legal prosecution, and secondly by the dreaded judicial adjudication.

For a sergeant-at-law alone, one pays (just as for a doctor's visit) from 20 to 30 milreis per legua or six kilometers; and there are many fazendeiros living 3 or 4 leguas distant from inhabited districts.

At length the execution is put in after the following preliminaries. At request of the distrainer, the judge appoints a commission to appraise the establishment on the spot. Then the judicial sale takes place by auction, after all the legal enactments have been complied with, which compliance consumes a great deal of time. If there are no bidders, the sale is postponed for some time. If nobody comes forward to the second sale, the judge makes the estate over to the distrainer

for 75 per cent of the estimated value. In this way the fortunate planter is to some degree secured against all covert speculations of his money-lenders.

In Brazil, accordingly, it cannot happen as it may possibly do in Java, — that the distrainer himself buys at a public auction a fazenda worth 500 contos for a few milreis, and retains, moreover, his claim on the debtor.

It is therefore easily understood that a legal prosecution is never resorted to if it can be helped, — nay, that the creditor often prefers to erase the debt. A Brazilian fazendeiro who has got into difficulties is for that reason supported by his money-lender and the mortgagee; and if necessary, helped on to his feet again. He can rely upon loyal assistance to tide over a crisis. In no case need he, like the landholders of Java, fear that just his consignee, letting himself blindly be carried away by bad times, may deal him the finishing stroke, by publicly giving such accounts of the state of his fazenda that he can get credit nowhere, and is obliged to surrender himself unconditionally to self-interested speculators.

In order to effect a mortgage on his fazenda, the proprietor has only to fill in a printed application and add,

1. The title-deeds of his estate.
2. The certificate of registration, (matriculation) of the slaves to be included in mortgage.
3. A proof or declaration that the property to be mortgaged is not previously burdened.
4. Proof or declaration that he is not guardian to any orphans under age; and, if he has acted as such, proof that he has been released from his responsibility.
5. His certificate of marriage and marriage settlement.
6. An inventory of his goods on the plantation.
7. A certificate of admeasurement of his plantation, confirmed by a judicial verdict, or by the signature of neighbours whose lands march with his.

At the same time he must deposit a certain sum, which the Bank judges necessary to cover the expenses of the valuation to be made, amounting as a rule to about 500 milreis per plantation. In each district are fazendeiros who enjoy the confidence of the Bank, and who are commissioned to

make up the valuation. Their report is then submitted (with a view more especially to comparison with the certificate of admeasurement and the registration papers of the slaves) to the judgment of the Bank solicitor.

On his advice the Bank decides. If the mortgage is agreed to — or part of the sum asked — seldom more than the actual value of the slaves — the money is advanced partly in cash, partly in mortgage-bills of 100 milreis nominal value, bearing interest 6 per cent per annum, payable half a year after the negotiation of the loan.

The Banco do Brazil has laid down no rules as to what proportion of the mortgage shall be advanced in ready money. This is determined by the demand, and the means at the Bank's disposal.

The Banco de Credito Real de S. Paulo fixes this proportion at 5 per cent. 95 per cent of the loan is thus paid in bills. These bills, payable to bearer, must be turned into money by the fazendeiro himself, who usually cashes them as he requires them.

The quotations for these bills are now: Banco do Brazil, 99½ per cent (May 1884); Banco Predial, 70 per cent (May 1884); Banco de Credito Real de S. Paulo 79 per cent (May 1884).

For further details see appended statutes of the Banco do Brazil.

The Rio trade is supplied with coffee in three ways:

*a.* The produce of the western parts of Rio de Janeiro, of Minas Geraes, and the northern parts of S. Paulo, which is conveyed by the Dom Pedro II Railway.

*b.* The produce of Espirito Santo, of the north-east and south-east of Rio de Janeiro; a small quantity from the little ports between Rio and Santos, imported by coasters or per „cabotagem”.

*c.* The produce of the central parts of Rio de Janeiro, which is conveyed by the Cantagallo, Rio Bonito, and Principe de Grão Para Railways to Sant' Anna do Murahy (near Nictheroy) and Maúia, from thence to the trapiches by the Company's Steamers. This way of transport is called per „Barra Dentro.”

There are thus means of transport by rail, by sea, and over the bay of Rio de Janeiro.

Let us see how this transport is effected, and what expenses it entails.

As I mentioned above, the coffee is first conveyed from the fazenda to the station by „mulas cargueiras” or mules, or else in covered carts — if the roads permit. Even this is very costly, seeing that two days are consumed going and coming.

This loss of time must be recouped by the fazendeiro, as the tropeiro generally returns empty. The coffee is received at the station by the agent or intermediario of the fazendeiro, unless the station-master himself acts in this capacity, as is the case on the Dom Pedro II Railway, as well as the Leopoldina, the União-Mineira and other private railways, which, like the last-mentioned two, even let out the fazendeiro bags on hire at from 360 to 500 reis a bag, and so find a lucrative source of collateral income. Until an opportunity of despatching them presents itself, the bags of coffee are deposited in an out-building of the station, on the paved floor, without planks or anything else under them, as in Java. There is little or no supervision. The bags are not sewed up as with us, but the open end simply tied together with a string or liane.

The intermediario or station-master weighs the bags; if the former does so his statement is simply accepted without confirmation and the freight reckoned accordingly. Of weighing over again there is no question: people trust each other to save trouble. This is easily done in such matters, for the railway company is not responsible for short weight.

That much coffee is lost in this way, as I have been assured from several quarters, is easily understood. Moreover the bags are often old and full of holes, so that a great deal is spilled in handling them. Some of the intermediarios, mostly small innkeepers, do not rest content with the sweepings, but try to make something more out of the fazendeiro by the rebagging of the coffee, which they are accustomed to do with the horn coffee-scoop or cuia.

„Cuia and rateio (calculation of the medium price) are two words that make me shudder,” said a fazendeiro to me.

The coffee is transported by rail in separate and closed wagons, holding 9600 kilograms on the Dom Pedro II line; on the narrow gauge lines they mostly hold 7000 kilograms.

If the coffee is transported by the Dom Pedro Railway, it is taken direct to the warehouses of the Gamboá, where it

is stored for the time being. These gigantic warehouses, built exclusively for the coffee-trade, do not entirely answer the purpose for which they were erected. They are situated on the „estação marítima” of the Dom Pedro II Railway, and were intended to store the coffee that the ships should discharge directly into them. But the water is not deep enough here for ships of heavy burden, as the coffee-transport ships generally are; and it was not sufficiently considered whether the evil could be corrected by dredging; this is the reason why the coffee is not deposited here, but must be conveyed to the respective warehouses of the commissarios. I think there are no larger warehouses anywhere than those of the Gamboá. They consist of two stories. The two lower warehouses, where sixty or seventy thousand bags of coffee may be stored, but which contained hardly thirty thousand bales when I was there, are furnished with an iron penthouse to the side of the railway.

The two upper apartments were quite empty, so that I could take some measurements. The width is 39 of my ordinary paces, while the length, divided into 29 equal compartments by iron pillars, is rather more than 275 paces. In the side-wall I counted 29 windows on each side; while at the ends there are only 4. The stair is situated at about a third of the length. The coffee can be hoisted upstairs by machinery through three large trap-doors.

The commissarios have endeavoured to hire from Government these two upper apartments, which it cannot use now, because the coffee is not permanently stored here, so that the ground floors are quite sufficient to contain what is sent from the interior. They have offered to pay Government by way of rental 6 per cent of the cost of building. As I have been told, however, the administration demands three times as much, so that the proposal has hitherto led to no result.

In the beginning of this year some commissarios desirous of exporting direct, petitioned Government for leave to let the coffee brought in from the interior lie ten days in the the Gamboá warehouses, instead of forty-eight hours. This would allow time to ship the coffee. At my departure no reply had been received to this petition.

It would certainly be a great advantage to the coffee-trade if the commissarios could prepare the crop for export in those

warehouses, without the intervention of the ensacadores, or if, by direct export, the expenses of transport within the town could be saved. Such an arrangement, moreover, would yield a good living to the poor that live in the vicinity of the warehouses. Women and children would in that case have an opportunity of earning something at sorting the coffee-beans and other light work.

The coffee brought in per „cabotagem” and „barra dentro”, is stored in the trapiches or large warehouses near the wharf in the Rua da Saude.

The freight on this crop is considerable, as we may see, if we recollect that the coffee must first be transported from the fazenda to the stations, whence it may be conveyed either by rail or by the Parahyba river per steamer, to the places whence it may be transported to Rio, whether across the bay by steamboat or by sea per sailing vessel.

It is almost incredible, and yet it is a fact, that the transport of this coffee by water to Rio, costs more than the transport to New-York or any part in Europe. In those trapiches they charge 40 reis per bag for every eight days.

As a rule those coffees, — chiefly those from Espirito Santo and the low-lying districts in the north-east of Rio de Janeiro, — are of inferior quality, (having frequently become so during the journey), and are known in Europe as well as Rio under the general name of „Capitania” coffee.

Owing to a strange arrangement of the tariffs of some railways, a very considerable portion of the São Paulo coffee-crop comes still into the Rio market.

I have even before me accounts of Rio commissarios for coffee consigned to them from the remotest districts of the above-mentioned province; for instance from Bélem de Descalvado.

Nay, more, — coffee from the north of São Paulo is often forwarded by rail to the capital town of that name, that it may then be transported direct to Rio.

And for some intermediate stations this is cheaper than sending the produce of these districts direct to Rio or direct to Santos.

Competition has thus led here to the fact that it is cheaper in some places to despatch the crops by a more circuitous route than is strictly necessary.

Besides, the difference between the market-prices in Rio and Santos influences this. Those differences, almost always advantageous to Rio, also sometimes cause coffee to be sent for sale from Santos to Rio, as I have been informed by Messrs. Johnstone & Co., one of the many large coffee-exporting houses in Rio.

When the coffee arrives at Rio (and the first holds good also for Santos), it must be removed within forty-eight hours from the railway station, or within eight days from the wharf warehouses.

As a rule a commissario, as soon as he receives the letter of advice, sends the accompanying invoice to the office of the railway company, where, payment being made, the document is stamped, and the commissario can send for the lot.

As the consignments, however, arrive very irregularly, — sometimes, when the quantity is large, on account of scarcity of waggons, sometimes because the traffic is stopped for a time by landslips or inundations, the commissarios employ a special clerk to pay the invoices and have them stamped; his duty is to go every day and inquire whether this or that lot has already arrived.

If the commissario is not active, if he leaves the coffee lying more than forty-eight hours at the Gamboá or more than eight days in the trapiches, he renders himself liable to heavy fines and costs.

When the coffee is handed over, the weight is seldom or never verified; the bags are merely counted.

For some time the Directors of the Dom Pedro II Railway Company had the coffee weighed, on account of the many complaints urged; but regard for the interests of trade soon induced them to abandon this usage, as it appeared they had not the requisite appliances to weigh all the lots with the necessary expedition. The loss of time was more expensive than the loss of coffee. Although it was generally alleged, I should not like to say that the Directors of the Railway Company threw any obstacles in the way in this case. The loss of weight must be very great, however, seeing what a quantity of sweepings (*varredura*) is sold by the Directors annually, yielding them a not inconsiderable profit.

This was indeed so conspicuous a fact, that while I was in Rio all the commissarios concerned entered a protest against it. The circular drawn up, which I saw in the office of one of the commissarios, who immediately acquainted me with the contents, bore a long list of signatures. On making inquiry afterwards, I was informed that the protest had been made to little purpose; — that matters were left exactly as they were.

From the Gamboá warehouses and the trapiches to the warehouses of the commissarios, the coffee is conveyed per tram (narrow guage) by the Companhia de Carris Urbanos.

After passing the Campo de Sant' Anna Square the line is split up into as many branches as there are roads leading to the warehouses and offices of commissarios, ensaccadores, and exporters. The arrangements leave nothing to be desired, they are incapable of improvement! The waggons are uncovered; if rain comes on unexpectedly a piece of tarred canvass is thrown over the bags.

The same company provides porters to carry the coffee from the waggons to the receiver's office, and pile it up there. These porters are usually Portuguese, or hired negro slaves. Of late the Italians are beginning to use their hands, or rather their heads, in that work.

Beside a table at the door of the warehouse, which is always beneath the office, stands a clerk armed with the dreaded furador, a colossal scoop, with which he pierces every bag that the porter brings in on his head. This is done so quickly that the porter need not pause in his walk.

The samples of equal quality and from the same fazenda are poured out on the table in one row consisting of as many heaps as there are bags.

Out of these bona fide samples two large samples of about a pound weight are made, of each sort and from each fazenda.

The samples for sale (original) are wrapped in two layers of paper, the first of a blue shade, on which are noted the numbers of the bags and the name of the plantation, the outer one white.

The samples for the commissario, called copia, are merely

wrapped in a piece of white paper, bearing the same inscription, but with a note of the quality.

The offices of the various commissarios are, so to say, so many coffee Exchanges. The sale generally takes place between 8 and 10 A. M. before breakfast.

In every warehouse there is a sample-closet, lighted from the roof; they know the effect of the falling light on the colour of the coffee.

The ensaccadores, the actual buyers at first hand — for they transact business on their own account and at their own risk, — are one by one admitted into the sanctuary, where they can look about them at their ease and discuss matters with the commissario without fear of interruption.

Offers are made as follows:

The commissario shows the intending buyer all the original samples from the various fazendas, of the required sorts and qualities. As coffee is forwarded from the interior in very small quantities, usually in lots of 40 or 50, nay of 10 and 25 bags, 20 or 60 samples are wanted to complete a single order.

The ensaccador notes down for himself the number of bags of each quality, and then makes an offer for the whole, for the lot, which comprises the produce of different plantations.

Although the bid is generally made per arroba, the bills of sale are drawn out per 10 kilograms.

The commissario, who has also made his calculations, accepts or rejects the offer.

In the latter case if the ensaccador goes away, renewing his offer, or leaving it for consideration, he has the right of preference.

Then a commissario who has any self-respect and desires to keep up his name, will not sell the coffee to another merchant unless he gets at least 100 reis per arroba more than the first offer. The first bidder has thus a certain advantage, which greatly promotes competition, and renders possible the realisation of large consignments, frequently from twenty to eighty thousand bags at once.

In the months of September, October and November, from ten to twenty thousand bags, on an average, change hands every day.

Among abuses, small in themselves, but worth noticing when we consider the gigantic proportions of the Rio coffee-trade, the following require mention.

Since, as I have stated, the bags are merely counted, and accepted and delivered without being weighed, the commissarios always run the risk of complaints from the ensacadores, on the score of short weight. But these can just as little prove the justice of their claim, seeing that they also have not weighed the coffee they bought. It is often only after they have blended, sold, and re-bagged the coffee that they discover the shortness of weight. And, as they cannot know what commissario sold them these particular bags, they claim the deficiency from all the commissarios they have bought from.

The commissarios know that well enough; but, though they are aware that they are not legally bound to pay compensation, they prefer to settle the matter amicably, because they too are convinced that the weight might have been short; Besides, they often acquiesce for the sake of custom.

Gradually, however, the ensacadores have arrogated to themselves the right to claim immediate indemnification for possible short weight, that is to say to demand an allowance of 15 kilograms on every hundred bags of coffee.

Although the commissarios accede to this claim, because the coffee generally gains weight, especially in the somewhat damp air of Rio, so that neither they nor their clients suffer loss by it, this way of dealing cannot be called fair, seeing that the fazendeiro, though he does not exactly lose, is mulcted thereby of his profit. Such a tax on a consignment of four or five million bags, cannot, in my opinion, be defended.

At present many commissarios have the coffee weighed as they sell it.

Bargains between commissarios and ensacadores are never concluded in Rio with the assistance of the broker or corretor, and always with a discount of  $\frac{1}{4}$  per cent on payments in hand or within twenty days.

In Santos, where the exporter buys his coffee direct from the commissario, mostly without the intervention of a broker, the term of payment is fixed at thirty days.

Those transactions are never verified by letter or bill of sale; everything is done in implicit confidence.

Disputes concerning quality or price are never heard of, even when there is a fall in the market, as I have been assured from more than one quarter.

Very seldom indeed is compensation asked, in fact only when some of the bags have been damaged by rain or damp. There is no attempt to cavil, for instance when discoloured or bruised coffee-beans are discovered in a purchase, so as to get off the bargain or claim reduction should prices fall. In that respect the Brazilian coffee-trade is far superior to ours, where signs of narrow-mindedness and pettiness are not exactly exceptional.

One cannot talk long with the fazendeiros in the interior without hearing vehement denunciations of the commissarios, and especially of the ensaccadores.

Are these complaints well-founded? Or have we to deal here with a mere habit of grumbling, frequently incident to those that have long lived apart from common life, and, made less or more suspicious by their retirement, are not always able to judge justly of conditions they have no near view of?

These are the questions which I would fain have solved, but which I am not able to answer with perfect certainty, on account of the limited time granted me. But I do not think it superfluous to mention these complaints here, that I may discharge myself as faithfully as possible of the mission entrusted to me.

In the first place the fazendeiros complain with all their might of the accounts they receive from their commissarios. According to them they are cheated in the selling price.

It cannot be denied that the commissarios must have a certain skill and dexterity which practice alone can give, in the division or rateio of the averaged price of a consignment or lote sold, so as not to give occasion for objections or dissatisfaction on the part of their coffee-growing friends. For they have to split the average into as many prices as there are fazendas and qualities in the lot, a task which, assuredly, is far from easy.

In making up this rateio they are said to recoup them-

selves for the various facilities and actual advantages they grant the fazendeiro, such as:

1. Paying no rent for warehousing, which expense falls exclusively on the commissario.

2. Paying no policy for insurance against fire, which the commissario likewise takes upon himself.

3. Paying nothing for the „postage, telegrams, and small expenses”, which is a very favourite mode of fleecing in trade.

There are fazendeiros who do not bind themselves to any fixed consignees, and send their crops to more than one commissario, with the view of keeping a better check on the sales, and likewise of speculating on the competition between their agents.

They have another grievance to urge against the commissario; that is, regarding the weight.

They allege that some commissarios are not vigilant enough, that the sample-scoop is applied to their crops in too slovenly a manner; firstly by allowing too large samples to be taken, and secondly by winking at their employés — who lay claim to the sweepings or varredura of the warehouse, — when they purposely let the coffee beans drop so as to increase their perquisites.

The porters likewise get their share of blame, for making the work of the women, that pick up coffee on the street, a great deal too easy and profitable by shaking the bags and otherwise handling them in a peculiar way, — not always out of pure benevolence or inborn gallantry towards the old negresses who usually practise this occupation.

These negress are often so impudent that they will force their way into the warehouses to pick up the coffee dropped there.

It seems certain however — at least the statement is confirmed by several reliable persons, coffee-dealers, even, among them — that half the coffee drunk in Rio comes from the varreduras or sweepings of the various warehouses.

The transport from the warehouse of the commissario to that of the ensaccador, and the new scooping of samples there, is effected in the same way, and, as far as the former is concerned, through the intervention of the same company, which also keeps cars for those short distances, where no tram-car runs.

As a rule the warehouses of those coffee-lords are still larger than those of the commissarios. If the former pay from four to six contos (a conto is one hundred pounds sterling) per annum for the rent of these storehouses, which are seldom their own property, — the latter have to disburse still more for this indispensable item of expenditure.

The costs of warehouse and staff amount, according to the information I have received, to between twenty-five and forty-five contos, inclusive of necessary expenses for the kitchen; for it is customary for the commissario to engage his staff for so much with board, and moreover, to keep open table and even quarters for the fazendeiros with whom he deals, when they pay a visit to the capital or Córte on business or for pleasure. 1)

There are ensaccadores, and ensaccadores-houses, — the Comercio e Lavoura Company, for instance, whose warehouses are very little smaller than the great Gamboa warehouses.

The above-mentioned Company, which turns over a very large capital, has four warehouses in the Rua da Saude, all communicating with each other, where a hundred or a hundred and twenty thousand bales of coffee can be stored. This Company also exports coffee direct.

In one of the ground-floor apartments I saw a gigantic heap of inferior coffee, ten or twelve thousand picols, I am sure, which men were busy putting into new bags, using wooden shovels for this purpose.

On the lofts above the warehouses there were only 250 or 260,000 new bags when I was there; according to the warehouse-master, however, who occupies a room there, this number is much under the usual quantity.

I have just said that coffee is put into the new bags by men using wooden shovels. The chief ensaccadores seldom use this method now. It was employed when I was there, because the machinery was not yet quite in readiness to perform all the labour.

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1) Although the official name of Rio de Janeiro is really Muito Leal e Heroica Cidade São Sebastião de Rio de Janeiro, this town, both in every day conversation and in written documents, is briefly called Córte.

Close to the warehouses of the above-mentioned Company, were those of another firm of ensacadores, whose business consists chiefly in buying up large quantities of inferior coffee, in order to have it sorted and browned by machinery.

I was an eye-witness of these processes, which were gone through with admirable accuracy and regularity. The commissario who accompanied me secretly drew my attention to one expedient, forbidden by Government, it appears, for giving bleached and discoloured coffee a particular shade by means of a certain substance. 1) As coffee coloured artificially is more subject to discolouration than other sorts, this process is as a rule applied only to parcels of coffee sold provisionally, but yet requiring some touching up to fulfil the required conditions. This practice is severely censured on account of the substances employed being frequently injurious to health, so that they are used only in secret and by stealth.

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1) That the artificial colouring of coffee is universal, at least in North America, appears from the following extract from the «American Grocer and Dry Goods Chronicle» New-York, 24<sup>th</sup> April 1884.

«Dr. Cyrus Edson of the New-York Board of Health, has been paying special attention to the fraudulent colouring of coffee, and has discovered that mineral poisons are freely used by several of the Companies operating in Brooklyn (N. Y.) and which are to answer for their wrong practices to the Board of Health in that city.»

Arsenic, Venetian red, chromate of lead, ferro cyanide of potassium, and Umber, are used to colour the beans.»

«The beans being porous, or spongy, absorbs the arsenic and lead so thoroughly, that it is almost impossible to remove it by any roasting or chemical process. If these mineral poisons remained upon the outside of the bean, it would require a white heat to destroy them; and every dealer knows that coffee is roasted in closed cylinders at a temperature which fails to volatilize any poisonous coating. It is incomprehensible how any firm of good standing can be a party to such frauds.»

This journal goes on to say:

«Any artificial method, whether legitimate or illegitimate, can be used to deceive, and we regret that so many reputable firms are practising fraud upon retailers by using existing processes of manipulation.

«Large bean coffee or Mexican, Central American, Venezuelan, or other growth, is made to imitate Java so closely as to defy detection except by experts.»

«That sort of swindling has become very common, and we caution the trade against «bargains» in Old Brown Government Java.»

To give an idea of the great amount of business done, I note simply in passing:

1. That there are ensacadores, Mess<sup>rs</sup> Camara & Gomes of the Rua S. Bento, for instance, that mix (*liga*) and rebag on an average 100,000 bags a month, and this by means of 27 machines, which do not require quite 27 persons to manipulate the whole. The bags are even weighed by machinery. Among these machines are elevators to remove the loose coffee upstairs or downstairs, as well as instruments to convey the bales of coffee from the ground-floor to the upper warehouses.

2. That there are coffee-brokers, such as Mess<sup>rs</sup> Rego & Co. of Rio, that dispose of a million bags per annum.

The blending of coffee, in order to obtain a particular medium sort, so as to meet the wishes of the exporter, — for instance by blending a regular, a 2<sup>a</sup> boâ, and an *escolha*, in order to get the type *ordinario* is, in the eyes of the *fazendeiro*, — who has bestowed such care and pains on the sorting of his crop, — the greatest grievance he has to urge against the ensacadores.

He says they spoil his coffee!

This complaint is in my opinion unfounded.

It must be a matter of indifference to the *fazendeiro* who buys his crop, if only he gets a good price for it.

Well now, the ensacador is the local coffee purchaser. He buys and sells coffee at his own risk. Nobody can blame him in earnest for doing his utmost in his turn to satisfy his exporter — his buyer.

From the point of view of the coffee-planter, as an individual, I deem this complaint unreasonable.

The thing takes quite another aspect, however, when we look at it from a more economic point of view.

What happens after all?

The buyers of coffee at first hand do not bring the sorted Brazilian coffee to the emporium as it comes from the plantation, where no pains are spared to improve the quality by manipulation and sorting, — but blended into a medium sort.

In the great markets of the world, therefore, there is no genuine *fazenda*-coffee to be had, but only blended, or *liga*-coffee.

By that quality the whole crop is judged.

The earthy or terreiro taste is, in my humble opinion, due to the fact that escolha is often blended with superior sorts.

Escolha is the most unsightly coffee I know, and in appearance to be compared only to Bali coffee, as it is brought into Soerabaya, or with the coffee usually termed by the trade rotty coffee.

The prices are fixed after the medium sorts and naturally influence the Brazilian markets.

The ensaccadores, consequently, cannot obtain the real value of the superior, sorted fazenda-coffees, for they have the expenses of the liga over and above.

In this way the tricks of trade recoil on the fazendeiro.

To prevent these there is in my opinion only one thing to be done: export direct, either at the fazendeiro's expense or that of the commissario. With a view to this, experiments are already being made, for instance, by Senhor Vergueiro of Ibicaba, whose produce is already known in Hamburg and Bremen as Ibicaba coffee, and by the commissarios Almeida & Castro of Rio, who, however, have almost insurmountable difficulties to contend with, some of which are raised even by the fazendeiros of the Rio Zone.

These, though they complain, are so wedded to use and wont, that it is difficult to persuade them into trying an experiment. Besides, this is a luxury that few of them can indulge in, seeing that they are bound to the commissario by consignment agreements and promises.

That direct export would be advantageous to the Brazilian coffee-planter, is not to be denied by any one that knows in what way the coffee is dealt with there.

From the subjoined statement it will be seen what expenses fall on a bag containing 60 kilograms, when everything is taken into consideration.

But direct export of fazenda coffee on a large scale is not likely to be effected for some years yet, partly for the reasons mentioned above; partly because the great importers of Europe and North America see their advantage in maintaining the status quo. But yet they do the very reverse of what the ensaccadores do. They sort the coffee afresh accor-

ding to quality, in order to sell the best sorts under better known brands. Just as sparkling Rhenish goes off more briskly when it is dubbed Rhoederer or Carte Blanche, so superior Rio or Santos growths are sold as Java or Ceylon coffee.

In France, for instance, where hardly a drop of any coffee but ordinary Brazilian crosses people's lips, the waiter in a coffee-house, no matter where, will show great indignation if a man does not firmly believe he is drinking genuine and unadulterated Mocha.

Bargains between the *ensacadores* and the exporters, — who almost all without distinction execute orders, and very seldom do business on their own account, — are always effected in Rio, but not always in Santos, by means of the broker or *corretor*.

The broker gets an order to look for a lot consisting of such and such number of bags of a particular sort.

He consequently does what is called the rough work of the coffee trade. He goes from office to office of the *ensacadores* and makes inquiries.

The number of coffee-brokers in Rio being so small — only three out of the thirty-five *corretores de mercados* being engaged exclusively in the coffee-trade, and assisting to dispose of more than two thirds of the export, it is clear that they cannot do this work alone. Consequently they employ *adjutants*.

In the coffee-trade the choice of the broker depends on the buyer or exporter, not on the seller as in other branches of commerce. The brokers' *adjutants* are as a rule foreigners, who as such cannot procure a broker's license; they are generally called *interlopers* or *Zangões*. Every *corretor* has one of those *Zangões* acting for him alone, receiving a fixed percentage. They may indeed transact business for the broker, but they may not sign the bill of sale or broker's note. Some of these *Zangões* do at the same time brokerage on their own account; but then they have their bills signed by licensed *corretors* who receive in return a share of the commission.

By decree passed June 10 1882, No. 8579, the number of brokers in Rio is limited to 70; viz. 25 for the stock exchange, 35 for the general trade, 10 ship-brokers.

Before their appointment they have to lodge a certain sum as security: stockbrokers lodge 10,000 milreis, general brokers and ship-brokers, 5000 milreis.

The broker's commission is reckoned according to the following table:

	Payable by:	
	Buyer	Seller.
Government stock, on selling price, $\frac{1}{4}$ %		$\frac{1}{4}$ %
Shares in Companies . . . . .	$\frac{1}{4}$ "	$\frac{1}{4}$ "
Gold and silver sales, according to exchange rates . . . . .	$\frac{1}{10}$ "	$\frac{1}{10}$ "
Bills. . . . .	—	$\frac{1}{8}$ "
Discounting of Bills.		
Due at 4 months — on amount . . . . .		$\frac{1}{8}$ "
..... 8 . . . . .		$\frac{1}{4}$ "
..... 12 . . . . .		$\frac{3}{8}$ "
Upwards of 12 months according to agreement.		
Sugar, on selling price. . . . .	$\frac{1}{2}$ %	$\frac{1}{2}$ "
Coffee per bag . . . . .	50 reis	50 reis
Hides, on selling price . . . . .	$\frac{1}{4}$ %	—
Other exports . . . . .	$\frac{1}{2}$ "	—
Sale of ships . . . . .	—	$2\frac{1}{2}$ %

For the chartering of ships the owner or agent pays  $2\frac{1}{2}$  per cent on the value of the cargo.

For effecting of insurances, the person whose property is insured pays  $\frac{1}{4}$  per cent on the value.

For translating manifestoes the owner or agent pays 5 milreis for each of the first three pages, and 2 milreis for every succeeding page, up to a maximum of 40 milreis.

For exchange quotations for one month 2 milreis is paid, and double that sum if these quotations extend over several months.

In Santos, where there are only a few ensaccadores, the sale of coffee is seldom effected through the intervention of brokers or Zangões. Transactions are mostly concluded direct, between the commissario and exporter themselves.

The following are the costs that an exporter may charge his principal.

RIO DE JANEIRO.

SANTOS.

	Reis.		Reis.	
Price of coffee . . . .	—	per memorandum	—	per memorandum
» » bag . . . .	700		800	
Freight per bag (from the warehouse to the wharf) . . . .	250		300	
Commission per bag .	50		50	(optional)
Wharf dues per bag .	60		60	wharfage
Export duties (4 + 7, = 11 per cent . . .	—	per memorandum	30	municipal tax
Small expenses per bag	30			per memorandum
Telegram expenses per bag, in Rio 100 reis, for large orders at least . . . .	60		100	(fixed)
Commission . . . .	1, 2½, to 3 per cent	according to the size of the lots	2½%	(fixed)
Commission on Bill and Stamp . . . .	$\frac{3}{8}$ " "		$\frac{3}{8}$ "	
Fire insurance (opti- onal . . . . .	$\frac{1}{8}$ " "		$\frac{1}{8}$ "	

The costs of removal from the quay to the ship, as well as charges for sundries (use of mats, wood or planks), and for stowage, are at Rio charged to the ship's account, seeing that all those expenses are considered as included in the freight.

In Santos, on the contrary, when the coffee has to be brought from the warehouse on board ship, fifty reis per bag is added to the freight.

When the broker has learned where the required quantity and sort of coffee is to be obtained, he informs his principal, who then treats with the ensaccador in the same way as the ensaccador deals with the commissario.

So soon as the exporter is agreed with as to quality and price, the broker fills in a couple of printed notes or bills of sale, and sends one to the buyer as well as the seller, for he receives commission from both parties, as I have already mentioned.

Then comes the blending and putting up into new bags.

Payment is made in cash down when the coffee is ex-

ported, until that time it lies gratis in the ensaccador's warehouses.

The fixed term, however, is twenty days; if it is not exported within that time, storage money is paid according to agreement.

Earlier shipment gives no title to discount, however, as cash payments between commissario and ensaccador do.

When the coffee is to be shipped, it is transferred from the ensaccador's warehouse to the shipping place — the docks de Dom Pedro II — at the expense of the exporter.

Close to these docks Government has very large and spacious warehouses, where the coffee to be exported may be stored, if required, at a certain rate of payment, until the time has arrived for it to be shipped.

This is the place to say a word regarding a custom in the trade, which gives occasion to the discrepancies in statements concerning export, not alone in the official but also the private estimates, as I was assured by Messrs. Ed. Johnston & Co., and by the President of the Rio Syndicate, Senhor Berla, chief of the great exporting House of Berla, Cotrim & Co., as well as by other people.

I allude to the trade in guias, or receipts for export-duty on coffee.

As I have noted above, there is exacted on the export of coffee:

1. A provincial export duty, amounting to 4 per cent in Rio de Janeiro, Espirito Santo, Minas Geraes, and São Paulo, and in Pernambuco, Bahia, and Ceará 6 and 5 per cent of the official value or *pauta*, as it is fixed weekly.

2. A general or Government export duty on said value. Until Nov. 20 1882, this figure was fixed at 9 per cent.

Well, then, these provincial export duties are paid in every province immediately when the coffee crosses the frontier. For the coffee from Rio de Janeiro, the *guia* can be paid at Rio if desired.

With the letter of advice the commissario likewise receives the receipted ticket or *guia*, without which documents the Railway Company will not deliver him the coffee.

The sale of the coffee takes place without the handing over of the *guias*, which are valid for 30 days after issue.

Indeed it would be practically impossible to do otherwise.

The exporter likewise gets his coffee without receipts for provincial duties paid. On shipping it, however, he is obliged to produce these receipts, or to pay the four per cent over again. The custom-house officers who superintend the export trade, are aware of this. Consequently these officials (*despachantes*) buy up from the commissarios for less than the actual value, all the *guias* that are not yet cancelled, and sell them again at a certain price to the exporters. They clear a mere trifle on every *guia*, for the exporter also must see advantage in buying *guias* instead of paying down 4 per cent in hard cash; but yet, the Rio export trade being so enormous, the profits are not inconsiderable.

Many exporting houses likewise speculate in these *guias*. A house, for instance, having received an order for some thousand bags of coffee to be despatched a month hence, and supposing that against that time there will be a rise in price, consequently a rise in the official value or *pauta*, buys the requisite *guias* betimes, and pays the customs with them.

The custom-house accepts the *guias*, also in payment of Government export duty, and grants a receipt for  $4+7=11$  per cent duty paid on so many thousand bags. These receipts hold good for thirty days.

In this way the custom-house estimate of exports, and those of the various mercantile houses, may often show a discrepancy of from 100 to 250,000 bags, at the end of the civil or official year. The custom-house calculates the exports by the duties paid, while the various Houses calculate according to the day the coffee is shipped in the harbour, or the actual day the ship leaves port.

As I said before, the exporter has the coffee to be despatched, conveyed to the *docas*. There is a covered shed on the quay. There the *capatazia* or wharf dues are paid, and the receipts for export duties shown.

The transport from the quay and into the ship is, as I said above, included in the freight, which, on Feb. 15. 1884, amounted to:

Håvre	Steamer,	francs	30 & 10%	per ton of	900	kilog.
Bordeaux	»	»	30 & 10 »	» » »	900	»
Marseilles	»	»	30 & 10 »	» » »	900	»
Hamburg	»	shill.	35 & 5 »	» » »	900	»
Liverpool, London	»	»	40 & 5 »	» » »	1016	»
Antwerp	»	»	30 & 5 »	» » »	1016	»
Lisbon	Sail. vessel	shill.	40 to 42/6 & 5%	» » »	1016	»
Channel	»	»	» 40 to 42/6 & 5 »	» » »	1016	»
New York	Steamer		40 cents & 5 »	per bag.		

From this it is easy to ascertain what are the expenses on coffee before it reaches Europe or North America.

When these expenses are faithfully and accurately reduced to figures so as to compare them exactly with the cost of direct export to Europe, I am certain that no lower estimate can be made than the following, which I obtained from a commissario who has been engaged in the coffee-trade for more than 20 years, and from whom I have received sundry very important data.

Suppose the coffee is despatched from Ubà station on the Dom Pedro II Railway; a starting point that gives a tolerably good average of the distance coffee has to be conveyed from the three great coffee-producing provinces; viz. 171 kilometers from Rio. Let us further assume the quantity to be a bag of 60 kilogrammes good, weighed on the fazenda, the expenses and loss of profit to the fazendeiro will be as follow.

Calculation of expenses on a bag of coffee before it is exported from the port of Rio.

		mil-reis.	reis.	mil-reis.	reis.	mil-reis.	reis.
1	Freight from the fazenda to the neighbouring station, average 1) . . . . .	0	900				
2	Freight by rail, according to the lowered rates for 1882; viz. for 171 kilometers $\frac{m}{r}$ per 1000 k. . . . .	1	587				
	Carried over . . . . .	2	487				

1) The average freight from the fazenda to the station is much higher; this special fazenda is close to the station; see below the cost of transport from two fazendas in the districts of Casa Branca and Rio Claro.



		mil- reis.	reis.	mil- reis.	reis.	mil- reis.	reis.
	Carried over . . .	3	792	2	776	1	060
	considering the guia trade this item is averages . . .	0	603			0	604
19	Government import duty of 7 per cent on same value.					2	112
20	Samples, clerk's fees, tele- grams and small expenses on large orders . . . . .					0	100
21	Exporter's commission, ac- cording to agreement, 1 per cent, 2½ per cent, 3 p. cent						
	averaging 2 p. c. on $\frac{26}{520}$					0	530
22	Commission on bill and stamp ½ on say 32 milreis . . . . .					0	120
23	Fire insurance between pur- chase and export, introdu- ced of late years, ½ on 32 m.					0	40
		4	395	2	776	4	566

From this table it appears:

1. That a bag of coffee, first quality, value 26 m. 520 r. costs the fazendeiro on an average for freight and commission . . . . . 4, 395  
nett price . . . . . 22, 125

so that pst. 2. 3 s. 4 d. per bag is all he receives to cover costs of manipulation, interest of capital to work his land, a fair allowance for the value of his plantation and slaves, his personal expenses and his profit!

2. That, if he were to export direct, he could make an immediate profit of 2 m. 776 r., which not inconsiderable sum is now totally lost to him.

3. That the expenses of export are very high; the average may be estimated at 4 m. 566 r.

increased by . . . 0 m. 603 r. seeing that the exporter always charges his principal the full export duties of 4+7=11 per cent. To this last custom is due the fact that on large orders the exporter can charge a lower commission than 2½ or 3 per cent. However, as I shall prove in my chapter on coffee-planting, the Brazilian fazendeiros cannot calculate on 60 per cent first quality, out of a crop of coffee.

So the medium price of 26 m. 520 r. such as I have calculated above, is but seldom obtained. The best coffee plantations hardly yield 25 milreis (pst. 2.10) per bag on the entire crop.

According to the Commercial Union of Santos, where experts like Würsten and Wright have seats, a fazenda in the Santos Zone seems to yield so many inferior sorts, that prices being as they are, a crop of 150,000 kilograms or 2500 bags, only brings a medium price of 14 m. 700 r. or pst. 1.9 s. 4½ d. per bag (see page 225).

The expenses, then, are very high.

I have before me bills of sale belonging to one of the principal exporting houses, one that obtains its coffee direct from the interior; according to these, the costs of conveying 1500 kilograms or 25 bags of coffee from the districts of Casa Branca and Rio Claro:

1. From Casa Branca, 358 kilometers from Santos:	
Freight from the fazenda to the station of Casa Branco,	90.—
Hire of bags, and commission at Casa Branca, 500	
reis per 15 kilograms. . . . .	50.—
Freight and provincial export-duties . . . . .	127.—
Expenses at Santos, 20 reis per 10 kilograms . . .	3.—
Commission, 3% on 750 milreis. . . . .	22.500
	<hr/>
Total. . . . . m.	292.500
or per bag pst. 1.3.4½ = „	11.700

2. From Rio Claro, 275 kilometers from Santos:	
Freight from the fazenda to the station of Rio Clara	110.—
Hire of bags, and commission there, 500 reis per	
15 kilograms . . . . .	50.—
Freight and provincial export duties . . . . .	100.—
Expenses at Santos, 20 reis per 10 kilograms . . .	3.—
Commission, 4% on 750 milreis. . . . .	22.500
	<hr/>
Total. . . . . m.	285.500
or per bag pst. 1.3. = „	11.420

From this we may see that, even at the high price of 5 milreis per 10 kilograms, or pst. 3 per bag, the nett proceeds are not large, and must actually occasion loss. Commission and freight swallow up on an average 33½ per cent of the value.

Qpc

To enable the reader to see the expenses attending the sale of coffee at the various emporiums, I have printed as appendix a few bills of sale obtained from several mercantile houses and from the consuls, including transactions in Santos and Java coffee at Rotterdam.

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## CHAPTER X.

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### COFFEE PLANTING.

#### General view. Division into zones.

From the preceding chapters the reader will be able to draw the conclusion that the three principal coffee-producing provinces of the great American Empire offer little analogy, either in soil or climate, to these districts of the beautiful Indian Archipelago, where coffee planting is carried on.

The difference of climate can be accounted for to a great degree by the difference in latitude; from the appended table it is easy to perceive how far the coffee grounds of the two countries differ from each other in the nature of the soil.

The coffee-producing area in the provinces of Rio de Janeiro, Minas Geraes and São Paulo, may be conveniently divided into two sharply defined zones. But in my opinion it is scarcely scientific to divide the area as Dr. Couty, Lecturer at the Rio Polytechnic School, has done in his „Etude de Biologie Industrielle sur le Café”, into two zones, with Campinas as the centre of the first, wherein the geological nature of the soil is regarded as the chief factor; while in the second, with Cantagallo as centre, the climate is considered as the only criterion of success in coffee planting. Setting aside the fact that such a division is very vague, it seems to me far from correct, since there are several other circumstances that must modify any hard and fast division into zones.

It would lead me to too great a length were I to confute one by one the statements in this work which appear to me incorrect, nay, even untrue.

I have not only perused the book attentively; I studied it during my travels in the interior, and noted my comments

as I talked with the various planters. But I am sorry to say I found so many erroneous notions, so many data which the fazendeiros concerned themselves challenged on the spot, that I must candidly declare, that Dr. Couty's work, however meritorious in many respects, was quite unfit to guide me in drawing up my report, so that I, that I might fulfil the mission entrusted to me with the requisite accuracy and completeness, was obliged to convince myself on the spot of the smallest details regarding cultivation, harvesting, and manipulation.

This is why I, beforehand, requested the various fazendeiros who were kind enough to supply me with data, to allow me to collect those data from their books or jottings, and at the same time, to publish those extracts, verified by them — in my Report to the Netherland Government, with their own names and those of their plantations or fazendas.

For the accuracy of the figures, I have taken down, for the most part in the presence of the Netherland Consul-General, Mr. F. Palm, who was kind enough to accompany me on the greater part of my travels, and to act as interpreter when required, — I can therefore answer with perfect confidence.

It is only to anticipate possible criticism of these data that I mention Dr. Couty's work, which, being written and published in French, will doubtless be read with interest by many people in this country also.

And here I desire to make grateful mention of the kindness and courtesy of the Brazilian Government and the various private Railway Companies, who, by granting me free passes for every line, placed me in a position to visit almost every part of the coffee-producing area in this quarter of the empire.

To the various fazendeiros also, who received me with true oriental hospitality and obligingness; and, by supplying me with important information and correct figures, made my task comparatively easy; I hereby desire to express my thanks, as well as to the Centro da Lavoura e Commercio, which supported and assisted me in every way, and has even deemed me worthy the distinction of being admitted into its powerful society as an honorary member.

The three principal coffee-producing provinces of Brazil:

viz. Rio de Janeiro, Minas Geraes, and São Paulo, cover respectively an extent of 68,982, 574,855, and 290,876 kilometers, or a total area of about 935,000 square kilometers, that is to say, more than 28 times the superficies of the Netherlands, and almost 7 times as much as that of Java.

This portion of the great Brazilian Empire, which itself is almost as large as the whole of Europe, is situated in almost the same latitude as central Australia, consequently much farther south than Java.

Immediately on arriving in Rio the foreigner is struck by the peculiar colour of the soil, a colour which, I think, I cannot describe better than by likening it to pulverised red brick. In the interior as well, this general hue is seldom relieved by grey or brown tints. These may indeed be found in São Paulo, where the sandstones and shales yield a soil less reddish, but they are very rarely found in Rio de Janeiro, Espirito Santo, or the Parahyba-Valley portions of Minas Geraes and São Paulo, where the alluvial soil consists almost exclusively of decomposed granite and gneiss. But it is the pyroxide of iron contained in the felspar and mica, which occasions the redness.

According to the darker or lighter shade of red, the soils are called *terra vermelha* or *terra massapé*. The very dark, almost purple-hued *terra vermelha* differs from the yellow and brownish red *massapé* soils, chiefly in this: the latter contain less iron than the *terra vermelha*, but on the other hand more clay, potash, and quartz. None of those soils can be called chalky. The chalk-beds occur here and there in very narrow strips, but never in sufficient quantity to affect the character of the district.

The most extensive of those chalk-beds, which appears in various places between masses of granite and gneiss, is probably that of the Parahyba-Valley. 1) It seems to follow the course of the river of that name, that is to say, from south west to north-east, as it crops up near Taubaté, Rezende, Barra-Mansa, Barra do Pirahy, Ipiranga, Desengano, Serraria, and Cantagallo; and in the last-mentioned district forms a

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1) *Rivista de Engenharia* 14 de Fevereiro de 1884. Orville A. Derby. Observações Sobre os calcareos de Rio de Janeiro, Minas e S. Paulo.

very considerable basin in the valleys of the Macuco and Rio Negro rivers.

These chalk-beds are seldom more than from 10 to 20 meters thick, like that near the town of Barra do Pirahy. In this chalk-bed fossils have been found, among others the *Eozoon Canadense*, which testifies to the extreme antiquity of the formation (Laurentian).

The best chalk-beds, however, are found in the province of Minas Geraes, but to the west of the Mantiqueira Mountains, near S. Joao d'El Rei and more especially near Carandahy, where of late years the best chalk in the market has been manufactured).

Chalk-beds are found likewise in the districts or municipios of Rio Claro, Limeira, Piracicaba, and Tieté. But the produce is of inferior quality to that of Carandahy.

Sandstone is comparatively scarce in Rio de Janeiro, Minas Geraes, and Espirito Santo. But there are very extensive strata in São Paulo. According to Professor Derby, however, we may take it for granted that there also the oldest rocks are composed of granite and gneiss.

Between the Serra do Mar, which is there from 800 to 1000 meters high, and the Serra da Mantiqueira, which is on an average about equal in height, the soil is composed exclusively of decomposed granite and gneiss. This eastern portion of São Paulo forms a table-land 750 meters high, on an average; and, from the geological nature of the soil, as well as the identity of climate, may be conveniently assigned to the coffee-zone of Rio de Janeiro and Minas Geraes. This classification is supported also by the geographical position of the table-land, as it is drained by the Rio Parahyba on his progress north. This river, however, rising in the Serra da Bocaina, near the frontier of Rio de Janeiro, first takes a circuitous sweep of more than 400 kilometers, flowing round the Serra do Quebra Cangalha, an oblong, saddle-shaped ridge, which splits said table-land into two nearly equal parts, — before it finally takes leave of São Paulo, near Campo Bella station. The identity of soil and climate is so obvious, that the „Paulists” look on that part of their province as belonging to Rio de Janeiro, and even cautioned me that, in estimating the average yield of São Paulo, I was by no means to take

into account the less favourable resultant of coffee-growing in that table-land.

The north-western and western parts of São Paulo form an extensive, occasionally undulating plain, with an average height of from 600 to 900 meters, and consists for a great part of sandstones and shales, curiously pierced by banks of diorite, often of great extent, like Morro Azul in the district of Limeira, one of the most favourably situated coffee-growing districts in this province. These sandstones yield the so-called terra area or sandy soil which, though less fertile than the terra roxa and the terra massapé, is nevertheless deemed very suitable for the coffee-shrub, and is classified according to its colour as area preta or black, area vermelha or red, and area branca or grey, sandy soil.

I remember seeing plantations from 10 to 15 years old, on sandy soil in the fazendas Sete Quedas, Carlsberg, (in the Campinas district); Boa Esperança (in the Arraras district), and Ibicaba (in the Lemeira district) among others, which looked so well and were so full of fruit, that I could not help expressing my amazement. From those sandy soils I plucked with my own hands samples for analysis.

The roads leading through the coffee plantations were, especially at Sete Quedas and Carlsberg, literally nothing but yielding sand, so loose and gritty that one sank over the ankles in it. When we see those coffee-gardens, we should really be inclined to believe — as the Dutch Consul-General, Mr. Palm, remarked — that coffee planting might be successfully attempted on the sand dunes of the Netherlands.

The granites and shales yield, as I have already mentioned, the terra vermelha and massapé soils of S. Paulo, which, however, present some chemical differences from those soils of Rio de Janeiro and eastern Minas Geraes which are called by the same name.

The terra massapé and vermelha of the first-mentioned province contain, according to Professor Derby, a smaller proportion of sand and potash than the latter two, while they contain more chalk.

The diorite banks, which as a rule pierce the strata in the form of oblong islands, yield the best and most keenly competed-for coffee-grounds in S. Paulo.

As the diorite is very rich in felspar and hornblende, the latter especially containing a great deal of iron, it yields in decomposing a very dark red earth, for which reason the soil is called terra roxa. This soil is very rich in potash.

From what I have mentioned above, it appears that the coffee-grounds in the three frequently mentioned provinces of Brazil are not classified so much according to their chemical composition, — of which, besides, most of the fazendeiros have not the slightest notion — as according to their colour.

Nevertheless it is rarely that terra vermelha or terra massapé is spoken of in Rio or Minas. As a rule the ground is spoken of as terra boa or good, and terra frio or cold, according to its suitability for coffee-growing.

In the districts of Cantagallo and S. Fidelis, the north-eastern parts of Rio de Janeiro, we hear now and then of chalky soils. These lands, situated in the valleys bordering the Macuco and Rio Negro rivers, belong to the calcareo-saccaroides, and yield a white but very fatty chalk, which swells out greatly when mixed with water. The coffee shrub will not live on this soil longer than, at the very utmost, 18 or 20 years.

In S. Paulo, on the other hand, the different soils are more clearly distinguished by the names:

- a. Terra vermelha and massapé, according to the darker or lighter red of decomposed granite and gneiss rocks.
- b. Terra roxa, the very dark red diorite soil.
- c. Terra aréa or sandy soils, which, as I have already said, are further subdivided into black, red, and grey, according to the colour.

Besides these three principal kinds, we hear occasionally of terra salmorão, by which is meant merely massapé soils, mixed with a large proportion of quartz in pieces of varying size. On account of its being much looser, this is counted the best soil for the coffee-shrub, next to the terra roxa.

It is very difficult, however, to form a proper judgment, based on accurate data, of the relative merits of the various soils, since they have hitherto been subjected to no comparative analysis, and the fazendeiros, accustomed as they are to exaggerate everything, always eulogise their own fazendas

at the expense of their neighbours; and often, to support their assertions, give the most fabulous accounts of the produce of their plantations.

I have not succeeded in ascertaining from the various land-owners, railway-engineers, and colonists, with whom I have spoken, what Dr. Couty really means by the *terra barenta* he mentions in the work I have already alluded to. As it seems, clay soils are meant on the whole; but these cannot be regarded as a particular sort of coffee soil.

The suitability of the land for coffee-planting is determined chiefly, if not exclusively, by the thickness of the alluvial crust. This, however, is so considerable throughout the whole extent of Brazil, that there is comparatively little land to be found where the stony substratum, or, to speak more correctly, where the not yet completely decomposed rocks (called in this condition *pisara*, and agreeing perfectly with what we understand in Java by *padas* or *wadas*) render the cultivation of coffee difficult or impossible.

In this respect Brazil is truly a *terra abenquada*, an unusually highly favoured land, especially for coffee planting.

Many people may think it a very strange thing, but nevertheless it is a fact, that scarcely anywhere, even in the virgin forests or *matta virgim* is there vegetable-mould to be found. And even where it does occur, it is so shallow as not to be worth mentioning. Only in the valleys, between the several *morros* or rounded hills in Rio and Minas and in some marshy plains in S. Paulo, do we find occasionally above the reddish soil a bed of mould a few centimeters deep.

It seems, however, at least this is what several *fazendeiros* and railway engineers have mentioned to me as the probable cause of the want of mould, that the soil of those provinces is so loose and gritty that no deposit of mould can be formed, because the decomposed organic matters ooze regularly through, in chemical and mechanical combination with water, instead of remaining on the surface or upper stratum as is the case on the firmer volcanic soils of Java.

However this may be, nowhere in Brazil have I seen coffee grounds that present any likeness in point of colour

to those of Java. Everywhere we meet red and brown or yellowish red soils, the redder — that is, the fuller of iron — the better; hence the term *roxa* has come to be used as a synonym for soil eminently suitable for coffee-planting. In São Paulo alone there is a peculiar sort of red soil on which the coffee-shrub will not flourish. These lands are called *terra catanduva*.

Just as in Java, the choice of suitable coffee grounds is determined almost exclusively by the flora indigenous to the soil.

The characteristic trees are called *padrões*:

As such are considered, on good friable soil, the 1)

Pão d'alho or Ybirarema (*Seguiera Americana*, Linn.)

Jangada brava or Pão de Jangada, (*Apeiba Tibourbou*, Aublettii).

Figueira branca or Gamelleira de Purga (*Ficus Do-liaria*, Mart.)

Cedro rosa, (*Cedrela Brasiliensis*, Adr. Jus. and St. Hil.)

Folha larga (*Elaeocoea Macrophylla*).

Umbaúba verde (*Cecropia Peltata*, Wild.)

On good soils we find, besides the above, the

Oleo Vermelho (*Myrospermum Erythroxilum*).

Sicupira verdadeira (*Ormosia Coccinea*, Jacq.)

Jacarandá (*Bignonia*, Jacarandá, Linn.)

Peroba (*Aspidosperma Peróba*).

Canella preta (*Agathophyllum Aromaticum*, Linn.)

Sapucaia (*Lecythes Grandiflora*. Aubl.)

Indaiá-Assú (*Attalea Compta*. Mart.)

Guity or Sabonete (*Sapindus Saponaria*. Linn.)

Bougainvillia.

Unha de Boi (*Bauhinia Aculeata*. Linn.)

Taquara liza (*Bombusa*).

Sanandú.

If, on the other hand, many of the following trees and shrubs be found, it is beyond a doubt that the soil is cold, and consequently not particularly suitable for coffee-planting:

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1) I have given the Latin names of the Brazilian trees, on the authority of the *Diccionario de Botanica Brasileira*, by Joaquim de Almeida Pinto. 1873; and the *Ensaio de Indice Geral des Madeiras do Brazil pelos Engenheiros A. C. E. Rebouças*.

The Umbaúba branca (*Cecropia Concolor*, Willd) Murici (*Byrsonima Chrysophylla*, Hump & Bomp); Pugericu or Pimenta do Sertão (*Xylopia Sericea*, St. Hil); Batalha; Leiteira or Maleiteira (*Euphorbia Papilosa*, St. Hil), etc.

On dry soils unsuitable for the cultivation of coffee we find many of the Barahun preta or Guarauna (*Melanoxilon Brauna*); Taguara Lixa (*Bombusa*); Canella (all sorts except the Canella Preta.)

Preferable to those frequently virgin soils are the old coffee-gardens or cafesaes, 1) which, having lain fallow from ten to twenty years, are again wooded, and are designated capoeira or capoeirão, according to the size, that is to say, according to the age of the trees.

As a rule the first flora of an abandoned cafesal or coffee-garden consists of shrubs like *Assa peixe* (*Bohemeria Caudata*); *Pinhão manso* or *Pinhão de purga* (*Jatropha Curcas*, Var? Linn) etc.

If the exhausted lands or terras cançados bear too large a crop of alang-alang, glagah, or pakis, called in Brazil Sapé (*Anatherum Bicorné*), Massambara (*Trachypayon Avenaceus*) and Samambaia (*Pteris Caudata*) they must be frequently cleaned and burned, since a flora of this nature retards or destroys, exactly as it does in Java, the growth of the wood.

Lands like these then, are sown with the capim gordura (*Fristegis glutinosa*) a grass very much relished by cattle, which grows so dense and luxuriant that even the stubborn sapé must literally quit the field in this struggle for existence.

Besides the capim gordura, called in S. Paulo, capim catinguero, the capim d'angola, a tall grass very rich in potash, yields a food very much liked by cattle.

According to climate and height above the level of the sea, then, rather than the nature of the soil, we may in my opinion divide the coffee-producing area in this quarter of Brazil into two zones very clearly marked off from each other; viz. one influenced by the maritime climate, and one by the continental.

To the maritime zone I would reckon the provinces of Rio

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1) Plural of cafesal or coffee-garden.

de Janeiro and Espirito Santo, with those districts of Minas Geraes and São Paulo which may be considered to belong geographically to the great valley of the Parahyba, consequently to the district watered by that river and its tributaries.

In this zone coffee cannot be successfully cultivated, except at an altitude of from 250 to 550 meters above the level of the sea. Plantations higher than this yield a late and precarious crop, while those lower than 200 meters, such as those on the western slopes of the Serra do Mar in the north-east of Rio de Janeiro, and more especially of the less mountainous province of Espirito Santo, yield a coffee little in demand, viz. that known in commerce as *café capitania*.

As the most favoured regions of this zone may be regarded the districts of Cantagallo in the province of Rio de Janeiro, and Juiz de Fora in Minas Geraes, as well as the municipios on its frontier.

The second or western and south-western zone consists, as has been said, of a large plateau or table-land, which, sheltered as it is by the southern-coast or sea-board mountains, cannot be cooled by the sea-breezes, but on the other hand is open to the pamperos or South-west winds blowing from the plains of the Argentine Republic.

Bearing in mind the aforesaid geological and climatological differences, I consider it expedient to treat these two zones separately, especially as the coffee produced in the former, which I shall henceforth call for convenience the Rio zone, is brought exclusively to the market of the capital of that name; while the real S. Paulo coffees from the latter or Santos zone find their way for the most part to the port of Santos, and are known in Europe as Santos or Campinas coffee.

The Rio zone, which, as has already been said, embraces the whole district drained by the Parahyba river and its affluents, consists of:

- a.* The whole province of Rio de Janeiro, with a superficies of nearly 70,000 square kilometers;
- b.* The north-eastern districts of S. Paulo from Guararema, with a superficies of about 30,000 square kilometers;
- c.* The eastern districts of Minas Geraes, which, bounded by the Parahyba river on the east and the Mantiqueira Mountains

on the west, covers a superficies of about 35,000 square kilometers.

To these we may add part of Espirito Santo, with a superficies of about 20,000 square kilometers.

This zone, then, covers an extent of about 155,000 square kilometers. What proportion of it is really employed for the purposes of coffee-planting, will appear below.

From our geological sketch of the coffee area as a whole, it will be concluded that the Rio zone must be very mountainous. And this is actually the case. Several mountain chains or serras intersect it throughout its whole length and breadth, and make it very steep and hilly. Yet even for those that have visited different mountain chains, it is difficult to form a clear and distinct conception of the very peculiar aspect presented by the coffee-grounds in this zone.

At the risk of falling into needless repetitions, I shall venture to describe more particularly the physical aspect of this zone.

To illustrate my remarks I have appended a map, which, besides indicating the railways now open, displays in different colours the two coffee zones as I conceive them. With this map before him the reader can follow my description more easily; and, if he desires, work out the details for himself.

The Rio Zone — then — is, as I have already mentioned, bounded on the west by the Serra da Mantiqueira and its southern extension the Serra do Cantareiro, and on the east by the Atlantic Ocean.

The actual coffee-producing district, however; that is to say, the great Parahyba valley, — is enclosed between the Serra da Mantiqueira and the Serra do Mar, or sea-board mountains, which following the coast from Santos near the small sea-port town of Angra dos Reis, curve farther landwards until at length, after having split the province of Rio de Janeiro from south-west to north-east into two almost equal parts, they lose themselves in the hilly districts of Espirito Santo.

These two above-mentioned chains of mountains, which change their names very often, are frequently connected with each other at various points by their numerous branches, ridges, and spurs, so that the intervening country, such as

the Parahyba plateau, has a good right to its name of Serra Acima, in contradistinction to the coast lands to the east of the Serra do Mar, which form the Serra Abaixo, or low mountain lands.

That this Serra Acima or mountain plain consists of a series of different valleys, requires, after what I have said above, no further demonstration. It is, however, just those valleys that give such a peculiar character to the coffee-producing districts in this zone.

In order to conceive of them as they really are, one must picture to oneself a number of sloping valleys, studded with a chain, more or less perfect, of upheaded hills or morros from 50 to 80 meters high, and shaped like a half orange. Then one may obtain a distinct notion of the coffee-grounds of the Rio Zone, the favourite terras de meia laranjas. And when one then pictures those chains of hills planted with coffee-trees, or, to speak more correctly, with coffee-shrubs without trees yielding shade, it will be obvious that the aspect presented by those coffee-producing districts is very peculiar and bare indeed.

The Serra Acima, the actual plateau of the Parahyba, is usually subdivided into three strips or zones.

a. Terra abaixo or low lands, from 100 to 200 meters high, which are comparatively little sought after.

b. Terra medio, or lands between 200 and 550 meters above the level.

c. Terra frio, or cold, lands situated more than 550 meters above the level of the sea.

Of course one cannot always adhere strictly to this division, seeing that the slope of the valleys and their situation in regard to the sun, exercise a great influence on the success of coffee-growing on lands higher or lower than the terra medio. For there are valleys, for instance those of the Rio Negro and the Rio Grande in the district of Cantagallo, where coffee is successfully cultivated at a height of 130 or 150 meters, thus in the terra abaixo itself; while cafesaes there at a height of more than 450 meters yield little fruit, although they look more flourishing than the lower-lying ones.

On the whole, however, we may say that in the Rio zone

the terra frio, or lands situated more than 550 meters above the level of the sea, are unsuitable for coffee-planting; seeing that the trees there, although they thrive very well, yield little fruit, while many of the beans are empty shells or *chôchôs*. Moreover these high-lying cafesaes ripen their fruit very late, while the season of full blossom generally falls in the end of January and beginning of February. But the crop of these cafesaes does not mature till the beginning of the rainy season; that is to say, in November and December, frequently even in January.

It is this coffee which, peculiarly oblong in shape, and often imperfectly formed (*rosca*), is known in commerce as *Café das aguas* or rain-coffee. But it is very little thought of.

This is why the coffee-grounds in the mountainous Rio zone are designated according to their exposure to the sun, *soalheiro* and *norwega* lands.

By *soalheiros* are meant the lands longest exposed to the sun — that is to say from about eleven in the forenoon till sunset. These are thus situated to the north, north-west, west and south-west of the *morros* or hills; while the *norwega* lands, which only get the morning sun till eleven o'clock, form the opposite slopes of the *morros*.

In several districts, especially in the *Cantagallo*, one may ride for hours through coffee plantations, where the one side consists exclusively of *soalheiros*, the other of *norwegas*.

As to which of those exposures is preferable, that of course depends on the altitude as well as the general slope of the valley. In the province of Rio, for instance, at an average height of from 450 to 500 meters, the warm *soalheiro* lands are preferred, while at from 150 to 300 meters more profit is often expected from the clearing and tilling of the shaded *norwegas*.

In that part of the Rio zone which belongs to Minas Geraes, and which forming the eastern side of the *Parahyba* valley, is opposed to the western slope of the sea-board mountains, the *soalheiros* and *norwegas* change places in some degree, owing to the general slope of the valley. Thus the difference between the two exposures is diminished; so that there, also because of the greater distance from the coast, men must plant higher on the whole than in the *Cantagallo*.

In the southern parts of the Parahyba Valley, that is to say, on the table-land belonging to the province of S. Paulo, there is not such a clear distinction made between *soalheiros* and *norwegas*, but more attention is paid to the altitude of the lands, as the climate here is more equal and less variable than in the northern districts of the valley.

In that part of the Rio zone, a climatological phenomenon of a very important kind, exercises an exceedingly remarkable influence on the growth and productiveness of the coffee-shrub.

In this part of Brazil, exactly as in Java, the south-west or rainy winds are as a rule the most cooling. Well, those winds, not being arrested as they are in S. Paulo by the far higher mountains on the coast, sweep, almost without meeting any obstacle, over the northern quarters of the Rio zone, cooling especially the highlands of Cantagallo, consisting of the valleys of Rio Negro and Rio Grande. This, in my opinion, is the reason that coffee-plantations can generally be reared in this part of the Rio zone at a lower level than in the western and southern parts of the great Parahyba valleys which are sheltered to a greater degree by the mountains.

The curious system of mountains in this zone occasions other remarkable variations in the climate.

For instance, the region between the Rio Negro and the Parahyba river is remarkable for the uncommon warmth of the climate, so that in these districts coffee cannot be grown except on the high-lying *norwega* lands. For the south-west winds cannot cool this region much, seeing that the almost isolated *Serras Vermelha* and *d'Agua Quenta*, which are connected by very low saddle-shaped ridges with the principal mountain-range, and divide these districts from the Rio Valley, catch them and direct their course more to the north-east.

The same thing occurs in the districts of Leopoldina, within the territory of Minas, where the lofty *Serra da Leopoldina*, which run in a north-eastern direction from *Serraria* to *Campo-Limpo*, arrest, for a great part, the south-western winds.

I do not remember ever suffering so much from the heat as during my excursions through that district. One literally gasps for breath.

The north-east or dry winds are the most dreaded in this

quarter of the Rio Zone, seeing that, their velocity not being tempered or broken by any high mountain range, they sweep through the principal valleys and strike slantingly against the sunny slopes. In those open regions consequently, the coffee-trees on the *soalheiros* lean perceptibly towards the south-west.

But though these winds must be considered injurious to the coffee-planter in some parts of the Rio zone, in others they are ardently desired. In the Serra Abaixo, on the plain near Campos and Cabo Frio, where there are extensive salt-pits, these dry winds are really of great value. People even prefer them to settled drought.

It is scarcely necessary to say that this mountainous zone is very plentifully watered. Numerous mountain streamlets rise in the slopes of the Serras do Mar and da Mantiqueira. Those in the Serra Acima or highlands all rush down to the Rio Parahyba, which, though the only river of importance in this zone — its length may be estimated at about 850 kilometers — is notwithstanding unnavigable, except close to its mouth, and then only for small vessels that draw little water. It is true that authorities have asserted that, higher up as well, the river might be made navigable (*navegação à sirga*) for those small inland craft; but I should be inclined to doubt the possibility of this, seeing that the channel is so rocky, and there are, moreover, so many rapids that, whatever power modern science may possess over refractory nature, the equalisation of that river would prove too costly, and could consequently be of no practical utility and yield no advantage. At all events, since the whole Rio zone has been intersected with a system of railways, the former plans and projects have retired into the back-ground.

The Serra Abaixo or low mountain-lands that slope to the east, are also watered by a number of mountain-rivers, rising on the eastern slope of the Serra do Mar and its extension, and all falling into the Atlantic Ocean.

The second or Santos zone lies, like the Rio zone, between 21 and 24 degrees S. L. but a little further landwards, as it does not begin till about 150 kilometers from Santos. It forms, as I said above, an extensive plateau or table-land with a gentle incline from east to west and north-west.

On the east it is bounded by the high spurs of the Mantiqueira mountains, which form, under the names of Serra do Campo, do Milho Verde, do Pamital, do Caracol, and do Rio Grande, a connected chain extending from south-east to north-west.

Though this mountain-range may be considered the natural boundary between São Paulo and Minas Geraes, it is not considered politically as such, and the south-eastern districts of this zone must still be reckoned part of the territory of the latter province.

On the north, west and south, this zone is bounded less or more by the Rio Grande and the Rio Tiété, the two great affluents of the Paraná-river.

A chain of mountains running from north-west to south-east, and consisting of the Serras de Itaqueri, do Jaboticabal, the Araquara des Calvado, do Morro Grande, do Morro Bahú, and do Morro Azul, which is joined to the eastern range by a succession of lower ridges, divides this Zone into two almost equal parts, and forms at the same time the water-parting between the Mogy-Guassú in the north and the Tiété river in the south.

The extent of this zone may be estimated at:

a. 200,000 square kilometers for the portion belonging to the province of São Paulo.

b. 25,000 square kilometers for the portion still counted part of the province of Minas Geraes; total, about 225,000 square kilometers.

As is also the case in the Rio zone, only part of this territory is under cultivation; for the western districts, consisting of so-called *sertões* or wildernesses, are still inhabited by savage Indian tribes, and considered a *terra incognita* even by the Paulists themselves. Only in large parties and armed to the teeth do men enter those tracts, inaccessible as yet to the coffee-planter.

The genuine coffee-grounds in this zone are level, or at most gently undulating here and there. To this general description of the physical aspect of the county, the district of Ampara is an exception. There, the mountainous landscape resembles less or more the lands in the Rio zone, without exactly laying claim to the designation of *terra de meia laranjas*.

As I mentioned above, the climate of this zone is the continental, which is warmer in summer than the maritime climate, — the latter being regularly cooled by the south-west and sea-winds — but colder during the winter months; that is to say from May to October. For this reason the coffee-producing districts in this zone, do not begin till about 600 meters above the level of the sea, and extend to 800 or 850 meters — farther inland they even reach a height of 1000 meters.

As a rule, however, people do not plant higher than 800 meters at the utmost, because the heavy expenses of transport compel them to remain within a certain distance from the shipping ports.

On lands lower than 600 meters there is little chance of success for coffee-planting in this zone, seeing that the trees suffer regularly from frost or *giada*. And yet a man may make sad miscalculations on this point. I have visited coffee-gardens in this zone, which, though on a lower level than 600 meters, always yielded plentiful and tolerably regular crops, while higher-lying plantations have been pointed out to me, which in 1882 suffered fearfully from the *giada* and were black and almost leafless.

In some fazendas I know in the district of Arraras, near Limeira even, the frost works havoc every year, so that people can state the reasons why those particular plantations have so much more to suffer from the severity of the climate than their immediate neighbours. Gardens of from 150 to 200,000 trees, that is to say nearly entire plantations, may be almost utterly ruined in this way. If the frost does not last long enough to freeze the roots, some hope remains of saving the *cafesaes*.

But there is no hope of gathering a crop from them for the first two years.

It is noteworthy that now and then, not only in the Santos but also in the Rio zone, the hails or *chuva de pedras* work such havoc in the coffee-gardens.

In the Santos zone, however, the hail-showers are more numerous and general; while in the Rio zone they not only come seldomer, but curiously enough, confine themselves to a certain narrow strip of the Parahyba valley in the territory of Minas.

The chuvas de pedras, which usually fall in August and September, are sometimes so violent that whole plantations, even those of from 10 to 15 years old, are almost totally destroyed by them. I have been assured that some of the hailstones were as big as a duck's or a goose's egg, and that sometimes animals were killed and people in the fields severely wounded.

During my travels in the province of São Paulo in January 1884, there fell during a brief but violent thunder-storm, a hail storm near the plantation of Ibicaba (Lemeira) which caused the owner no small anxiety, but fortunately did no damage to his richly loaded young trees.

In Minas Geraes I saw gardens on the fazenda of S. Marcos, which had to be cut down at only 7 or 8 years old, because there was no other way of saving the trees after the frightful destruction caused by a heavy shower of hail in October 1881. The trunks, though cut down to a height of two or three feet, still showed traces of the lashing and crushing they had suffered.

In August 1883 there fell in the vicinity of Porto Novo do Cunha, in the territory of Minas, so much hail that on one plantation the greater part of the coffee-blossom of a young garden was destroyed; the damage being estimated at upwards of 2000 arrobas or about 500 picols.

The Santos zone also is very plentifully watered. All the rivulets that water it are affluents of either the Rio Mogy-Guassú or the Rio Tiété, and flow north-west and west, thus in an opposite direction to that of the rivers in the Rio zone.

Thanks to the land being horizontal, several of these little rivers can be navigated for some distance in small, flat-bottomed boats. On the Tiété river, even small river steamers can ply from the town of Tiété westwards to a point near the village (provação) of Sapé, and fetch the coffee-crops of the most remote districts, Jahú and Botucatú. Part of the Rio Mogy-Guassú is also navigable for steamers.

But, over against the advantages this provides for the coffee-planter stands this disadvantage, that on almost every fazenda steam has to be the motor power applied to the manipulation of the crop, a thing which very rarely happens in

the Rio zone, seeing that the mountain-streams there have a much more considerable fall, and can thus be applied more easily to the driving of machinery.

Lands, Fazendas, Clearing, Division into gardens, Garden paths, Terraces.

For professional agriculturists, for specialists in the rearing of this or that particular crop, who see no prospect of success or profit in any thing but scientific farming, Brazil yields nothing but disappointments; the more grievous to the feelings of the theorist, as the results of this artless agriculture, based chiefly as it is on practical and local experience, are more advantageous perhaps than the principles of science would permit him to deem possible.

The Brazilians have still too much confidence — well founded, in my humble opinion — in the luxuriance of nature in the tropics, and its influence on the fertility of the soil, to allow themselves to be guided altogether by the issues of a system of tillage pursued in another climate and under entirely different circumstances. Hence it comes that the work of Dr. Couty — who now compares Brazilian coffee-planting and its resultants with the cultivation of the vine in France, then with the growing of corn or maize in America, drawing thence some conclusions and counsels at random, — has not met with such a reception from the fazendeiros as an official report on the cultivation of coffee in their own country had a right to receive.

In my opinion Dr. Couty is too much of a scholar and idealist, and has drawn up his report without taking sufficiently into account the requirements of practical farming, which evidently embarrass him and make him doubtful of the efficiency of his own counsels.

To give an example: on page 27 of his book he says, „Comme conclusion partout où cela est possible on devra remplacer le noir et son enxada (patjol) par le mulet et la capideira (plough) et les employer assez souvent pour que la terre soit toujours exposée à l'air et au soleil; ainsi on réalisera une économie considérable de main d'oeuvre en même temps qu'on assurera la parfaite végétation.”

Almost in the same breath — a cruel persiflage on his well-meant advice: — he says: „Malheureusement ce conseil n'est pas partout applicable.”

„Aujourd'hui, la capideira serait impossible dans la plupart des cafesaes de Cantagallo, plantés trop près (à 12 ou 14 palmos) ou dans les cafesaes de 10 à 20 ans de São Paulo, qui sont trop touffus pour laisser passer utilement une mule entre leurs branches.”

Seeing that the space left between the plants in the whole Rio zone is as a rule 12 by 14 and 14 by 14 palmos, and by far the greater number of the plantations in the Santos zone have reached the age Dr. Couty speaks of, the reader can perceive what value must be assigned to these directions, be they practicable or not.

Almost in the same way he recommends pruning or „poda”, quite losing sight of the fact that such artificial treatment in a tropical country, where moreover, there is a great scarcity of hands, entails different consequences from what it does in Europe, besides being far more difficult to apply. For in Europe the coldness of the climate checks the growth of suckers, besides making easier the dressing of the tree, which is always confided to skilful hands.

It is not the too close planting of the coffee-gardens in Cantagallo, but the above-mentioned nature of the ground, which renders the use of the plough impossible, and in my opinion very inexpedient throughout the whole Rio zone.

In the Santos zone the plough might be employed more generally than it is at present, if instead of stolid and, in this respect, ignorant slaves, genuine agricultural labourers, familiar with this particular work, could be got for the fazendas. And how difficult it is for the Brazilian land-owner to obtain this desideratum, will appear from what I have said in Chapter V. concerning immigration and colonisation in Brazil.

In that country coffee-planting is passing through a crisis, which, as everybody knows, is threatening its very existence.

But it is not the system of coffee-planting that has occasioned this crisis: it is exclusively the more and more urgent necessity for labourers. If this demand could be sup-

plied, Brazil could send more than tenfold the amount of her present produce to the various emporiums of the world.

The cultivation of coffee is based there, as I have said, solely on practical and local experience. Happily for me, not a single fazendeiro threatened to overwhelm me with learned discussions over intensive and rational tillage, tertiary and quaternary soils, over humus, ammonia, acids, drainage, kinds of manure, pits for the plants, and trenching. Brazil is not yet inundated with treatises on the best method of cultivating the coffee-shrub and sugar-cane. There coffee-planting is looked upon from a more practical point of view, more as the staple industry, the grande lavoura of the land, and not as a rosetum.

Consequently the differences I mentioned between the Brazilian and Javanese system of tillage was listened to in general with obvious indifference. There was much more interest displayed in whatever referred to the labour difficulty; and very often the fazendeiros were in raptures and could hardly restrain an impulse of natural jealousy when they heard that the Dutch masters of Java could command the free labour of the people — twenty millions of souls, with a strong taste for agriculture — to till a tract upwards of 131,000 square kilometers in extent.

Except in those parts of the Rio zone still inhabited by tribes of wild Indians, the Brazilian Government has not, throughout the whole coffee-producing area here described, a single handsbreadth of waste land it can call its own. As I have stated in Chapter VI, all of it belongs to religious institutions, or private parties who usually let or farm their estates.

According to their extent and importance, estates there are called fazendas or sitios.

The names of fazendole and situação are occasionally given to plantations respectively smaller than fazendas or sitios.

Although in the Rio zone the terms used are generally Situação for an estate not exceeding 50 alqueires;

Sítio	"	"	"	"	"	100	"
Fazendole	"	"	"	"	"	150	"

yet a great land-owner speaking of a neighbour may, du haut

de sa grandeur, call his plantation a fazendole, albeit it extends to two or three hundred alqueires.

An alqueire is really a measure of capacity.

Just as formerly in Java a bahoe meant the extent of land a vigorous man could work in a day, thence a measure depending on the labourer's capacity for work, and consequently not uniform at all times and places; so an alqueire of land actually means the superficies on which a man may plant an alqueire ful of maize, by heaps of five grains and with a space between them of five palmos square.

Hence it follows that the extent of an alqueire of land is dependent both on the capacity of the measure and the size of the maize used.

It follows, then, that an alqueire of land does not always represent the same superficies. In various parts of the Santos zone, for instance, maize is also planted diamond-wise, with spaces of six palmos or 1.32 meter.

As measure of capacity the alqueira represents 36,27 liters; according to local customs it may be 45 to 50 liters.

As a foreigner one must always keep a sharp look-out for such variations, on pain of making sad blunders in one's calculations.

In general, however, an alqueire of coffee or Indian corn means a measure of 45 litres. If a measure of 50 litres is intended, it is always mentioned particularly, as it is in agreements entered into with labourers.

Seeing that the grains of Indian corn are larger or smaller according to the sort, one can perceive that an alqueire of land planted in the manner I have described with small-grained Turkish wheat, must be somewhat larger than an alqueire planted with large-grained Indian corn, even should the spaces left between the heaps be measured with mathematical accuracy.

Gradually order has been evolved out of this chaos, so that we hear now of only three sorts of alqueires as superficial measures.

In the province of Rio people generally use the alqueire planta of 75 braças square, or 5625 square braças, equivalent to 27225 square meters.

In Minas and São Paulo more use is made of the alqueire geométrico of 100 braças square or 48,400 square meters, and the alqueire paulista of 50 by 100 braças, thus

equivalent to half the alqueire geométrico, or 24,200 square meters.

Seeing that in Java the bahoe is now fixed officially at 7096½ square meters, an alqueire of land is equal:

The alqueira planta	to full 3.83 bahoes.
"    "    geométrico	"    "    6.82    "
"    "    paulista	"    "    3.42    "

On an alqueire planta one calculates confidently on 22,500 heaps of maize, each consisting of 5 grains, thus on 112,500 plants if they all grow.

The coffee shrubs on an alqueire of land are seldom counted, for the fazendeiro does not see the use of keeping catalogues.

This is the more remarkable, as the value of a fazenda is calculated by the number of trees of various ages, and not, as is the rule in Java, by the average produce of the last three or five years.

The extent of a coffee-plantation is always reckoned by the quantity of maize that the owner is or was accustomed to plant between the coffee-shrubs. This extraordinary manner of counting often gives occasion, as is readily to be understood, to grave miscalculations.

I can likewise assure the reader that most of the fazendeiros have no accurate knowledge of how many coffee-shrubs go to an alqueire of land, when the cafesaes are laid out with this or that space between the plants. Most of them state too many. As I found difficulty at first in convincing them that their estimates were too high, I was obliged afterwards to carry tables always about with me, containing a statement of the number of trees that, planted at a certain distance from each other, ought to go to an alqueire of land.

This table 2) gave me also a means of checking more or

1) A bahoe = 500 square Rhineland roods.

A Rhineland rood = 12 Rhineland feet = 3,76735 meters.

2) Number of coffee-shrubs that can be planted on an alqueire planta or geométrico, at a distance of:

Alqueire Planta [27,225 square meters]	Alqueire Geométrico [48,400 square meters]
12 × 12 palmos = 3906 trees.	6944 trees.
12 » 13 » » 3605 »	6410 »
13 » 13 » » 3328 »	5917 »
13 » 14 » » 3090 »	5494 »
14 » 14 » » 2869 »	5102 »

less the data concerning the extent of the plantation, the land as well as the trees.

This idea occurred to me after I had examined the extraordinary data which the German Consul-General, Herr Haupt, had received from the various fazendeiros, and which have done duty as *pièces de résistance* in his official report, which I have in my possession both in Portuguese and French.

Those data have been obtained from only eight fazendeiros, notwithstanding that the Centro da Lavoura e Comercio, acting on Herr Haupt's behalf, sent circulars to more than fifty planters, containing twenty-four questions regarding the *circunstancias economicas e productivas* of a fazenda.

The owner of a fazenda, or fazendole, is called a fazendeiro, while the rightful possessor of a sitio or situação is termed a sitiante.

In the Santos zone the distinction between a fazenda and a sitio does not consist so much in the extent of a plantation as in its importance; that is to say, the amount of its produce and the value and completeness of the appliances necessary to prepare the coffee for market.

Plantations, however extensive, where the crop does not exceed 2000 or 2500 arrobas (about 500 picols), and where the coffee has to be prepared on other fazendas, for a fixed payment, are always regarded as sitios.

The average size of a fazenda may be estimated at from 300 to 400 alqueires planta, or from 1150 to 1530 bahoes.

The chief establishment is usually placed in the steepest

14 × 15 palmos =	2678 trees.	4761 trees.
15 » 15 » »	2500 »	4444 »
15 » 16 » »	2343 »	4166 »
16 » 16 » »	2197 »	3906 »
16 » 17 » »	2068 »	3676 »
17 » 17 » »	1946 »	3460 »
17 » 18 » »	1838 »	3267 »
18 » 18 » »	1736 »	3086 »
18 » 19 » »	1644 »	2923 »
19 » 19 » »	1558 »	2770 »
19 » 20 » »	1480 »	2630 »
20 » 20 » »	1406 »	2500 »



Op



VIEW OF THE FAZENDA "IBICABA" (SÃO PAULO). PAGE 277.

After a photo.

part of the plantation, in a spot where sufficient water is found to drive the machinery.

The appearance of a Brazilian fazenda-factory is seldom cheerful. Huge buildings of two stories, surrounded by rows of smaller buildings arranged in a quadrangle, which constitute the dwellings of the slaves and free labourers, the apothecary's house, sick wards and warehouses, besides the extensive terreiros or drying fields, for drying pans gives too poor a notion of these cemented or paved floors; all this gives the establishment the look of a fortalice <sup>1)</sup> rather than an agricultural centre, all the more that the whole premises are enclosed by walls or palisades so that the place can be locked up at night.

Very seldom are gardens with high trees met with near these establishments. Only here and there outside the first enceinte of the factory are there some trees spared; such as the pão d'alho, the figueira branca, and other graceful trees yielding shade, but more for the benefit of the cattle or as a proof of the excellence of the land than to adorn or brighten up the landscape. The surrounding hills are all denuded of wood, and sown with grass so as to supply pasture for horses, mules, sheep, cattle, and pigs; the last mentioned quadrupeds being treated -- I speak without exaggeration -- with the tenderest care.

When a visitor comes to a fazenda the chances are ten to one that he is at once invited to come and see the pigsties, in which the owner takes great pride. With a certain complacency the guest's attention is solicited for the manner in which the pigs are lodged and fed; and the fazendeiro, to all appearance at least, is more gratified by the praises bestowed on his grunting favourites, his fatted porcos, than all the admiration one can express for his factory or plantations. The pigs on a fazenda yield the staple food of the master as well as the slaves.

Round the whole establishment, including the pasture-grounds, there is one, frequently two fences, unless there be a natural enclosure formed by water or ravines. This is a neces-

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1) Several fazendas, indeed, bear the name of Fortaleza de....

sary arrangement, seeing that the cattle graze loose, under the charge of a superannuated slave, or of a riobranco or free-born child of a slave-mother. That tending would certainly be very insufficient, were it not that the mules, cattle, sheep, and horses, are so well trained that they remain grazing near the „mother” or *madrinha*. By „*madrinha*” is meant the she-ass, mare, cow, or ewe which, equipped with a few bells, keeps the herd together or shows them the way.

Before one rides into the establishment one has to pass two, sometimes three gates, which are constructed so as to close by their own weight. The horses and mules are mostly so well trained that the rider does not need to dismount in order to open these gates.

On the *sítios* and *fazendas* that lie around and between the great *fazendas*, the establishments are of course very primitive. The buildings are poverty-stricken clay houses roofed either with *alang-alang* or *sapé*, or else with rudely hewn wooden tiles or *siraps*. The *terreiros* or drying-pans are not cemented. Moreover there is no heavy machinery, seeing that the produce is manipulated at the factory of a *fazendeiro*.

The clearing of forest lands in the Rio zone is performed in the same way as in Ceylon.

In the Santos zone the Javanese method is more generally employed.

As a rule the first step taken in both parts of the coffee-producing area is to clear the wood of brush-wood, weeds, and liane. This is termed *roçar*.

Ten or a dozen slaves are sufficient to clear an *alqueire planta* per day in this manner, while eight or ten slaves are required for an *alqueire paulista*. If the planter cannot spare his own slaves for this work he endeavours to hire other slaves or free labourers (*camaradas*). Then he has to pay on an average 2 milreis per day with board, or by the job 25–35 milreis per *alqueire*, of course without food.

As soon as the ground is freed from undergrowth, people begin to fell the timber. This clearing, termed *derrubar*, may, as I have said, be effected in two ways. First, by the method employed in Java, a method that costs time; that is by cutting down the trees one by one and burning out the

stumps; the other by the process employed in America and Ceylon, known in Brazil as *fazer picaria*.

For this hard and often dangerous work slaves are never employed. It is usually the *cabocles* and *mineiros*, that is to say, the Brazilians of the interior, especially of Minas Geraes, who make a trade — and a favourite one — of felling the forests.

When it is done by the job, it is paid at the rate of from 70 to 80 milreis for an *alqueire* of dense forest and for the same extent of *capoeira* or *capoeirão* from 35 to 50 milreis; while in the Santos zone from 60 to 80 and from 30 to 40 milreis is given for felling an *alqueire* (*paulista*) of *matta virgem* or light forest land.

If day-labourers are employed for this work, they receive from 2 to 2½ milreis a day, besides board.

To save trouble and supervision, the planter, whenever it is possible, has all this work done by the job, the *roçar* as well as the *derrubar* of the land. Then he pays for forest-lands from 100 to 130 milreis per *alqueire planta*, or, if burning and removing the felled wood be included, from 125 to 150 milreis.

It lies in the nature of the thing that accurate figures are difficult to procure, seeing that both place and season cause certain changes to be made in the above-mentioned prices.

When the *fazer picaria* method is employed, they always begin at the foot of the hill or *morro* to finish at the top. The trees are only partly cut down.

The last tree left standing on the hill, which has to carry all the rest with it in its fall, is called the „*slayer*” or *matador*. One must be accustomed to the work to be able to see at a glance, as the *cabocles* do, which of the trees is best fitted to act as a *matador*.

When the whole wood has been felled, and the trees and shrubs have been drying and withering during the long winter months, they are set fire to before the commencement of the rainy season, consequently against September or October. But many trees, great and small, remain lying half-charred among the ashes. I have often had to ride through those just burned lands. In September and October people begin to plant maize, in order to transplant the young

coffee-shrubs thither a little later. Then a yard measure and a few pickets are all that is necessary to determine the direction and spaces.

The line is seldom used in planting, and then only on such lands as light forest, where all the wood can be burned or removed. Then one or more squares or quadros are drawn on the ground, according to the space desired between the plants. The lines are stretched along the direction of the four sides and then a measuring-stick is used to regulate the distances.

In Brazil people plant everywhere in a quadrangle. On one fazenda only — viz. Ubá, in the Rio zone, I have observed some of the youngest gardens laid out diamond-wise; an innovation which is there termed planting in an (equilateral) triangle. The advantage of planting diamond-wise is, indeed perceived and acknowledged in Brazil; but by no means taken into account, because there is more land there than is wanted.

Of division into gardens there is no question.

In the Rio zone the cafesaes or coffee-gardens are called after the hills or morros, along the slopes of which paths are hewn, wide enough to serve as cart-roads.

In the Santos zone the plantations in different quarters of a fazenda are indeed distinguished by particular names, (by the name of the colony when they are worked by colonists), but subdivision into gardens, as in Java, is quite unknown there. This comes of the inability of the planters to see the necessity, the practical utility, of having their gardens catalogued.

As the reader will perceive for himself, the making of roads through or round the cafesaes, costs, especially in the mountainous Rio zone, an immense amount of money: seeing that these roads must be wide enough for the carts or carretas, in which the produce is to be transported to the factory.

In the Santos zone a broad strip of the level or gently undulating land, is always left unplanted, so as to have a road directly, which can be levelled, and perfected after planting is completed. This perfecting consists chiefly in digging a shallow gutter along the side of the road to carry off the water.

The general slope of the land determines the direction of the roads.

In the Rio zone on the contrary all the roads must be hewn against the slope of the morros, and that in such a way that they form a connected whole.

I have made frequent attempts to obtain reliable figures regarding the cost of making roads. But nowhere could I get definite information, seeing that the roads have been built piecemeal, either by the planter's own slaves (and then he did not recollect how many had been engaged or how much work they had done) or by hired slaves or free labourers. The work is done, paid for, and therewith the matter ends. No account is kept of the cost; and if it had been, there was no recollection left of the number of labourers or the extent of the roads they had constructed.

It was therefore a fortunate thing for me that, on my travels through the district or municipio of Leopoldina, (Minas Geraes) I found in the proprietor of the fazenda „da Cruz Alta”, a gentleman whose notes supplied me with many items of information concerning the cost of clearing a fazenda. His data were the more welcome to me, seeing that only nine years had elapsed since he cleared his own plantation.

According to the map I inspected, the fazenda da Cruz Alta covers a superficies of rather more than 274 alqueires geométricos, or about 1326 hectares.

Although an average price of 300 milreis per alqueire must be paid for very good forest lands or *matta virgem* in the coffee zone of Minas Geraes, Senhor Joaquim de Campos Negreiros had paid only 142 milreis per alqueire for his estate, seeing he had taken advantage of a period of financial depression, in which the various proprietors took to selling their lands. For the lopping or *derrubar* of about 150 alqueires of ground he paid, one with another, 120 milreis per alqueire; while for burning and clearing away as many as possible of the charred trunks 30 milreis per alqueire was agreed upon.

On his plantation he constructed 6 leguas of roads 12 palmos wide. 1) The price he had to pay was, in proportion to the number of trees to be lopped, from 600 reis to 1 m. 600 r. and 2 m. 0 per braça.

1) A Legua brasileira = 3000 braças = 6.6 kilometers. A Braça = 2.2 meters. A palmo = 22 centimeters.

Thus the building of roads alone, on an estate of 666 hectares of planted land, costs, taking  $1\frac{1}{2}$  milreis as the average price,  $6 \times 3000 \times 1\frac{1}{2} = 27,000$  milreis or  $\pm$  p.st. 2500. For this fazenda an average of  $1\frac{1}{2}$  milreis is not too high an estimate, seeing that the ground is very much broken, and densely wooded.

The districts of Leopoldina reminded me most of Probolingose districts of Kandangan and Tenger.

Senhor Negreiros had availed himself of the proximity of the cabocles, who, with their wives and children, had settled themselves temporarily on the estate while roads were being made and forests felled, to get the first cafesaes laid out.

Though the cabocles have a dislike to the planting and picking of coffee, and for this reason the caïpiras or aborigines cannot be moulded into tillers of the ground, yet they were persuaded, being on the spot at any rate, to lend their assistance to lay out the first gardens.

For pulling (from the nearest cafesaes of the neighbours) transporting and planting 1000 mudas, 100 milreis was paid.

This fazenda is very closely planted; Senhor Negreiros reckoned, on an average, 6500 coffee-shrubs to an alqueire geométrico, which tallies with spaces of 12 by 12, 13 by 13, and 12 by 14 palmos, according to the nature of the ground.

Nowhere in all the Rio zone have I seen finer plantations than those of Da Cruz Alta! The heavy laden shrubs literally bent under their rich burden.

Throughout the whole Rio zone I saw no sign of terraces, although the terracing of the ground there would really be no useless luxury. Yet I have seen cafesaes on gradients of from 50 to 60 degrees, where one could not walk or stand upright without support.

On the whole, then, the amount of alluvial soil washed away is alarming, throughout the Rio zone.

The districts where coffee-planting has been practised for the greatest length of time, are already considerably less fertile.

The entire Serra Abaixo, consisting of the districts or municípios of S. Fidelis, Campos, Macahé, Barra de S. João, Capivary, Araruama, Rio Bonito, Maricá, Itaborahy, S. Anna de Macacú, etc. is almost lost to the coffee-planter.

The portion, likewise, of the Parahyba valley which embraces the districts of Barra-Mansa, Pirahy, Vassouras, Valença, and Parahyba do Sul, is considered in Brazil as already half exhausted. A journey through this region is the dreariest thing one can imagine in a tropical country. For hours long one may steam past naked morros, studded with gigantic grey besoms, mournful relics of coffee-plantations once so splendid that they might almost have been said to bear gold.

The thriftless system of tillage which has been practised on a colossal scale for the last 30 years, entails this consequence, that the climate, in Rio de Janeiro more especially, is quite altered and has become, on the whole, much warmer and drier.

In my opinion this is chiefly owing to the circumstance, that the oldest coffee-producing region in this zone; viz. the Serra Abaixo, has suffered so much during the last ten years from a coffee-disease which, though very different from the Ceylon Hemeleia Vastatrix, is almost equally destructive.

I extended my travels through the interior as far as the district of S. Fedelis, exclusively that I might examine with my own eyes the coffee-plantations which had been attacked by the disease. Most of the fazendas I visited, such as Serriaria, Liberia, Boa Fé, Boa Esperança, Laranjeiras, Santa Barbara, Serra Vermelha, and Conceição, had all suffered more or less.

So in these districts coffee-growing is no longer looked on as the staple industry; planters begin to pay more attention to the cultivation of the sugar-cane.

Seeing that most of those fazendas had new owners I could procure no data from them that I could use for this report.

As a rule it was the apparently most vigorous among the trees from 7 to 12 years old that the disease seemed to attack by preference; often in rows or small groups of from 30 to 50 shrubs. To day the tree is healthy, with glittering dark-green foliage; to-morrow or the day after, without any visible reason, it presents a very different appearance. The leaves curl up less or more and hang limp; after a couple of days they turn yellowish; and fall off at the end of 6 or 8 days.

The leafless branches then begin to decay at the tops, as well as the blossoms and berries. In most cases these trees are doomed to death. With the naked eye I could see no trace of fungi on the leaves; the fazendeiros had not perceived any either.

The trees attacked by this coffee-disease, for which no definite name can be found, present from beginning to end exactly the same appearance as a vigorous tree or shrub that has been badly transplanted, and consequently failed to strike root yet, or recover its equilibrium.

This comparison appears to me the more appropriate, since I have seen diseased and naked coffee-shrubs bud afresh, and become quite as healthy as before.

The real cause of this disease has not yet been discovered, although investigations have been made on the spot by botanists of reputation, such as M. C. Jobert, Baron de Capanema, and Baglioni.

I have found diseased trees on the hill as well as in the valley by the water, on the soalheiros as well as norwegalands, on spots without shade as well as under and near orange-trees and plantains.

Nay, more, if a mudas of three or four years old be planted on the same spot where the sick plant could be pulled up by the roots with ease, it will frequently grow vigorously; and for some years at least, keep healthy and bear fruit.

According to the information I received, M. Jobert has discovered in one of the diseased coffee-shrubs, which he took with him to Paris for analysis, little worms or „enguillulos”, animalculae,  $\frac{1}{4}$  millimeter in length, to which animalculae he ascribes the disease.

Baron de Capanema, however, who inspected and examined everything on the spot, could not discover those enguillulos in the diseased plant, and consequently hazarded the suggestion that the animalculae discovered by M. Jobert, owed their existence to the putrefaction of the fluid constituents of the coffee-shrub during the journey.

However this may be, the disease still rages, and has now at length become so virulent that most of the landed proprietors in the Serra Abaixo have abandoned the cultivation of the coffee-shrub for that of the sugar-cane.

There are certain plantations such as Siberia, which is one of those I visited, that formerly yielded upwards of 14,000 arrobas or about 3500 picols, but now produce scarcely 1000 arrobas or 230 picols.

Planting. Nursery-beds. Space between plants. Trees yielding shade. Dressing. Manure. Diseases and Enemies of the Coffeeshrub.

As a rule the planters, of the Rio and Santos zone both, follow the old ancestral custom of transplanting three or four-year-old mudas or seedlings out of the gardens.

The mudas are pulled by hand out of the ground, which has previously been slightly loosened. If the tap-root does not break at once, then part of it is cut off, care being taken, however, not to injure the fibrous roots more than can be avoided.

The plant itself is also lopped to a height of 1 or 1½ palmos (22 to 33 centimeters). The stumps, about as thick as a man's finger, are conveyed to the gardens in baskets covered with leaves, by the slaves charged with the planting of them.

On the broken ground of the Rio zone this is performed in the following way.

On the piece of ground to be planted, a quantity of earth is scooped out on the face of the incline. This is done with the enxada, an instrument resembling the Javanese patjol, but almost twice the size and furnished with a handle six feet long. By this means a small spot of level ground is obtained, a kind of tiny terrace, or as it is called in Java, a little petak. On this are planted two or three mudas side by side or in a triangle. The earth that has been scooped out is now heaped above the level spot, and pressed down a little; it is meant for a temporary dyke to shelter the mudas from the streaming rain-water. Gradually, however, these grooves are filled up again by the earth of the dyke.

In order to protect the young plants, as far as is practicable, from the heat of the sun, some dried or charred boughs and chips of wood, or leafy twigs, are piled up about them.

For the last three or four years pépinières have been making for the new plantations, or, to speak more correctly, for the necessary substitutes. The use of pépinières, however, is not so general as Dr. Couty seems to believe.

The reason why planters have pépinières made now is simply this, that in former days there was no time for it; now there is. Four or five years ago, even, the plantations were constantly being extended, so that there were no hands to spare; now there is very little more planting done than is necessary to keep up the existing cafesaes.

People shrink from the thought of laying out new gardens now, not only because of the low price obtained for coffee, which of itself paralyses the industry, but because they are no longer certain of being able to gather the fruit of their labours. The scarcity of labourers is making itself felt more and more, especially now that the traffic in slaves between the northern and southern provinces is rendered practically impossible by the levying of provincial export-duties amounting to from p. st. 150 to p. st. 200 per slave.

There is thus more leisure, more opportunity for careful planting.

But the reader will make a great mistake if he fancies that the Brazilian pépinières resemble the carefully constructed, solicitously tended, nursery-beds of Java.

I have seen three sorts of nursery beds.

The first consists of a less or more open spot on the skirts of a capoeirão or not very dense wood, where all the young mudas from 10 to 20 months old, that can be got hold of in the gardens, are stuck into the ground. A collection of those plants of unequal age, is called a nursery bed or viveiro.

The more advanced coffee-planters, those that pass for specialists, obtain their viveiros by direct sowing. In the middle of the capoeirão, for the matta virgem or virgin forest is too shady for the purpose, they have the ground dug, and plant the coffee-beans in rows or strips of from 1 to 1½ palmos broad. If all the trees come up, the rows are a little thinned out, but even after this process these crowds of little plants jostling each other present a very strange appearance.

In viveiros of this stamp, clods containing from ten to 20 plants are dug up. These clods are placed in square wooden boxes, and conveyed to the plantation in heavy carts. There the seedlings are removed from the clod one by one, or torn out of it, and planted in the way described above.

I must, however, note in passing, that I saw this com-

paratively careful method of planting on only a very few fazendas, such as S. Clement, Matta Porcos, Bella Vista (Cantagallo).

A third sort of viveiros are those that are made in the gardens themselves between the coffee-shrubs. Such viveiros, however, do not contain more than from 25 to 50,000 plants.

On the fazenda Sete Quedas in the Santos zone I saw viveiros of this last mentioned kind, which were laid out after a new method. The scattered seedlings were brought from the gardens into the viveiro, but in such a way that every group of 5 or 6 mudas made as it were a whole, and were from  $1\frac{1}{2}$  to 2 palmos distant from the next group. When transplanted into the new garden or taken to fill gaps in an old cafesal, those mudas, now two or three years old, are not taken from the ground one by one, but form by their groups of five or six a clump of earth, which is transferred to a pit three palmos deep by three palmos in diameter. This pit has been prepared by slaves six or eight months previously. When the plants are placed in it, it is not quite closed. People only fill up the crevices between the clump of earth and the pit. In this way, I am assured, the fruit-bearing is expedited by the timely arresting of the growth of the plant.

But this advantage is counterbalanced by the great disadvantage, that this way of planting takes a great deal of time, and is consequently very costly. For, while one slave can in one day plant from 400 to 450 of these pulled and lopped mudas, he cannot possibly transport more than 70 or 80 clumps.

In the Santos zone, on the fazenda Ibicaba, I saw coffee-shrubs planted in yet another manner. The first step there is to dig a pit from 2 to  $2\frac{1}{2}$  palmos square, and of equal depth. It is immediately filled up half a palmo with the earth that has been thrown out, which the slave presses down a little. Then a mudas stump is taken and placed at one of the corners of the pit, in such a way as to allow the fibres to be spread out. After these have been covered with a little earth, a second mudas is planted, and so on till there is one at each of the four corners.

The earth, which is now shovelled in, is stamped down

by the slave with both his feet. In this way the pit is half filled up again. The planted hollow is still from half a palmo to a palmo deep, and remains unlevelled. At the same time some dry grass or leaves are heaped in and around the pit, to prevent the scorching effects of the sun. Rain gives the planter no concern; for the terra roxa and the terra areá, where this method of planting is usually practised, is so porous that the water cannot remain long enough in the pits to cause the roots to rot. In this way no more than 100 or 120 pits can be made and filled on a day.

When no mudas are to be had, the plants have to be reared direct from seed sown. But then from 5 to 8 beans are planted close to each other, in a shallow pit made by hand or with the enxada, consequently the direct opposite of the method employed on some fazendas in the Cantagallo, (for instance, those of the Viscondes de S. Clement and Nova Friburgo); which is to plant the beans round a little mound which is afterwards levelled down less or more by the rains.

If the beans on one spot all grow, at the end of from 7 to 10 months so many are pulled up that only three or four of the most vigorous plants remain standing. The seedlings weeded out are then used as mudas to fill up the vacant spots or falhas.

The usual planting season is September, October and November, although gardens may be planted on through January and February. Several fazendeiros, however, assured me that transplanting may be done at any season of the year, provided it is made a rule to remove uninjured, that is to say unlopped seedlings in the rainy season only, and not against the winter or dry season. The mudas stumps can stand the drought better, and recover their vigour after a few days' rain.

It is needless to observe that this method of planting does not produce Brazil single-trunked coffee trees, such as are almost universal in Java, but very wide-spreading coffee shrubs, that is to say, a brood of 8, 10, or 20 slender stems branching out from the mudas stump.

Old cafesaes seen from a distance, struck me as presenting a strong resemblance to plantations of huge inverted besoms, all the more because the protracted drought of 1833 (from April to September), had exerted its parching influence eve-

rywhere, but especially on the soalheiro plantations. I have seen gardens almost quite denuded of foliage, the blossoms being dried on the twigs.

The thicker and fuller the coffee-shrub grows, the better. In the more fertile lands of the Santos zone, therefore, four mudas are generally planted instead of two or three, as is customary in the Rio zone.

I retain a lively recollection of a Paulist fazendeiro who, attempting in my presence to over-crow a Rio coffee planter, told him, that one coffee-shrub in the Santos zone is fully equal to a bouquet of three coffee-shrubs from the Rio zone. Although the Rio gentleman held his peace and thus tacitly owned himself defeated in some degree, yet the simile was a trifle too... Paulistic. Without fear of exaggerating, however, we may say that the coffee-shrub in the Santos zone is much larger than the coffee-shrub in the Rio zone, besides being almost twice as productive. 1)

The spaces left between the plants are not uniform everywhere. According to differences of soil, to the physical aspect of the estate and its height above the sea, planters in the Rio zone generally leave spaces of 12 by 12, 12 by 14, 14 by 14, and here and there even 15 by 15 palmos; while in the Santos zone the spaces are 14 by 14, 15 by 15, and by way of experiment during the last 3 or 4 years, sometimes 16 by 16, 18 by 18, and even 20 by 20 palmos.

One cannot, however, without fear of contradiction, venture the general statement that as to the former zone the average space between the plants is 12 by 14 palmos; that is to say, 2,<sup>64</sup> by 3,<sup>08</sup> meters, while in the latter it does not exceed 15 by 15; that is to say, 3,<sup>30</sup> by 3,<sup>30</sup> meters. 2)

But the coffee-shrub attains such an immense size by the time it reaches its 10<sup>th</sup> or 12<sup>th</sup> year, that it must be admitted that those spaces are by no means too large.

1) According to the statistics of coffee-planting, the result is even more favourable to the Santos zone; but we must not forget in comparing them, that coffee-growing in the Rio zone has been carried on for a long time, while in the Santos zone it commenced quite recently.

2) 1 Rhineland foot = 0,3139465 meters.

1 » rood = 12 Rh. feet = 3,767358 meters.

1 English foot = 0,3047973 meter.

Trees yielding shade are unknown in Brazil. It is true that at one time an experiment was made in the Serra Abaixo to protect the cafesaes situated less than 100 meters above the level from the scorching heat of the sun, by planting the Angico. 1) But it never went further than an experiment.

Considering the climate, I think the planters have done right in banishing shady trees from their cafesaes. For the coffee-bean ripens during the winter or dry season, at which time the temperature is so low that the slaves that work in the gardens are dressed in baize.

No groves are planted anywhere to break the force of the wind, although many places in both zones suffer from tufaões or violent gusts.

The digging of the gardens is considered, even in Brazil, the principal part of the tillage. Yet it is very much neglected in the Rio zone; a fact which is easily explained.

Firstly, there is the dread of landslips, the natural consequence of a too deep or frequent loosening of the soil on those steep, unterraced slopes.

But the real cause of the neglect lies in the want of labourers.

During the period when prices were high, the new plantations formed were in excess of available hands to work them; and this could not longer be redressed by the purchase of slaves, on account of the high import duties.

A slave of the roça, that is to say, a slave employed in field-work, ought only to keep and dress (in the Rio Zone) a maximum number of 4500 or at the utmost, 5000 trees; seeing that, besides maintaining the roads and bridges, he has to attend to the planting of maize, beans (fijaões) mandioc, batatas, in short, all that is needed on a fazenda for the consumption of the work-people. Well, the passion for planting has been so violent, that, in most districts of the Rio zone, a slave has now to attend to more than 7000 trees.

To keep those over-grown plantations in anything like proper order, the owner is now obliged to grow less rice,

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1) *Piptadenia colubrina*, Bth. — *Acacia virginalis*, Pohl — *Acacia angico*, Mart.

beans, and sugar-cane, and to buy those commodities dearer than he could rear them himself.

The sitiantes and small fazendeiros have availed themselves of this circumstance to make their coffee-planting a secondary consideration, and devote themselves more especially to the cultivation of the above named articles of food, which may be disposed of to the large fazendeiros in the neighbourhood, or even in the Rio market.

Such planters, because they have stooped to the *pequena lavoura*, or small farming, are often nicknamed *Quitandeiros*. 1)

It certainly does seem very strange that the cultivation of the first necessities of life is so much looked down upon in the coffee and sugar-producing provinces of Brazil, that even maize and beans have to be imported from the Southern parts of the Empire, and the United States of North America. Hence it comes that the so-called *Quitandeiros* drive such a lucrative trade, that the profits of their small farming clear the expenses of their plantations.

The same nickname is applied to such fazendeiros as sell eggs, butter, cheese, and pigs; and I have known large coffee-planters who, constrained by hard times, do this — or rather have it done for their benefit — by the wives of their feitors or overseers.

To return to the dressing of the gardens: In former times the *cafesaes* were weeded three or four times a year. Now the dressing has to be confined to *capinar* or cutting down the weeds once or twice, and the *carpa* or thorough dressing of the gardens before the beginning of harvest, generally in the month of May.

The *capinar* is performed with a chopping knife or *foice* fastened to a handle five feet long; or with a sickle, which, known as *ceifador*, *segador* or *segadeira dinamica*, is to be had for three or four milreis.

The ground is loosened, merely on the surface, — or deeper

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1) Derived from *quitanda*, a basket of edibles, fruits and dainties, which the negresses in Rio offer for sale. Those fruit or cake-vendors, who, according to custom, carry their wares about on their heads, are called *Quitandeiras*.

where the ground is less steep — with the *enxada* or *patjol*.

In order to arrest the slow but constant washing down of the alluvial soil, or rather to make up for it in some degree, the loose earth and weeds are heaped up round the rows of shrubs. But even this work is for the most part done injudiciously.

Instead of heaping the loosened earth and weeds horizontally against the slope, and thus forming by degrees a sort of terrace, people heap them in transverse lines, consequently along the slope of the mountain. They acknowledge the inefficiency of the method, but still go on in the old jog-trot, because the former method, which is finding more favour of late years in the district of Cantagallo, is too hard work to be demanded of the already over-worked slaves.

In the Santos zone, where the coffee-shrub yields almost double the average produce of the plant in the Rio zone, plantations are attended to with greater care. As a rule the *cafesaes* there are dressed with the *enxada* (*carpa*) five times a year.

In the drawing up of agreements, at least, this is one of the first conditions laid upon the colonist.

On plantations, however, worked by slave-labour alone, where the same error has been committed as in the Rio zone, the soil cannot be turned over more than twice or thrice a year.

The *capinar* is also resorted to in S. Paulo, but only by way of preparation for the *carpa*, or digging of the soil, and not as in the Rio Zone instead of that process.

The laying out of new gardens can here and there be agreed for by the job with *mineiros* or natives of Minas Geraes, who now and then establish themselves temporarily in a place. The owner hands over to those people a *cafesal* planted by slaves, on condition that they keep and dress the young trees carefully during four successive years, receiving in payment a lump sum of from 300 to 400 reis, that is to say, from 7½ d. to 9½ d. per shrub.

Those people are bound to fill up *falhas* or gaps caused by the death of young trees, with new *mudas*. In return they are entitled, during the four years they have charge of the garden, to plant between the coffee-shrubs everything they require for their own consumption.

The following crops are usually planted between the coffee-trees in both zones.

a. Turkish wheat or milho, against the months of September, October, and November.

b. Beans or feijaões (black in the Rio and red in the Santos zone) against February and March.

c. Cassave or mandioca, against the same time. 1)

Although in several districts the sugar-cane is also planted between the coffee-shrubs, this is not so general as the cultivation of the three articles of food mentioned above.

The sugar-cane, rice (that is the Javanese padi gôgô or mountain rice), the various sorts of batatas and other tubers for feeding pigs, are in the Rio zone grown in the valleys between the morros; in the Santos zone, near the cafesaes.

Plantains are never grown in the gardens, but, like the orange-trees (laranjeiras) and cajueiros (*Anacardium occidentale* Linn.) along the garden paths.

The dressing of the above-mentioned plants is of course beneficial to the coffee-gardens.

It is a curious sight to see these turmas or gangs of slaves working in the fields. A turma consists usually of from 20 to 25 slaves, male and female, under charge of a feitor or overseer, who is generally himself a slave. Every turma has a male or female cook, who prepares their food on the spot. If several turmas have to work together (I have seen gangs of from 100 to 125 souls,) there is a Portuguese overseer, often termed administrador, to superintend the work.

As the enxadas are provided with very long handles, with which moreover they do not make such a sharp angle as the Javanese patjol, the slaves work almost standing, and mostly

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1) When the price of coffee is high and the harvest large, sugar is bought ready for use, and not manufactured from the sugar cane.

On the fazendas the cut canes are left lying, and prepared as they are wanted during four or five years. If it is not planted in the cafesaes, the cane may be left from 16 to 20 years!

The mandioc, the Indian obi dander or sinkong, may be left three or four years in the field; it is harvested as it is wanted, so that this crop, which, like maize and beans, is easy to harvest, is regularly cultivated by the slaves.

On moist lands the mandioc cannot be left so long, at the utmost two years.

in a row. The work is constantly accompanied with a soft monotonous chant or quaver; only during the roçar in the forest, I have often heard them singing and shouting.

If anybody comes to see the work or passes the field they always greet him in chorus, with the words, „Louvado seja Nosso Senhor Jesu Christ!” (Blessed be our Lord Jesus Christ!) on which the other answers „Para sempre!” (for ever!)

If one meets a slave alone on the road or in the field, he or she will stretch out the open palm, saying, „Abençoe me!” (abense, they pronounce it) — that is „Bless me,” and stand still till the answer, „Dios vos abençoe-lhe!” (God bless you!) gives permission to pass on.

To return from coffee-planting to the cultivation of provisions, it may be accepted as a rule that, as long as space permits, provisions will be planted between the coffee-shrubs, and that the whole year through. On this account new gardens must occasionally be laid out.

As I have already said, plantations in the Rio zone suffer greatly from the morros being denuded of their alluvial crust. This incessant waste causes the trees to undergo a perceptible change at the end of 12 or 15 years.

The washing away of the soil bares the foot of the trunk to such a degree that one can distinctly see that the shrub is not formed of from 10 to 15 coffee-plants as I thought at first, but of one compound trunk, that is, of from 2 to 4 mudas grown together. The part bared often stands from 10 to 20 centimeters above the ground.

Now, when we reflect that the mudas were originally planted in hollows or scooped pits from 10 to 15 centimeters deep, we must be convinced that in the course of 12 or 15 years the alluvial crust has become shallower by from 20 to 35 centimeters; that is to say, from 1 to 1½ palmos.

Another reason has been pointed out to me why the foot of the coffee-shrub is bared so much.

As the Brazilians have not the custom to pull the roots as much as possible out of the ground, they gradually putrify, and make the soil looser and more porous. The rains press down the soil, so that it sinks on the whole; so that the baring of the foot of the tree must not be attributed altogether to the washing away of the soil.

However this may be, it is a fact that, the older the gardens are the more the roots of the coffee-shrubs stand out above the soil.

Owing to this gradual exposure of the topmost fibres, the plantations begin to suffer greatly after they have reached the age of 15 or 18 years. The shrubs assume all manner of forms. They no longer wax so full and luxuriant, no longer preserve an equal proportion of breadth to length, but begin to change into *saias* and *pernudos*.

By *saias* are meant the coffee-trees that at a height of 3 or 4 palmos produce a large number of secondary branches, which gradually get entangled with each other and form a sort of petticoat or crinoline about the trunk. This petticoat or *saia* is the more conspicuous, because the upper part of the shrub is quite naked, or bears at the very top a green plume, which as a rule is heavier or lighter according as the plantations happen to be *norwegas* or *soalheiros*.

The *pernudos* are those coffee-shrubs that have few or no branches close to the ground, but branch out largely farther up.

The leafless *pernudos* present the exact appearance of gigantic inverted besoms or *vassouras*.

By far the greater number of *saias* are found on *soalheiro* lands.

I could obtain no satisfactory explanation of this phenomenon, universal as it is throughout the Rio zone.

On my travels through the Parahyba Valley, however, as I steamed past the almost endless succession of coffee-clad *morros*, I was struck by a fact I had noticed but little on the spot itself. It was just the greater distance that enabled me to perceive what had escaped me when quite near. I saw distinctly that the shadows of the rows of coffee-trees projected into each other; that so to say, the one row shaded the foot of the other, and sheltered it from the heat of the sun. Would it be too rash to draw the conclusion that the lower part of the already half exhausted shrub, being thus protected from the greatest heat of the day, obtains up to that height a new life, but at the expense of the upper part?

The *pernudos* are mostly found on the oldest plantations,

and consist for the most part of old saias stripped of their petticoat. At the age of 25 or 30 years they are generally exhausted, and, after being pollarded, may perhaps yield a few average crops at intervals of 2 or 3 years.

This cutting, or rather sawing, the plant down to a stump, is done as a general rule when it is from 20 to 22 years old. It is seldom that the whole shrub is cut down to a height from 2 to 4 palmos above the ground. For the most part the oldest and largest lateral branches are first removed, thus reducing the size of the shrub by a half. This must be done as soon as practicable, after the fruit is gathered, if possible in the beginning of September and October.

On the authority of information and data which I received and examined on the spot, I am able to state that the coffee-tree in the Rio zone — f. i. in the Serra Acima — attains, on an average, the age of from 25 to 30 years, in the Serra Abaixo and Espirito Santo it lives scarcely 18 or 20 years.

I think it not quite superfluous to note in passing that, by age, I mean the period during which the fazendeiro thinks it to his advantage to maintain the plantation, consequently the period of paying production.

I have visited old cafesaes where very vigorous and healthy looking trees were pointed out to me (for instance on the fazenda Fortaleza de Sant Anna, belonging to Senator Diogo Velho), which could boast of having attained the venerable age of 40, 50, and even 60 years. But these were regarded as a curiosity.

It is very well known that trees upwards of 30 or 35 years of age are as a rule of very little further value to the grande lavoura; consequently the fazendeiros do not take them into account when valuing their plantations, though they will be the first to affirm that the Brazilian coffee-tree may bear fruit for 50 years and upwards.

So those old trees are never met with in extensive plantations; but here and there, by fives and sixes, in old plantations which, so to say, have gradually been planted afresh.

As regards the height of the shrub, though it is difficult to state an exact average, seeing that the breadth and growth of the plant frequently depends on the altitude of the plantation, yet we may safely assume that in the Rio zone the

full-grown coffee-tree is from 8 to 12 palmos high, while in the Santos zone the standard varies from 10 to 16 palmos.

The value of the plantations may be gathered from the subjoined.

According to Senhor Luiz van Erven, who has been for more than 10 years superintendent of all the fazendas belonging to the Viscondes de S. Clement and Nova Friburgo, and is frequently called on as an expert to value plantations, the trees could be valued six or seven years ago after the following standard:

Trees of	1 year old	=	60 reis	=	1½ d.
" "	2	—	3	" "	2½ "
" "	3	—	5	" "	3½ "
" "	5	—	8	" "	4½ "
" "	8	—	16	" "	6½ "
" "	16	—	20	" "	4½ "
" "	20	—	25	" "	3 "
Upwards of 25			60	" "	1½ "

To what extent these prices are to be obtained at present, will appear below.

As a general rule plantations from 12 to 15 years old are manured. But artificial manure is never used, and stable manure very seldom. All that is employed is the offal of the coffee, that is to say the red and the horny husk, which in point of fact, is gathered very carefully. A few fazendeiros have indeed tried experiments by manuring their cafesaes with guano, stable-manure, lime, calcined bones, &c, but the results were so unsatisfactory that the experiments were finally abandoned.

I have already mentioned above that a wide strip of the Rio zone, viz. the entire Serra Abaixo, is affected by the Brazilian coffee-disease. In the Serra Acima and the Santos zone, however, the disease has not appeared. At the same time the coffee-plant has its enemies there also, which would spread quite as much destruction around them; were it not that the whole coffee-producing area is, as it were, placed under martial law, and every fazendeiro is on the qui vive.

The enemy most dreaded in the fazendas is indubitably the Saúva or Tana-jura a dark-brown ant, two centimeters long,

which undermines the ground by digging extensive passages and dens in all directions. It attacks all sorts of trees, the coffee-shrub among others, but has a decided preference for the orange and citron-trees in the coffee-gardens.

In former times these ants seem to have worked frightful havoc in the cafesaes by causing landslips, because the means of destroying whole nests at once was not then discovered. Now they are less feared, although it still costs from 8 to 12 guineas a month per plantation to keep them down.

On every fazenda two or three slaves are kept, whose exclusive business is to find out the nests of the Saúvas. Frequently they are even paid a certain sum to encourage and quicken their zeal.

I have witnessed a saúva hunt several times.

When the tidings were brought that an ant-colony had been discovered, we set off on horseback to the spot indicated, where the surface had already been cleared of weeds, by which means the little openings leading to the dens had been uncovered.

The first step was to pour water from a large tin can with a small spout into the various holes in order to wet the walls of the dens. Then a little formicida or ant-destroyer, which consists chiefly of sulphure de carbone, is poured in. When all the holes are drenched with this fluid they are set on fire. Then the formicida explodes almost simultaneously, filling and poisoning the passages with an insufferable smell of sulphur. The ants are suffocated or burned, and buried under the ruins of their subterranean passages.

The subterranean ant-labyrinth destroyed in my presence near the fazenda Aréas in Cantagallo, seemed to be very extensive; for some considerable time after the general explosion we heard several detonations. These detonations frequently came so unexpectedly and from such very different directions that the mules and horses were less or more uneasy.

Formicida was first imported into Brazil by Baron de Capanema and is now manufactured in large quantities on the island of Governador in the bay of Rio de Janeiro. There are now several kinds of this ant-destroyer, among others the formicida Capanema and Guarabara.

Besides the Saúvas there is another very troublesome family of ants, the Cupim, which ploughs up the ground about the coffee-shrub, and so doing forms hillocks of from 2 to 2½ palmos high. I have seen cafesaes and pasture-lands which were as it were covered with those red and yellowish brown mounds.

The cupim works in the coffee-gardens in the same way as the moles in the orchards.

Since 1860, after the very plentiful harvest of that year, the cafesaes in the entire coffee-producing area have suffered severely from a white moth or butterfly of scarcely 2 millimeters in length, which deposits its eggs on the coffee-leaf. From these are hatched very small, light-green grubs, which devour the pulp of the leaf, and thereby occasion brown and brownish yellow spots to appear. They are easily discovered in the leaf, if one bares the brown spot by raising the cuticle of the leaf with a pen-knife. These little grubs pass their chrysalis state under the leaves, and then in their turn begin their work of destruction afresh.

On the fazenda S. Marcos (district of Juiz de Fora) I saw coffee-trees so covered with these butterflies that they fell off in clouds when the shrub was shaken. These moths sometimes appear in such numbers that whole plantations are ruined for the time being, and yield no fruit. The leaves of the coffee-shrub then look dry and parched.

A satisfactory cure for this evil is as yet unknown. Some planters have the cafesaes smoked now and then.

The coffee-tree in Brazil has no enemies in the animal kingdom besides those mentioned.

The Javanese djampang or oerèt, a worm that often attacks the roots of the coffee-plant, is there unknown, as well as the coffee-bug, the Ceylon borer, which bores the trunk half-through, nestles in the pith, and in this way shortens the life of the coffee-tree.

On the other hand the coffee gardens in Brazil, like those in Java, suffer greatly from parasites, and climbing plants, and weeds.

The most dreaded parasites are the *herva de passarinho*, the Javanese kemadeän (*Loranthus Brasiliensis*; Lamk. *Lor. divaricatus*); and the *herva de matapão* (*Clusia insignis*).

Among the climbers the commonest are the Mekão de S. Caëtana (*Momordica charantia*, Linn.) and the Abóboro do Mato (*Wilbrandia drastica*, Mart).

Among the various kinds of weeds in the cafesaes I have noted the sapé or Javanese alang-alang. (*Anatherum bicorné*).

The samambaia or Javanese pakis (*polypodium lepidopteris*).

The massambará or Javanese glagah (*trachypayon avenaceus*).

The mostarda or Javanese sawie (*Sinapis nigra*, Linn).

The picão (*bidens bullatus*, Linn).

The pé de galinha or colchão (*panicum dactylon*, Pison).

The trapoeraba (*tradescantia diuretica*, Mart).

The gramma da terra or taboquinha (*Penouca nemorosa*, *commelina communis*, Linn.)

The serralha brava (*sonchus oleraceus*, Linn. and Will.)

The cucuru-mirim or Javanese bajem (*echites cucurú* Mart), besides several kinds of batatas and batatinhas a sort or Demerare potatoes, which were introduced by the colonists.

This creeper is a real pest to the cafesaes; where it has once struck root it is impossible to extirpate it any more. The best way to get rid of it would certainly be to turn the pigs, which are very fond of the tubers, a day into the gardens, but whether this cure would not be quite as bad as the disease, is a question which the fazendeiros themselves are unable to answer.

Harvest, Way of Picking, Hired and free pickers  
Colonists, Transport to the fazenda, Average crops.

As a rule harvest begins immediately after the chief dressing, that is to say in the month of May, that it may be finished, even when the crop is large, against September.

Picking before May and after September is only done because provisions must be harvested in the beginning of the year and planted afresh against October.

Seeing that the coffee-tree blossoms twice or thrice a year in Brazil as well as in Java, we find against harvest-time

in May dry, ripe, half-ripe, and green fruit on the branches.

Well, all this is harvested at once.

This may be done in two ways; *da terra* or *do lençol*. Harvesting *da terra* or on the ground, which is the general method, is performed in the following way.

A gang of slaves, male and female, are set to pluck a row of trees or a particular part of the *cafesal*. Each in succession takes a tree, whose branches he pulls towards him and dexterously strips (*derrigar*). This stripping movement is from bottom to top, not from top to bottom.

The stripped fruit, leaves, and twigs, are left lying on the ground until the *colheita* or plucking of the appointed garden or plot is completed. When the trees are bare, all that is on the ground is swept into a heap. Everyone then takes a portion of this, which he winnows to some extent, by means of the *pineira* or round sieve. This sieve is shaped like the Indian *tampah* and is very light.

Of late years the *pineiros*, formerly of bamboo wicker-work, have been made wholly of wire. They are imported from England.

After this very hasty and thus very inadequate winnowing, everybody flings the mixture of coffee-berries, loose leaves, twigs, and earth into his basket, called *jacaz* or *sesto*. When the basket is full, the contents are emptied into a cart, a note being taken of the number of *jacazes* of certain capacity each person has plucked.

In both zones, however, it is customary to task the slave to a particular quantity; from 7 to 9 or from 3 to 5 *alqueires* per day, according to the abundance of the crop. If he picks less, he incurs punishment, corporal chastisement or temporary withdrawal of small privileges.

But it is only in the Rio Zone that a money payment is made to encourage him if he has picked more.

As a rule, then, he gets 200 reis per *alqueire* during the first 4 or 5 weeks of harvest, which sum is increased during the rest of the picking-time to 240 reis per *alqueire*.

Sunday work, not being compulsory, is also paid for. 1)

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1) By Sunday work, I mean work done on an arbitrarily appointed holiday. Sunday is not the weekly day of rest on every *fazenda*. To prevent the slaves from liking to go out, and forming connections with their fellow-slaves

On some plantations, where the West Indian method of preparation is adopted, and the planter desires to despatch the produce immediately, the fruit — in gardens where it ripens almost all at one time — is picked or stripped into the baskets. The slaves that gather in this way, and have a smaller quantity to bring in, go into the gardens with a basket slung before their chests. This basket, termed *balaio* in Portuguese, is called by the slaves *marimba*, a word, as it seems, of African origin.

The desire to earn money sometimes urges the slave on to pick stealthily, that is to say, to strip the best loaded trees outside his row or *rayon*. This practice, called *sapecar*, is strictly forbidden, as it entails great loss of time in gleaning.

There are no ladders employed in picking coffee, nor do people climb into the trees, as some writers on coffee-planting in Brazil assure the good-natured public. This statement involves an impossibility, seeing that, as has been said already, the coffee-plants in Brazil are not trees but shrubs. The picker simply pulls the highest branches towards him with a hook. Only on the level lands of the Santos zone, do the colonists sometimes use wooden stools or tripodes to stand on while picking.

When the crops are heavy, for instance on those plantations where there are from 7000 to 10000 trees to a field-slave, the planters try to hire pickers, either slaves from the *sitiantes* and *quitandeiros* in the neighbourhood or free labourers—*camaradas*.

Here they pay 2 milreis a day or from 15 to 25 milreis a month with board.

The male slaves are generally hired for 20 and the females for 15 milreis a month with board.

The *camaradas*, who as a rule are Portuguese, seldom Brazilians, are always in debt to their employer; because, in the far interior especially, they are not to be persuaded to work without money in hand. For those advances, however, they

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of other plantations, it is customary among the planters to choose each a different sabbath.

„On my own plantation I am Pope,” said a *fazendeiro* once to me.

pay  $\frac{1}{2}$  or 1 per cent a month, so that the payment in advance-system does not entail such ruinous consequences on the Brazilian planter as it usually does in India.

The camaradas will seldom pick coffee at their own risk, but when they do they receive in some places from 250 to 300 reis, in others from 300 to 400 reis per alqueire. All depends on place and circumstance, as well as the manner of picking, for though the way described above (*da terra*) is the most customary, yet in the Santos zone the planters prefer the fruit gathered into the *lençol* or cloth.

In order to do this the workpeople have to be divided into small gangs of five slaves. Four have to spread out the cloth, which is much about the width of the space between two rows of coffee-trees. The work of the fifth is to put the winnowed fruit into large baskets containing about 50 litres and convey it to the open carts. When the *lençol* is spread out on the ground, the slaves begin to strip the trees in the usual way, only that the one half is plucked, that is to say on the side where the cloth is lying, the other half being left to the next gang. The only advantage gained by this extraordinary, almost Arabian way of picking is, that the coffee does not come in contact with the ground, and is consequently easier to collect and winnow.

In the Santos Zone, however, the crop has to be freed from leaves, twigs, and earth, before it is taken out of the *cafesaes*; because the want of water power prevents the coffee from being sorted by machinery at the manufactory before taking it to the drying-floors, as is the universal custom in the Rio zone. Consequently picking and winnowing requires more time and attention in the Santos zone.

In places where the colonists are not allowed to use the *fazenda-cart* to convey the coffee they have picked — that is when they pick and dry it on the half-profit (*parceria* contract) system, they have to carry their coffee to the house. This they do in a *banquem* or a chest or barrel furnished with two iron rings, which is carried by two colonists by means of a stick.

On other *fazendas*, where they have to pick the coffee produced in the gardens they dress, in consideration of a settled sum of from 500 to 600 reis per alqueire of 45 or 50

liters, they are permitted to pile up the crop in the road, the fazendeiro carting it off to be measured.

I have never been able to ascertain exactly how many kilograms of clean coffee a slave or colonist can pluck in a day. All I could learn is, that a man can gather on an average in mid-harvest from 8 to 9 alqueires a day.

To make an accurate estimate of how much clean coffee a jacaz or alqueire yields, is quite impracticable, seeing that the baskets are not always of the same capacity, and are not filled exclusively with coffee-berries.

Calculating from the various statements made by the fazendeiros, I should have to conclude that at least 10 or 12 jacazes are required for a bag of prepared coffee weighing 60 kilograms consequently 1 jacaz would be 5 or 6 kilograms. This calculation, however, is quite as uncertain as the Indian; in Java, however, 5 or 6 barrels of red coffee are reckoned to 1 picol prepared.

According to the above standard, a man plucking, in mid-harvest, 9 alqueires on an average per day, must gather from 45 to 54 kilograms of prepared coffee.

This agrees pretty well with the following estimate.

A workman (camarada) can earn 2 or 2½ milreis per day without board.

To be willing to work as a free picker, then, he must have a prospect of being able to gather enough to make these or higher wages. According to the above data we may assume that 300 reis per alqueire is the average price a free picker can obtain. But we must not lose sight of the fact that there is a great difference between a free picker or camarada, and a colonist. The latter receives almost double the above mentioned sum, because he has his wages for dressing the gardens as well as picking the fruit. If the colonist helps to gather the crop in the cafesaes of the slaves, he gets as much per alqueire for what he plucks as a voluntary picker does. Well, then, assuming 9 alqueires to be the maximum quantity a workman can pick in a day, he would earn  $9 \times 300 = 2\text{ m}, 700\text{ r.}$  per day, consequently a trifle more than his regular wages would have been.

The picking of a bag of prepared coffee weighing 60 kilograms, costs therefore, according to this basis, from 3 to 3½

milreis or, at the rate of exchange of two shillings, from 6/ to 7/.

Superficially considered, then, one should say that the coffee-picker's wages are lower in Brazil than in Java, where from 8.s. 4.d. to 11.s. 8.d. per picol is paid, according to the relative abundance of the crop. But in drawing a comparison we must not lose sight of the following circumstances.

1. That the free picker earns from 6/ to 7/ a bag only in mid-harvest, while the sum stated for Java represents the average during the entire harvest.

2. That this way of picking obliges the Brazilian fazendeiros to spend more in cleaning and preparing the produce than the Javanese planter requires to do.

If the Brazilian labourer had to pluck berry by berry, as the Javanese has to do, instead of stripping a whole branch at one sweep, then assuredly one man could not possibly gather more than one barrel of red berries at utmost, yielding from 12 to 13 kilograms of prepared coffee.

From Senhor de Assis Fonseca (fazenda S. Marcos) I received the following data extracted from his books, which tend to confirm the above estimates.

In 1880 he employed, to harvest a crop of 34,780 alqueires, 4,934 days' labour or 40 labourers per day for a term of 124 days, obtaining 280½ alqueires a day or rather more than 7 alqueires a head.

The harvest of that year yielded 14,600 arrobas = 214,445 kilograms = 3,574 bags.

Consequently there were picked:

per day 214,445 : 124 = 1729 kilograms;

„ head 1,729 : 40 = 43 „

and this during the entire harvest.

In 1881 he had a crop of 12,273 alqueires, which was gathered in 88 days by means of 3,256 days work of a man, or 37 men's work a day, obtaining 139½ alqueires or 3½ alqueires a head. 1)

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1) The smaller the harvest in Brazil, the more carefully the regular labourers can pick; the baskets then contain more coffee and less earth, leaves, twigs, etc.

The harvest yielded;

8200 arrobas = 120,441 kilograms = 2007 bags.

Thus there were picked:

per day 120,441 : 88 = 1369 kilograms.

„ man 1,369 : 37 = 37 „

From these data I think I may draw the conclusion that a slave can on an average gather and house more than from  $\frac{1}{3}$  to  $\frac{2}{3}$  picol of prepared coffee.

According to the information I have received from several scrupulously truthful fazendeiros, it is extremely seldom that the total yield of an exceptionally good plantation in the Rio zone is more than 125 or 130 arrobas (1836 and 1909 kilograms) per 1000 trees. And such a crop is even deemed an aborto, an unnatural yield.

There are indeed often trees met with that yield more than double this quantity, but they are not found by thousands on one fazenda, although a few ultra patriotic fazendeiros would fain persuade the foreigner that such is the case.

That the productiveness of the coffee-trees is habitually exaggerated in Brazil, is perfectly well-known even in the country itself; but this is owing to a special reason. This reason, however, does not lie in the desire, misleading to themselves and others, of money-grasping clearers of waste lands to be able to base their calculations on more tempting results, but exclusively in the way the average is calculated in Brazil.

A Brazilian fazendeiro seldom begins with borrowed capital. Coffee-planting in Brazil does not rest, as it does in Java and other transmarine colonies or possessions, on the laudable desire of temporary residents to enable themselves by hard, self-sacrificing labour to return to their native land with a little fortune at the end of 20 or 25 years; but is mostly practised as the safest and most profitable way of investing capital in hand. And the only safe investment is in land fit for the purposes of agriculture.

A fazendeiro, then, usually starts as proprietor of a fazenda and a number of slaves, and begins with his own money to cultivate coffee or sugar-cane. So it came that he could formerly keep himself going in spite of the ridiculously low prices he received for his crops in the various emporiums throughout the world.

How this condition of affairs has altered within the last ten years, has been distinctly shown, I think, in my chapter on Commerce and Banking.

Consequently it is not to give money-lenders or shareholders a temporary gratification by high estimates of production, that the calculation has been made in this way.

As more than one fazendeiro has assured me, it is the vanity of the Brazilians that plays the chief part in this matter. A fazendeiro, speaking with a certain authority of his average crops of 200 arrobas (2938 kilograms) per 1000 trees, gives himself airs, and is convinced that his neighbours will soon be sounding his praises, and publicly greeting him with the coveted title of „um fazendeiro muito, muito importante”, a title very much prized with a view to the elections for provincial or State Deputies.

Dr. Couty, who personally assured me that an average crop of 1 katti or full 615 grams, calculated over a period, extending from 5 to 10 years, was rather too high an estimate than too low, and even warned me not to trust the exaggerated statements of the fazendeiros, — seems himself to have fallen into the trap; for on page 18 of his book he speaks of a crop of 300 arrobas per 1000 trees, and of average yields of from 140 to 160 arrobas (2056—2350 kilograms).

In order to ascertain what a crop may be estimated at without overstepping the bounds of probability, let the fazendeiro have several well-loaded trees stripped separately, and multiply the average obtained by 1000, seeing that in Brazil they do not reckon per tree or per hectare, but per 1000 trees.

He himself, however, is not duped by the present calculations, though he seldom knows what he has really made. The conveyance of coffee is so slow 1) and in such small quantities, that consignments are being despatched all year long, as the preparations for the new crop allow. So the various crops and consignments run into each other.

Only the superior qualities of each crop are sent to market the same year. The escolha or inferior quality is mixed up with the remainders of former crops, and despatched at different times, mostly between November and May.

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1) See chapter «Commerce and Banking.»

In October 1883 there was on the nine fazendas belonging to the Viscounts of S. Clement and Nova Friburgo a quantity of inferior coffee from the crops of the last 4 years, amounting to  $\pm$  50,000 arrobas or  $\pm$  12,000 picols.

I must also state here that the estimates of crops given above, do not represent the quantity produced, but the quantity transported annually, either according to the accounts of the various commissarios or the guia or receipt-book of the fazendeiro.

Such are the reasons why there are no such striking differences between the estimates of one year's crop and another in Brazil as there are in Java, where the various growths are all kept separate from each other.

Against the assurances of several fazendeiros in the Rio zone that they have sometimes obtained average crops of from 50 to 70 arrobas or 734—1028 grams per 1000 trees, I can set the declarations of other planters, that an average crop of from 25 to 35 arrobas or 367—514 grams per 1000 trees during a period of from 5 to 10 years is reckoned by them to be very good.

There is another reason why the estimates given by a Brazilian fazendeiro cannot be verified. A fazendeiro seldom sells his produce through ne commissario. As a rule he is indebted to two or more money-lenders, or he sells his coffee through some comissario-houses, to see from the various bills of sale which of them gives him the highest prices with the lowest expenditure.

In the Santos zone, where the tree really produces far more than in the Rio zone, the exaggeration is still greater. The Paulists have justly earned the epithet of the Yankees of Brazil. Without doubt they are more pushing, plucky and self-reliant than the Mineiros (of the province of Minas Geraes) and the Fluminenses (pr. Rio de Janeiro), but on the other hand they are much more proficient in the science of humbug.

In Brazil it is accepted as an axiom, and my data confirm the opinion, that the coffee-shrub in the Santos zone produces twice as much as in the Rio zone. So, when a Rio fazendeiro affirms that he obtains from 50 to 70 arrobas per 1000 trees, a Paulista without fear of contradiction, may plume

himself on an average crop of from 100 to 150 arrobas, and vice versa.

And so in all things relating to the yield of the coffee-tree, there is a great deal of shooting on the wing. A settled basis obtained from the average crops of several years and several fazendas, is what nobody has hitherto been able to obtain.

I have often been amazed at the objections urged in sober earnest against my way of calculating the average produce. People thought it unfair that I should reckon plantations that had borne heavy crops last year but would yield little or no fruit this year, as fruitbearing trees. By fruitbearing trees the fazendeiros would have me indicate only those that bear fruit in the harvest year, whereas in Java we take the term to include all the regularly dressed trees upwards of three or four years, all such as are in the period of fruit-bearing.

Seeing that no centres of population are met with in the interior of Brazil, except the fazendas and a few thinly scattered cidades or small communities of from 1000 to 4000 souls, it is to be understood that for the most part there are few instances of theft of field produce.

At 9 or 10 o'clock, after work is over, the slaves are locked up, either in the senzalas (houses built for the slaves) or in the general dormitorios, which are divided into separate wards for the men and women.

Free labourers, who have settled outside the cidades, are either attached to the plantation as *agregados* 1) or are too far from the fazendas to be troublesome of nights.

For this reason there are no keepers or sentries wanted on Brazilian plantations, as is the universal custom in Java.

Nor do the Brazilians ever insure against fire.

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1) *Agregados* are persons who, without receiving payment from the land-owner, are permitted to settle here or there on the estate, and clear a piece of ground to raise provisions upon.

At the elections, however, they must vote for the landlord or the candidate he recommends.

Now that the elections are regulated by a new law, the landed proprietors are not so liberal with permission to squat on their estates.

In the Santos zone, where colonists are employed in coffee-planting, the employers are less confiding. Nocturnal thefts from the gardens are, at the same time, very exceptional.

More apprehensions are entertained of the clandestine sale of coffee to the Portuguese and German tavern-keepers who, with a view to the free European element in the interior, seek to drive their trade in the neighbourhood of the fazendas. The fazendeiros who sit in Parliament have got a bill passed which obliges the tavern-keeper who desires to establish himself at a greater distance than 13 kilometers from a town or cidade, to pay 3000 milreis per annum for his license.

This appears to me the proper place to say a few words of the *ciganos*.

This name is not applied to the descendants of Bohemians or gypsies, but to vagabonds, among whom are mulattoes, negroes, Cabocles, Portuguese, and Italians, who ride about the country in gangs of 100 or 125 souls, mounted on horses or mules. Although they represent themselves to be horse-jockeys, and often have very handsome animals in their possession, they cannot be said to have any settled occupation. They usually live on the fazendeiros. They always come very meekly to ask leave to put up their tents for a day or two on the pasture-grounds or *pastos* close to the manufactory.

But, before their request has been granted, they have already taken possession of the place. Not until after their sudden departure does the planter discover what they have taken with them by mistake.

A fazendeiro informed me that, after a visit of this sort from the *ciganos*, he had observed that he had two cripple mules on the fazenda which did not belong to him, while he missed two young animals from the kraal.

Such visits are the more unwelcome, because the *ciganos* contract intimacies with the slaves, often assisting them to escape and harbouring them afterwards.

#### Preparation, Drying, Drying-floors, Machinery.

The coffee gathered is carted just as it comes from the gardens, consequently dry, red, and green, mixed with

leaves, stalks, earth, and stones, to the manufactory, and thrown into a reservoir or tank. Through this tank, which holds from 4 to 8 cart-loads, or from 2000 to 4000 litres and upwards, the water flows with greater or less rapidity, according to the number of pipes laid on. The mass is stirred about in the water with sticks or rakes without teeth.

The sand, stones, and red and green berries (these being heavier) sink to the bottom, while the leaves, stalks, shrivelled berries, and empty shells (*chôchôs*) float on the surface.

The water in the tank is now raised sufficiently to allow the floating matter to run off with the water through an opening into a narrow canal or wide, plastered trench. Here the earth still adhering to the leaves and fruit sinks; here the leaves and twigs are removed as far as possible. The dried berry is then carried along by the water through a tube constructed of wood or stone, to the drying-fields or *terreiros*. To prevent the water from settling in the troughs there is a pyramidal iron grating constructed in the place the coffee is poured into; the openings not exceeding 3 millimeters. The water thus runs off immediately, leaving the coffee round the pyramid.

The heavier red and green coffee still remaining in the reservoir is conveyed after this first sorting through an inclined trench, cemented, and arranged sometimes in curves, sometimes in steps, the bottom of which is partly formed by an iron grating with very small meshes, through which the sand and water slowly fall.

When all the coffee is collected into this trough, the pipes are turned off in order to be cleaned, that is to say, that the sand deposited about the curves or steps may be removed. Then the sluice is opened again, the water flows in rapidly and carries the coffee with it into a small tank about 1.10 meter deep and 60 centimeters square.

The trench that conveys the coffee farther is lower than the former; that is to say, it is only 55 centimeters higher than the bottom of the tank. As the coffee is lighter than the stones, the latter, many of which are already deposited on the bottom, owing to there being a gradient of 1.10 meter, — are left behind, while the coffee is swept on by the water either to the *terreiros* if the coffee is to be prepared in

the usual way, or to the despoldadores, if it is to be done in the West Indian manner.

To my astonishment I had to learn that here, in the very country of private coffee-planting, the latter process is very rarely applied.

By far the greater part of the enormous produce of Brazil, is prepared in the ordinary way (*café terreiro*).

Not a sixth part of it comes to market as W. I. prepared coffee (*café despoldado*).

On the whole it is in the Rio zone that most pains are taken with the preparation of coffee.

The fazendeiros there seem to have experienced the same thing as the Javanese planters; viz. that the fermentation of the red coffee is very bad for the quality. It is true that this process produces less *café argenté*, but on the other hand much more of inferior quality.

By a judicious fermentation of the just husked coffee moreover, the silvery look of the bean can be obtained with much more certainty.

So it is only sitiantes and small fazendeiros that, owing to want of labourers, suffer the red coffee to lie more than one day in heaps, before having it pulped at a neighbouring fazenda.

There are several kinds of pulpers or despoldadores in Brazil. The pulpers of Walker and Gordon, so well-known in India, are, however never used there. That of Lidgerwood is, although modified to some extent, seeing that the coffee to be pulped does not consist exclusively of ripe, red berries.

Besides the Lidgerwoods we meet with the pulpers of Mac-Hardy, Hargreaves, and others.

As there are still small green berries remaining in the coffee (*gaba*) that passes out of the husking-cylinders, everything is caught in an iron sieve, with holes large enough to let the slimy, horn-husked coffee through.

The green coffee which remains in the sieve is received into a trough, whence it is carried by a current of water to the terreiros.

The horny-husked coffee lies fermenting in a tank for 10, 15, or 24 hours, according to the judgment of the fazendeiro, and is then conveyed through a tube into a tank full of

water, where it is manipulated so as to clear it from the slimy constituents. In this tank there is a machine (battedor) consisting of an iron axle, to which from 30 to 40 iron arms with flat extremities are fastened spiralwise. The machine thus works through that slimy mass like a cogged screw.

After the water has been renewed several times and the gaba is stiff to the touch, it is carried on through the water-pipes to the terreiros.

In husking the red coffee, all possible care is taken to have it free from water when it enters the despoldador.

The drying is effected in the same way as in India.

The coffee is never dried artificially; some fazendeiros, — for instance, Senhor Vergueiro of Ibicaba — have attempted it, but the results were far from encouraging.

A few years ago a couple of Brazilians, Senhore Tauney and Telles, invented a new drying-machine. This machine, however, is so costly and so complicated, that no fazendeiro cares to purchase it. Tho the best of my knowledge there are only two of them as yet, on the fazendas of Senhore Braz-Nogueira and Domingos Theodoro de Azevedo, in the Rio zone 1).

The drying-floors in Brazil are generally oblong squares, and for the most part uncemented, especially in the level Santos zone.

On most of the large fazendas I visited, 70 or 75 in whole, the drying floors were either plastered with portland cement (Rio zone), or floored with paving-stones or square red bricks (Santos zone). I have even seen extensive terreiros on the fazenda of Baron de Juiz-de-Fora in Minas floored with large granite slabs.

The size of the drying-fields varies with the size of the estates; I have seen and measured some of 500, 700, 1000, and 1800 square meters; there are from 4, 8, up to 16 of these terreiros on every fazenda.

They are very well-made; the slope from the centre to the four sides is sufficient to carry the water off steadily through iron gratings.

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1) How F. B. Thurber, in his *Coffee from Plantation to Cup*, can speak of "drying coffee by steam in Brazil," I do not understand. Nowhere have I beheld the method of drying coffee (Guardiola?) described by him and illustrated by a plate.

In my opinion the Brazilian terreiros are too large, and for that reason less suited to their purpose, as not allowing the coffee to be spread out and heaped up quickly enough.

In the Rio Zone, moreover, too little advantage has been taken of the sloping ground. In order to obtain large drying-fields, it is necessary to level the ground, which is a very costly process, seeing that the sides have to be supported by walls built of blocks of granite.

I have seen terreiros that cost, inclusive of water-pipes, from 25 to 50 contos (2500 to 5000 pounds sterling) and even more, without taking in account the labour of the slaves.

For this reason the fazendeiros could not inform me what they paid per square meter terreiro.

In the Santos zone, where, as I have said, the drying-floors are paved, I received the following data.

When the bricks are made on the fazenda itself by two persons, the moulder receiving 4 m. and the burner 3 m. 800 r. with board, 1000 bricks cost from 23 to 24 milreis or from 2, 5, 6 to 2.7 sh. pound sterling.

But if the making and laying of the bricks are contracted for, they cost 30 milreis or 3 pounds sterling a thousand 1).

The workmen, however, always have their food, as long as they work on the fazenda.

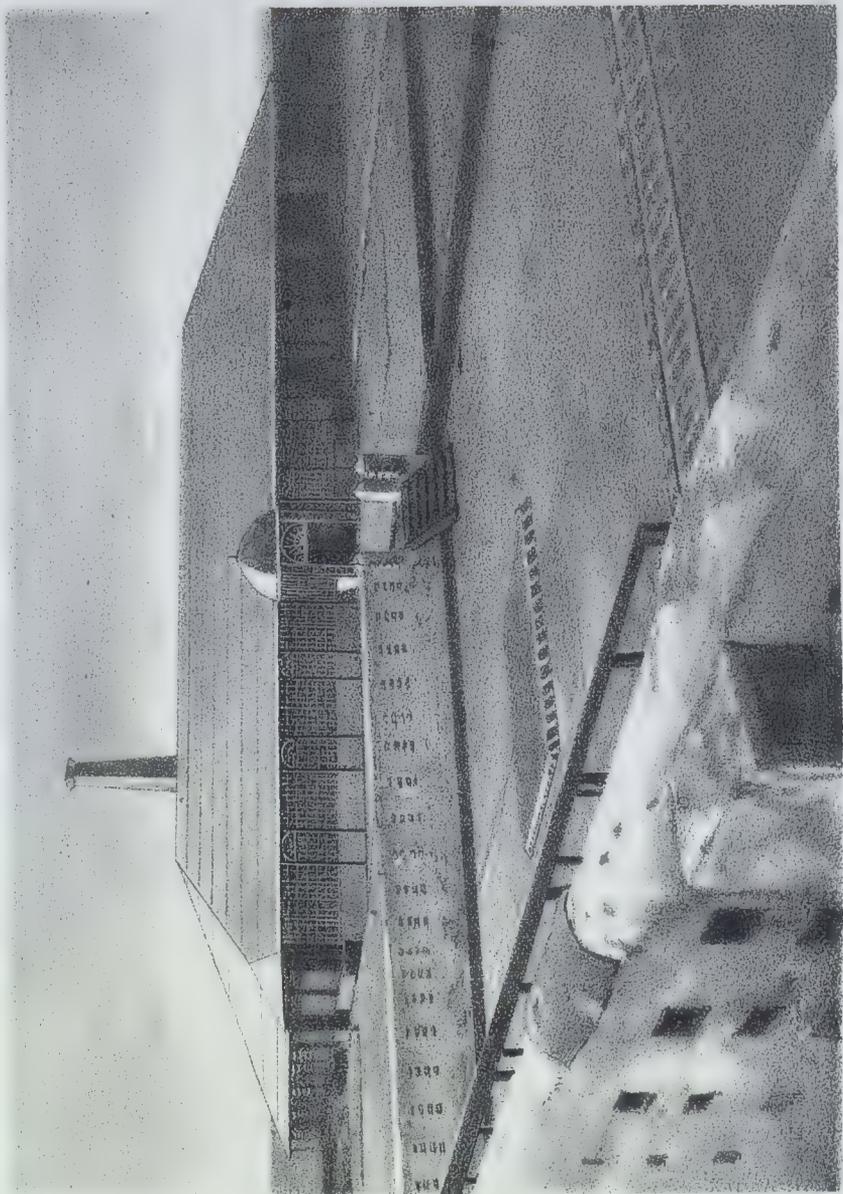
It is usual to leave the coffee lying a few days long exposed to sun and rain, before turning it. When the fruit has attained less or more of a dark-brown tint, the mass is arranged in rows and turned twice or thrice, always in the open air. This turning is performed with a rodo or rake, furnished with a long handle.

On large terreiros the coffee is also turned with the mexedor or rodo com dentes, consisting of a long stick tipped with a wooden triangle, to the base of which from 6 to 10 thin planks from 10 to 12 centimeters broad are nailed at equal distances.

When the coffee is what is called wind-dry, that is to say, in the stage when it has to be preserved from damp, it requires to be piled up in heaps every evening in the centre of the terreiros, and carefully covered. This process of cove-

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1) A brick is about a square palmo in size.



MANUFACTORY AND TERREIROS AT "IBICABA" (SÃO PAULO). PAGE 314.

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ring is very curious, though I cannot call the method very practical, nay, should be inclined to condemn it altogether.

For the covering of the coffee the alang-alang or sapé is used, as it is in Java.

But while in Java the grass is spread carefully out between bamboo sticks about a meter long, and fastened so as to make squares of grass which only want to be laid on a bamboo framework to make a light roofing (krakap or empiak) the Brazilians have a habit of binding up the sapé in bunches like brooms. These brooms are laid on the coniform heap of coffee.

Consequently to preserve the coffee from rain and damp, two or three layers of these sapé-brooms have to be piled upon it. It is clear that this method of covering requires more material.

Moreover it has these disadvantages.

1. That the bunches break off at the extremities more readily when handled, are soon worn out, and are thus unfit for their purpose.

2. That, seeing they have to rest on the heaps of coffee, these cannot be made so steep as is necessary and desirable in order to carry off the rain-water quickly.

The dwelling-houses of the sitiantes are also roofed with bunches of sapé, when they do not happen to be rich enough to have a tile roof, or lack leisure or liking to make sirapes (roof-plates or taboïnhas) of forest timber.

In the districts where glagah or massambara is plentiful, this grass, even, is used for covering the heaps of coffee. It is then bound in bunches by means of two cords. But this method is still more primitive, and in the nature of the thing much worse.

In the Santos zone, where there is little sapé and massambara to be found, oiled canvass is used to cover the coffee.

As a general rule, however, the coffee there is covered up whenever the sky clouds, a process that takes a great deal of time, and is very fatiguing for the slaves.

The drying appears to be carefully done. There also it is considered that drying the coffee slowly is the surest means to get it of approved colour.

When the coffee is as good as dry it is less hastily spread out. It is then turned over constantly, either with the rodo or the mexador.

When the sky darkens all hands set to work to pile the coffee as quickly as possible. On large fazendas they use for this purpose the *rodo grande* — large wooden pusher or *sorrôk*, which is worked by two persons.

When the coffee is thoroughly dry, that is to say, when the beans rattle when the dry fruit, is shaken, or when they crack between the teeth instead of tearing, it is stored in the warehouse until the entire crop is gathered.

Owing to scarcity of hands, the Indian custom of curing or re-drying this warehoused coffee, is seldom resorted to.

It often lies piled up for years, especially when the prizes are not such as to render speedy despatch desirable. So some fazendeiros had still coffee lying of the crops of several years.

The dry coffee is conveyed to the warehouses in baskets or *jacazes*, which are held to the heap and then filled with the hands.

Several kinds of machines are used in the preparation of the coffee.

In places where the newest inventions have not yet been introduced, people still use, 1. the mills, 2. the *monjolos*, 3. the *pillões*, and 4. the *ripas* or *carratões*.

The mills, consisting of two round, grooved stones, between which the *glondongan* coffee is husked, are very little used now.

The *monjolos*, likewise, have almost ceased to be employed in preparing coffee. The *monjollo* is an instrument consisting of a vertical wooden stamper fastened almost at right angles to the roughly hewn trunk of a tree placed horizontally, which is balanced on a pivot. The balanced movement is produced by a current of water, which, filling the hollow extremity of the trunk, presses it downwards. Then the water flows out; the other extremity is rendered the heavier, and so the stamper rises and falls with provoking slowness.

The *pilão* is more complicated, and consists of 6, 8, or more stampers, which rise and fall, half and half, more rapidly and regularly. These very noisy coffee-stampers are used in India also, and are there termed Chinese stamping mills.

The *ripa* or *riba*, called also in the Santos zone *carretão*, may be called a perfect machine compared with the former.

The *ripa*, used also in Ceylon, consists of a round basin

with a broad rim, in which is a groove (rigola) from 30 to 35 centimeters wide and 45 centimeters deep. Through this circular groove run two heavy and solid wooden wheels with iron hoops or fellies. Those wheels are fastened to each other by a horizontal axle; through the centre of this axle is driven an iron bar, moved by a couple of cock-wheels, worked by draught-horses, water, or steam. The wheels, which are thicker in the middle than the extremities, are usually made of the heaviest wood, for instance the timber of the *Sicupira* (*ormosia coccinea*, Jacq.), *peroba* (*aspidosperma peroba*), *garabú* or *garapa* (*astronium coccineum*).

During the last ten years the preparation by machinery has progressed enormously. To spare hand labour, and improve the badly harvested crop by careful preparation, the Brazilians do not hesitate to spend fortunes in procuring the newest machinery.

As far as mechanical preparation is concerned the Brazilian planters are certainly far in advance of the Javanese. And this is not surprising. Since the Emancipation act of 1871, their entire attention has been directed to one point: how to spare hand-labour.

There are now many fazendas where the produce, whether *glondongan* 1) or *gaba* 2), is brought into the *engenho* or machineroom, stamped, husked, sorted, browned, bagged and weighed by machinery, coming out ready for despatch, only that the black and white beans have still to be removed.

The fewer slaves in the manufactory, the more hands for planting and harvesting. At the present time fortunes are being spent for dryingfields, water-pipes, and machinery.

It appears to me unnecessary that I should describe the various kinds of machines I saw working during my travels through the interior of Brazil. In order to give a view of the preparation of coffee in that country, I think it sufficient to describe a set of machines which, though not found on every fazenda, I met with on very many of those I visited, and which may be regarded as a type of mechanical preparation.

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1) *Glondongan* (malay-term) = dry berries.

2) *Gaba* (malay-term) = dry pulped coffee.

above. Thence the dust and coffee-husks fly off through an opening in the outer wall, while the beans glide along a sloping plane into another square tube, where another current sorts them as far as possible into heavy and light escolha.

The coffee which, being in the first square tube, is heavy enough to fall, is received into a basin, whence it is raised for the third time by a lift into the first story, and committed to the actual husking-machine or descascador.

As a general rule the husking-machine used at present is the Andrada or a slightly modified Macedo. There are other machines of similar construction, such as the Concassor-Ribeiro, which husks the coffee with a screw, but on the whole preference is given to the first-mentioned descascadores.

The most generally used, the descascador Andrade, consists of a wooden plate 8 English inches thick, fastened to an axle, which can be made to revolve by means of a wheel at the other extremity. The plate, whose diameter is 40 English inches, is covered on the level surface with a large piece of caoutchouc  $\frac{3}{4}$  of an English inch thick. Opposite this plate is, another, moveable by a screw, that is to say, the distance between it and the other screw can be reduced or increased. This plate is placed in such a position towards the other that the extension of the two forms a sharp angle inwards. This is done because the coffee falling into it from a funnel is bulkier than the husked coffee that passes out.

The second plate is covered, over the greater part of its smooth surface, with an iron or steel network. The husking is effected by the friction of this network against the caoutchouc.

This machine makes from 100 to 120 revolutions a minute, and can husk from 500 to 600 arrobas (from 7344 to 8813 kilograms) a day. It is better than the Lidgerwoods, because, among other advantages, it requires less motor power for the same amount of work. The whole machine is enclosed in a wooden or iron case.

Beneath this husking-machine is a third ventilator. When the coffee has passed through this last process it is ready to be sorted. This also is done by machinery.

When the coffee comes out of the third ventilator it falls into a basin, whence it is transferred by a lift into a Lidgerwood sorting-machine (separador) consisting of a perforated copper plate-cylinder. which is divided into three equal compartments, the holes in each of them differing in size and shape. The first two compartments have short and long horizontal holes, through which the small and coarse „female” coffee berries fall lengthwise, while the third compartment has round holes to let through the „males”.

The iron-gaze sorting-machines are quite out of use now because they did not sort the coffee so equally.

After this mechanical sorting the coffee passes through the hands of the female slaves who are supposed to understand the work. In this work young mothers and half-grown girls are employed as a rule.

The sorting is done either on sorting tables at which the women are seated on benches, or on the ground, when the sorters prefer to sit on their haunches or the floor. In the latter case they have the coffee in front of them in flat round baskets, of the same fashion as those used in Java (tampahs). In these baskets the coffee is also winnowed or shaken in a particular way, called in Java *inter*.

When the coffee is sorted it is, as a rule, browned. For this purpose a cylinder formed of wooden laths is used, whose diameter is 88 centimeters exclusive of the thickness of the laths, which are two centimeters thick and three centimeters broad. The cylinder is divided lengthwise into 4 compartments of from 70 to 76 centimeters. It makes 55 revolutions a minute.

In each compartment is placed a bag of coffee, which must not, as a general rule, weigh more than 44 kilograms. The bag must not be too full, or the coffee will not brown well. Generally the bag remains only one hour in the brunidor. The slave in charge of this work regulates it by a sandglass.

There are also close brunidores, where the coffee is browned without being bagged. These machines brown the coffee quicker through more rapid revolution, but have this disadvantage that the coffee is over-heated and rendered too dark in colour. The bean is indeed glossier by reason of the oily constituents, but on the other hand more porous and

consequently more liable to get discoloured in a damp atmosphere. On several fazendas the coffee is browned and weighed off in bags, before being sorted by the female slaves.

The coffee prepared in the West Indian manner, that is to say, the gaba, is stripped of the shell in the same manner. The only difference is that the gaba coffee does not require to go again through the first descascador, but is thrown immediately into the second husking-machine.

Java, Bourbon, Liberia, Maragogipe, Amarella, and Goyaz Coffee.

I have met with the Java coffee tree on several fazendas in Brazil.

The Java coffee tree is distinguished from the Brazilian, firstly by its branches, which grow less horizontally, and secondly by the two young leaves at the extremities of the boughs. In the Java coffee tree those leaves are yellowish green, while the Brazilian coffee tree has them brownish.

Extensive plantations of Java coffee are nowhere to be found; the largest gardens contain from 20,000 to 30,000 trees. The single exception is the fazenda S. Clemente in Cantagallo, where I saw a cafetal of 120,000 young Java coffee trees, and a new plantation of 40,000. I was informed that the Java coffee grows more vigorously on poor soils (capoeira) than the Brazilian coffee, although it does not produce such heavy and regular crops as the latter. Moreover, the native sort is preferred, because, as I am assured, the ripe berries dry thoroughly on the Brazilian coffee-shrub, and yet do not fall off, a circumstance which must be admitted to be of great advantage, considering the general method of harvesting.

The Bourbon coffee is more in favour; many fazendeiros even prefer it to the Brazilian. On the estate „Da Cruz-Alta” the greater part of the plantations, upwards of 500,000 trees, were composed of Bourbon coffee.

The Liberia coffee tree, which is met with in tens on most fazendas, is little thought of. In extensive planting, it is not taken into account, because it produces little and that irregularly. Moreover, the fruit requires special machinery to prepare it, seeing that its casca or dry husk is too thick and too leathery to pass through the ordinary machines.

The Maragogipe coffee also, which was discovered about 1870 by a fazendeiro of Bahia Senhor Crisogóno José Fernandes, and thus called after the district where it was first found, seems to have disappointed the expectations formed of it, which were, indeed, somewhat high-strained. Several fazendeiros, who have already plantations of it numbering from 1000 to 2000 trees, were anything but delighted with the results they obtained.

On the fazenda S. Clemente I saw a 5 or 6 years old plantation of 30,000 Maragogipe coffee-trees, which looked splendid, and yielded still in October 1883 sufficient red berries to enable me to take some fresh seed with me. On the fazenda Paraiso (district of Leopoldina) there was a fruit-bearing plantation of about 2000 trees, while the land was prepared for a new plantation of 120,000 mudas. On the fazenda Da Cruz Alta also I visited a Maragogipe plantation of about 15000 trees, while I was present at the laying out of a new garden. The owner of this fazenda, Senhor de Campos Negreiros, was just in terms with a sitiante in the neighbourhood, who offered him 20,000 young plants. For this quantity 600 milreis was asked, but only 400 milreis or 40 pounds sterling offered. Paying this price, the buyer would have to take the plants out of the ground and bring them home. Seeing that the viveiro or nursery was several kilometers distant from the fazenda, even the price offered appears to me high. At the same time we can see from what I have said that the cultivation of the Maragogipe coffee is not so general as is supposed in Europe. 1)

Judging from what several fazendeiros have told me regarding this kind of coffee, I do not think it is likely to be cultivated on a large scale, even should there be any future possibility of the grande lavoura being extended.

The tree, which differs greatly in shape and foliage from

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1) The L'Etoile Belge of 2<sup>d</sup> October 1883 says among other things, «Elle réussit à merveille dans les terrains élevés et les quelques planteurs qui en ont fait l'essai abattent déjà leurs arbres de l'ancienne espèce le Coffia Arabica, pour les remplacer par le Maragogipe. Undoubtedly the writer lacks the least notion of coffee-plantations, or he would not dare to make such an assertion!

the common coffee-tree, does not appear to bear so regularly. The branches shoot up too vertically, while the large leaves shelter the fruit too much, and consequently do little to promote the regular ripening. However it be, this variety of coffee will in no case supplant the native or common Brazilian coffee.

In countries like Java the Maragogipe coffee might perhaps be cultivated very advantageously, at all events more so than the Liberia coffee. The Maragogipe coffee, which bears a berry almost as large as the Liberia coffee, grows at the same level as our Java coffee, and its fruit has not such a hard and thick husk as the Liberia. It is consequently easier to dry and prepare. For the latter process there is no special machinery wanted.

Considering that the growth of the branches is so much more vertical, this coffee might perhaps be grown in Java without shady trees at a height of 2000 feet.

To my taste the flavour of Maragogipe coffee is excellent; purer than the Liberia and Amarella coffee and not so bitter.

As regards the market value, the opinions of competent authorities differ considerably.

In 1882, thus during a period of depression, the following estimates were made. 1)

London. Edward Johnston and Co. 14 m. 700 r. to 16 milreis per arroba = 2 s. to 2 s. 2 d. per kilogram.

Idem. James Cook & Co. 16 milreis per arroba as fancy coffee, but by large imports only 11 m. 400 r. to 11 m. 800 r. per arroba = 1 s. 6½ d. to 1 s. 7½ d. per kilogram.

Hamburg. From 12 m. 800 r. and 13 m. 600 r. per arroba = 1 s. 9 d. to 1 s. 10½ d. per kilogram.

New York. For small lots 12 m. 200 r. per arroba = 1 s. 8 d. per kilogram.

New Orleans. Only 6 m. 900 r. to 8 m. 200 r. per arroba = 11½ d. to 1 s. 1½ d. per kilogram.

About the year 1871 there was a new coffee discovered in the Santos zone in the district of Botucatu. This was the café Amarella, so called because the ripe coffee berry is yellow.

1) Centro da Lavoura e Commercio. Segunda Exposição de café de Brazil Rio de Janeiro, 1883. page 34 v. a.

low instead of red. This coffee is superior to the common sorts, not because of any difference in the size of the bean, but according to the chemical analysis of Brazilian experts, because it is richer in caffeine. With the exception of a single specimen here and there, I have met with none of this coffee on the plantations I visited.

A wild coffee was also discovered a few years ago in the province of Goyaz. Very few specimens of this wild coffee have as yet been transplanted into the Rio and Santos zones. From Baron Honorio de Araujo Maia, fazendeiro, commissario, and at the same time Managing Director of the Centro de Lavoura e Commercio at Rio, I received some seed, 20 or 25 berries, which, with other coffee and fruit seeds, are intended for the Government Botanical Gardens at Buitenzorg.

#### Results of Coffee-planting in Central Brazil.

In the following pages we exhibit in several tables the results of coffee planting in Central Brazil, obtained from 44 estates. The first 31 fazendas in tables A and B belong to the Rio zone; the others to the Santos zone.

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Tables A and B. ESTIMATE OF CROPS produced on 44 plantations, obtained and extracted from the books of the Fazendeiros.

YEARS.	AREAS.	SANTA-RITA.	BOÀ-SORTE.	BOÀ-VISTA.	JACOTINGA.
	1	2	3	4	5
1874	260,794	199,440	98,753	132,437	149,054
1875	255,195	174,797	121,889	168,607	142,519
1876	367,915	294,896	47,220	196,868	221,154
1877	339,410	259,288	149,040	148,920	164,880
1878	344,520	270,395	169,560	186,960	192,240
1879	358,420	238,320	182,880	175,565	136,800
1880	398,097	267,420	128,745	223,540	155,640
1881	341,66E	320,280	87,922	187,550	170,966
1882	505,389	402,000	190,398	298,056	285,040
1883	412,729	404,160	232,160	252,420	290,008
Kilograms	3,584,137	2,830,996	1,408,567	1,970,923	1,908,301
Average	358,414	283,100	140,857	197,092	190,830
Bags	5,974	4,718	2,348	3,285	3,181

YEARS.	ITAOCA.	ALDEA.	GAVIÃO.	CAFÉS.	BOÀ ESPERANÇA.
	6	7	8	9	10
1874	60,650	174,471	218,654	137,882	—
1875	79,466	174,900	193,967	87,323	—
1876	110,426	323,087	331,737	196,784	—
1877	106,800	191,460	249,671	103,836	—
1878	104,820	284,940	276,840	142,440	—
1879	99,120	204,360	165,004	96,360	—
1880	99,483	323,640	282,000	178,500	—
1881	167,929	188,982	217,357	159,360	—
1882	165,960	318,111	313,528	216,501	—
1883	158,220	477,268	285,000	144,600	—
Kilograms	1,152,874	2,661,219	2,533,758	1,463,586	95,472
Average	115,287	266,122	253,376	146,358	95,472
Bags	1,921	4,435	4,223	2,439	1,591

YEARS.	S. CLARA.	S. CLEMENTE.	MATTA PORCOS	BELLA VISTA.	BOÀ VISTA.
	11	12	13	14	15
1874	132,192	—	—	—	—
1875	85,190	63,720	—	—	—
1876	104,284	98,442	—	—	—
1877	117,504	120,360	—	—	—
1878	235,008	173,100	132,400	58,760	—
1879	146,880	152,460	134,283	88,140	103,051
1880	161,568	284,083	371,074	213,005	152,314
1881	146,880	148,680	93,820	73,450	93,709
1882	220,320	245,160	173,430	139,555	164,505
1883	132,192	—	—	—	77,846
Kilograms	1,482,018	1,286,005	905,007	572,910	591,425
Average	148,202	160,750	181,001	114,582	118,285
Bags	2,470	2,679	3,017	1,910	1,971

ESTIMATE OF CROPS produced on 44 plantations, obtained and extracted from the books of the Fazendeiros (*Continued.*)

YEARS.	S. MARCOS. 16	RECATO. 17	CEDOFEITA. 18	BELMONTE. 19	JOAZAL. 20
1874	—	—	—	—	—
1875	—	—	—	—	—
1876	—	—	—	—	—
1877	—	—	—	—	—
1878	—	—	—	—	—
1879	77,846	58,752	—	—	—
1880	214,445	132,192	293,760	—	—
1881	120,441	44,064	220,320	—	—
1882	74,909	117,504	293,760	—	—
1883	41,126	88,128	102,816	—	—
Kilograms	528,767	440,640	910,656	—	—
Average	105,753	88,128	227,664	—	—
Bags	1,762	1,468	3,794	—	—

YEARS.	FORTALEZA DE SANT ANNA. 21	POSO ALEGRE. 22	TRIMONTE. 23	DA CRUZ-ALTA. 24	LORDELLO. 25
1874	—	—	—	—	186,455
1875	181,681	—	—	—	204,603
1876	128,819	—	—	—	152,206
1877	134,333	—	—	—	139,232
1878	66,487	29,376	—	—	99,621
1879	118,098	22,032	—	17,963	174,091
1880	138,062	44,064	—	89,215	247,626
1881	160,206	47,002	—	104,990	150,764
1882	202,882	105,754	—	187,242	169,168
1883	163,878	44,064	—	188,006	154,659
Kilograms	1,294,446	292,292	146,880	587,416	1,678,425
Average	143,827	48,715	146,880	117,483	167,842
Bags	2,397	812	2,448	1,958	2,797

YEARS.	CANTAGALLO. 26	UBA. 27	ALLIANGE. 28	SANT' ANNA. 29	MONTE ALEGRE. 30
1874	—	—	62,277	135,996	165,005
1875	—	—	228,281	518,956	265,441
1876	—	—	102,434	283,082	118,444
1877	79,609	—	188,535	372,223	268,878
1878	312,854	279,072	100,113	225,446	100,201
1879	19,094	102,816	172,863	445,369	259,037
1880	320,639	205,632	109,690	230,602	184,026
1881	59,839	205,632	272,639	475,274	305,716
1882	167,149	176,256	171,805	307,831	264,090
1873	—	124,848	269,451	606,218	257,848
Kilograms	959,184	1,094,256	1,678,088	3,600,997	2,188,686
Average	159,864	182,376	167,809	360,100	218,869
Bags	2,664	3,040	2,797	6,002	3,648

ESTIMATE OF CROPS produced on 44 plantations, obtained and extracted from the books of the Fazendeiros. (Continued).

YEARS.	IBITYRA. 31	CABREÚVA. 32	CARLSBERG. 33	SETE-QUEIDAS. 34	IBICABA. 35
1874	—	—	—	55,416	764,520
1875	—	—	—	261,262	665,460
1876	—	—	—	216,024	599,940
1877	—	—	—	146,850	522,360
1878	—	55,129	—	97,500	730,920
1879	—	47,721	—	134,974	568,320
1880	367,200	22,412	—	181,500	576,900
1881	241,507	75,120	—	123,800	699,660
1882	413,467	16,360	—	219,000	487,800
1883	235,008	69,856	—	163,100	560,400
Kilograms	1,227,182	286,298	8,328	1,599,426	6,176,280
Average	306,795	47,716	8,328	159,913	617,628
Bags	5,113	795	138	2,665	10,294

YEARS.	S. JOSÉ DE PARAISO. 36	MONTE AVERNE. 37	MONTE-VIDEO. 38	SANTA VEREDIANA. 39	BOM RETIRO. 40
1874	—	102,816	222,585	—	—
1875	—	24,969	97,560	—	—
1876	—	33,048	54,030	293,760	228,414
1877	—	82,253	227,460	205,632	227,155
1878	73,440	66,096	161,280	205,632	262,580
1879	51,951	117,504	184,260	249,696	253,685
1880	49,366	73,440	86,110	220,320	241,540
1881	42,845	205,632	349,125	293,760	153,240
1882	116,050	279,072	191,145	381,888	279,000
1883	49,087	235,008	270,000	352,512	321,240
Kilograms	382,739	1,219,838	1,843,555	2,203,200	1,966,854
Average	63,790	121,984	184,355	275,400	245,857
Bags	1,063	2,033	3,072	4,590	4,097

YEARS.	RESACA. 41	Boá ESPERANÇA 42	LARANJA- ACEDA OF SAN- TA GERTRUDA. 43	MUNICIPIO ITATIBA. 44
1874	—	—	—	—
1875	—	—	—	—
1876	—	—	—	—
1877	—	—	—	—
1878	—	—	—	—
1879	—	—	—	—
1880	—	—	—	5,019,300
1881	119,178	47,883	—	6,686,010
1882	127,095	47,765	—	5,206,110
1883	114,390	49,939	—	—
Kilograms	360,663	145,587	425,952	16,911,420
Average	120,221	48,529	425,952	5,637,140
Bags	2,004	809	7,099	93,952

TABLE C. Results of Coffee planting in the Rto ZONE, obtain

FAZENDAS OR PLANTATIONS. 1	MUNICIPIO OR DISTICT. 2	Height above the level of the sea, in Meters. 3	Size of Fazenda in Hectares. 4	Average space left between plants, number of trees per Hectare. 5	NUMBER OF TREES.		Planted area in Hectares. 8	Average in Kilo- grams 9
					Young (under 3 years.) 6	Fruit- bearing. 7		
1. Arêas . . . .	Cantagallo .	273	4,356	1200 (12-14)	—	870,000	725	358,4
2. Santa-Rita .	»	280	2,042	»	—	750,000	625	283,1
3. Boá Sorte .	»	215	1,479	»	—	440,000	367	140,8
4. Boá Vista .	»	290	1,089	»	—	480,000	400	197,0
5. Jacotinga .	»	350	1,525	»	—	410,000	342	190,8
6. Itaóca . . . .	»	390	1,089	»	—	280,000	233	115,2
7. Aldéa . . . .	»	380	1,634	»	—	600,000	500	266,1
8. Gavião . . . .	»	476	1,633	»	—	550,000	458	253,3
9. Cafés . . . .	»	370	980	»	—	330,000	275	146,3
10. Boá Esperan- ça . . . .	S. Fidelis .	125	816	1800 (10-12)	40,000	300,000	190	95,4
11. Santa Clara.	Cantagallo .	500	1,430	1100 (13-14)	132,000	353,000	441	148,2
12. S. Clemente	»	275	1,620	1200	150,000	600,000	625	160,7
13. Matta Porcos	»	300	945	»	40,000	560,000	500	181,0
14. Bella Vista .	»	270	945	»	—	400,000	333	114,5
15. Boá Vista .	Juiz de Fora	400	435	»	45,000	250,000	268	118,2
16. S. Marcos . .	»	420	368	»	32,000	201,000	212	105,7
17. Recato . . . .	»	400	2,178	»	25,000	375,000	333	88,1
18. Cedofeita . .	»	300	960	»	—	300,000	250	—
19. Belmonte . . .	»	350	970	»	—	300,000	250	227,0
20. Joazal . . . .	»	300	970	»	50,000	250,000	250	—
21. Fortaleza de Sant' Anne.	»	330	3,617	»	200,000	500,000	583	143,8
22. Poso Alegre.	Mar d'Hespanha.	320	968	1400 (12-12)	10,000	240,000	180	48,7
23. Trimonte . .	Leopoldina	300	1,687	1200	150,000	350,000	417	146,8
24. da Cruz-Alta	»	360	1,326	»	450,000	350,000	666	117,4
25. Lordello . . .	Sapucaia . .	340	2,178	»	150,000	600,000	625	167,8
26. Cantagallo .	Parahyba do Sul.	350	1,630	»	50,000	450,000	417	159,8
27. Ubá . . . . .	Vassouras .	340	4,900	»	—	1,000,000	833	182,3
28. Alliance . . .	Valença . . .	250	1,632	»	50,000	750,000	666	167,8
29. Sant' Anne.	»	280	2,449	»	100,000	1,500,000	1,333	360,1
30. Monte Alegre	»	260	2,449	»	50,000	1,050,000	917	218,8
31. Ibityra . . . .	»	300	1,452	»	—	800,000	666	306,7
Average .	—	—	51,752 1,670	—	1,724,000	16,189,000	14,880	5,211,8

obtained from 31 plantations.

	AVERAGE CROP.		Average yield per tree in Grams.	NUMBER OF SLAVES.			NUMBER OF TREES.		NUMBER OF BAGS.	
	in Kilo-grams.	in bags of 60 Kilo-grams.		TOTAL.	in the factory	in the field.	per Slave.	per Field-slave.	per Hectare.	per Slave.
725	358,414	5,974	412	294	134	160	2,959	5,438	8.24	20.32
625	283,100	4,718	377	276	126	150	2,717	5,000	7.54	17.09
367	140,857	2,348	320	149	69	80	2,953	5,500	6.40	15.76
400	197,092	3,285	410	155	65	90	3,096	5,333	8.21	21.19
342	190,830	3,181	465	161	55	106	2,546	3,868	9.30	19.75
233	115,287	1,921	411	101	41	60	2,772	4,667	8.25	19.01
500	266,122	4,435	443	205	85	120	2,927	5,000	8.87	21.63
458	253,376	4,223	460	175	67	108	3,142	5,093	9.22	24.13
275	146,358	2,439	443	111	55	56	2,973	5,892	8.87	21.97
190	95,472	1,591	318	100	40	60	3,400	5,666	8.40	15.91
441	148,202	2,470	420	160	60	100	3,031	4,850	5.60	15.43
625	160,750	2,679	268	177	77	100	4,236	7,500	4.28	15.13
500	181,001	3,017	323	138	58	80	4,347	7,500	6.03	21.86
333	114,582	1,910	286	84	34	50	4,761	8,000	5.73	22.74
268	118,285	1,971	473	132	52	80	2,234	3,687	7.35	14.93
212	105,753	1,762	526	63	31	32	3,698	7,281	8.31	27.94
333	88,128	1,468	235	71	31	40	5,634	10,000	4.40	20.67
250										
250	227,664	3,794	267	220	70	150	4,091	6,000	5.06	17.24
250										
583	143,827	2,397	287	140	60	80	5,000	8,750	4.11	17.12
180	48,715	812	203	55	15	40	4,545	6,250	4.51	14.76
417	146,880	2,448	420	80	25	55	6,250	9,090	5.87	30.60
666	117,483	1,958	336	150	50	100	5,333	8,000	2.93	13.05
625	167,842	2,797	266	311	126	185	2,411	4,054	4.47	8.99
417	159,864	2,664	355	170	70	100	2,941	5,000	6.38	15.67
833	182,376	3,040	182	244	164	80	4,098	12,500	3.65	12.46
666	167,809	2,797	224	210	80	130	3,810	6,154	4.20	13.32
333	360,100	6,002	240	390	190	200	4,102	8,000	4.50	15.39
917	218,869	3,648	208	250	100	150	4,400	7,333	3.97	14.59
666	306,795	5,113	383	240	90	150	3,333	5,333	7.67	21.30
5,880	5,211,833	86,862	9961	5012	—	—	107,740	186,739	182.32	529.95
—	—	—	344	—	—	—	3,715	6,439	6.28	18.27

TABLE D, Showing how many kilograms of coffee of each sort have been

FAZENDAS.	DESPOLPADO	FINO	SUPERIOR.	1ª Boá.	2ª Boá.
Arêas . . .	306,594	235,510	608,596	1,405,771	15,000
Santa Rita. . .	300,854	173,138	510,476	801,027	88,380
Boá Sorte . . .	95,815	27,368	313,471	388,714	1,620
Boá Vista . . .	20,680	89,647	276,173	456,679	58,500
Jacotinga . . .	112,383	109,781	254,488	575,951	27,780
Itaoca . . .	117,930	30,335	227,490	442,170	29,160
Aldéa . . .	420,976	108,896	435,312	698,879	11,040
Gavião . . .	—	43,882	339,466	1,127,415	30,180
Cafês. . . .	184,918	3,900	224,169	428,217	30,954
in 10 years .	1,560,150	822,457	3,189,641	6,024,823	292,614
yearly average	156,015	82,246	318,964	602,482	29,261
	8 %	4 $\frac{2}{5}$ %	16 $\frac{2}{5}$ %	30 $\frac{2}{5}$ %	1 $\frac{2}{5}$ %

TABLE E, showing financial results obtained

FAZENDAS.	PRODUCE of 10 years.	EXPENSES of fazenda.	PER BAG.	Net proceeds according to Bills of sale.	PER BAG.
		in milreis.	in milreis.	in milreis.	in milreis.
Arêas . . .	3,584,137	362,853	full 6	1,514,081	full 25 $\frac{1}{2}$
Santa Rita. . .	2,830,996	271,295	» 5 $\frac{3}{4}$	1,218,468	» 25 $\frac{3}{4}$
Boá Sorte . . .	1,408,567	187,203	about 7	573,530	about 24 $\frac{1}{4}$
Boá Vista . . .	1,970,923	178,953	» 5 $\frac{1}{2}$	734,771	full 22 $\frac{3}{4}$
Jacotinga . . .	1,908,299	196,772	full 6	771,318	» 24 $\frac{1}{4}$
Itaoca . . .	1,152,874	145,407	» 7 $\frac{1}{2}$	518,666	about 27
Aldéa . . .	2,661,220	234,929	about 5 $\frac{3}{4}$	1,121,869	» 25 $\frac{1}{2}$
Gavião . . .	2,533,757	316,768	full 7 $\frac{1}{2}$	1,047,070	full 24 $\frac{3}{4}$
Cafês. . . .	1,463,588	157,686	about 6 $\frac{1}{2}$	611,834	» 25
in 10 years .	19,514,361	2,051,866	full 6 $\frac{3}{4}$	8,111,607	about 25
yearly average	1,951,436	205,187	—	811,161	—

despatched and sold off the 9 following Fazendas during the last 10 years.

REGULAR.	ORDINARIO.	ESCOLHA (Lefuse).	TOTAL (produce of 10 years).	REMARKS.
147,000	24,000	1,144,666	3,584,137	As regards these 9 fazendas, belonging to the Viscondes de S. Clemente and de Nova Friburgo, I have separate data, showing the produce of them during ten years. In collecting these data I was assisted by the superintendent and two administrators, who worked with me daily during my three weeks' sejour.
128,340	187,680	644,101	2,830,996	
83,760	63,936	433,883	1,408,567	
92,760	92,759	883,725	1,970,923	
101,275	198,859	527,782	1,908,299	
47,920	64,432	193,437	1,152,874	
91,577	109,270	785,270	2,661,220	
110,479	94,375	787,960	2,533,757	
55,487	75,648	460,295	1,463,588	
858,598	910,959	5,855,119	19,514,361	
85,860	91,096	585,512	1,951,436	
4 $\frac{1}{5}$ %	4 $\frac{7}{10}$ %	30 %	100 %	

during 10 years from the 9 following fazendas.

BALANCE.	PER BAG.	VALUE of fazendas, according to awison of property.	INTEREST without reduction of value.	REMARKS.
in milreis.	in milreis.	in milreis.		Seeing that the carriage of coffee from these fazendas is paid to Rio, the nett proceeds of messrs. Friburgo & Filhos' bills of sale represent the clear profit. As appears from table F, the value of these nine fazendas may now be estimated at 2,570,000 milreis. Since the division of property which took place about five years ago, the value has decreased by 592,752 milreis, or 2.204% per annum. The nett profit on this capital would consequently be 17%.
1,151,228	19 $\frac{1}{2}$	678,843	16.900 %	
947,173	20	564,407	16.700 »	
386,327	17 $\frac{1}{2}$	315,351	12.250 »	
555,818	16 $\frac{3}{4}$	297,747	18.667 »	
574,546	18 $\frac{1}{2}$	272,001	21.123 »	
373,259	19 $\frac{1}{2}$	181,137	20.606 »	
886,940	20	309,667	28.641 »	
730,302	17 $\frac{1}{2}$	339,182	21.531 »	
454,148	18 $\frac{1}{2}$	204,417	22.216 »	
6,059,741	about 18 $\frac{3}{4}$	3,162,752	ab. 19.160 %	
605,974	—	—	—	

TABLE F, showing the annual expenses of the fo

FAZENDAS.	VALUE ACCORDING TO ESTIMATE OF 1 JANUARY 1883.				Present value of the fazenda.	Numb employ in manag ment
	Of the land.	Of the buildings and machinery.	Of the slaves.	Live Stock and Chattels.		
	<i>a</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>
Aréas. . . . .	160,000	90,132	294,000	4,500	548,632	9
Santa Rita . . .	75,000	68,515	276,000	4,500	424,015	8
Boá Sorte . . .	55,000	19,859	149,000	4,500	228,359	5
Boá Vista . . .	40,000	35,992	155,000	4,500	235,492	5
Jacotinga. . .	56,000	40,500	161,000	4,500	262,000	6
Itaoca. . . . .	40,000	19,421	101,000	4,500	164,921	4
Aldéa. . . . .	36,000	45,000	205,000	4,500	290,500	6
Gaviao . . . . .	36,000	50,800	175,000	4,809	266,609	9
Cafés . . . . .	21,600	12,372	111,000	4,500	149,472	5
	519,600	382,591	1,627,000	40,809	2,570,000	57

*a.* Value, according to data supplied by the Superintendent of the fazendas, Senhor Luiz van Erven.

*b.* The value per slave is calculated at 1000 milreis in order to simplify the calculation; this estimate may appear too high if we consider the present aspect of affairs; but we must not forget that almost  $\frac{3}{4}$  of the slaves are between 12 and 40 years of age, and, moreover, that no account is taken of the value of the services of the 337 Riobrancos. (See fazenda accounts).

*c.* Goods, Chattels, and Live Stock, are valued at about 40 contos; I have calculated a little more so as to obtain a sum total in round numbers. The division of the amount estimated among the various fazendas is arbitrary.

*d.* See Remarks appended to table E. Calculating decrease of value at 2 per cent, we may consider that the capital invested in these fazendas has yielded 17 per cent per annum. It would be vain to look any where else in Brazil for plantations so well managed and presenting such brilliant results.

of the following 9 Fazendas (in milreis).

value	Number employed in management.	Free labourers.	Costs of management.	Payment made to slaves for extra work.	Unforeseen expenses.	Cost of board for employes and slaves.	Payment made to free labourers.	TOTAL expenses.
	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>j</i>	<i>k</i>		
332	9	23 carpenters, smiths, masons, machinists, and railway conductors.	9,017	2,061	According to the Superintendent's Books.	11,690	According to the Superintendent's Books.	—
15	8		7,816	1,731		9,645		—
359	5		5,887	1,771		5,499		—
492	5		5,287	1,157		5,420		—
000	6		6,537	1,169		5,445		—
921	4		4,336	666		4,321		—
500	6		6,620	2,484		7,848		—
609	9		7,970	1,760		7,299		—
472	5		4,620	1,056		4,816		—
000	57	23	58,090	14,395	47,187	61,983	16,692	198,347

*e.* This statement does not include Superintendent and Doctor; it does include apothecaries, most of whom are Germans.

*f.* The free labourers are mostly Portuguese and mulattoes.

*g.* The salaries of Superintendent and Doctor are not included in this.

*h.* This includes, in additions to payment for extra work, the allowance made to the slaves for what coffee they have picked over and above the stipulated quantity, and also the moneys they have received for provisions grown on the land allotted to them, which crops the master buys from them at market price.

*j.* This does not include cost of purchasing machinery and keeping it in repair.

*k.* The daily food of the slave consists, (on almost all fazendas) of black beans, polenta of Indian meal, angú of mendioca-meal, 120 grams of xarque or dried meat, varied now and then with stock-fish, besides vegetables.

According to the season he can eat *ad libitum*, bananas, oranges, papayas, (mamão), djamboes, and other fruits.

At five o'clock in the morning he has black coffee, sugared; in the evening 75 grams of gin distilled from sugar-cane (cachaça). On Sundays he receives 82 grams of tobacco.

TABLE G. Results of coffee planting in the SANTOS ZONE,

FAZENDAS. 1.	MUNICIPIO OR DISTRICT. 2.	Height above the sea, in Meters. 3.	Size of Fazen- da in Hecta- res. 4.	Average space between plants number of trees per Hectare. 5.	NUMBER OF TREES.		Planted area in Hectares. 2.
					Young, under 3 years. 6.	Fruit- bearing. 7.	
Cabreúva . . . .	Campinas .	700	120	1000	5,600	55,000	61
Carlsberg . . . .	»	700	89	(14-14)	—	16,000	16
Sete-Quedas . . .	»	700	1,936	»	141,700	225,500	367
S. José de Pa- raiso . . . . .	Belem do Descalvado	637	625	900	145,000	80,000	250
Monte-Alverne . .	»	640	1,573	1000	187,000	151,000	338
Monte-Video . . .	Araras . . .	725	1,597	900	10,000	200,000	233
Santa Verediana	Casa Branca	720	1,694	1000	132,000	400,000	532
Bom Retiro . . . .	Amparo . . .	688	726	»	—	300,000	300
Resaca . . . . .	Mogy-mirim	650	968	900	13,000	150,000	181
Santa Gertruda .	Rio-Claro .	675	1,452	»	65,000	550,000	683
Boá Esperança .	Araras . . .	650	435	»	16,000	46,000	69
Ibicaba . . . . .	Limeira . . .	682	4,356	»	450,000	700,000	1,278
Itatiba . . . . .	Itatiba . . .	± 720	52,760	1000	1,118,024	7,000,000	8,118
Gemiddeld	—	—	—	—	2,283,324	9,873,500	12,426

TABLE H, showing the nett yield of the coffee-plantations

	Fruit- bearing trees.
1st year . . . . .	208,444
2d » . . . . .	225,700
3d » . . . . .	226,230
4th » . . . . .	227,182
5th » . . . . .	228,860
6th » . . . . .	224,100
7th » . . . . .	224,636
8th » . . . . .	227,756
9th » . . . . .	225,880
10th » . . . . .	236,212
In ten years:	2,255,000

obtained from 13 plantations.

Cultivated area in Hectares.	AVERAGE CROP.		Average yield per tree in Grams.	NUMBER OF SLAVES.			NUMBER OF TREES.		NUMBER OF BAGS.	
	in Kilo- grams.	in bags of 60 Kilo- grams.		Total.	in the factory	in the field.	per slave.	per field- slave.	per Hec- tare.	per slave.
2.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
61	47,716	795	867	32	7	25	1,894	2,424	13.—	24.84
16	8,328	138	520	—	—	—	—	—	8.63	—
367	159,913	2,665	709	168	93	75	2,185	4,896	7.26	15.86
250	63,790	1,063	797	68	24	44	3,309	5,113	4.25	15.63
338	121,984	2,033	807	92	22	70	3,674	4,828	6.01	22.10
233	184,355	3,072	921	80	27	53	2,625	3,962	13.18	38.40
532	275,400	4,590	689	110	50	60	4,836	8,866	8.63	41.73
300	245,857	4,097	819	178	78	100	1,685	3,000	13.66	23.—
181	120,221	2,004	801	71	31	40	2,295	4,075	11.07	28.23
683	425,952	7,099	774	230	90	140	2,674	4,393	10.39	30.87
69	48,529	809	1055	—	—	—	—	—	11.72	—
278	617,628	10,294	882	400	220	180	2,875	6,389	8.05	25.74
118	5,637,140	93,952	805	—	—	—	—	—	11.56	—
426	7,956,813	132,611	10,446	1439	—	—	28,052	47,946	127.41	266.40
	—	—	804	—	—	—	2,805	4,795	9.80	26.64

dressed by the colonists of SETE QUEDAS.

Cultivated area in Hectares.	AVERAGE CROP.		Average yield per tree.
	in kilograms.	in bags.	
4	55,110	918½	264
0	261,262	4,354½	1158
0	216,024	3,600	955
2	146,850	2,447½	646
0	97,500	1,625	426
0	134,974	2,249½	602
3	181,500	3,025	808
3	123,800	2,063½	543
0	219,000	3,650	969
2	163,100	2,718½	690
0	1,599,120	26,652	709

Op

A. Results of Coffee-growing (Rio zone).

From the preceding tables, which are illustrated fazenda-wise below, the reader will learn:

a. That the coffee-shrub in the Rio zone produces on an average (column 11, page 329) 344 grams or 23½ arroba per 1000 trees.

According to columns  $\frac{9}{7}$  322 " " 22 " " " "

To reduce as much as possible the discrepancies that always occur in calculations of this sort, we might in my opinion take it for granted that one tree produces only the medium between these two resultants, or 333 grams = 22½ arrobas per 1000 trees.

b. That one slave, engaged in coffee planting can, according to column 18, produce . . . . . 18.<sup>27</sup> bags of coffee weighing 60 kilograms; this amounts,

however, according to columns  $\frac{10}{12}$  to only . . . 17.<sup>33</sup> "

The medium between the two figures is . . . 17.<sup>80</sup> bags.

c. That a slave engaged in coffee planting must, according to column 15, keep and dress . . . 3715 trees.

According to columns  $\frac{6+7}{12}$  however . . . . . 3574 "

medium number . . . . . 3644 trees.

d. That 1 hectare planted with coffee trees produces on an average, according to column 17. 6.<sup>28</sup> bags.

But, according to columns  $\frac{8}{10}$  . . . . . 5.<sup>84</sup> "

medium . . . . . 6.<sup>06</sup> bags.

With these figures before us, the export from Rio de Janeiro, (the seaport of the Rio zone) being given, we are thus prepared to answer the following questions.

1. How large is the area planted in that zone?
2. How many fruit bearing and young trees are there in it?
3. How many slaves are engaged in coffee planting there?

Although I myself am not disposed to over-estimate the value of any such calculations, I think I may venture to observe that no more accurate calculations have been made up to the present time.

The average export from Rio during the last five years, can in no case be estimated with more than approximate

correctness, seeing that the official and private statistics agree badly with each other.

From the various estimates in my possession I extract the following figures, representing the export from Rio during the calendar years.

	Associação Commercial.	Retrospecto Commercial.	Rio News.	Average.
1878	2,914,420	3,031,199	2,884,070	
1879	3,587,217	3,535,183	3,453,959	3,735,479
1880	3,513,368	3,563,054	3,381,551	3,744,489
1881	4,461,801	4,377,418	4,217,600	3,599,648
1882	4,200,590	4,200,059	4,061,059	
	18,677,396	18,707,444	17,998,239	11,076,616
5 :	3,735,479	3,741,489	3,599,648	3,692,205

On the other hand there are the exports during the same period, reckoned according to the *exercicios* or official years. These figures are as follows:

	Customs.	Retrospecto Commercial.	Rio News.	Average.
1877—78	2,992,755	2,632,746	2,543,849	
1878—79	3,647,046	3,705,830	3,570,677	
1879—80	2,935,229	2,990,058	2,903,424	3,528,513
1880—81	4,139,420	4,401,627	4,190,424	3,531,326
1881—82	3,928,416	3,926,372	3,807,702	3,403,215
	17,642,566	17,656,633	17,016,076	10,463,054
5 :	3,528,513	3,531,326	3,403,215	3,487,685

As I pointed out in the chapter on Commerce and Banking, the export figures are not to be trusted, seeing that the traffic in *guias* or custom-receipts, renders an exact calculation impossible.

I consider, therefore, that I shall do well to take the medium between the two resultants obtained, and state the average export at:

3,692,205 on an average (calendar year).

3,487,685 " " " (financial year).

$\frac{3,692,205 + 3,487,685}{2} = 3,589,945$  bags of 60 kilograms.

The population of the Rio zone, consisting of the provinces of Rio de Janeiro, Minas Geraes, and a small portion of S. Paulo, may be estimated, in round numbers, at 3,380,000 souls. 1)

Reckoning the consumption of coffee at full 10½ kilograms a head, or 610,055 bags a year, we obtain, in round numbers, 4,200,000 bags of coffee as the presumptive annual produce of the entire Rio zone.

In order to answer the questions propounded above, I seek firstly the number of slaves employed in coffee-planting.

A slave represents an export-production of 17.<sup>80</sup> bags: so, if I assume 18 bags as the actual production, I think I shall not make too high an estimate. 2) The number of slaves, therefore must be  $\frac{4,200,000}{18} = 233,333$ .

A slave represents also a plantation of 3644 trees, (fruit-bearing and under age). The number of coffee-shrubs is thus:  $233,333 \times 3,644 = 850,265,452$  trees.

A tree yields on an average 333 grams. The number of fruit-bearing trees must thus be about:

$$\frac{4,200,000 \times 60 \times 1000}{333} = 756,756,756.$$

There must consequently be about 93,508,696 young trees.

A hectare, planted with under-aged and fruit-bearing trees, yields on an average rather more than 6 bags.

1) As: Municipio Neutre	=	275,000.
Rio de Janeiro	=	783,000.
Minas Geraes	=	2,040,000.
S. Paulo (¼)	=	279,000.
		<hr/>
		3,377,000.

2) Among the population of the Rio zone, estimated at 3,380,000 souls the slave population is not included.

The coffee-producing area of this zone must thus be  

$$\frac{4,200,000}{6} = 700,000 \text{ hectares.}$$

This squares pretty well with the calculation that a hectare holds on an average 1200 trees (12-14 palmos), for  

$$\frac{850,265,452}{1200} = 708,554 \text{ hectares.}$$

How slight this discrepancy is, becomes clear when we, fixing 700,000 hectares as the area, look for the number of trees growing on one hectare. For  $\frac{850,265,452}{700,000}$  trees = 1214 trees on one hectare.

Strictly speaking, a hectare planted 12 by 14 palmos, must contain 1230 trees. But I consider that, allowing for the broken ground, 1200 will be a proper average.

#### Remarks on Table C.

Regarding Arêas and the eight following fazendas, belonging to Viscounts de S. Clemente and de Nova Friburgo, I have received the most accurate and complete statistics from the superintendent of those estates, Senhor Luiz van Erven, a Brazilian of Dutch extraction.

These fazendas are worked with an eye to the uncertain future of coffee-planting.

Except at the residence of the Viscount de Nova-Friburgo, who lives in a palacete or palace at Gavião, there is no luxury to be found on any of the fazendas. The firm hand of the superintendent guides everything, everywhere prevails a well-advised frugality.

Senhor de Nova-Friburgo owns a private railway, 80 kilometers in length, running partly through his own estates. The line is connected with the provincial railway from Nitheroy to Cordeiro and is also open to the use of the public. The fazendas are also connected by telegraph, on the Bréquet-system, so that anyone can telegraph who requires to do so.

According to Senhor de Nova-Friburgo the gradual decay of the grande lavoura is no longer to be resisted, now that the attempt made in October 1883 to have the work done by Chinese coolies instead of slaves, has proved unsuccessful. For his own part he seems to expect no good from European immigration, for when I took leave of him he said to me

among other things: „Yours is the future; we are doomed; all hope of maintaining the industry has abandoned us now.”

Although no catalogues are kept, the superintendent was able to give me, approximately, the number of the trees, calculating from existing jottings.

Senhor van Erven informed me that the present plantation has been maintained at the same size for upwards of 15 years, so that the number of fruit-bearing trees has remained the same during the last 10 years. When he perceived that a garden would have to be abandoned within three or four years, he took care to lay out a young plantation in time. During the last four years there has been no planting done. The youngest garden, containing 80,000 trees, dates from 1879.

The plantations on the 9 fazendas are divided in the following way:

	5—10 years.	10—30 years.	Upwards of 30 years.	
Aréas . . . .	36,000	560,000	274,000	870,000
Santa Rita . .	58,000	500,000	192,000	750,000
Boá Sorte . . .	80,000	230,000	130,000	440,000
Boá Vista . . .	40,000	300,000	140,000	480,000
Jacotinga . . .	40,000	370,000	—	410,000
Itaoca . . . . .	50,000	140,000	90,000	280,000
Aldéa . . . . .	60,000	500,000	40,000	600,000
Gavião . . . . .	62,000	398,000	90,000	550,000
Cafés . . . . .	57,000	177,000	96,000	330,000
	483,000	3,175,000	1,052,000	4,710,000

These trees yield on an average 1,951,436 kilograms a year, = 32,524 bags, thus 414 grams per tree, or rather more than 28 arrobas per 1000 trees.

A slave here produces rather more than 20 bags a year.

A hectare yields on an average  $8\frac{1}{2}$  bags of 60 kilograms.

Results like these are very rarely met with in the Rio zone.

From Senhor van Erven's jottings I have compiled the following table, chiefly as a curiosity, and to give an idea of what is met with on a fazenda.

	Number of Slaves on October 26. 1883.	Rio brancos or slaves-children born after September 28. 1871.	Draught cattle.	Sheep for consumption.	Pigs fattened for consumption.
Areás . . . .	289	51	97	107	235
Santa Rita . .	274	80	64	130	167
Boá Sorte . .	147	47	58	29	96
Boá Vista . .	152	17	54	—	98
Jacotinga . .	156	20	50	65	115
Itaoca . . . .	97	23	37	73	96
Aldéa . . . .	203	41	66	168	135
Gavião . . . .	170	38	34	—	119
Cafés . . . .	108	20	39	147	65
	4,596	337	499	719	1,126

In Table C, 1627 is given as the number of slaves, calculated according to the table drawn up to January 1. 1883. Since then 31 slaves have been freed, taken into private service, or removed by death.

Of the 1596 slaves 835 are women, and about 1000 male and female labourers between 12 and 40 years of age; so that 596 are upwards of 40.

Of the 337 riobrancos 193 are girls.

Besides the oxen, sheep and pigs named above, the live stock on 28 October 1833 consisted of 11 bulls, 157 brood cows, 170 oxen too young to work, 144 heifers, 1000 draught horses and mules, 16 young horses, 27 brood-mares, and 4000 pigs, young and old.

The live stock alone represents a value of nearly 40000 milreis.

Although I possess the annual statements of coffees sold off these fazendas during the last 10 years, as well as of receipts and expenditure, I shall for the sake of brevity, confine myself to the summary tables C, D, E and F appearing on pages 328—332 whence it will appear.

a. That the average produce of nine fazendas during ten successive years, amounts to:

8 % despoldado coffee	1.5 % 2ª Boâ.
4.2 " fino "	4.4 " regular.
16.3 " superior "	4.7 " ordinario.
30.9 " 1ª Boâ "	30. " escolha (refuse).
	100 %.

b. That one bag of coffee has brought on an average 18½ milreis or pd. st. 17.4.

c. That these fazendas have yielded rather more than 19 per cent on the capital invested, when no reduction is made; 17 per cent allowing for 2½ decrease of total value.

d. That the greater part of this capital is invested in labourers.

Further elucidation of table F. seems to me rendered superfluous by the notes appended.

Boá Esperança. Proprietor Dr. Lontra. On this estate, where the soil is chalky, the space left between plants is 10 by 12 palmos, thus there are about 5000 trees per alqueire planta, or 1800 per hectare. I could not obtain an annual statement here. On this fazenda, some of the trees were already affected by the coffee-disease.

Santa Clara. Proprietor Senhor Antonio van Erven. This fazenda was bought upwards of 9 years ago, with fruit-bearing plantations of over 300,000 trees. Since then only from 190 to 200,000 new trees have been planted, by the labour of about 100 slaves. The number of trees is now estimated at 485,000.

At Santa Clara an experiment is being tried with reliable colonists, who work on parceria-agreement, but have to provide lodgings for themselves. Each family receive as many trees to attend to as they choose. Provisions for their own use may be grown among the coffee. The coffee picked is dried by the colonist. Senhor van Erven has the dried produce brought home and measured in order to prepare and sort it on the fazenda. For this the colonist is charged 600 reis per 15 kilograms prepared coffee, to be paid after the sale.

In how far this way of working is profitable to the colonist, may be seen from the following table, compiled from the bills of sale.

	Crop 1882 in arrobas. 1)	Half nett price.	Expenses at 600 reis per 15 Kg.	Balance.
		m. r.	m. r.	m. r.
José Basilio de Barros .	1143—23	2387,	342,900	2044,100
Manoel Martins. . . .	274— 4	624,395	82,200	542,195
José da Silva Coelho . .	659—26	1614,987	498,	1416,987
Antonio Tello . . . .	389—15	763,544	116,700	646,844
Paulo de Jezus. . . .	291—20	647,259	87,300	559,959
Antonio de Barros . . .	312—23	681,994	93,800	588,194
	3071—15			
2	1535—23			5798—279

Consequently 1 arroba = 3,770

or 1 bag = 15,396 pd. st. 1,10 s. 8 d.

On this fazenda the average yield per tree is 420 grams, so that nearly 143 trees are wanted to fill a bag.

Well then, for pd. St., 10,8 a colonist has to keep and dress 143 trees during a whole year, besides gathering and drying the fruit.

St. Clemente, Matta Porcos, and Bella Vista. Proprietor Senhor Francisco Clemente Pinto.

As appears from table C. the plantations on these fazendas are already in excess of available hands to work them. It is therefore necessary to restrict the cultivation of provisions to maize, and to purchase all other necessaries.

The insufficient dressing of the gardens, and rougher method of harvesting (in these regions no free pickers are to be had) is probably the reason of the comparatively scanty yield of those trees.

Boã Vista. Proprietor Major Francisco Halfeld. The only fazenda visited by me, on which, according to the owner, there are too many slaves. The fruit is gathered more carefully here than elsewhere; and the preparation is done more thoroughly.

1) 1 arroba = 32 libras.

1 » = 14,688 kilograms.

The yellowish coffee grown on this fazenda is said to be much sought after in Rio, as Sarandy Valley coffee.

S. Marcos. Proprietor Commodore Francisco Ferreira de Assis Fonseca. Here likewise the plantations are really too extensive for the number of slaves. In harvest time, however, free labourers and hired slaves are brought in to assist them. During the drying and preparation time, the slaves here work by gas-light on the terreiros and in the manufactory. The gas is obtained by distilling the beans of the mamona (*ricinus communis*, Linn, and Spl.) termed in Java djarak or klikie. A complete machine and fittings, consisting of a still, a gasometer, the pipes for fifty burners, the necessary lanterns, etc. costs 3200 milreis, 320 pounds sterling.

More than nine fazendas in this neighbourhood have such gas machines. They would be exceedingly useful in Java.

Recato. Proprietor Senhor Joaquim Lucio de Figueredo Lima. This fazenda is very much neglected. The owner told me that he had not visited his plantations for years: everything was left to a feitor, a slave. Although very wealthy and a widower, he continues to live on the fazenda, more out of attachment to the place than because his presence is necessary. Only now and then he has his grand-children visit him. His slaves are devoted to him, knowing that at his death they will all receive their freedom.

Cedofeita, Belmonte and Joazal. Proprietor Count de Cedofeita. These three estates lie together and make one whole; the produce is sent to Cedofeita to be manipulated. The estate is managed by a mulatto.

Fortaleza de Sant' Anna. Proprietor Senator Diogo Velho Cavalcante d'Albuquerque qq. the heirs of Lage. This fazenda is not one of the most productive; although, in reckoning the average yield per tree, not all the old but regularly dressed plantations have been taken into account.

As a proof of what I have stated above as to the general method of calculating the yield of the plantations, I cite the following extract from an autograph letter from Senhor Diogo Velho.

„A fazenda tem 700,000 cafeeiros, entre noves que ainda nao produzem, e velhos que pouco dão. Cafeeiros em effectiva produccão 500,000.” That is to say, out of the 700,000 coffee-trees only 500,000 may be reckoned as actually fruit-bearing, seeing that 200,000 are either young trees that do not bear yet, or old ones, which produce little!

Poso Alegre. Proprietor Dr. Manuel Monteiro da Silva. This fazenda has always been planted 12 by 12, that is, with 1400 trees to a hectare.

Six years ago this fazenda, then in a very neglected condition, passed into the hands of the present owner, who tries by better cultivation and management to raise the estate out of its ruins. During five years he planted nothing, only last year did he begin to lay out new gardens.

Trimonte. Proprietor Commr. José Luiz de Souza Oliveira. On this fazenda likewise the plantations are too large for the number of slaves. In harvest slaves are hired to pick the coffee. Moreover, when the crop is heavy the sugar cane is left standing in the field, sugar and cachaça 1) being purchased.

In May 1883 the fazenda came into the possession of the present owner.

The average production, reckoned with that of 1883, is estimated at  $\pm$  10,000 arrobas.

Senhor Oliveira, who has been engaged in coffee-planting for upwards of 25 years and has other fazendas besides this, assured me that coffee-planting cannot be maintained at its present level after the emancipation of the slaves, seeing that there is no benefit to be expected for that industry from European immigration.

According to his estimate the average produce of the Rio zone does not exceed from 25 to 30 arrobas per 1000 trees, equal to from 367 to 441 grams per tree.

Da Cruz Alta. Proprietor Commr. J. de Campos Negreiros. On none of the fazendas I visited in the Rio zone, have I

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1) Gin distilled from sugar-cane.

seen finer plantations than on this estate, which has been nine years under culture. The trees literally bend under the weight of the fruit. Of the 800,000 plants 350,000 may be reckoned to have produced during the last five years.

The plantations were divided in the following way:

in 1875	the total number of trees was	+	100,000
1876	" " " " " "	"	250,000
1877	" " " " " "	"	300,000
1878	" " " " " "	"	500,000
1879	" " " " " "	"	550,000
1880	" " " " " "	"	600,000
1881	" " " " " "	"	700,000
1882	" " " " " "	"	750,000
1883	" " " " " "	"	800,000

The crop of 1884 is estimated at:

yield of 200,000 trees at 60	=	12,000	arrobas.
" " 200,000 " " 30	=	6,000	"
" " 200,000 " " 15	=	3,000	"

That is 35 arrobas per 1000 trees or 514 grams per tree.

Lordello. Proprietress Marchioness de Paraná. The owner of this fazenda supplied me with a statement of the crop produced on this fazenda during the last 11 years, extracted from books kept with her own hand.

The exact size of this estate (according to valuation two sismarias), I could not learn at the fazenda, seeing that the plan was kept at Rio. The estate is managed by the old marchioness herself, who visited the plantations on horse-back herself when required, and directed everything in person.

When I was there an entirely new set of Lidgerwood machinery was in process of erection.

Cantagallo. Proprietress Countess de Rio-Novo. This estate belongs since June 5<sup>th</sup> 1882, in virtue of the will of the owner, who died in London, to the religious society, "Irmandade de N. S. de Piedade a Parahyba do Sul."

The conditions of the legacy are as follows:

1. That the 170 slaves, who are declared free, shall be allowed to remain on the estate, if they consent to keep and dress the existing coffee-gardens, surrendering half the pro-

duce to be gathered and dried by them, to the Irmandade.

2. That the society is obliged:

*a.* To prepare and sell the dry coffee, not charging the ex-slaves for costs of preparation more than half the actual expense, calculated at  $\pm$  200 reis per arroba.

*b.* To maintain an hospital for the free nursing of the inhabitants of the colony and the poor of the vicinity.

*c.* To maintain the aged and sick among the slaves for the term of their natural lives.

*d.* To establish two schools for the free instruction of the children of the inhabitants of the colony and the poor of the neighbourhood. (There was already one school with  $\pm$  70 children.)

*e.* To maintain the chapel of the fazenda (besides other religious provisions).

*f.* To reserve yearly 5 per cent from the gross proceeds of the fazenda for the purchase of cattle, tools, renewing of machinery and other necessary repairs.

3. That the Irmandade on the other hand has the right:

*g.* To prohibit the occupants who keep the coffee-gardens badly or not at all, who are too lazy or addicted to drink, from further residence on the plantation, and to take in their place first the former riobrancos of the fazenda, and, if they refuse, strangers not belonging to the estate.

*h.* To let the unused lands of the fazenda for their benefit to strange colonists at the rate of 36 milreis per alqueire planta in the mountains and 50 milreis per annum and per alqueire in the plain.

Of the 170 slaves and 30 riobrancos, only one (the steward) went away after he received his freedom, because there was a permanent situation offered him. All the rest have remained. For the first two months they were rather intractable, and, as it were, drunk with joy. After that things went better, and, according to the manager, they became even very industrious.

Besides the manager, Senhor Manuel Ribeiro do Val, the Committee of management consists of the doctor, the apothecary, the secretary, and the pastor.

From Senhor do Val I received the data I desired, extracted from the books.

To my mind the future of this colony is not at all doubt-

ful. In my opinion the maintenance of coffee-planting on this estate will soon prove an impossibility.

On my tour the manager drew my attention to the extensive squares of maize and mandioc, not between the coffee-trees but on separate fields, near the new houses of the former slaves, who had established themselves at different points of the fazenda. These crops were attended to with exceeding care, because..... the proceeds had not to be divided.

The ex-slaves will keep and dress the coffee-gardens, pick and dry the fruit in fulfilment of the conditions; but reluctantly, and only because they can be dismissed from the fazenda if they do not.

The very first harvest, that of 1883, proved sufficiently how little the slaves were taken with this provision.

While the average produce of the last six years was 2664 bags of 60 kilograms, the crop of 1883 amounted to only 2500 arrobas of 14<sup>688</sup> kilograms, or 612 bags.

This scanty yield cannot in my opinion be altogether explained by the light harvests produced everywhere in 1883.

On the other hand the ex-slaves have proved that they will work, which has been obstinately denied hitherto by many fazendeiros and upholders of slavery. I have frequently discussed this last point with the planters, and at length I discovered that it is, properly speaking, a confusion of ideas that leads to the unfavourable opinion held of free negroes.

The plantation-slave works 14, 16, even 18 hours a day if required! This was lately confirmed by a committee which acting for the Immigration Society, studied the colonisation question, and embodied the results in their Report, which appeared in the *Journal do Commercio* of 12<sup>th</sup> February 1884.

The fazendeiros are now so much accustomed to have the slaves work at least 14 hours per day, that they call an ex-slave that works 6 or 7 hours a day for his own hand, lazy.

All things considered, an ex-slave is certainly not likely to work harder than a Brazilian from the interior, who has quite as few wants, and is perfectly contented if he can only get daily his cigarette and his feijoada, a dish of black beans with mandioca-meal and a bit of meat or fish. And to supply these modest demands, a couple of hours' work at utmost is sufficient in a country like Brazil.

As for the assertion that an ex-slave will surrender himself to drunkenness and vagabondage, I do not hesitate, judging from what I myself have witnessed, to contradict it emphatically.

It is possible that examples can be cited to prove the contrary; but on the whole it will be found that the negro population of Brazil are easy to manage. And this is not difficult to understand.

In no country where slavery has existed, have the slaves been so well and humanely treated as they are in Brazil, where race animosity is unknown. A social crisis — in this sense — is what there is no reason to fear after the emancipation of the slaves, not even should slavery be peremptorily abolished.

As I showed in the chapter, „Slavery and Emancipation,” there is a total absence in Brazil of the animosity between the whites and the blacks, between the mulattoes and the negroes, which was the true cause of the social crisis in the southern States of North America and in the Republics of Hayti and San Domingo.

It cannot be denied that the negroes as a general rule are fond of strong drink; but we must not forget that their constitutions are strong too, so that they can stand a great deal.

As a proof how little they are enslaved to drink, I shall mention the town of Rio de Janeiro, where the greatest number of free negroes are settled. I have traversed the city in almost all directions, and nowhere have I seen intoxicated negroes, though I have met European sailors in a state of intoxication.

It is indeed a fact well-known in Rio, that during the last 8 years, that is to say since coffee has become the national beverage, it is very seldom that people are seen in the streets the worse for drink.

Many foreigners, visiting Rio, may fancy a negro or negress to be drunk because he or she acts like an inebriate. But it is a great mistake to imagine a negro intoxicated because he swings his arms, shakes his head, and talks to himself aloud. The only reproach that can be preferred against the negro is, that he has the foibles of a comedian, and likes to hold argument or dispute with himself or an imaginary friend,

often making meanwhile the most vehement and uncouth gestures.

Uba. Proprietors the heirs of the late Senhor José Pereira de Almeida.

The data regarding this estate have been extracted by myself from accounts relating to division of inheritance, drawn up in September 1883. The plantations, far too extensive for the number of slaves, looked very neglected indeed.

This estate produces in addition to coffee, so much sugar-cane that 225 casks of cachaça or gin, are distilled from it and sold.

In order to effect the division, a portion of this estate was sold by public auction on the 18<sup>th</sup> December 1883 by the Judge for Orphans (juiz de orphãos.)

According to the judicial valuation (Journal do Commercio of 17 December 1883), the lands were valued at:

802 <sup>86</sup> hectares	Matta virgem	at 128,560 m. r.
841 <sup>97</sup> „	Capoeiras and Campos	at 73,460 m. r.

Alliança, Sant' Anna, and Monte Alegre. Proprietor Baron de Rio Bonito.

On these fazendas likewise the plantations are too extensive for the available hands.

Of the 390 slaves on Sant' Anna 40 are hired. The price paid for them one with another is 20 milreis per month, which sum is reduced in proportion to loss of time, if the slave should be ill more than 8 days successively. The keep of the slave falls on the employer. This includes clothes as well as food. A slave receives, as a rule, two suits of clothes a year, consisting of:

a. for a man:

A coarse calico shirt and trousers (in milreis)	$3 \times 2 = 6$ .
Head coverings . . . . .	1
A baize (baetão) blouse . . . . .	4
A woollen blanket . . . . .	5

For two years . . . . .	9	4½
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Total. . . . .	milreis 11½
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b. for a woman:

1 coarse calico chemise and skirt (saia) . . . . .	3,800 m. r. $\times 2 = 7.600$	
Head coverings . . . . .	1.—	
A baize skirt . . . . .	4 500 m. r.	
A woollen blanket . . . . .	5 —, m. r.	
	9,500 m. r.	4.750
For two years . . . . .		
Total . . . . .	milreis	13.350

Per head, therefore, the clothes cost 12 or 12½ milreis: that is pd. St. 1.4.0 or pds. 1.5.0.

According to information received on the fazenda, it costs 600 reis per day, or 219 milreis per annum, to feed a slave. This calculation is based on the cost of boarding a free man. The latter demands 2,— m. or 2500 m. without board, or from 1 m. 200 r. to 1 m. 800 with board. The daily consumption of dried meat alone amounts to, on an average, 100 reis or 2½ per slave. This shows the large quantities of animal food consumed by a fazenda-slave, seeing that meat is so cheap that in Rio itself the best beef is to be had from 8 d. to 1 s. per kilogram, while pork costs 1 s. 7½ d. per kilogram.

The free feitores or overseers are paid at the rate of 500 or 600 milreis per annum, with periodical rises up to a maximum of 1000 milreis or 100 pounds sterling a year. These are the salaries paid everywhere to free feitores. All employés have free board and lodging.

For working on Sunday (on these fazendas Friday was fixed as the holiday) a slave is paid 1 m. 200 r. = 2 s. 4½ d.

Ibityra. Proprietors, Messrs. Carvalho & Faro. Of the 240 slaves working on this fazenda 70 are hired on the same terms as the three last-mentioned fazendas.

Four years ago this estate passed into the hands of the present owners, who pay great attention to coffee-planting.

Their samples of coffee gained the gold medal at the Amsterdam International Exhibition.

On this fazenda likewise the work is continued by gas-light.

Seeing that no sugar-cane is grown on this fazenda, the cachaça or gin for the use of the slaves has to be purchased. This represents an average expenditure of 1 conto or 100 pounds sterling per annum.

## B. Results of Coffee-planting (Santos zone).

From Table G. Page 334 it appears:

a. That, according to column 11, the coffee-shrub in the Santos zone produces on an average . . . . . 804 grams or about 55 arrobas per 1000 trees.  
According to columns 2, however . . . . . 806 "  
Medium between the two resultants,

or. . . . . 805 "  
may be accepted as more accurate.

b. That a plantation-slave can produce, according to column 18 . . . . . 26.<sup>64</sup> bags of coffee weighing 60 kilograms.

According to columns 12, however, this quantity is 26.<sup>89</sup> "  
If we subtract from the number of bags on column 10 the produce of Carlsberg, Boa Esperança and Itatiba, where no slaves exist, or are registered.

Medium between two resultants . . . . . 26.<sup>50</sup> "  
This medium I accept as the more accurate.

c. That a plantation-slave, must, according to column 15, keep and dress . . . . . 2805 trees.

When, however, we leave out of account the fruit-bearing and young trees on Carlsberg, Boa Esperança and Itatiba, we obtain, according to

columns  $\frac{6+7}{12}$  . . . . . 2771 "

as the number of trees to be kept and dressed.

Of these figures also I take the medium . . . . . 2788 "

And here we must not lose sight of the fact that in the Santos zone, where there are colonists (in the Rio zone they are not met with at all, or only on a very few fazendas) the slaves do indeed plant a great deal but do not always keep all the plantations.

Were this the case it would be quite impossible, taking into consideration the double quantity of fruit, for one slave to plant and dress even 2000 trees.

For the subjoined calculation, however, this need not be taken into account.

d. That 1 hectare planted with coffee-shrubs produces, according to column 17 . . . . . 9.<sup>80</sup> bags.  
 But, as columns <sup>v</sup> give nearly . . . . . 10.<sup>70</sup> "  
 as the average I accept here also . . . . . 10.<sup>25</sup> "  
 as the most correct figure.

In order to answer the three questions aforesaid the export from Santos requires to be fixed.

From the following data the reader will perceive that the average export from the Santos zone may be estimated at 1,254,579 bags.

	Ed. Johnston & Co.	Associação Commercial.	W. F. Wright.	Zerrener Bülow & Co.	Average.
1877—78	998,500	976,411	934,913	998,482	
1878—79	1,209,647	1,185,245	1,185,601	1,211,151	1,195,743
1879—80	1,041,932	1,164,020	1,025,128	1,042,385	1,209,997
1880—81	1,204,243	1,187,020	1,186,232	1,204,200	1,171,272
1881—82	1,524,395	1,537,290	1,524,486	1,524,486	1,196,141
	5,978,717	6,049,986	5,856,360	5,980,704	4,773,153
5:	1,195,743	1,209,997	1,171,272	1,196,141	1,193,288

	Rio News.
1878	1,103,150
1879	1,156,438
1880	1,201,452
1881	1,367,559
1882	1,750,744

6,579,343 : 5 = 1,315,869 yearly average (calendar year).  
 1,193,288 " " (financial year).

export from Santos.  $\frac{2,509,157}{2} = 1,254,579$  bags, average

On a rough calculation the population of the Santos zone may be estimated at 560,000 souls. 1)

Assuming the home consumption of coffee to be rather more than 10½ kilograms a head, or in whole . . . 98,421 bags.  
 we obtain for the average produce of this zone . 1,254,579 "  
 per annum . . . 1,353,000 "

1) Population of S. Paulo = 838 000  
 Deducted for Rio zone = 279,000  
 559,000

Well, then, a slave represents  $26\frac{1}{4}$  bags, or, according to the calculation made for the Rio zone,  $26.70$  bags as actual production.

The number of slaves engaged in coffee-planting must consequently amount to:

$$\frac{1,353,000}{26.70} = 50,674.$$

A slave represents also 2788 trees (fruitbearing and young), so that the number of trees may be estimated at  $50,674 \times 2788 = 141,279,112$ .

A fruit-bearing tree yields on an average 805 grams, consequently there are:

$$\frac{1,353,000 \times 60 \times 1000}{805} = 100,844,720$$

fruit-bearing trees.

By subtraction, therefore, we obtain  $= 40,434,392$  young trees.

A hectare, planted with young and fruit-bearing trees, yields on an average  $10\frac{1}{4}$  bags.

The coffee-producing area of this zone extends therefore to  $\frac{1,353,000}{10.25} = 132,000$  hectares.

This squares almost exactly with the calculation that the planting is 14 by 14 palmos, that is to say between 1050 and 1100 trees to a hectare seeing  $\frac{141,279,112}{132,000} = 1070$  trees per hectare.

#### Remarks on Table G.

Cabreúva. Proprietor, Senhor Fransisco Fernandez de Abreú.

From this estate a larger average is obtained than from the adjoining fazenda Sete Quedas, to the great surprise of the manager of the last-mentioned plantation, Mr. Jansen, an Amsterdammer by birth.

I ascribe this to the circumstance that the produce of the surrounding sitios is prepared at Cabreúva.

This way of calculating can never be detrimental to the manipulator; it may easily be in his favour, seeing that he receives the coffee by measure as „glondongan” and delivers it by weight as prepared produce. For the preparation

only 400 reis, or  $9\frac{3}{4}$  d. per 15 kilograms, unsorted, is paid, and 100 reis more if the coffee is selected, which is seldom done.

Carlsberg. Proprietor, Carl Peter Magnussen.

This little sitio was bought in 1882 for 15 contos or 1500 pounds sterling. The plantations consist of 8000 trees between 15 and 18 years and 8000 trees between 10 and 12 years.

The average produce is estimated at 550 arrobas, or, reckoning the last harvest, at 567 arrobas per annum.

Mr. Magnussen, a Swede, worked 11 years as a colonist on the fazenda of Sete Quedas. Now he works his lands himself, with two of his sons and a daughter, besides 1 camarada, an American, to whom he pays only 1 milreis per day with board.

The existing plantations are merely kept up, not extended.

According to Mr. Magnussen coffee-planting is not so profitable as the cultivation of provisions, which, moreover can more speedily and readily be disposed of at the neighbouring market of Campinas.

In 1882—83 he had harvested:

Beans . . . . .	40	alqueires	of	50	litres.
Maize . . . . .	400	"	"	"	"
Potatoes . . . . .	500	"	"	"	"

The growing rice-crop is estimated at 130 alqueires of 50 litres.

The crop of vegetables alone clears the expenses.

The soil is worked with a small plough.

The coffee grown on this sitio is prepared at Cabreúva, but not sorted there.

According to Mr. Magnussen a colonist can get on very well in Brazil, if he is willing to work briskly. For the first year indeed he has a good deal to suffer, but even the second year he has got tolerably well acclimatised. At all events he can live infinitely better than in Europe.

Mr. Magnussen has 7 or 8 children and does not want to go back to Sweden.

Sete-Quedas. Proprietor, Viscount de Indaiatúba.

In calculating the fruit-bearing trees on this estate, I have only reckoned the „cafeeiros formadas” of the colonist, because the statement of their produce is the only estimate I have

received. With the young plantations I have classed all fruit-bearing trees which are dressed and plucked by the slaves, without their crops being kept separate. The total number of trees is correct, so that the calculations regarding them must be correct likewise.

The colonists work here, as they do on the fazenda Santa Clara in the Rio zone, on parceria agreements. Here, however, they have free lodging in stone houses with tiled roofs.

Unlike the colonists on Santa Clara, those settled here deliver the coffee undried.

In order to fix a settled price for preparation, the following calculation has been made.

COSTS OF PREPARING 10,000 ARROBAS.

	milreis.	milreis.
Interest at 10 per cent on the value of terreiros and machinery, 35,000 milreis . . . . .		3500
Interest at 5 per cent for wear and tear of ditto . . . . .	1750	
62 days for pulping, at 2¼ milreis per day . . . . .	124	
240 days for drying, at 2 milreis per day . . . . .	480	
196 days for preparation:		
60 persons per day, for 1 hour, during 4 months at 2 milreis per day of 10 hours. . . . .	392	
50 days work of the machinist at 2 milreis per day. . . . .	100	
Sorting of 10,000 arrobas at 100 reis per arroba . . . . .	4000	3846
Total . . . . .		7346

Thus 1 arroba = 734½ reis.

The colonists are at the same time charged with  
 700 reis per arroba; likewise with  
 100 " " " for carriage from the fazenda to Campinas = 7 kilometers.  
 10 " " " Expenses at Campinas.  
 603 " " " Freight from Campinas to Santos.  
 172 " " " 4 per cent provincial export-duty.  
 45 " " " additional export-duty to the railway-companies (Vintêm). 1)

1) Although the vintêm-tax is abolished, the private Railway-companies still retain the increased rates.

	80 reis per arroba; municipal tax for the building of churches.
1 m 710	" " " to be added:
180	" " " for commission at 3 per cent on 6 milreis per arroba.
40	" " " expenses at Santos.
<hr/>	
1,930	" " "

In the 3% commission is included the furnishing of bags free of charge.

I think I do not make too high an estimate when I reckon the charges to be paid by the colonists, at 2 milreis per arroba, considering the large quantities of coffee lost in course of transport.

This calculation, based on information received from Mr. Jansen, agrees pretty well with the following account between the proprietor of Sete Quedas and his colonists, which account I subjoin untranslated.

Bruto producto de 163,000 kilos ou 11.102 arrobas 18 libras café m. r.  
68149,200

A deduzir as despesas seguintes.

Para beneficio à 700 reis por arroba . . .	7771,036
» imposto municipal para matriz novo . . .	881,175
» condução de Sete Quedas à Campinas . . .	1110,211
» frete e imposto provincial de Campinas . . .	9120,630
» frete à Santos . . . . .	557,110
» Comissão e carretos em Santos . . .	2354,343
	<hr/>
	21801,505

Liquido producto de 11102 arr. 18 libr. café. . . . . 46347,695  
 on por cada arroba. . . . . 4,175  
 contando 3 alqueiros de café em cereja por cada arroba de café beneficiado;  
 o liquido producto de 1 alqueire de café é. Rs. 3,392 m. r. sendo a metade  
 ou Rs. 696 para creditar as contas dos colonos. 1)''

From this we see that the average selling price of the crop of 1882 was 6.138 m. r. per arroba, the nett proceeds, 4,175 m. r. per arroba.

The colonist receives the half of this, or 2.088 m. r. per arroba, equal to 1.420 mr. per 10 kilograms.

1) It is here assumed that 3 alqueires red coffee are equal to 1 arroba or 14,688 kilogr. prepared coffee.

For 1 bag of 60 kilograms, then, the colonist receives 8.520 m. r. or  $17\frac{1}{2}$  sh. d. as remuneration for dressing and picking. And as this fazenda produces on an average 707 grams per tree, a colonist has to dress 84 trees and gather the fruit of them in order to earn  $17\frac{1}{2}$  sh. d. per annum.

On the fazenda Santa Clara a colonist earns pd. st. 1.10.3 $\frac{1}{2}$  a year by dressing 143 trees, plucking and drying the fruit. There, however, he has no free lodgings.

S. José de Paraiso. Proprietor, Baron de Fonseca.

This fazenda was bought in 1877 with existing, fruit-bearing plantations of upwards of 80,000 trees. During 1880-81, 145,000 trees were planted, which were loaded with fruit when I was there. Against the end of 1884 some colonists were expected there also.

The engenho or manufactory, which has been in operation here for a year, cost 20 contos or 2,000 pounds sterling, without counting the labour of the slaves.

The distance of this fazenda from Belem is upwards of 10 kilometers, past campos, (grassy plains dotted with shrubs) and serrados, short brushwood growing on sandy soil. The soil of this estate is partly terra roxa, partly massapé. The terreiros were not cemented or paved.

Monto Alverne. Proprietor, Colonel José Ferreira de Figueiredo.

This estate was bought by the present owner in 1875.

Besides his own slaves, he has 5 hired slaves, paying 25 milreis per man and 20 milreis per woman with board. Owing to the isolated situation of this estate, near Paraiso, they were not to be had cheaper. Besides these there are two Brazilian families working here, 10 souls all told. They keep and dress a small portion of the plantations, receiving an annual payment of 100 reis per tree. For the fruit gathered from these they receive 240 reis per alqueire for young plantations, for old trees 320 reis per alqueire.

The new cemented terreiros covered a superficies of 4213 square braças = 20391 square meters.

Montevideo. Proprietor, Senhor José de Lacerda Guimarães.

One of the finest fazendas in the Santos zone. The engenho, the slaves-quarters, the hospital, the dispensary, the terreiros, and the water-pipes, have cost upwards of 100 contos or pst. 10,416.13.4, without reckoning the labour of the slaves. Everything was brand new. The serraria or saw-mill alone had cost upwards of 1000 pounds. The water is pumped by machinery.

The colonists received here:

1. Pasture for three or four cattle, horses, or sheep (pigs are not allowed to be kept.)
2. A house, which cost  $\pm$  700 milreis.
3. Fruit-bearing coffee-trees.
4. Arable land; they are entitled to  $\frac{1}{4}$  alqueire or  $\frac{1}{16}$  hectare for every 100 trees they have to dress.
5. 500 reis per alqueire of 50 litres for the fruit they gather.

This fazenda is often damaged by the frost or giada. The scanty harvests of '75, '76, and '80 are owing to this cause. The crop of 1882 was partially destroyed by hail.

Santa Verediana. Proprietor, Dr. Antonio Prado.

In 1882 there were 49 families of colonists on this estate: 214 persons in whole.

They did not work here on parceria, but for a settled sum or wages for picking (contracto preço marcado).

The terms are as follow:

1. Free lodgings. A house for two families costs from 3800 to 4000 milreis here, reckoning labourers.
2. Free pasture for two animals, 4840 square meters. If the colonist wants more, he pays 2 milreis per annum for an equal extent, and 3 milreis for every additional 4840 square meters.
3. Fruit-bearing coffee-trees, between which he may plant beans but not maize; the plantation must be dressed at least five times a year.
4. Arable land near his house for potatoes, maize, and other necessaries. The extent is proportioned to the wants of the family.
5. He can obtain advances at 6 per cent interest.
6. Free schooling for the children. That this last privilege really signifies little, requires no demonstration.

On every large fazenda there is a school for the riobrancos, where reading, writing, and arithmetics are taught in Portuguese. The children of German and Italian colonists will not be able to learn much there.

7. Wages. In every agreement the amount is, as a rule, fixed at 600 reis per alqueire.

It seems, however, that the number of litres to an alqueire is not always specified.

This often causes unpleasantness between the fazendeiro and his colonists.

On this fazenda the colonists were on the whole not particularly well satisfied.

Senhor Prado seems however in the beginning of 1883 to have had reason, in the meantime, that is to say, during the five years agreed for, to reduce the price from 600 reis to 500, and on the other hand to fix the alqueire at 50 litres.

He gave notice of this change to the colonists three months beforehand, leaving them the alternative to comply with his terms or to go.

Whether he had right on his side or not, I cannot venture to say, seeing that I have not seen the agreement in writing; and, which seems inexplicable, there was no copy pasted up in the administrator's house, to be consulted at will by the persons in the colony, as is the custom everywhere. However it be, the Italian colonist, that is to say more than the half, left the fazenda at once. No one remained but the Germans, who, as they told me, shrank from removing with their families on such hasty notice.

This colonisation question caused considerable sensation both in São Paulo and Rio, and must assuredly have contributed in no small degree to the already existing suspicions on the part of the new colonists. This would truly be a pity, seeing that the province of São Paulo offers the colonists an excellent chance of making their way in the world.

From the harvest-books of the colony of Santa Verediana I extracted the following notes of the three oldest colonists.

	FRANZ JUNGHHAUS.	GOTFRIED STÄDTER.	LOUIZ AVESANI.
1877	—	1556 alq. of 45 litres.	—
1878	—	1101 » » » »	406 alq. of 45 litres.
1879	2284 alq. of 45 litres.	1771 » » » »	604 » » » »
1880	1673 » » » »	1314 » » » »	786 » » » »
1881	2931 » » » »	1686 » » » »	1297 » » » »
1882	2245 » » » »	1547 » » » »	1723 » » » »
1883	1493 » » » »	1167 » » » »	1138 » » » »
	10626 alq. of 45 litres.	10142 alq. of 45 litres.	5954 alq. of 45 litres.
Average .	2125 » » » »	1449 » » » »	992 » » » »
or. . . . .	1275 milreis.	869,400. mr.	595,200 mr. per annum.
equal to .	£ 127,10	£ 86,18,4	£ 59,10,4½

Assuming that, as on the fazenda Sete Quedas, 3 alqueires are equal to 1 arroba, these colonists have harvested respectively 708, 483 and 331 arrobas per annum. They have thus received on an average  $3,7\frac{1}{2}$  per arroba or per 60 kilograms = 14 s. 10½ d. as remuneration for dressing and picking.

Bom-Retiro. Proprietor, Joaquim Paulino Barbosa Aranha.

On this fazenda there are really 278 slaves; but as 100 are employed exclusively in building the factory, I have, in table 3, stated the number to be 178.

Except the „palacete” of the Viscount de Nova-Friburgo, I never any where saw handsomer, grander, or pleasanter fazenda-buildings.

The mansion-house is very spacious, the flower-garden tastefully laid out, and the extensive orchard a delight to the eye; when I was there it was full of oranges, peaches, apricots, grapes, figs, and various kinds of djamboes.

The place was perfectly clean, seeing that the pigs, poultry cattle etc. were kept in separate kraals or enclosed spaces outside the actual enceinte of the establishment.

With an eye to the ultimate substitution of slaves by colonists, the owner has had the old senzalas or slaves-quarters broken down, and handsome rows of cottages built on each side of the mansion house. These cottages, separated from the mansion-house by the garden and a broad paved road, form a street of 38 houses, each with three or four rooms and a

kitchen. Each house costs 1200 milreis, or rather more than 600 over and above the slave labour. Twelve of these cottages had still to be built, in order to quarter at a future time 50 families of colonists.

The question, whether the European colonist may care to avail himself of lodgings under the immediate eye of the landlord, seems not to have been taken into consideration.

I direct attention to this point, because the Brazilian fazendeiro, accustomed as he is to deal constantly with slaves, does not always know the proper attitude to maintain towards his colonists, whom he is too apt to regard as wholly dependent upon him. The great fault of the fazendeiro is, that he is too much of a busy-body, and frequently interferes with the domestic affairs of his colonists. In his dealings with these people he, in my opinion, shows too openly that he regards them as minors.

Resaca. Proprietor, Dr. J. Tibiriça Piratinga.

This fazenda is partly worked with a small plough.

Here likewise houses are being built for the reception of colonists.

Santa Gertruda or Laranj'-Aceda. Proprietor, Count de Tres-Rios.

In regard to this fazenda I could only ascertain the average produce of the last 10 years. Detailed statements were promised to me, but not sent.

Boâ Esperança. Proprietor Detlef Brune.

This sitio is worked by free labourers alone, that is to say, by German colonists. These, however, cannot be persuaded to plant coffee themselves or to clear the land required. The owner has had to hire two Germans at 25 milreis a month with board and lodging to plant the coffee. The young plantations are then handed over to the 13 families of colonists, consisting of 48 persons of full age and 26 minors.

On this estate agreements are made by word of mouth. Each family receives, 1. A house costing 500 or 600 milreis. 2. As much arable land as they need. 3. As many young and old coffee-shrubs as they will undertake to keep.

For the dressing Mr. Brune pays per annum 40 milreis

per 1000 fruit-bearing trees, and 50 milreis per 1000 young ones; on the other hand he allows for picking the fruit only 400 reis per alqueire of 50 litres

Mr. Brune calculates that a crop of 100,000 alqueires yielding 4000 arrobas, costs him:

1. Picking and dressing.

- a. For plucking an alqueire of fruit, winnowed by the colonist . . . . 400 reis.
- b. For dressing, according to the above standard, . . . . . 200 "

consequently for 10,000 alqueires . . . . . 6000 "

2. Preparing.

- a. For drying, 100 reis per alqueire. . . . . 1000 "
- d. Preparing, 300 reis per arroba. . . . . 1200 "
- e. Sorting, 200 reis per arroba. . . . . 800 "

3. Transport.

- f. For transport from the sitio to the station 6 kilometers . . . . . 400 "
- g. For transport from the station Leme to Santos, formerly 1100 reis per arroba, since January 1. 1884 only 972 reis per arroba. . . 3888 "

4. Extraordinary expenses.

Under these are now classed the costs of transport to Ibicaba, where the crop is prepared by machinery; this item is permanent, because in future allowance must be made for interest and wear and tear of the machinery shortly to be erected. 580 "

5. Management.

As Mr. Brune is himself manager of Ibicaba he has to hire an overseer at. . . . . 2500 "

6. Costs on sale.

- h. Small expenses at Santos, 40 reis per arr. 160 "
- i. 3 per cent commision on 6 milreis per arroba. 720 "

In this 3 per cent is included the furnishing of bags free of charge. . . . .

17,248 milreis.

Gross proceeds of 4000 arrobas at 6 milreis per arr. . . . . 24,000 "

Balance. 6752 "

The estate was bought for 50,000 milreis, so that the capital invested yields only  $13\frac{1}{2}$  per cent, even with the very frugal management we observe here.

Mr. Brune acknowledges that coffee-planting can yield no profit whatever if the planter works with borrowed capital. It is impossible to farm more economically than is done on his sitio.

According to Mr. Brune one must have a full harvest at an all round price of at least 4.700 m. r. per arroba, that is to say pst. 1.18.4 per bag of 60 kilograms, in order to obtain 6 per cent on the capital invested. Consequently those that are in debt and have to borrow money at 12 per cent per annum on the lowest calculation, — there are fazendeiros that pay from 18 to 24 per cent per annum — can hardly make a living with prices ranging from  $5\frac{1}{2}$  to 6 milreis per arroba, or from pst. 2.5.0 to pst. 2.9.6 per bag.

Ibicaba. Proprietor, commdr. José de Campos Vergueiros.

This estate yields the highest average of all the fazendas I visited; viz. 1235 grams per tree, or  $70\frac{1}{2}$  arr. per 1000 trees, if we assume the number of fruit-bearing trees to be only what the owner states: 500,000; although I must confess that the terra roxa lands of Ibicaba are famous for their fertility, yet I am disposed to doubt this astounding productiveness of the coffee-tree there.

As I said above, the fazendeiros keep no catalogues. They only know approximately what number of coffee-trees they ought to have.

The owner of Ibicaba himself admits this. In his paper, dated Ibicaba 30 August 1883, and published in the daily *Provincia de São Paulo*, he protests against the statement of Dr. Couty, that this fazenda contains, according to data supplied by the Manager, Mr. Brune, 700,000 old coffee-trees, 100,000 young coffee-trees; and that there are 350 slaves, 40 of whom were invalided.

Seeing that this paper is signed, I asked no further data concerning the plantations.

Well, then, in that paper Senhor Vergueiro states that there are on his fazenda about 1,150,000 coffee-trees, 600,000 of which are between 8 and 50 years old, and from 500 to 550,000 1, 2, 3, and 4 years.

Seeing that among those 600,000 dressed and fruit-bearing trees there are „mais ou menos 150,000 que dão em parte pouco fructo (that is, produce little) Senhor Vergueiro desires — and signed that desire with his own hand on my estimates of his crops for the last 10 years — that the number of fruit-bearing trees should be reckoned at only 500,000.

In the words I have quoted the reader will find confirmation of what I said above concerning the custom prevailing in Brazil, to count as fruit-bearing trees those only that bear a good crop during that particular harvest.

The fazenda of Ibicaba is one of the oldest plantations in the Santos zone; for more than 20 years it has produced an almost uniform quantity of coffee. The plantations are always kept up to the same level; that is to say, care is taken to keep up a supply of young trees to take the place of those that are exhausted. Thus, assuming that the plantations have always consisted of a million trees, I imagine I am not far from correct in estimating the number of fruit-bearing trees at 700,000. Considering the system of lay out new gardens in Brazil, 700,000 fruit-bearing trees to 350 or 450,000 not fruit-bearing, is already extraordinary.

There is another Brazilian custom to which I must draw attention.

Few fazendeiros will admit that coffee-trees of five or six years old ought to be counted fruit-bearing, though they have already yielded three or four crops. They say the crops of the 3<sup>d</sup>, 4<sup>th</sup> and 5<sup>th</sup> year must not always be reckoned, because though the trees are indeed loaded, they yield no weighty coffee. Hence it comes that Senhor Vergueiro speaks of trees ranging from 8 to 50 years, and of young plantations of 1, 2, 3, and 4 years, but does not make separate mention of the five and six year old trees.

As regards the number of slaves, instead of 350 slaves, 40 of whom are invalided, Ibicaba has „Quatrocentos e tantos entre maiores e menores, com apenas 4 invalidas”

In my tables I stated 400, deducting the „e tantos” as invalids.

I visited the greater part of the gardens, as well as the colonies; they seemed to be carefully kept, for the cafesaes looked fresh and vigorous.

So far as I could ascertain, the colonists here were very well contented. In the landlord they saw not only their master but their friend. Senhor Vergueiro is indeed the only fazendeiro I have spoken to who can express himself fluently in German as well as in French and English. Moreover he enjoys a certain prestige as captain in a Prussian regiment. He is a hale old man of 73, very much respected and beloved by his slaves and colonists. Being a retired merchant, he buys the bags required on his fazenda wholesale. They then cost 380 reis a piece, delivered at the fazenda.

He sells his coffee by sample at Santos or Rio. In this way he saves the 3 per cent commission, and receives moreover from the buyer a compensation of 450 reis for every bag.

By this transaction the purchaser-exporter profits likewise, seeing that the commissario at Santos would charge him 800 reis a bag.

The transport from the gardens to the factory and thence to the station (Cordeiros) an hour's drive, is done by contract.

In the former case, 20 reis per 50 litres is paid for any distance; the transport to the station costs 20 reis per 15 kilograms.

Itatiba. I have taken these data from statistics drawn up in the end of 1883 and produced in connection with a request for a railway concession, Estrada de Ferro de Itatiba, by Senhor E. Joly, Engineer.

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View of and Answer to the questions propounded by the missive of the President of the Local Board dated 16 May, 1882. No. 3054.

In making a brief summary of what I have said above, I think I may state the following as facts:

*a.* The coffee-producing area of Central Brazil lies between 21 and 22 degrees South latitude, thus 15 degrees more southerly than Java.

*b.* This area may be conveniently divided into:

1. The Rio-zone, 155,000 square meters in extent, where the maritime climate prevails and the coffee-zone lies from 200 to 550 meters above the level of the sea. (Page 263).

2. The Santos zone, 225,000 square kilometers in extent, where the continental climate is predominant, and the zone is consequently further inland and higher in level; viz. between 600 and 1000 meters above the sea. (Page 268).

*c.* Extent of land in these zones, planted with coffee:

1. In the Rio-zone (page 337). . . hectares 700,000.
2. In the Santos-zone (page 352) . . . 132,000.

*d.* The plantations consist of:

	Fruit-bearing.	Young trees.	TOTAL.
1. In the Rio zone . . .	756,756,756	93,508,696	850,265,452
2. » » Santos zone . . .	100,844,720	40,434,392	141,279,112
Total . . .	857,601,476	133,943,088	991,544,564.

*e.* The space left in planting is, on an average:

1. In the Rio-zone 12 by 14 palmos, giving rather more than 1200 trees to a hectare.

2. In the Santos zone 14 by 14, or rather more than 1000 trees to a hectare.

f. The number of slaves engaged in coffee-planting is:

In the Rio-zone (page 337) . . . 233,333

In the Santos-zone (page 352). . . 50,674

Total . . . . . 284,007

The number of slaves is, according to the Relatorio of the Minister for Agriculture, Trade and Public Works, 1833 (Page 113).

In Rio de Janeiro, exclusive of the capital with 35,568 slaves. . . . . 268,831

In Minas Geraes. . . . . 279,010

In S. Paulo . . . . . 174,622

Total. . . 722,463

of the 1,346,648 slaves who, according to the registers, ought to have been alive in June 1833.

In the Chapter on Slavery and Emancipation I demonstrated why these figures cannot possibly be correct, and why the exact number of slaves in Brazil cannot exceed one million at the very utmost.

g. The average yield, reckoned by export from the fazenda, thus exclusive of home consumption, is:

1. In the Rio zone (page 337):

per tree . . . . . grams 333

„ hectare . . . . . bags 6,00

„ slave . . . . . „ 17½

2. In the Santos zone (page 337):

per tree . . . . . grams 805

„ hectare . . . . . bags 10½

„ slave . . . . . „ 26½

h. Number of trees to be dressed by one slave:

1. In the Rio zone (page 337) . . . . . 3644

According to the statement of the Credit Banks, 3728 trees (see Commerce and Banking. page 220) . . . . .

2. In the Santos zone (page 352) . . . . . 2778

According to idem 2450, (page 222) these discrepancies are in my opinion to be explained by the fact that coffee-planting in the Rio zone has been little extended since the Mortgage Act of 1873, while in the Santos zone it has made great progress since then).

Thus a plantation slave in central Brazil, who has to work 14,16, even up to 18 hours every day, has actually the sole charge of a plantation, covering in the Rio zone 3 hectares, and in the Santos zone . . . . . 2 $\frac{3}{4}$  "

In Java a household, consisting of 5 persons on an average has to look after only about 500 trees, or scarcely half a hectare,

*i.* The quantity of coffee picked by a slave, may be estimated at an average of 40 or 45 kilograms a day, while in Java it never exceeds 12 or 13 kilograms of prepared coffee.

*k.* Cost of clearing the land.

1. For the clearing (roçar) of 1 alqueire or 2 $\frac{7}{8}$  hectare of forest land about 30 milreis or 3 pounds sterling is paid, consequently 1 hectare = p. st. 1.2.4 $\frac{3}{4}$ .

2. For the felling (derrubar) of an equal extent of heavy timber, about 75 milreis or pst. 7.10 is paid; thus 1 hectare = pst. 2.15.6 $\frac{3}{4}$ .

3. For the felling of 1 alqueire capoeira or capoeirão, 42 $\frac{1}{2}$  milreis or 45 pst. is the average price, thus 1 hectare = pst. 1.11.7 $\frac{3}{4}$ .

4. For the roçar, derrubar, and burning of 1 alqueire forest-land, about 137 $\frac{1}{2}$  milreis or pst. 13.15; thus 1 hectare = pst. 5.1.10 $\frac{3}{4}$ .

5. For the opening up of roads, 2.<sup>64</sup> meters in width, 2 $\frac{1}{2}$  milreis per braça is paid in the Rio Zone; thus nearly 1.4 $\frac{1}{2}$  sd. per longitudinal meter.

6. For the pulling, transport, and planting of 1000 mudas pst. 10 is paid in some parts.

*l.* The earnings of a colonist by coffee-planting, amount, for dressing the plantations and picking the fruit:

1. By parceria-contract on an average . . . 17.0 $\frac{3}{4}$  sd.  
per bag of 60 kilograms, at a medium per  
of 6 m. 138 r. per arroba or pst. 2.10.11 per  
60 kilograms.

2. By contracto preço marcado or the  
job, on an average . . . . . 15.9 $\frac{3}{4}$  sd.  
per bag, independent of selling price.

In comparing these prices with those Government pays in

Java, viz. pst. 1.3.4 for 62 kilograms, or pst. 1.2.7 per bag of 60 kilograms, we must not lose sight of the fact that the latter sum includes the costs of preparation, for which the Brazilians reckon 700 reis per arroba, 476 reis per 10 kilograms, or 5.8½ s. d. per bag.

According to this standard the labourer in Java would thus receive for dressing and picking (leaving planting out of the account as a tax incident to the work) 16.10½ s. d. per bag, irrespective of market-price.

In Brazil less money is paid, because the colonist has a free house, and moreover receives land rent-free on which to raise the provisions he needs.

Comparing this with the so-called free farming in Brazil, we cannot, in my humble opinion, call pds. 1.3.4 insufficient payment, if we take into consideration the economic conditions of the two countries.

As to whether it may be pronounced sufficient, however, viewed in connection with the existing rules of coffee-planting in Java; that is a question to which I shall return in my closing chapter.

In a letter, addressed to the Governor-General of Netherland India, 16 May 1882, No. 3054, which contained a proposal, „to institute a local inquiry into the condition of Brazil and Venezuela, viewed in connection with the interests of Netherland India,” the President of the Home Government Board for the time being mentioned some points of importance which would require to be handled in the Report.

This is the place to answer those.

In order, however, that I may not fall into needless repetition, I may be permitted to refer the reader to those Chapters of this Report, where the subject is treated with greater fulness of detail.

#### I. COFFEE PRODUCED IN THE COUNTRIES VISITED (in picols.)

a. A comparative survey of yield and export during the last 20 years.

b. Statement of the number and extent of plantations, with mention of the way in which titles to land are obtained, and on what terms, likewise whether there is still ample opportunity of extending them.

c. Statement of the way in which coffee is still produced, without a regular coffee-manufactory having been established, and what the such produce amounts to in quality and quantity.

c. Consideration of the importance of coffee-planting to the wealth of the country, of the means existing to maintain the national prosperity in another way; also whether there is any prospect of coffee-planting being distanced or superseded by those means, even when the price of coffee is high.

Although my mission was restricted to Central Brazil, I succeeded nevertheless in obtaining some knowledge concerning coffee-planting in Venezuela.

The data and information I received from that country being added in an appendix, I shall in the meantime answer the above-mentioned and following questions only so far as concerns Brazil.

In the first place it must be noted here that, in stating the figures regarding the production, export, and import of coffee, I have taken for the unit the Brazilian bag of 60 kilograms, instead of the Indian picol of 61.76 kilograms: firstly because the reduction of the various units employed (tuns, centners, pounds, kilograms and bags,) into picols of 61.76 kilograms costs far more time than their reduction into Brazilian bags; secondly, because this unit has also been adopted by the Netherland trade. 1)

a. In the Chapter on the „Export, Production, and Consumption of Coffee” I have stated the export, import, and re-export of almost all coffee-consuming countries as well as Brazil, during the last 30 years.

b. In regard to this question the reader will please to consult the various statistical tables, showing the results obtained by coffee-planting on the plantations I visited.

In the coffee-producing area it is only by purchase or gift that a man can obtain rightful possession of arable land, seeing that all the land there is private property.

As I have shown above, there is still ample scope in Central Brazil to extend the cultivation of coffee, as far as the land is concerned.

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1) Moreover, the picol does not invariably represent 61.76 kilograms, as will appear from the following chapter.

c. Except on regular coffee-plantations no coffee is grown; that is to say, peasant-coffee-planting does not exist in Brazil.

d. For more than half a century coffee-growing has been the staple industry of the land, which, unusually rich and fertile as the soil is, could be made to yield in abundance every colonial product, such as coffee, sugar, cotton, indigo, tea, etc. — were there only sufficient population.

So long, however, as slavery is maintained, no other industry will distance or supersede coffee-planting, especially if the price of coffee is high.

After the emancipation of the slaves, I think the cultivation of sugar-cane, maize, and beans, will thrive at the expense of coffee-planting, seeing that the negroes, now the only and real tillers of the ground, have less liking for coffee-planting than rearing the other three crops.

There are very many mines of prosperity in Central Brazil, which would yield rich returns if they could only be worked. But all progress is arrested now by want of labourers.

The Brazilian country-people, amounting, in the provinces I visited, to little more than  $2\frac{1}{2}$  million souls scattered over a tract extending (Municipio Neutre included) to more than 936,000 square kilometers, i. e. about 7 times as large as Java, are too far apart and too indolent to apply themselves to the cultivation of the soil.

Were it possible to supersede slave-labour by that of the existing inlanders, then coffee-planting could not only be maintained at its present level, but even considerably extended.

In Brazil, however, this possibility seems to be despaired of.

## II. FINANCIAL PROSPECTS OF COFFEE-PLANTING.

A. For particular plantations.

1. Costs of production:

a. Land Taxes:

b. Costs of clearing, working, rearing and conveyance of seed, dressing, picking, etc.

c. Costs of managers and supervisors, and of machinery, preparation and sorting.

d. Costs of transport.

e. Total expenses per picol.

2. Bill of sale.
  - a. Prices, by local sale and by sale for owner's own benefit,
  - b. Costs of Storage, Insurance, etc. by sale for owner's own benefit, and thus how much a picol brings in that case.
3. Interest of working Capital, with approximate statement whether the estates are burdened in this way or not.
4. Balance sheet, showing the market-prices required before coffee-planting can be carried on probably, on the one hand with private capital, on the other with borrowed money.
  - B. For planting on a smaller scale by the peasantry.
    1. How the peasantry plant, dress, pick the fruit and prepare it, and what this costs them.
    2. What sort of produce they bring to market; in what way they dispose of it and at what prices.

A. The answer to this series of questions will be found in the present and preceding chapters.

Land-taxes are unknown in Brazil; in the principal towns alone is there a tax levied on house property.

In regard to the questions the reader will please to consult the fazendas-wise elucidation of the Tables, as well as the Chapter on Commerce and Banking, for all that relates to the sale of coffee in Brazil as well as North America and Europe.

An answer will be found to the last two questions in the detailed tables showing the results obtained by coffee-planting on the estates of the viscounts de S. Clemente and de Nova Friburgo.

B. Seeing that peasant-farming does not exist in Brazil, these questions need not be discussed here.

### III. PROSPECTS OF COFFEE-PLANTING.

1. What future is there in respect to slave-labour, how this will affect the chances of obtaining labourers, the wages, and the possibility of maintaining the industry so as to be a profitable branch of agriculture.
2. To show as far as possible in figures, what produce is to be expected during the next 10 years — taking certain considerations into account — from the coffee-plantations, and the cultivation of coffee by the peasantry.
3. In what countries there is most demand for the coffees

produced in the regions visited, and in what markets they take the lead, the relative market-value of good ordinary West Indian prepared or other favourite Java coffees, and coffees from other parts of the world, mentioning whether they be prepared beforehand, what processes they have still to go through (for instance in the hands of private establishments), what results are obtained, and whether there be cause to fear that these may diminish the market-value of the East Indian article.

The prospects of Brazilian agriculture in general and coffee planting in particular, are far from encouraging, owing to the labour difficulty.

Although coffee-planting is carried on with only 284,000 slaves, the Brazilians have not yet succeeded in replacing this handful of labourers by Chinese or European agriculturists, as I have shown in the chapter on Immigration and Colonisation. It is indeed very difficult to replace them. For it is not enough to replace every slave that may be lost to the coffee-planter by a single colonist; we must not lose sight of the fact that those 284,000 slaves, who must work 14 or 15 hours a day on an average, exclusively in the cultivation of coffee, represent the working power of at least seven or eight hundred thousand colonists, who cannot be expected to spend more than four or five hours a day at utmost in that particular occupation.

Brazil is in a very exceptional and difficult position, but it is a young country with mighty resources, consequently with a great future.

But to the question whether this future is dependent on coffee-planting, or must be based upon it, — I must return a decided negative. Up to this present time the Brazilians have in my opinion been too much in the habit of sacrificing everything to coffee-planting, an industry which, pursued on the principle it is now, on huge estates held by a very few landlords, is not remunerative enough for the colonist, whose endeavour is to find in the new world a more comfortable living than his own country could offer him.

So long as the present agrarian conditions are maintained, the expectations now prevalent that the colonist will apply himself principally to coffee-planting as soon as slavery is abolished, is, in my opinion, illusory.

As compared with other branches of agriculture, coffee-growing demands in point of fact too heavy a sacrifice, seeing that four or five years must elapse before the planter can reap the fruit of his labours.

In this respect sugar-cane planting has a better and more certain future. Now that the Brazilian Government grants subsidies, and guarantees interest for the erection of central sugar-manufactories, the colonists and emancipated slaves will prefer, next to rearing provisions, to cultivate the sugar-cane, which can be immediately turned into money at those factories. 1)

The future of coffee planting in Brazil depends to a great degree on the nation itself. If the landowners could make up their minds, of course at the sacrifice of a good many private interests, to divide the large estates into small parcels, in order to sell these to the colonists, I am confident that the stream of agriculturists would flow more in the direction of Central Brazil, and that coffee-planting there, after a temporary diminution of production in consequence of the emancipation of the slaves, would recover its former importance, if not exceed it.

I have discussed this idea with several fazendeiros; but they doubted whether the realisation of it would secure the maintenance of coffee-planting as grande lavoura. Though I cannot remove this doubt by citing facts to disprove it, I must point out that there are no facts to support it. In my opinion the fazendeiros do not sufficiently consider that the grande lavoura need not be restricted to a few large estates, but may as well be a staple branch of agriculture on many small parcels. At the chief manufactory of every fazenda there are machines for preparing coffee, sugar, maize-meal, and mendioc. These manufactories, which will be of no value after the emancipation of the slaves, would have to become centres for pre-

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1) According to Senhor Trinks, manager of the sugar-factory Quissaman in the province of Rio de Janeiro, there has been manipulated there during the three years 1880—1882, 140,069,425 kilograms of sugar cane, at 6 reis per kilogram = 840,417 milreis.  
cost of production = 802,773 »

From this quantity was obtained  $66\frac{1}{2}$  kilograms sugar from every 1000 kilograms cane, or 2,646 mr. per 15 kilograms sugar. (Rio News June 5. 1884.) A picol, thus, costs pst. 1.1.2.

paring the crops of the colonist, who would deem himself fortunate if he could turn the produce of his land into money immediately, close to his home, and at a fair price.

In this way he would find a market for his produce, which he cannot have if he goes to clear government lands in the far interior, where means of communication with the sea-ports are almost non-existent.

Several colonists with whom I have spoken on this subject, have assured me that such an arrangement would be to them a real future and a source of prosperity.

Whether such a settlement can be effected amicably — before the complete emancipation of the slaves — or whether the landed proprietors may be constrained to it by the force of circumstances they have no power to withstand, time must try.

In the latter case I fear that a heavy blow will be dealt to coffee-planting in Brazil; a blow as severe as that which smote Jamaica in 1838 after the emancipation of the slaves.

How heavy that blow must have been, appears from the following estimate of exports from this English dependency.

TABLE I. View of Exports from JAMAICA, 1771—1867.

(See: Westindien und die Südpolar-Länder geographisch und statistisch bearbeitet von Dr. Otto Delitsch.)

	SUGAR. Cwt.	RUM. Cwt.	PEPPER. Cwt.	COFFEE. Cwt.
1773	1,130,332			7,793
1774	1,060,934			7,390
1775	1,139,656			4,400
1786	1,475,600			—
1788	1,250,760			10,354
1789	1,274,294			14,923
1790	1,276,534			17,837
1791	1,274,280			22,999
1793	1,149,932	35,194	19,686	39,386
1794	1,359,736	40,628	27,581	49,015
1795	1,335,068	38,421	26,264	63,188
1796	1,350,440	41,592	11,829	72,635
1797	1,191,326	28,746	4,112	78,691
1798	1,342,012	41,490	11,079	78,943

	SUGAR. Cwt.	RUM. Cwt.	PEPPER. Cwt.	COFFEE. Cwt.
1799	1,549,044	38,013	25,706	117,454
1800	1,478,136	37,841	16,409	111,165
1801	1,904,784	49,363	18,067	134,015
1802	1,961,582	46,837	10,415	179,619
1803	1,616,516	44,006	19,411	158,663
1804	1,470,282	42,663	26,037	220,640
1805	2,104,928	53,950	9,407	241,374
1806	2,152,114	58,780	25,410	292,980
1807	<i>a.</i> 2,144,842	<i>a.</i> 52,811	<i>a.</i> 24,014	<i>a.</i> 267,612
1808	1,852,662	53,507	8,240	255,283
1809	1,604,820	44,850	44,652	325,867
1810	1,570,912	43,335	34,292	258,853
1811	1,936,088	55,098	27,637	174,601
1812	1,835,422	44,111	11,410	184,820
1813	1,463,712	45,604	19,256	246,236
1814	1,529,712	44,598	13,562	340,456
1815	1,781,766	54,321	34,382	273,627
1816	1,405,348	36,416	35,188	172,894
1817	1,732,724	48,776	20,683	147,937
1818	1,704,612	50,827	26,980	253,295
1819	1,628,816	45,333	30,988	149,020
1820	1,720,908	46,983	16,667	221,274
1821	1,673,840	47,870	31,996	168,198
1822	1,323,210	29,403	23,665	197,739
1823	1,417,794	36,244	29,186	203,264
1824	1,484,126	38,760	41,045	276,772
1825	1,107,260	28,747	26,141	212,547
1826	1,493,986	37,662	20,659	203,529
1827	1,223,586	33,570	37,854	257,415
1828	1,424,850	38,235	37,628	222,168
1829	1,370,502	37,430	65,439	222,346
1830	1,402,870	35,025	55,606	222,570
1831	1,328,334	36,411	31,723	140,554
1832	1,381,604	33,685	40,248	198,150
1833	1,195,614	34,976	84,231	98,661
1834	<i>b.</i> 1,186,584	<i>b.</i> 32,111	<i>b.</i> 36,054	<i>b.</i> 177,257
1835	951,580	27,530	72,847	105,930
1836	939,316	20,536	56,543	134,461

*a.* 1807. 25 March, abolition of the slave-trade.

*b.* 1834. Beginning of emancipation of the slaves.

	SUGAR. Cwt.	RUM. Cwt.	PEPPER. Cwt.	COFFEE. Cwt.
1837	861,070	21,076	57,442	89,552
1838	c. 974,582	c. 25,380	c. 27,086	c. 135,518
1839	689,402	17,072	38,128	88,974
1840	513,240	11,472	30,640	72,797
1841	482,874	11,769	35,954	64,334
1842	704,130	16,566	37,540	70,489
1843	618,366	15,046	35,467	73,671
1844	482,216	11,631	14,624	71,488
1845	670,964	16,997	71,812	50,212
1846	507,122	14,395	29,971	60,472
1847	751,408	18,077	28,001	64,211
1848	627,008	20,194	52,319	56,849
1852	—	—	—	37,860
1853	420,908	12,472	46,121	48,227
1854	558,571	20,824	55,095	61,229
1855	514,651	21,961	85,980	56,663
1856	457,958	16,299	64,653	37,217
1857	549,662	19,283	87,524	67,611
1858	626,589	20,144	78,747	59,437
1859	541,957	19,810	36,826	50,551
1860	599,737	21,317	68,505	61,766
1861	654,848	23,712	66,475	67,156
1862	615,083	22,878	49,163	54,673
1863	560,481	18,428	62,285	81,849
1864	522,498	16,011	76,863	41,419
1865	483,681	17,622	38,615	62,297
1866	600,837	22,122	48,662	85,135
1867	515,902	21,644	75,958	62,649

This blow will not be irretrievable, however, as it proved in the case of Jamaica, for it must not be forgotten that the climate of this island makes it as unfit for colonisation as Netherland India is, while Central Brazil offers an excellent field for European immigrants willing to apply themselves to agriculture.

The change in agrarian conditions which circumstances would then render imperative, might effect a revolution in agriculture and economic relations in general, which may lead to the renewed prosperity of coffee-planting.

So long as the Emancipation Act of 1871 continues in force,

c. 1838. Completion of emancipation of the slaves.

there is no reason to expect -- for the first 6 or 7 years at least -- any important diminution of the Brazilian coffee crop.

As to how long the slave system will continue to furnish sufficient hands for coffee-planting, -- that is a question, which it is difficult at present to answer with any degree of certainty.

I deem myself bound, in such a Report as this, to abstain from all predictions likely to excite expectations not founded on facts, expectations which, in my opinion, cannot be realised. 1) For I would remind those that think the decay of coffee-planting in Brazil would cause the prices of coffee to rise to an unexampled height, that a rise produced by this circumstance alone cannot fail to be only temporary, seeing that it is the very thing to lead to the extension of the industry in countries like Venezuela, Central America, Mexico, and even Netherland-India; so that the equipoise disturbed thus temporarily, would be restored within a few years.

As I have demonstrated, the low prices are not the result of overproduction, but of the jobbing which has taken possession of this branch of commerce.

The resistance to and, if possible, confounding of this jobbing by the publication of accurate statistics, will, I think, be a better and more effective means of improving and consolidating the coffee-market.

In the chapter on Commerce and Banking may be found the answer to the question, -- in what countries there is most demand for Brazilian coffee.

This coffee is now imported and consumed everywhere, even in Constantinople; the superior qualities under the name of Java, Mocha, Ceylon, and other coffees liked in the trade.

In France, Germany, Sweden and Norway, Denmark, Italy, Portugal, Russia, and even Turkey, there is more Brazilian coffee consumed than any other sort.

As regards the preparation, the Brazilian article is in general quite as well prepared as the Java coffee grown by private planters, and far better than the Government coffee. The inferiority of flavour must be ascribed in the first place to the

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1) See chapter on Economic Conditions, speech of Deputy Pereira de Silva in the Second Chamber, 30 May 1884.

method of picking, in the second to the Rio and Santos custom of blending the fazenda coffee with a medium sort or trade coffee.

If the Government Java coffee could be prepared in the same careful way as the badly harvested Brazil coffee the government article would certainly bring 1½d or 2d. a pound more, even at the present low prices.

With the exception of the fazendas there are no establishments for preparing the coffee.

The fall in the market-value of the East Indian article can be arrested only by careful preparation. In what way this may be effected, will be stated more fully below.

#### VI. MEANS OF PROVISION FOR NETHERLAND INDIA.

1. In what form (packages etc.) and by what way steam-navigation, markets, the foreign coffee is offered, how far this is worth adopting, and what could be done to prevent Brazilian and other coffees from passing under the name of Java coffee.

2. What results the separate institutions for preparation present in costs, quality, etc., and whether application of those measures would be useful in the East Indies.

3. What measures are on the whole judged expedient to promote the demand for coffee from the Netherland-Indian Archipelago.

The Brazilian coffee is packed and exported in the same way as the Javanese. The actual markets for the Brazilian article are established at Rio and Santos. Hitherto scarcely fifty thousand bales per annum have been exported by the planter for their own account and at their own risk; it is all exported to order.

Bearing in mind the practice of the ensacadores or buyers at first hand, to adulterate fazenda coffee, I do not hesitate to range myself under the banners of those who object to the sale of the Government article in India. The Government coffee now comes un-adulterated to the principal markets of Europe and America, to which fact it is owing, in my opinion, that our Indian brands are so universally and favourably known.

Brazil now endeavours, supported by the powerful Society

Centro da Lavoura e do Commercio, to attain the same object by international exhibitions.

If Brazil could export her fazenda-coffee unmixed, it would affect the reputation of Netherland Indian coffee very unfavourably, especially that of the government article, seeing that in a comparison, if the flavour is not taken into consideration, the award would not always be in favour of Java coffee.

This being the case, the way to prevent Brazilian coffee from being sold under the name of Java coffee, is, in my opinion, to use every effort to improve the quality of the latter. The way to do this without burdening either the Exchequer or the people, is one of the questions I mean to treat in my closing chapter. As to question No. 3, I think Government could not better promote the demand for coffee in general and Netherland-Indian coffee in particular, than by following the footsteps of Brazil, as Venezuela is preparing to do.

The Brazilian coffee propaganda in Russia was opened in May 1884 by the united forces of the Brazilian Government, the trade, and the fazendeiros.

In 1885 another coffee exhibition will be held, this time on a gigantic scale. I am aware that the Brazilian planters have promised against that time a voluntary gift of about 10,000 bales, which are to be divided gratis at the close of the exhibition.

A junction with this coffee propaganda would be gratefully accepted by Brazil.

The Netherland Indian contribution might, in my opinion, consist of 2500 or 3000 picols.

What is aimed at here is the opening of a new market in Russia and Central Asia. The Russian Government has officially promised its support to the propaganda, seeing that it aims at checking in this way the excessive use of strong drink so prevalent throughout that empire.

In making the above statements I flatter myself that I have likewise answered the questions propounded by the Chamber of Commerce in the letter addressed to the Indian Government, 17 March 1883.

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## CHAPTER XI.

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### EXPORT, PRODUCTION AND CONSUMPTION OF COFFEE.

Very soon after my arrival at Rio de Janeiro, I discovered to my no small surprise that I could nowhere obtain statistics regarding the export of coffee from Brazil during the last 30 years. In that respect the Brazilians are quite as much behind the times as the Dutch.

At Rio I could indeed procure statement of exports from that port down from 1800; but all the information I could get there concerning Santos, Bahia, and Ceará, was about equal to no data at all.

Consequently before I could make a calculation of exports to put down in this Report, I had to consult the various reports or relatorios of the Minister of Finance. This cost me no small trouble, while at the same time the drawing up of table I consumed a great deal of time. Though I had been cautioned from various quarters not to attach much value to the official statistics, yet I could not have suspected that these statistics, especially of the last few years, would leave so much to be desired.

Seeing that I was unable to procure copies of the Relatorios for the last thirty years, that I might bring them with me and present them to the Royal Library in the Hague, I requested our Consul-General at Rio to verify the Table I had drawn up to serve as the basis of my statement, and if he found it correct, to sign it. His Excellency did so, so that the reader may be assured that the figures set down in Table I are reliable.

In addition to the fact that, according to those official statistics of the Minister of Finance, Brazil had never exported more, during one financial year, than 4,902,815 bales of 60 kilograms, and that in 1878/79, while the export of the last

few years is stated to have exceeded five and six million bales, — the circumstance that the exports from Rio are, according to the Customs Department (Boletim da Alfandega) considerably greater than the exports from the Empire, made me determine to collect as many data as I possibly could.

Very soon, however, I learned that discrepancies of from two to three hundred thousand bales were by no means exceptional among the private statistics likewise. In the chapter on Commerce and Banking I have already mentioned the circumstances to which these discrepancies are owing.

A public statement is made daily at the Exchange how much coffee has arrived per rail, per coaster, (cabotagem) and per river (barra dentro); how much coffee, according to the brokers' reports, has been sold, how much coffee has been cleared out, how much coffee has been loaded; how much coffee has been shipped or has sailed, and how much coffee is still in the town.

The discrepancies arise from the method of calculating exports, blunders in calculations contributing largely.

The Custom-House, for instance, reckons as exported all the coffee that has been cleared out, that is to say, all the coffee for which duty has been paid, no matter whether the coffee is shipped directly or a month after date.

Many commercial houses reckon all the coffee loaded as exported, though the ship may have to lie days and days at Rio to complete her cargo. Others calculate the exports by the vendas or bargains concluded between exporter and ensaccador, bearing in mind the general rule that an exporter buys no more than he requires to export immediately, i. e. within 20 days, because he has no warehouse to store it in.

Those various data have at the same time convinced me that, seeing that comparatively very little coffee is shipped to the republics lying south and west of Brazil, (for brevity's sake termed in the tables, River Plate and West Coast) or to Canada and the Cape of Good Hope, most estimates are simply divided into exports to Europe, (inclusive of the Cape) and to the United States (inclusive of all the other American States) as will appear more fully from table II.

I have, therefore, in consideration of the circumstances stated above, taken the average of the various data regar-

ding exports from Rio, Santos, Bahia, and Ceará, and on this basis drawn up the general table of exports from Brazil, No. XI.

From this table the reader may learn what serious mistakes must have crept into the official statistics for the last few years. At the same time he will observe that the percents share of Rio and Ceará in the average exports of the last six cinquenniums has decreased, while that of Santos and Bahia has considerably increased. The exports from Rio are now about 73 per cent of the annual export from the whole country, those from Santos, about 25 per cent; whereas the proportion in 1852—1856 was still about 92 per cent to rather more than 6 per cent.

As special explanations are added to every table, fuller discussion of those tables here may be deemed superfluous. In this place I shall merely mention that, bearing in mind the well-known address of the Batavian Chamber of Commerce, I considered that I was acting according to the desires of Government, when I endeavoured to raise, as far as it was possible for me to do, the veil which as it seems hides all knowledge of the production of coffee in other countries and, foreign coffee-trade in general from the eyes of the Netherland Indian trade.

I therefore, both while in Rio de Janeiro and after my return, placed myself in communication with the Netherland consuls in North, Central, and South America, in Europe, and the Cape of Good Hope, as well as with the chiefs of several Statistical Bureaus in other countries, so as to enable myself to state the exact export and re-export of coffee in all coffee-producing and coffee-consuming countries.

To facilitate a general survey, I have with the assistance of very exact tables previously drawn up, and added to this report in an appendix, reduced all the various data into bales of 60 kilograms. I have done so with scrupulous accuracy, checked, and lastly compared them once more by reduction of the sums for ten years.

As for the tables regarding the Netherland coffee-trade, and the production of coffee in Netherland India, I received the first from the Minister of Finance here, while I was placed in a position to draw up the others through the kindness of

the Directors of the Netherland Commercial Company, and the assistance vouchsafed me in the Royal Library at the Hague, by Dr. T. C. L. Wynmalen, Sub-Librarian of the Institution and Secretary of the Royal Institution for promoting the study of the Philology, Geography, and Ethnology of Netherland-India.

Prospects of the Coffeeharvest in Brazil.

Most of the calculations are in my opinion inaccurate. People always speak of crops, where they ought here to speak exclusively of export.

. They say the stock in Rio and Santos is . . so and so.  
 That still in the interior is estimated at . . so and so.  
 The new crop will amount to . . . . . so and so.  
 Consequently we may reckon upon . . . . so and so.  
 Nothing could be more incorrect.

In the first place there will always be coffee lying in the sea-ports and the interior, in the second place the export depends on the market prices, and more especially, on the labourers available.

If the market prices are lower the inferior qualities are reserved, because the fazendeiros would have to sell at a loss, owing to the expense of carriage.

If the crop is heavy, the export will be smaller in proportion, because the produce must be manipulated and despatched by the same number of labourers.

There is no possibility in Brazil of procuring extra hands to harvest a heavy crop, as can be done in Java.

A single example will suffice.

According to the market reports of Mr. F. Wright of Santos, this specialist in the coffee-trade estimated the santos crop in:  
 1881-82 at 1,750,000 bales, while it actually amounted to 1,735,000  
 1882-83 " 2,230,000 " " " " " " 2,208,000  
 1883-84 " 2,500,000 " " " " " " 2,185,000

According to the export accounts of Brazil there have been despatched from Santos in:

1881-82 Only 1,527,022 bales out of the crop of 1,735,000 bales.  
 1882-83 " 1,837,954 " " " " " " 2,208,000 "  
 1883-84 " 1,932,194 " " " " " " 2,185,000 "

About 1,280,000, 1,500,000, and 1,492,000 bales of these respective crops were bound for Europe!

Assuming that a portion of every crop is left over, because the surplus stock of the former year has to be exported as a new crop, I think I shall not be far wrong if basing my estimate on the information I received, fix the export from Brazil in 1884—5 at:

From Rio	3,000,000 bales,	against 3,102,292 in 1883—84
" Santos	1,800,000 "	" " 1,932,194 " " "
" Bahia	70,000 "	" " 82,881 " " "
Total	4,870,000 "	5,117,367 " " "

This estimate is based on the following facts.

1. There is little coffee in the interior, because much has been exported, to supplement the scanty harvest of 1883.

2. Because the harvest of 1884 is even scantier than that of the preceding year. The harvest of Santos, which in January 1884 was expected to be equal to that of 1883, is in reality smaller; it appears from the latest accounts that the coffee gathered weighs lighter than usual. The large proportion of chôchôs or empty beans is attributed to the excessively hot weather in 1883.

Seeing that the frost or giada of July 1884 also caused considerable destruction, the Santos harvest of 1884/85 is not so very satisfactory either.

COFFEE-EXPORT.

## EXPORT OF COFFEE from Brazil, according to the Government Reports

Financial years.	Export from Rio de Janeiro.	Export from Santos.	Export from Bahia.	Export from Ceará.
1852—53	<i>a.</i> 9,416,232	<i>a.</i> 381,854	<i>a.</i> 102,401	<i>a.</i> niet opgegeven.
53—54	» 8,063,034	» 518,953	» 110,929	» »
54—55	» 11,900,971	» 846,184	» 266,635	» »
55—56	» 10,957,449	» 796,359	» 246,590	» »
56—57	» 12,002,623	» 746,673	» 273,782	» »
57—58	» 8,680,238	» 778,537	» 245,846	» »
58—59	» 9,972,347	» 922,293	» 233,904	» »
59—60	» 8,573,063	» 1,481,730	» 195,638	» »
60—61	» 13,054,061	» 1,288,604	» 198,304	» 44,146
61—62	» 8,162,195	» 1,371,729	» 198,313	» 147,939
1862—63	» 6,891,872	» 1,390,804	» 286,167	» 147,777
63—64	» 6,810,343	» 1,062,686	» 187,432	» 109,976
64—65	» 8,791,247	» 1,672,486	» 309,599	» 31,115
65—66	» 8,292,171	» 1,253,827	» 330,063	» 74,818
66—67	» 11,482,583	» 1,166,957	» 325,801	» 66,617
67—68	<i>k.</i> 177,290,275	<i>k.</i> 28,086,252	<i>k.</i> 6,457,724	<i>k.</i> 1,812,687
68—69	» 188,318,998	» 34,741,084	» 4,930,169	» 50,800
69—70	» 147,310,121	» 32,808,267	» 5,842,326	» 877,523
70—71	» 192,949,565	» 29,134,225	» 3,178,018	» 560,289
71—72	» 108,448,403	» 23,105,083	» 5,108,270	» 311,888
1872—73	» 172,449,797	» 31,761,593	» 3,990,448	» 1,562,627
73—74	» 121,361,513	» 40,572,398	» 3,401,420	» 967,157
74—75	» 180,062,787	» 44,688,097	» 4,696,032	» 1,691,443
75—76	» 156,129,595	» 38,898,238	» 7,588,451	» 1,745,808
76—77 1)	—	—	—	—
77—78	—	—	—	—
78—79	—	—	—	—
79—80	—	—	—	—
80—81	—	—	—	—
81—82	—	—	—	—

1) Relatório 1878—1883. „Algumas provincias não remetterem os seus mappas estaticos, e por essa razão não se pode calcular os seus productos exportados, e foram descriptos em diversos productos.”

(Owing to lack of provincial statistics not detailed.)

RIO DE JANEIRO, 13 February 1884.

Found in accordance with the relatorios cited.

The Consul-General of the Netherlands,

(signed) F. PALM.

[Proposta e Relatorio of the Minister of Finance].

Export from various Provinces.	Total Export.	Extracted from :	Total Export in bags of 60 kilograms.
—	<i>a.</i> 9,900,487		2,423,640
—	» 8,692,916	Relatorio 1858	2,128,026
—	» 13,013,790		3,185,776
—	» 11,640,398		2,849,570
—	» 13,023,078	Idem 1861	3,188,045
—	» 9,704,621		2,375,691
—	» 11,128,544		2,724,268
—	» 10,250,431	Idem 1862	2,509,306
<i>a.</i> 143	» 14,585,258		3,570,471
» 648	» 9,880,824	Idem 1866	2,418,825
» 216	» 8,716,836		2,133,881
» 1,796	» 8,172,233		2,000,563
» 1,153	» 10,805,600	Idem 1867	2,645,211
» 22,140	» 9,973,019	Idem 1868	2,441,395
» 1,381	» 13,043,339		3,193,009
<i>k.</i> —	<i>k.</i> 213,646,938	Idem 1872	3,560,782
—	» 228,041,051		3,800,684
—	» 186,838,237		3,113,970
» 12,391	» 225,834,488	Idem 1874	3,763,908
» 2,627	» 136,976,271	Idem 1877	2,282,938
» 8,188	» 209,772,653		3,496,210
» 82,995	» 166,385,483	Idem 1877	2,773,091
» 9,844	» 231,148,203		3,852,470
» 12,207	» 204,374,299	Idem 1878	3,406,236
—	» 213,138,036	Idem 1882	3,552,301
—	» 207,501,839		3,458,364
—	» 294,168,910	Idem 1882	4,902,815
—	» 157,036,317		2,617,272
—	» 219,569,022	Idem 1883	3,659,483
—	» 244,888,012		4,081,467

RIO DE JANEIRO, 23 December 1883.

(Signed) VAN DELDEN-LAËRNE.

Export from Rio de Janeiro in

bags

Civil years.	According to „Relatorios of the Associação Commercial”.	According to the „Retrospecto Commercial”.	According to messrs. Phipps, Broths & Co.	Average.	Average per five years.
1853	2,005,169	2,005,441	1,963,509	1,991,373	4,478,779
54	2,433,553	2,434,084	2,344,188	2,403,942	
55	2,947,705	2,858,107	2,915,040	2,906,951	
56	2,568,334	2,570,016	2,470,399	2,536,250	
57	2,570,130	2,570,480	2,525,527	2,555,379	
58	2,240,456	2,230,759	2,182,206	2,217,807	
59	2,485,045	2,485,384	2,385,094	2,451,841	
60	2,603,716	2,825,157	2,450,322	2,626,398	
61	2,533,223	2,533,534	2,529,767	2,532,175	
62	1,817,909	1,819,656	1,762,707	1,800,090	
1863	1,652,533	1,652,259	1,539,035	1,614,609	2,221,019
64	1,811,685	1,811,929	1,732,066	1,785,227	
65	2,205,589	3,197,464	2,180,806	2,194,620	
66	2,368,313	2,368,635	2,193,106	2,310,018	
67	3,255,538	3,255,980	3,090,346	3,200,621	
68	2,772,586	2,772,929	2,661,204	2,735,573	
69	3,139,529	3,139,789	3,050,780	3,110,033	
70	2,704,374	2,704,742	2,523,863	2,644,326	
71	2,886,144	2,884,626	2,851,743	2,874,171	
72	2,461,584	2,460,351	2,306,295	2,409,410	
1873	2,429,236	2,433,709	2,326,688	2,396,544	2,757,156
74	2,644,995	2,673,281	2,612,897	2,643,724	
75	3,190,010	3,152,296	3,154,412	3,165,573	
76	2,787,501	2,765,922	2,733,157	2,762,193	
77	2,847,756	2,846,555	2,758,929	2,817,747	
78	2,914,420	3,031,199	2,810,258	2,918,626	
79	3,587,217	3,535,183	3,432,619	3,518,340	
80	3,513,368	3,563,054	3,281,300	3,452,574	
81	4,461,801	4,377,418	4,201,196	4,346,805	
82	4,200,590	4,200,590	3,890,642	4,097,274	
1883	3,654,511	3,654,511	3,501,017	3,577,764	3,577,764
					19,781,807

bags of 60 kilograms.

## R E M A R K S.

As I have pointed out and accounted for in the chapter on „Commerce and Banking” the various statements of exports from Rio seldom agree with each other.

I have therefore thought it necessary to take the medium calculation, using the statements of:

- a. The Rio Commercial Union.
- b. The Retrospecto Commercial, whose estimate is adopted for Europe by many exporting houses.
- c. That of mess<sup>rs</sup>. Phipps Brothers & Co., with which that great mercantile firm kindly furnished me from their tables, (from 1840 up to date) and which, as it appears, are considered in America to be the most reliable.

The first represents the entire export; the second professes to state only the exports to Europe and America, while the third specifies export to Europe, America, and the Cape of Good hope.

On comparing the figures, however, the reader will perceive that the proportions according to the Retrospecto cannot be correct, as, one would (in that case) have to accept an impossibility; for instance, that the export to Europe and North America, (according to column 3) is on the whole larger than the general export according to column 2.

Attention must be drawn likewise to an obvious blunder in the second estimate. For the year 1865 the Retrospecto states the export to Europe at a million bales in excess of the actual number. This mistake has been repeated by the Rio firm mess<sup>rs</sup>. Berla Cotrim & Co. in their last View of the Export of coffee from Rio, which has been circulated in France, Italy and Austria.

In *Le Brésil à l'Exposition de S. Petersbourg* in 1884 the same blunder was committed likewise (page 58) by the *Centro da Lavoura e Commercio*.

Export from Rio de Janeiro in bags of 60 kilograms.

Civil years.	Canada, de Cape, River Plate & West-Coast".	North America.	Europe.	Total.	Average of five years.
1873	134,482	1,379,411	915,343	2,429,236	2,738,765
74	96,887	1,502,825	1,131,404	2,630,816	
75	93,461	1,987,191	1,041,383	3,123,035	
76	80,469	1,429,610	1,219,127	2,729,206	
77	99,910	1,637,633	1,043,995	2,781,538	
78	138,771	1,653,582	1,091,717	2,884,070	3,599,648
79	90,341	2,242,488	1,121,130	3,453,959	
80	126,372	1,827,038	1,428,141	3,381,551	
81	151,878	2,160,481	1,905,241	4,217,600	
82	152,349	2,450,759	1,457,951	4,061,059	
83	101,396	2,223,039	1,223,086	3,548,521	

Remarks. That the figures I have adopted as representing the average exports, are not too low, in other words that the various estimates, especially those of the Associação Commercial and the Retrospecto Commercial, must be pronounced too high, appears from the above table, extracted from the Rio News of 1882 and 1884.

This paper endeavours to ascertain as far as possible the exact amount of exports; it does not copy, but publishes dates from various sources.

According to this table the average export during the two periods of five years amounts to:

$$\begin{aligned} & 1873/77 = 2,738,765 = \text{against } 2,757,156 \\ & 1878/82 = 3,599,648 = \text{ » } 3,666,724 \end{aligned}$$

according to the average I have taken.

Although I for my own part place more reliance in the figures given by the Rio News, I have thought myself obliged to keep in view the semi-official statements of the Retrospecto Commercial.

As a proof how defective statistics still are at Rio de Janeiro, I subjoin a statement extracted from the last Relatorio of the province of Rio de Janeiro (1883), showing the respective shares of the various provinces in the coffee export trade of Rio.

The sum total agrees with none of the four estimates.

From this table, however, we may draw the conclusion that the Rio exports consist of:

- + 60% Rio produce.
- + 25% Minas »
- + 10% S. Paulo »
- + 5% Espirito Santo and Bahia produce.

COFFEE EXPORT.

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In bags of 60 kilograms.

Civil years.	Rio de Janeiro.	Share.	Minas-Geraes.	Share.	S. Paulo.	Share.	Espirito Santo.	Share.	Bahia.	Share.	Total.	Medium prices per kilogram.	Provincial tax at 4 per cent per kilogram.
		p. cent		p. cent		p. cent		p. c.	p. cent	p. cent		Reis.	Reis.
1873	1,543,062	63.39	471,793	19.38	299,402	12.30	116,107	4.77	3,654	0.15	2,434,018	629	25.1
74	1,752,915	63.46	618,606	22.39	303,681	10.99	85,621	3.09	1,192	0.04	2,762,015	580	23.1
75	1,987,817	63.88	693,946	22.30	293,919	9.44	133,891	4.30	2,041	0.06	3,111,614	545	21.8
76	1,859,372	65.23	606,712	21.28	289,687	10.16	93,111	3.26	1,288	0.04	2,850,150	522	20.9
77	1,787,530	62.61	639,097	22.38	285,292	9.99	142,822	5.00	21	—	2,854,762	592	23.7
78	1,828,303	58.35	798,769	25.49	400,294	12.80	103,692	3.30	1,360	0.04	3,132,418	490	19.1
79	2,156,987	61.60	853,884	24.38	359,499	10.26	130,939	3.73	40	—	3,501,349	497	19.9
80	2,229,413	60.90	913,028	24.96	363,444	9.93	151,433	4.14	—	—	3,657,318	479	19.1
81	2,466,799	57.06	1,229,555	28.44	441,807	10.22	184,926	4.28	151	—	4,323,238	388	15.5
82	2,602,071	60.34	1,116,232	25.88	424,543	9.84	168,384	3.90	538	0.01	4,311,768	318	12.7

Export from Rio do Janeiro in bags

Financial years.	According to the official Reports.	According to the Retrospecto Commercial.	According to Rio News.	Average.	Average per five years.
1852-53	2,305,094	2,455,909	—	2,230,501	2,403,536
53-54	1,973,831	1,966,992	—	1,970,411	
54-55	2,913,358	1,642,849	—	2,278,103	
55-56	2,594,256	2,575,110	—	2,584,683	
56-57	2,938,242	2,969,724	—	2,953,983	
57-58	2,124,922	2,110,398	—	2,117,660	
58-59	2,441,231	2,432,419	—	2,436,825	
59-60	2,098,686	2,050,248	—	2,074,467	
60-61	3,195,634	3,185,091	—	3,190,362	
61-62	1,998,105	2,310,036	—	2,154,070	
1862-63	1,687,130	1,736,923	—	1,712,026	2,052,341
63-64	1,667,172	1,661,270	—	1,664,221	
64-65	2,152,097	2,209,620	—	2,180,859	
65-66	2,029,924	1,983,360	—	2,006,642	
66-67	2,810,936	2,584,978	—	2,697,957	
67-68	2,954,838	2,849,798	—	2,902,318	
68-69	3,138,650	1,940,334	—	2,539,492	
69-70	2,455,169	3,190,243	—	2,822,706	
70-71	3,215,826	3,237,935	—	3,226,880	
71-72	1,807,473	2,112,113	—	1,959,793	
1872-73	2,874,163	3,040,062	—	2,957,112	2,722,988
73-74	2,022,692	2,067,493	—	2,045,092	
74-75	3,001,046	3,205,567	3,132,857	3,113,157	
75-76	2,515,812	2,889,990	2,823,120	2,742,974	
76-77	2,729,359	2,781,642	2,758,812	2,756,604	
77-78	2,992,755	2,632,746	2,543,849	2,723,117	
78-79	3,647,046	3,705,830	3,570,677	3,641,184	
79-80	2,935,229	2,990,058	2,903,424	2,942,904	
80-81	4,139,420	4,401,627	4,190,424	4,243,824	
81-82	3,928,116	3,926,372	3,807,702	3,887,397	
1882-83	3,908,080	—	4,428,669	4,168,374	4,168,374
83-84	—	—	3,102,292	3,102,292	
					19,919,839

ro in  
bags of 60 kilograms.

## REMARKS.

This table, showing the exports from Rio according to the financial years or exercicios, has been drawn up in the same way as the preceding.

The official figures are extracted.

a. Those from 1852/53 to 1875/76 from the ministerial Reports;— see Table:  
Export of coffee from Brazil according to the Government Reports.

b. Those from 1876/77 to 1882/83 from the Rio Boletim da Alfandega.

Next to those official statistics comes the statement of exports according to the Retrospecto Commercial; while the Rio News furnished accounts of the export of only the last 9 years.

If these figures are compared, it will be found that the discrepancies are still greater than those in the preceding table.

I refer the reader more especially to the years 1854/55, 1868, 69, 1869/70 and 1882/83.

In this case also I have taken the medium of all these estimates.

And that this medium fairly represents the average exports, may be concluded from this, that the averages for five years give exactly the same rise and fall in export, while the total amount of those estimates show a comparatively slight discrepancy of 19,919,839—19,781,807 = 138,032 bags; consequently a difference so trifling that it may be accounted for by the increased export during half a financial year.

Export from Rio de Janeiro in bags of 60 kilograms.

Financial years.	Canada, the Cape River Plate & West-Coast.	North-America.	Europe.	Total.
1873—74	—	—	—	—
74—75	—	—	—	—
75—76	—	—	—	—
76—77	98,524	1,573,581	1,086,707	2,758,812
77—78	101,667	1,484,795	957,387	2,543,849
78—79	135,496	2,098,948	1,336,233	3,570,677
79—80	89,946	1,875,511	937,967	2,903,424
80—81	158,327	2,115,210	1,916,887	4,190,424
81—82	148,989	2,311,999	1,346,714	3,807,702
82—83	140,570	2,608,677	1,679,422	4,428,669
83—84	118,456	2,024,812	959,024	3,102,292

Remark. — In order to obtain a full and particular view of the export, during the various financial years, I add here a table of exports, as far as this, according to the Rio News, is possible. From this we may learn — as appears likewise from the exports-accounts during the civil years, — that the export to any port except those of the United States of Norths America and Europe, is very trifling indeed and may be put down ad about 145,000 bags a year.

Detailed Account of Exports from Rio de Janeiro during  
the last three years financial.

DESTINATION.	1883—84.	1882—83.	1881—82.
UNITED STATES.			
Boston . . . . .	—	14,250	—
New-York . . . . .	1,420,453	1,805,997	1,594,516
Baltimore . . . . .	260,532	384,907	390,411
Hampton Roads f/o . . . . .	45,666	4,000	15,758
Richmond . . . . .	18,786	39,764	3,500
Charleston . . . . .	—	—	840
Savannah . . . . .	38,117	26,020	32,614
Mobile . . . . .	7,000	9,500	16,536
New Orleans . . . . .	179,558	250,554	194,807
Galveston . . . . .	49,700	69,435	63,017
St. Thomas f/o . . . . .	5,000	—	—
S. Francisco Cal . . . . .	—	4,250	—
Total . . . . .	2,024,812	2,608,677	2,311,999
EUROPE.			
Channel . . . . .	13,750	28,000	10,700
Havre . . . . .	82,102	98,981	120,924
Antwerp . . . . .	73,606	127,333	139,520
N.-Europe & Baltic Sea . . . . .	221,961	509,223	479,336
England . . . . .	131,212	300,286	190,492
Bordeaux . . . . .	11,341	34,119	48,226
Lisbon f/o . . . . .	59,770	153,095	92,202
Portugal . . . . .	2,201	3,789	7,775
Mediterranean . . . . .	363,081	424,596	257,539
Total . . . . .	959,024	1,679,422	1,346,714
OTHER COUNTRIES.			
Canada . . . . .	—	1,849	3,963
Cape of Good Hope . . . . .	73,693	92,480	103,053
River Plate & West Coast . . . . .	44,763	46,241	41,973
Total . . . . .	118,456	140,570	148,989
United States . . . . .	2,024,812	2,608,677	2,311,999
Europe . . . . .	959,024	1,679,422	1,346,714
Other countries . . . . .	118,456	140,570	148,989
Total . . . . .	3,102,292	4,428,669	3,807,702

TABLE, showing the monthly delivery of coffee at Rio during the last seven financial years, in bags of 60 kilograms.

	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.
July . . . . .	Total. 242,604 Average per day. 7,826	Total. 243,701 Average per day. 7,861	Total. 299,075 Average per day. 9,664	Total. 253,541 Average per day. 8,179	Total. 336,984 Average per day. 10,870	Total. 240,500 Average per day. 7,758	Total. 283,624 Average per day. 9,145
August . . . . .	294,696 9,515	330,108 10,654	404,688 13,054	427,174 13,789	433,034 13,969	457,490 14,758	529,979 8,386
September . . . . .	364,106 12,137	373,675 12,453	318,198 10,607	401,096 13,370	551,929 18,374	609,568 20,319	335,115 11,170
October . . . . .	336,032 10,840	403,467 13,015	410,234 13,233	421,828 14,898	472,365 15,238	510,962 16,483	456,658 14,741
November . . . . .	236,449 7,882	366,020 12,901	377,056 12,569	421,835 14,061	364,627 12,154	600,657 20,022	368,283 12,909
December . . . . .	197,064 6,357	309,027 9,969	259,796 8,381	423,133 13,650	292,003 9,419	364,300 11,752	338,163 10,386
January . . . . .	233,827 7,543	211,582 6,825	153,296 4,944	323,896 10,448	241,697 7,797	242,970 7,838	196,679 6,556
February . . . . .	194,293 6,939	287,977 10,285	144,903 4,997	409,558 14,627	109,252 3,902	276,065 9,859	282,882 9,734
March . . . . .	157,373 5,077	315,936 10,191	198,196 6,383	373,470 12,047	188,942 6,095	468,812 15,123	225,543 7,526
April . . . . .	109,634 3,654	291,034 9,704	161,581 5,386	310,183 10,339	368,722 12,291	448,138 14,938	174,581 5,820
May . . . . .	121,493 3,919	353,133 11,391	127,132 4,101	374,385 11,980	267,686 8,635	324,506 10,468	148,798 4,800
June . . . . .	176,405 5,880	212,936 7,098	121,501 4,050	252,773 8,426	192,512 6,423	192,692 6,423	191,733 6,391
Total.	2,664,249 7,999	3,698,596 10,433	2,975,624 8,130	4,519,874 12,383	3,839,053 10,518	4,736,678 12,977	3,188,426 8,712

TABLE, showing the monthly delivery of coffee at Rio during the last six civil years, in bags of 60 kilograms.

	1878.	1879.	1880.	1881.	1882.	1883.
January . . . . .	Total. 233,827 Average per day. 7,543	Total. 211,582 Average per day. 6,825	Total. 153,296 Average per day. 4,944	Total. 323,896 Average per day. 10,448	Total. 241,697 Average per day. 7,797	Total. 242,970 Average per day. 7,838
February . . . . .	194,293 6,939	287,977 10,285	144,903 4,997	409,558 14,627	109,252 3,902	276,065 9,859
March . . . . .	157,373 5,077	315,936 10,191	198,196 6,383	373,470 12,047	188,942 6,095	468,812 15,123
April . . . . .	109,634 3,654	291,034 9,704	161,581 5,386	310,183 10,339	368,722 12,291	448,138 14,938
May . . . . .	121,493 3,919	353,133 11,391	127,132 4,101	374,385 11,980	267,686 8,635	324,506 10,468
June . . . . .	176,405 5,880	212,936 7,098	121,501 4,050	252,773 8,426	192,512 6,423	192,692 6,423
July . . . . .	243,701 7,861	299,075 9,664	253,541 8,179	336,984 10,870	240,500 7,758	283,624 9,145
August . . . . .	373,675 12,453	318,198 10,607	491,096 16,370	551,929 18,374	609,568 20,319	335,115 11,170
September . . . . .	403,467 13,015	472,365 15,238	461,828 14,898	472,365 15,238	510,962 16,483	456,658 14,741
October . . . . .	366,020 12,901	377,056 12,569	421,835 14,061	364,627 12,154	600,657 20,022	366,283 12,209
November . . . . .	309,027 9,969	259,796 8,381	423,133 13,650	292,003 9,419	364,300 11,752	338,163 10,386
December . . . . .	3,019,023 8,271	3,741,645 10,251	3,385,186 9,249	4,491,507 12,306	4,172,297 11,431	3,992,014 10,936

TABLE, showing details of export from Rio during the first six months of 1882—1884.

DESTINATION.	1884.	1883.	1882.
UNITED STATES.			
Boston . . . . .	—	14,250	—
New York . . . . .	642,121	830,144	733,859
Baltimore . . . . .	172,168	132,361	185,032
Hampton Roads f/o . . . . .	24,072	4,000	—
Richmond . . . . .	4,683	17,046	—
Charleston . . . . .	—	—	840
Savannah . . . . .	11,924	18,269	14,166
Mobile . . . . .	3,500	—	3,502
New Orleans . . . . .	78,560	117,945	34,946
Galveston . . . . .	11,500	14,500	21,492
St. Thomas f/o . . . . .	5,000	—	—
S: Francisco Cal . . . . .	—	3,240	—
Total . . . . .	953,528	1,151,755	993,837
EUROPE.			
Channel . . . . .	7,000	25,000	7,700
Havre . . . . .	27,839	60,667	35,476
Antwerp . . . . .	36,666	38,613	25,662
North-Europe & Baltic Sea . . . . .	92,807	183,111	187,636
England . . . . .	56,691	135,297	53,431
Bordeaux . . . . .	3,412	10,123	9,812
Lisbon . . . . .	20,254	89,595	29,942
Portugal . . . . .	1,475	1,857	3,291
Mediterranean . . . . .	144,653	107,596	77,438
Total . . . . .	387,797	651,859	430,388
OTHER COUNTRIES.			
Canada . . . . .	—	311	3,383
Cape of Good Hope . . . . .	42,900	44,188	42,118
River Plate & West Coast . . . . .	27,327	18,668	19,445
Total . . . . .	70,227	53,167	64,946
United States . . . . .	953,528	1,151,755	993,837
Europe . . . . .	387,797	651,859	430,388
Other countries . . . . .	70,227	53,167	65,946
Total . . . . .	1,411,552	1,856,781	1,489,171

TABLE showing the monthly delivery of coffee at Rio during the last seven financial years in bags of 60 lb. each.

Export from Santos

Financial years.	According to the Official Reports.	According to the Associação Commercial of Santos.	According to Johnston & Co. Santos.	According to W. F. Wright Santos.
1852—53	93,478	—	—	—
53—54	127,040	—	—	—
54—55	207,146	—	—	—
55—56	194,949	—	—	—
56—57	182,781	—	—	—
57—58	190,586	—	—	—
58—59	225,777	—	—	—
59—60	362,728	—	—	—
60—61	315,450	—	319,666	322,726
61—62	335,799	—	363,762	344,816
1862—63	340,469	—	346,648	347,282
63—64	260,146	—	262,316	260,630
64—65	409,425	—	442,532	400,835
65—66	306,937	338,722	338,722	308,207
66—67	285,671	317,302	317,302	273,821
67—68	468,104	458,733	458,733	470,045
68—69	579,018	631,666	631,666	554,062
69—70	546,804	596,504	596,505	571,248
70—71	485,570	543,425	434,786	479,761
71—72	385,085	475,269	491,156	416,577
1872—73	529,360	548,063	542,630	525,725
73—74	676,206	772,041	668,669	617,711
74—75	744,802	823,515	830,340	813,634
75—76	648,304	740,603	752,956	704,357
76—77	—	650,217	628,897	609,306
77—78	—	976,411	998,500	934,913
78—79	—	1,185,245	1,209,647	1,185,601
79—80	—	1,161,020	1,041,932	1,025,128
80—81	—	1,187,020	1,204,243	1,186,232
81—82	—	1,537,290	1,524,395	1,524,486
1882—83	—	—	1,837,962	1,837,846
83—84	—	—	—	1,935,075

antos in bags of 60 kilograms.

ng to /right os.	According to Zerrenner Bulow & Co. Santos.	According to the Rio News.	Average.	Average per five years.
	—	—	93,478	161,079
	—	—	127,040	
	—	—	207,146	
	—	—	194,949	
	—	—	182,781	
	—	—	190,586	289,299
	—	—	225,777	
	—	—	362,728	
726	—	—	319,281	
816	—	—	348,126	
	—	—	344,800	329,020
	—	—	261,031	
	—	—	417,597	
	—	—	323,147	
	—	—	298,524	
	—	—	463,904	520,629
	—	—	599,103	
	—	—	577,763	
	—	519,413	502,649	
	489,589	500,684	459,727	
	536,524	542,569	537,478	675,479
	665,157	666,943	677,788	
	826,426	826,382	810,850	
	755,005	754,993	726,036	
	628,903	628,903	625,245	
	998,482	999,007	981,463	1,193,482
	1,211,151	1,210,172	1,200,363	
	1,042,385	1,042,246	1,063,142	
	1,204,200	1,195,400	1,195,419	
	1,524,486	1,524,452	1,527,022	
	1,838,008	1,838,001	1,837,954	1,885,074
	—	1,929,314	1,932,194	

Op

Export from Santos in bags

Financial years.	Canada, the Cape, and coast including Rio.	North America.	Europe.	Total.
1873—74	52,456	118,524	494,177	665,157
74—75	16,619	80,072	729,735	826,426
75—76	39,037	123,129	592,839	755,005
76—77	28,826	80,654	519,423	628,903
77—78	61,464	97,602	839,416	998,482
78—79	27,093	179,259	1,004,799	1,211,151
79—80	22,251	191,873	828,261	1,042,385
80—81	15,891	235,137	953,172	1,204,200
81—82	10,052	233,308	1,281,126	1,524,486
82—83	12,738	322,332	1,502,938	1,838,008
83—84	23,489	418,567	1,492,019	1,935,075

Civil years.	Idem.	Idem.	Idem.	Total.
1874	<i>a.</i>	114,617	681,485	796,102
75	»	127,651	712,341	839,992
76	»	55,893	600,257	656,150
77	»	91,081	603,397	694,478
78	»	172,841	930,309	1,103,150
79	»	205,201	951,237	1,156,438
80	»	215,403	986,049	1,201,452
81	39,828	184,384	1,143,347	1,367,559 <i>b.</i>
82	43,796	346,064	1,361,884	1,750,744 <i>b.</i>
83	36,725	406,071	1,450,360	1,893,156 <i>b.</i>

*a.* not mentioned; probably classed with North America.

*b.* The export of these three civil years is according to the Rio News, by Messrs. Zerrener Bülow & Co., it is however estimated respectively 1,361,570 — 1,761,013 and 1,898,758.

antos in bags of 60 kilograms.

## R E M A R K S.

157  
426  
005  
903  
482  
151  
385  
200  
486  
008  
075

Seeing that the Table of Exports from Santos during the last thirty years, has been prepared in the same way as the Table for Rio, further explanation may be deemed superfluous.

The same grave discrepancies will be observed in it, as we noticed in the estimates of exports from Rio.

From the subjoined detailed table of exports from Santos during the last ten financial years, we shall see that by far the greater part of the Santos crop goes to Europe.

For this Table I am indebted to the Netherland Vice Consul of Santos, Mr. A. Zerrenner, chief of the great mercantile house of Zerrenner, Bülow & Co. from whom I have received other important data (the statistics for 1883/84, is from Mr. W. F. Wright's).

That the reader may be able to compare, I add here the detailed account of exports from Santos during the last 10 civil years.

These statistics are based partly on the reports of the province of S. Paulo, kindly furnished to me (for 20 years) by the President of that province, Baron de Guajará, and partly from the Rio News of 15 January 1884.

102  
992  
150  
478  
150  
438  
452  
559 b.  
744 b.  
156 b.

News, by  
respectively

Export from Bahia in

bags

Financial years.	According to the Official Reports.	According to the provincial Relatorios.	According to Drum Blair & C <sup>o</sup> . Bahia.	Average.	Average for five years.
1852—53	25,068	—	—	25,068	48,976
53—54	27,155	—	—	27,155	
54—55	65,272	—	—	65,272	
55—56	60,365	—	—	60,365	
56—57	67,022	—	—	67,022	
57—58	60,183	—	—	60,183	
58—59	57,260	—	—	57,260	
59—60	47,892	—	—	47,892	
60—61	48,545	—	—	48,545	
61—62	48,547	—	—	48,547	52,485
1862—63	70,053	—	—	70,053	
63—64	45,883	—	—	45,883	
64—65	75,790	—	—	75,790	
65—66	80,799	—	—	80,799	
66—67	79,756	—	—	79,756	
67—68	107,629	—	—	107,629	
68—69	82,169	82,169	—	82,169	
69—70	97,372	97,372	—	97,372	
70—71	52,959	52,959	—	52,959	85,053
71—72	85,138	85,138	85,138	85,138	
72—73	66,507	66,507	66,506	66,507	
73—74	56,690	56,690	56,691	56,690	
74—75	78,267	78,267	78,266	78,267	
75—76	126,474	126,474	126,474	126,474	
76—77	—	106,895	106,895	106,895	
77—78	—	99,517	99,505	99,511	
78—79	—	—	68,019	68,019	
79—80	—	—	112,653	112,653	109,220
80—81	—	—	112,750	112,750	
81—82	—	—	153,167	153,167	
1882—83	—	—	88,360	88,360	

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Bahia in bags of 60 kilograms.

Average for years.	According to the Rio News Export per civil year from 1854 up to date.	REMARKS.
	—	
	23,635	
	56,476	To supplement the official statistics of the Minister of Finance, I have had to consult the provincial reports of Bahia in the National Library at Rio.
976	52,880	But I have not succeeded in collecting more data there than are stated in the table, seeing that the provincial Relatorios were not all in the possession of the Library.
	83,958	For the statistics of the last few years I am indebted to Mr. Gordon, managing partner of the firm Ed. Johnston & Co., who procured them at my request from his correspondents in Bahia.
	44,651	
	55,324	
	46,168	
485	50,866	
	59,847	
	68,423	From these three statements, all agreeing with each other, I have drawn up the account of 30 years export from Bahia.
	42,388	As appears from the average export for each period of five years, the produce of Bahia has been increasing up to 1882.
456	99,703	The exports during civil years, is estimated according to a table of the Export trade of Bahia published in the Rio News of 5 February 1881.
	69,261	
	83,889	
	87,541	
	91,470	
	86,037	
053	65,282	
	101,466	
	51,748	
	52,738	
967	103,324	
	122,552	
	122,708	
	75,562	
	91,558	
9220	135,941	
	—	
	—	
8,360	—	

Op

Export from Bahia in bags

Financial years.	The Cape, Chili, and River Plate regions.	North America.	Spain.	Lisbon f/o.	Mediterranean f/o.	Germ
1871—72	74	1,472	—	26,313	12,655	21,3
72—73	3	245	—	18,880	4,167	6,1
73—74	9	—	—	5,264	6,848	3,4
74—75	20	—	58	4,744	749	14,5
75—76	91	2,073	—	24,468	—	23,4
76—77	12	8,772	—	4,571	2,257	18,3
77—78	44	6,986	—	15,363	2,534	19,1
78—79	6	1,313	—	13,830	808	12,0
79—80	22	5,391	—	11,537	3,305	5,2
80—81	69	1,120	—	23,167	8,511	55,3
81—82	31	21,674	—	28,598	3,234	42,2
82—83	41	6,398	—	12,139	906	31,2

hia in bags of 60 kilograms.

terra- n f/o.	Germany.	Belgium.	France.	England.	Total.	REMARK.
655	21,307	1,078	8,955	13,384	85,138	These statistics have been obtained from messrs. Drum Blair & Co. of Bahia, through favour of messrs. Ed. Johnston & Co. of Rio.
167	6,160	1,126	3,790	32,135	66,506	
848	3,459	2,938	11,585	26,588	56,691	
749	14,581	1,855	6,407	49,852	78,266	
—	23,473	2,239	25,078	49,042	126,474	
257	18,375	3,406	8,016	61,486	106,895	
534	19,107	6,560	17,877	31,034	99,505	
808	12,004	13,053	8,204	18,801	68,019	
305	5,256	33,034	15,521	38,587	112,653	
511	55,391	5,859	6,054	12,579	112,750	
234	42,213	25,759	1,720	29,938	153,167	
906	31,234	29,927	1,872	5,852	88,360	

Export from Ceará in bags

Financial years.	According to the Official Reports.	According to the provincial Relatorio.	According to Dr. N. J. Moreira.	Average.	
1852—53	—	—	4,516	4,516	
53—54	—	1,494	—	1,494	
54—55	—	6,826	—	6,826	3,150
55—56	—	1,607	—	1,607	
56—57	—	1,306	—	1,306	
57—58	—	1,525	—	1,525	
58—59	—	15,923	—	15,923	
59—60	—	14,460	—	14,460	15,786
60—61	10,807	—	—	10,807	
61—62	36,215	—	—	36,215	
1862—63	36,176	—	36,175	36,175	
63—64	26,922	—	37,168	32,045	
64—65	7,617	—	17,127	12,372	24,151
65—66	18,315	25,308	25,310	22,978	
66—67	16,308	18,948	16,308	17,188	
67—68	30,211	32,166	20,084	27,487	
68—69	847	1,296	778	940	
69—70	14,625	17,062	13,426	15,038	15,108
70—71	9,338	13,258	20,678	14,425	
71—72	5,198	30,107	—	17,652	
1872—73	26,044	27,857	—	26,950	
73—74	16,120	33,596	—	24,858	
74—75	28,191	38,662	—	33,426	24,490
75—76	29,097	22,014	—	25,556	
76—77	—	11,661	—	11,661	
77—78	—	9,956	—	9,956	
78—79	—	11,917	—	11,917	
79—80	—	2,252	—	2,252	(for 3 years) 8,042
80—81	—	—	—	—	(for 5 years) 4,825
81—82	—	—	—	—	
1882—83	—	—	—	—	

rá in bags of 60 kilograms.

## REMARKS.

As appears from the foregoing general table showing quantity of coffee exported from Brazil, the export from Ceará was first mentioned separately in the financial year 1860/61 in the Report of the Minister of Finance.

With the financial year 1875/76 this came to an end again.

In order to supplement these imperfect data, I had to consult the provincial Relatorios. The National Library, however, did not possess a complete set of these.

In his „Breves Considerações sobre a historia e Cultura do Cafeeiro e Consumo de seu producto 1873”, Dr. N. J. Moreira gives a statement of the export from Ceará.

In this, however, is included the export of:

1. The civil years 1839—1841, 1843—1848, 1854—1854 (the year 1853 is wanting).

2. The financial years 1862/63 to 1870/71.

That I might include in my statistics the missing financial year 1852/53 — for the purpose of rounding off my table rather than because the omission would take anything away from its value, — I have taken the half of the export according to Moreira,

1852 = 30,246 arrobas.

1854 = 6,654 »

Total . . . 36,900: 2 = 18450 arrobas, or 4516 bags of 60 kilograms.

In the provincial Relatorios of 1882 and 1883 there is no longer any mention of coffee exported; while in the accounts of 1879,80 we find the note: „Releva notar que em 1878 ainde houve alguma exportação de café e algodão e dos despojos do gado, restro d'uma riqueza que desapareceu.” The wealth of agricultural produce, slowly declining then, will now certainly be lost altogether, now that the actual tillers of the soil, the slaves, have received their freedom unconditionally.

8,042

4,825

Export from Brazil in bags

Financial years.	Average export from Rio.	Average export from Santos.	Average export from Bahia.	Average export from Ceará.	
1852—53	2,230,501	93,478	25,068	4,516	2
53—54	1,970,411	127,040	27,155	1,494	2
54—55	2,278,103	207,146	65,272	6,826	2
55—56	2,584,683	194,949	60,365	1,607	2
56—57	2,953,983	182,781	67,022	1,306	3
57—58	2,117,660	190,586	60,183	1,525	2
58—59	2,436,825	225,777	57,260	15,923	2
59—60	2,074,467	362,728	47,892	14,460	2
60—61	3,190,362	319,281	48,545	10,807	3
61—62	2,154,070	348,126	48,547	36,215	2
1862—63	1,712,026	344,800	70,053	36,175	2
63—64	1,644,221	261,031	45,883	32,045	2
64—65	2,180,859	417,597	75,790	12,372	2
65—66	2,006,642	323,147	80,799	22,978	2
66—67	2,697,957	298,524	79,756	17,188	3
67—68	2,902,318	463,904	107,629	27,487	3
68—69	2,539,492	599,103	82,169	940	3
69—70	2,822,706	577,763	97,372	15,038	3
70—71	3,226,880	502,649	52,959	14,425	3
71—72	1,959,793	459,727	85,138	17,652	2
1872—73	2,957,112	537,478	66,507	26,950	3
73—74	2,045,092	677,788	56,690	24,858	2
74—75	3,113,157	810,850	78,267	33,426	4
75—76	2,742,974	726,036	126,474	25,556	3
76—77	2,756,604	625,245	106,895	11,661	3
77—78	2,723,117	981,463	99,511	9,956	3
78—79	3,641,184	1,200,363	68,019	11,917	4
79—80	2,942,904	1,063,142	112,653	2,252	4
80—81	4,243,824	1,195,419	112,750	nihil.	4
81—82	3,887,397	1,527,022	153,167	»	4
1882—83	4,168,374	1,837,954	88,360	»	0
83—84	3,102,292	1,932,194	± 82,881	»	±
84—85	± 3,000,000	± 1,800,000	± 70,000	»	±

## COFFEE EXPORT.

411

bags of 60 kilograms.

Report	Total.	Average for five years.	From which of the four seaports.	What percentage of the average five yearly export.	Total export according to the Government reports.
6	2,353,563	2,616,741	R. = 2,403,536	91,85	2,423,640
4	2,126,100		S. = 161,079	6,16	2,128,026
6	2,557,347		B. = 48,976	1,87	3,185,776
7	2,841,604		C. = 3,150	0,12	2,849,570
6	3,205,092	2,752,247			3,188,045
5	2,369,954				2,375,691
3	2,735,785		R. = 2,394,677	87,01	2,724,268
0	2,499,547		S. = 289,299	10,51	2,509,306
7	3,568,995	2,475,968	B. = 52,485	1,91	3,570,471
5	2,586,958		C. = 15,786	0,57	2,418,825
5	2,163,054				2,133,881
5	2,003,180		R. = 2,052,341	82,89	2,000,563
2	2,686,618	3,311,028	S. = 329,020	13,30	2,645,211
8	2,433,566		B. = 70,456	2,84	2,441,395
8	3,093,425		C. = 24,151	0,97	3,193,009
7	3,501,338				3,560,782
0	3,221,704	3,509,924	R. = 2,690,238	81,25	3,800,684
8	3,512,879		S. = 520,629	15,72	3,413,970
5	3,796,913		B. = 85,053	2,57	3,763,908
2	2,522,310		C. = 15,108	0,46	2,282,938
0	3,588,047	4,795,212			3,496,210
8	2,804,428		R. = 2,722,988	77,58	2,773,091
6	4,035,700		S. = 675,479	19,24	3,852,470
6	3,621,040		B. = 86,967	2,48	3,406,236
1	3,500,405	5,360,685	C. = 24,490	0,70	3,552,301
6	3,814,047				3,458,364
7	4,921,483		R. = 3,487,685	72,74	4,902,815
2	4,120,951		S. = 1,193,482	24,89	2,617,272
1.	5,551,993	—	B. = 109,220	2,27	3,659,483
	5,567,586		C. = 4,825	0,10	4,081,467
	6,094,688		R. = 3,423,556	63,88	—
	5,117,367		S. = 1,856,715	34,62	—
	± 4,870,000		B. = 80,414	1,50	—

## Export from Mexico to:

Years.	North America.	England.	Hamburg.	Bremen.	Total.	REMARKS.
1852—53	181	—	—	—	181	These statistics are extracted : North America, from the Quarterly Report, 1883. England, from the English Table of Exports. Hamburg, from the Hamb. idem. Bremen, from the Bremen idem. How difficult it is to obtain statistics of Mexico and the Central American Republics, will appear from a letter written by Mr. F. Dahms, Netherland Consul at Vera-Cruz, 30 April 1884, in which he says among other things that he «nicht im Stande ist die gewünschten Daten über den Export und die «Production von Caffee in seinem «District, weniger aber von Central-America aufzutreiben; in Mexico «ist die Statistik über den Import «und Export seit circa drei Jahren «eingeführt, die gewünschten Daten «würden also vielleicht durch persönliche Nachforschungen in den «verschiedenen Districten, welche in «den Staten Vera-Cruz, Oaxaca, «Chiapas, Michoacan, Colima etc. «zerstreut liegen, zu erlangen sein.» Neumann-Spallart in his «Uebersichten», 1881/82, estimates the export from Mexico in 1878 at 40,464 m. Ctr. or 67,440 bales.
54	2,228	—	—	—	2,228	
55	680	—	—	—	680	
56	390	—	—	—	390	
57	15	—	—	—	15	
58	224	—	—	—	224	
59	344	—	381	—	725	
60	4,152	—	724	—	4,876	
61	3,488	—	266	—	3,754	
62	54	—	—	—	54	
1863	7,073	—	—	—	7,073	
64	89	—	—	—	89	
65	4	—	—	—	4	
66	3,967	—	—	—	3,967	
67	1,043	—	6,029	—	7,072	
68	6,672	—	343	—	7,015	
69	1,535	—	793	—	2,328	
70	836	1,181	—	—	2,017	
71	3,980	—	—	—	3,980	
72	14,200	—	105	16	14,321	
1873	15,388	—	56	—	15,444	
74	22,153	—	75	6	22,234	
72	20,350	—	508	18	20,876	
76	29,795	10,537	708	81	41,121	
77	51,329	3,086	98	49	54,562	
78	47,907	1,238	208	—	49,353	
79	62,800	3,785	6,661	56	73,302	
80	74,227	2,323	3,305	50	79,905	
81	105,173	—	1,624	710	107,507	
82	128,674	1,620	1,078	26	131,398	

## Export from Colombia to:

Years.	North America.	England.	Hamburg.	Bremen.	Total.	REMARKS.
1852—53	155	—	—	—	155	<p>These statistics were collected in the same way as those of Hayti and the other coffee-producing countries of Central America, the Antilles, and Venezuela.</p> <p>It is scarcely possible to make a close calculation, seeing that Columbia exports via Venezuela and the South Pacific ports.</p> <p>G. Fr. Kolb, in his «Statistik der Neuzeit» states the export from Columbia in 1878/79 to have amounted to 7,615,000 kilograms or 126,917 bags; a calculation which squares pretty well with the statistics I have adopted.</p> <p>Dr. F. X. von Neumann-Spallart, in his «Uebersichten der Weltwirtschaft» for 1881/82 estimates the export from Columbia at an average of 50 or 60,000 m.Ctr. The estimate for 1877 of 125,000 m.ctr. he considers to have been excessively high.</p> <p>All things considered, the conclusion may safely be drawn that the data I have collected and adopted here are tolerably correct.</p>
54	1,702	—	—	—	1,702	
55	1,703	—	—	—	1,703	
56	5,411	—	—	—	5,411	
57	6,528	—	—	—	6,528	
58	4,250	—	—	44	4,294	
59	9,029	—	—	222	9,251	
60	14,426	3,798	—	300	18,524	
61	7,846	936	—	830	9,612	
62	7,560	2,826	290	4,015	14,691	
63	7,560	—	—	3,646	11,206	
64	7,560	7,540	944	2,021	18,065	
65	8,231	19,507	2,288	2,515	32,541	
66	4,160	22,542	—	2,023	28,725	
67	8,361	36,510	—	3,523	48,394	
68	8,545	47,591	—	17,212	73,348	
69	14,156	24,308	3,356	10,056	51,876	
70	8,789	3,477	4,669	7,543	24,478	
71	23,801	20,113	8,922	10,644	63,480	
72	31,314	22,915	15,728	7,463	77,420	
73	32,016	14,280	28,301	10,846	85,443	
74	44,613	18,394	19,072	7,217	89,296	
75	41,179	12,401	22,482	6,088	82,150	
76	28,797	24,690	19,883	16,209	89,579	
77	42,833	10,055	24,466	7,751	85,105	
78	44,843	13,818	26,883	11,773	97,317	
79	67,571	17,100	27,239	7,402	119,312	
80	95,915	14,501	7,767	3,655	121,838	
81	60,163	17,675	13,736	2,772	94,346	
82	52,662	21,505	11,685	3,953	89,805	

## Export from Venezuela to:

Years.	North America.	Hamburg.	Bremen.	Italy.	England.	Total Venezuela
1853	103,819	58,190	40,168	—	—	172,177
54	84,959	70,568	41,655	—	—	167,182
55	112,710	71,068	40,715	—	—	194,493
56	125,087	59,967	19,413	—	—	204,467
57	76,173	69,791	20,384	—	—	166,348
58	110,979	75,397	9,553	—	—	195,929
59	143,215	69,079	7,686	—	—	219,980
60	86,632	50,833	5,751	8,870	—	152,086
61	106,705	68,877	8,489	26,465	—	210,536
62	71,849	105,794	9,365	11,559	—	198,567
1863	37,672	105,794	4,207	8,176	—	155,296
64	109,668	99,459	10,993	7,269	—	227,389
65	40,129	102,058	11,688	4,644	—	158,519
66	99,811	92,453	9,670	3,898	—	205,832
67	74,221	141,013	9,466	19,979	—	244,679
68	129,786	106,087	7,396	11,315	—	254,584
69	126,332	115,864	2,415	16,093	—	260,704
70	85,869	35,636	4,073	7,615	1,285	134,478
71	152,241	140,650	9,504	44,252	—	346,647
72	213,065	115,966	12,337	24,252	—	365,620
1873	230,778	145,413	21,008	46,688	—	443,887
74	180,381	135,249	7,058	38,315	6,657	367,660
75	194,903	165,658	2,363	42,619	1,830	407,373
76	190,414	185,566	5,106	41,082	2,226	424,394
77	269,995	150,710	12,335	5,928	1,665	440,633
78	291,987	197,504	7,323	11,338	4,111	512,263
79	220,280	201,165	5,677	30,408	1,844	459,374
80	268,519	99,638	3,308	16,142	3,232	390,839
81	319,369	94,501	3,431	5,730	—	423,031
82	327,866	71,864	4,284	9,472	—	413,486

Total Venezuela.	Total Columbia.	Total General.	REMARKS.
172,177	155	172,332	<p>These statistics also have been compiled with scrupulous accuracy from the detailed tables of export.</p> <p>France receives little from Venezuela and Columbia, and that little is disguised under the name «Hayti»-coffee, which is imported for the most part to Havre.</p> <p>Those slight discrepancies are disposed of in the general account of exports from «Venezuela, Columbia, Central America, Mexico, and the West Indies».</p> <p>Seeing that the two first mentioned countries adjoin each other and have several export harbours in common, I think I shall do well to state the joint exports here, especially as the imports into Italy from America generally classed under these heads only: Brazil, Amer. merid., Amer. Central, and United States.</p> <p>That these statistics must be tolerably correct appears from the export from the parts of Puerto-Cabello and Laguaira, which, according to Neumann-Spallart's Uebersichten 1878 — as appears from the Consulate reports — amounted to:</p> <p>In 1876, 598,000 Cwt. = 498,333 bags.  » 1877, 630,000 » = 525,000 »</p> <p>In the „Uebersichten for 1881—82” this scholar estimated the exports of Venezuela at 418,000 m. Ctr. and those of Columbia at an average of 50 or 60,000 m. Ctr. For further particulars see below, Coffee-planting in Venezuela.</p>
167,182	1,702	168,884	
194,493	1,703	196,196	
204,167	5,411	209,578	
166,348	6,528	172,876	
195,929	4,294	200,223	
219,980	9,251	229,231	
152,086	18,524	170,610	
210,536	9,612	220,148	
198,567	14,691	213,258	
155,296	11,206	166,502	
227,389	18,065	245,454	
158,519	32,541	191,060	
205,832	28,725	234,557	
244,679	48,394	293,073	
254,584	73,318	327,932	
260,704	51,876	312,580	
134,478	24,478	158,956	
346,647	63,480	410,127	
365,620	77,420	443,040	
443,887	85,443	529,330	
367,660	89,296	456,956	
407,373	82,150	489,523	
424,394	89,579	513,973	
440,633	85,105	525,738	
512,263	97,317	609,580	
459,374	119,312	578,686	
390,839	121,838	512,677	
423,031	94,346	517,377	
413,486	89,805	503,291	

## Export from Central America to:

Years:	North America.	England.	Italy.	Hamburg.	Bremen.	Total
1852/1853	5	—	—	1,267	—	1,272
54	7	—	—	94	—	101
55	5,587	—	—	—	—	5,587
56	5,150	—	—	3,013	—	8,163
57	5,439	—	—	4,077	91	9,607
58	2,704	—	—	6,241	—	8,945
59	6,138	—	—	7,627	313	14,078
60	6,910	26,154	23,240	14,473	1,877	72,654
61	6,334	24,441	17,648	4,216	3,881	56,520
62	3,652	30,367	21,099	7,726	979	63,823
1863	1,801	24,487	23,917	12,449	4,054	66,718
64	16,617	28,286	56,850	3,685	5,684	111,122
65	11,837	39,906	21,647	3,647	6,265	83,302
66	31,417	53,754	52,311	7,690	3,328	148,500
67	32,310	55,204	33,948	8,334	3,883	133,689
68	57,401	76,227	42,802	5,528	9,222	191,280
69	30,417	102,343	47,635	24,557	4,617	209,572
70	23,790	113,928	36,924	720	120	180,484
71	65,243	147,757	33,382	31,437	15,896	293,715
72	72,567	112,858	6,793	9,114	17,493	218,825
1873	84,863	167,411	5,922	20,597	13,706	292,509
74	94,590	128,308	11,937	22,231	13,065	270,131
75	90,205	178,637	7,677	22,599	7,784	306,902
76	52,062	108,600	13,678	37,752	15,942	228,034
77	101,654	193,607	2,528	36,570	8,942	343,301
78	104,848	131,675	—	31,896	6,464	274,883
79	86,660	220,590	—	58,528	8,288	374,066
80	145,484	177,315	—	28,894	14,049	365,742
81	119,887	175,620	—	37,223	22,321	355,030
82	169,712	241,463	—	57,747	8,071	476,993

en.	Total.	Probable total.	REMARKS.																				
	1,272	2,000	<p>These statistics have been compiled in the same way as those of the other coffee-producing countries of America.</p> <p>I shall not attempt to deny that the crops may be larger, but the exports for American and European consumption assuredly are not so. And in the meantime it is the consumption alone we have to deal with.</p> <p>Mr. N. P. van den Berg estimated the produce of Central America in 1880, as follows:</p> <table border="0"> <tr> <td>Costa Rica . . . . .</td> <td>12,500,000 k.</td> </tr> <tr> <td>San Salvador . . . . .</td> <td>4,000,000 »</td> </tr> <tr> <td>Guatamala . . . . .</td> <td>10,000,000 »</td> </tr> <tr> <td>Nikaragua . . . . .</td> <td>2,000,000 »</td> </tr> <tr> <td>Total . . . . .</td> <td>28,500,000 kilogr.</td> </tr> </table> <p>or 475,000 bags.</p> <p>As regards the coffee-trade in America and Europe, to my mind the only question to be solved is, how much coffee Central America can furnish for American and European consumption; and then I believe that the figures I have stated, based on facts as they are, represent the exact truth.</p> <p>How the Rotterdam coffee-brokers, Messrs. G. Duuring and Son, c.s. mentioned in the account of Ceylon, can estimate the exports from the Central American Republics at such a high figure as they have done in their market report of 31 Dec. 1883, I confess myself unable to understand.</p> <p>According to that market report Central America is stated to have exported to North America and Europe:</p> <table border="0"> <tr> <td>in 1880 . . . . .</td> <td>660,300 bags</td> </tr> <tr> <td>» 1881 . . . . .</td> <td>767,000 »</td> </tr> <tr> <td>» 1882 . . . . .</td> <td>842,000 »</td> </tr> <tr> <td>» 1883 . . . . .</td> <td>885,400 »</td> </tr> <tr> <td>» 1884 . . . . .</td> <td>920,000 (estimate).</td> </tr> </table> <p>The import into North America is stated on the authority of the »Quarterly Report of the Chief of the Bureau of Statistics, Treasury Department, relating to the imports, exports, immigration and navigation of the United States,» 1883.</p> <p>According to this view we must believe that Europe receives annually from three to four hundred thousand bales more than my statistics state; but then comes the question: Where those large quantities are imported to?</p> <p>Not to France, for the French coffee-markets are directly supplied from Brazil and Hayti (old French colony) alone; while Marseilles receives only a relatively small portion of the Indian crops.</p> <p>For further particulars, see Remarks appended to the table showing the export from all the coffee-producing countries in America.</p> <p>According to Neumann Spallart's last „Uebersichten" for 1881/82, the entire export of Central America is estimated at 368,000 m. Ctr.</p>	Costa Rica . . . . .	12,500,000 k.	San Salvador . . . . .	4,000,000 »	Guatamala . . . . .	10,000,000 »	Nikaragua . . . . .	2,000,000 »	Total . . . . .	28,500,000 kilogr.	in 1880 . . . . .	660,300 bags	» 1881 . . . . .	767,000 »	» 1882 . . . . .	842,000 »	» 1883 . . . . .	885,400 »	» 1884 . . . . .	920,000 (estimate).
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	401	3,000																					
	5,587	6,000																					
	8,163	8,500																					
91	9,607	10,000																					
	8,945	9,000																					
13	14,078	14,500																					
77	72,654	73,000																					
81	56,520	57,000																					
79	63,823	64,000																					
54	66,708	67,000																					
84	111,122	112,000																					
65	83,302	84,000																					
28	148,500	149,000																					
83	133,679	137,000																					
22	191,180	192,000																					
17	209,569	210,000																					
20	180,482	181,000																					
96	293,715	294,000																					
93	218,825	220,000																					
06	292,569	293,000																					
65	270,131	271,000																					
84	306,902	307,000																					
42	228,034	228,500																					
42	343,301	344,000																					
34	274,883	276,000																					
38	374,066	375,000																					
49	365,742	366,000																					
21	355,051	356,000																					
71	476,993	477,000																					

## Export from Hayti and San Domingo to:

Years.	North America.	England.	Hayti to Hamburg.	S. Domingo to Hamburg.	Havre.	Total.
1852—53	149,948	—	63,780	—	—	213,728
54	143,657	—	69,058	—	—	212,715
55	165,802	—	30,804	—	—	196,606
56	101,674	—	42,433	—	—	144,107
57	112,411	—	53,988	—	—	166,399
58	118,219	—	37,062	—	—	155,281
59	174,361	—	55,101	—	—	229,462
60	118,098	842	69,444	—	126,000	314,384
61	83,197	777	34,973	—	91,000	209,947
62	64,400	2,538	41,058	—	132,000	239,996
1863	35,694	26,232	27,702	—	164,000	253,628
64	71,208	7,205	16,652	—	110,000	205,065
65	29,549	13,125	43,808	—	165,000	251,482
66	35,037	16,806	35,743	—	158,000	245,586
67	35,679	9,541	43,728	—	140,000	228,948
68	35,011	5,444	53,357	—	220,000	313,812
69	23,543	22,779	19,261	—	132,000	197,583
70	18,426	28,052	29,449	343	220,000	296,270
71	24,822	26,080	28,144	—	113,000	192,046
72	29,293	55,679	26,236	—	132,000	243,208
1873	46,777	41,998	14,265	—	234,000	337,040
74	35,927	42,914	30,222	283	174,000	283,346
75	72,162	65,429	71,082	—	300,000	508,673
76	89,490	58,692	68,278	1,439	270,000	487,899
77	92,755	28,777	78,792	2,605	224,000	426,929
78	96,865	21,653	57,217	17	223,000	398,752
79	125,948	5,952	48,848	5,836	267,000	453,584
80	171,301	8,120	19,052	640	228,000	427,113
81	241,221	4,537	12,228	773	1) 399,000	657,759
82	170,309	2,461	15,747	247	249,000	437,764

1) This figure is probably 100,000 bales too high.

Export from Hayti and San Domingo.

R E M A R K S.

These statistics are compiled from the detailed Table of imports into North America, England, Hamburg and Havre. Bremen receives no coffee direct from Hayti, according to the detailed table of imports referring to that town.

Against this «Arial» calculation of the exports from the republics of Hayti and San Domingo, it may be urged that more coffee from these countries finds its way to other European sea-ports.

This may be the case, but the quantity must be so small that its effect on the total amount of export must be almost imperceptible.

Besides, it must here be kept in mind that a considerable proportion of the coffee exported from Hayti to Havre, is not produced on that island at all. In Havre the coffee imported is classed under three heads: Brazilian, Haytian and Indian coffee. The Haytian coffee, therefore, may be supposed to include the produce of Central America, Venezuela, Columbia and the great Antilles.

The Republic of San Domingo produces very little as yet; up to 1875 the crop — according to a written statement made by the Consul J. M. Leyba on April 17. 1884 — was scarcely sufficient for home consumption, the deficiency having to be supplied from abroad. Seeing that sugar-planting is preferred to coffee-planting in San Domingo, the latter industry is likely to remain at its present insignificant level.

According to Consul Leyba the exports of the republic are.

In bags of 60 kilogr.

from the port of S. Domingo.			Porto Plata.			Total.		
1875	2000	—	2000	1880	4936	2064	7000	
76	1325	—	1325	81	6023	4726	10749	
77	6107	—	6107	82	3301	806	4107	
78	987	—	987	83	2103	774	2877	
79	4540	—	4540					

Since 1880, therefore, the average export has been 6183 bales. Exact statistics of the republic of Hayti are not to be had.

The Consul at Port au Prince, Mr. H. Peters, in his letter addressed to me on May 23. 1884, favoured me with the following, among other information:

„Après les démarches que j'ai faites pour avoir la statistique des trentes années pour l'exportation des Cafés de la république d'Haïti, il m'a été répondu que les incendies trop fréquentes et principalement les derniers événements du 22 Sept. 1883, ont détruit les archives, de manière qu'on ne peut pas se procurer des chiffres exactes.

Me basant sur certaines notes approximatives je donne la note suivante.

L'exportation des Cafés de la république d'Haïti n'a presque jamais changée depuis les dernières trente années.

On peut estimer que la récolte bonne ou mauvaise pour Haïti reste entre 60 à 70 millions de Cafés, s'il y a une bonne récolte les Cafés se perdent, faute de mains pour cueillir la fève et si la récolte est mauvaise on apporte tous au marché.

On estime la livraison, comme suit:

Port au Prince 16 million ₣	St. Marc . 5 million ₣	Miraguave 3 million ₣
Jacmel . . . 12 »	Port Goave 6 »	Aux-Cayes 5 »
Cap Haitien . 12 »	Jeremie . . 4 »	Aquin . . . 3 »
Gonaives . . 8 »	Port au Paix 3 »	
		77 million ₣

Mais pour être plus juste, on estime ici toujours à 70 millions ₣ de café la récolte."

Considering the system of calculating the crop, in Java as well as Brazil, the estimate for Hayti seems to me much too high, taken in connection with the exports to America, England, France and Germany. In the Republic of Hayti, as well as that of San Domingo, the export of coffee cannot be so uniform.

G. Fr. Kolb tells us in his Statistik der Neuzeit 1883, that the export from Hayti cannot be reckoned at more than 25 mill. kilograms, thus agreeing with my statistics.

Neumann-Spallart estimates the export of 1881 at 336,000 m. Ctr. or 560,000 bales of 60 kilograms.

## Export from Jamaica.

Years.	According to statistics furnished by the Consul.	According to «Statistical Tables» and «Statistical Abstract.»	Years.	According to statistics furnished by the Consul.	According to «Statistical Tables» and «Statistical Abstract.»
1805	182,476	—	1845	37,960	—
6	221,489	—	46	45,716	—
7	202,310	—	47	48,543	—
8	220,943	—	48	40,917	—
9	190,952	—	49	25,932	—
10	195,261	—	50	38,120	—
11	129,728	—	51	42,300	—
12	139,721	—	52	53,885	—
13	186,151	—	53	37,933	—
14	257,380	—	54	30,169	—
1815	206,850	—	1855	42,767	42,836
16	130,706	—	56	25,160	28,136
17	111,839	—	57	53,642	51,869
18	191,488	—	58	39,596	44,926
19	112,659	—	59	40,823	37,480
20	167,281	—	60	49,608	46,458
21	127,155	—	61	51,157	50,769
22	149,488	—	62	42,344	41,387
23	153,665	—	63	64,151	61,877
24	209,237	—	64	41,006	31,312
1825	160,683	—	1865	48,402	47,096
26	153,865	—	66	59,125	64,361
27	194,603	—	67	41,652	47,362
28	167,956	—	68	66,185	59,386
29	168,091	—	69	36,476	41,594
30	168,260	—	70	74,255	73,116
31	106,257	—	71	41,647	42,420
32	149,799	—	72	71,900	71,900
33	74,586	—	73	54,500	54,423
34	134,004	—	74	77,953	78,257
1835	80,082	—	1875	53,950	53,950
36	101,650	—	76	65,386	65,828
37	67,700	—	77	72,068	72,068
38	102,450	—	78	72,663	72,369
39	67,263	—	79	81,965	81,903
40	55,033	—	80	77,027	77,027
41	48,635	—	81	74,441	74,581
42	53,561	—	82	56,084	56,084
43	55,694	—	83	71,427	71,427
44	54,044	—			

## Export from Jamaica.

## REMARKS.

These statistics, extending from 1805 to 1883, I received from the Consul at Kingston, Mr. S. E. Pieters, in a communication dated 23 July 1884.

The largest coffee-crop ever known in Jamaica was that of 1814.

In 1823 came the well-known Canning's decree, which was followed, ten years later, by the Emancipation Act.

The process of emancipation began on August 1. 1834 to be completed in 1838 by every slave being declared free.

From the beginning of the emancipation up to the present day Jamaica has only twice exported coffee to a quantity exceeding 100,000 bales; after the abolition of slavery the export began to diminish.

During the last 30 years the old industry, judging from amount of export, begins to show signs of gradual recovery. The average export was:

From 1805—14 rather more than 192,640 bales.

» 1815—24	»	»	»	156,035	»
» 1825—34	»	»	»	147,810	»
» 1835—44	»	»	»	68,610	»
» 1845—54	»	»	»	40,145	»
» 1855—64	»	»	»	45,025	»
» 1865—74	»	»	»	57,200	»
» 1875—83	»	»	»	62,500	»

These consular statistics agree tolerably well with the figures adopted in the Statistical Tables and Statistical Abstract of 1855—1883.

What discrepancy there is may probably be accounted for by the difference in the conclusion of financial years.

The average export during the last 3 decenniums, was however, according to said official authorities:

From 1855—64 upwards of 43,705 bales.

» 1865--74	»	»	57,990	»
» 1875—83	»	»	62,520	»

In the collective Table of exports from the West-Indian Islands, the official statement is adopted as most correct, for the sake of uniformity.

A comparison of this with the account of exports from Jamaica given in the Chapter on Coffee planting, seems to me scarcely necessary.

Export from the

Spanis

Years.	From Cuba to North America.	From Portorico to North America.	To England.	From Cuba to Hamburg.	From Portorico to Hamburg.	To Br
1852—53	15,575	1,578	—	828	28,085	34
54	21,587	9,813	—	1,751	7,167	7
55	3,355	12,464	—	—	20,147	43
56	7,659	2,400	—	214	18,243	14
57	537	582	—	512	11,242	15
58	1,755	3,515	—	—	6,843	13
59	1,703	1,725	—	29	12,425	30
60	718	2,645	—	20	4,816	20
61	21	507	—	—	5,844	11
62	2,013	—	—	252	8,240	4
63	7,742	—	—	81	16,055	3
64	3,066	—	—	—	—	4
65	1,167	599	2,895	334	4,810	20
66	10,276	3,043	3,939	—	7,972	9
67	335	441	2,029	—	2,796	26
68	234	2,669	2,096	—	4,202	32
69	2,492	2,810	—	—	7,913	3
70	1,849	43	7,376	—	—	10
71	4,945	1,740	3,464	—	7,781	10
72	420	15,285	—	190	—	3
73	153	17,065	—	—	238	4
74	2,715	48,633	8,558	—	1,383	7
75	2,459	8,825	5,594	—	4,143	18
76	467	5,475	25,376	—	4,832	2
77	77	2,354	4,987	—	3,345	1
78	15	800	2,403	—	4,432	1
79	17	910	13,245	—	12,531	14
80	223	22,204	13,391	—	4,517	7
81	127	26,199	17,826	—	13,106	7
82	188	16,539	4,236	—	13,587	7

## Spanish Dependencies.

To Bremen.	Total.	REMARKS.
34,348	80,414	<p>Seeing that I have waited in vain for data from the Netherland Consuls in Spain, Cuba, and Portorico, and consequently am unable to state either the exact exports from the Spanish West Indian Dependencies or the import into Spain, I have thought it better to confine my statements here to the export from Portorico and Cuba to America and Europe, exclusive of Spain. Cuba itself produces no coffee now, but exports Portorico coffee in the same way as Maccassar, Soerabaya, and Batavia, for instance, exports the coffee grown in Bali, Palembang, and the Lampongs.</p> <p>The greater part of the coffee exported from Portorico goes to Spain, where the Philippine Islands coffee is likewise used.</p> <p>As there is very little coffee consumed in Spain — scarcely 2,750,000 kilograms or 45,834 bags, according to Mr. N. P. van den Berg's Historical-Statistical Notes — the export from the Spanish dependencies in the West Indies to the mother-country can be calculated approximately, taken in connection with the export of coffee from the Philippine Islands.</p>
7,891	48,209	
43,962	79,928	
14,253	42,769	
15,436	28,309	
13,662	25,775	
30,008	45,890	
20,995	29,194	
11,075	17,447	
4,514	15,019	
3,752	27,630	
4,618	7,684	
20,499	30,304	
9,050	34,280	
26,331	31,932	
32,353	41,554	
3,901	17,116	
10,593	19,861	
10,526	28,456	
3,459	19,354	
4,427	21,883	
143	61,432	
18,670	39,691	
2,029	38,179	
1,345	12,108	
1,622	9,272	
14,108	40,811	
247	40,582	
4,305	61,563	
4,045	38,595	

## Export from the West Indies.

Years.	Hayti— S. Domingo.	Jamaica.	Cuba—Portorico exclusively to Spain.	Total.
1853	213,728	37,933	80,414	332,075
54	212,715	30,169	48,209	291,093
55	196,606	42,836	79,928	319,370
56	144,107	28,136	42,769	215,012
57	166,399	51,869	28,309	246,577
58	155,281	44,926	25,775	225,982
59	229,462	37,480	45,890	312,832
60	314,384	46,458	29,194	390,036
61	209,947	50,769	17,447	278,163
62	239,996	41,387	15,019	296,402
1863	253,628	61,877	27,630	343,135
64	205,065	31,312	7,684	244,061
65	251,482	47,096	30,304	328,882
66	245,586	64,361	34,280	344,227
67	228,948	47,362	31,932	308,242
68	313,812	59,386	41,554	414,752
69	197,583	41,594	17,116	256,293
70	296,270	73,116	19,861	389,247
71	192,046	42,420	28,456	262,922
72	243,208	71,900	19,354	334,462
1873	337,040	54,423	21,883	413,346
74	283,346	78,257	61,432	423,035
75	508,673	53,950	39,691	602,314
76	487,899	65,828	38,179	591,906
77	426,929	72,068	12,108	511,105
78	398,752	72,369	9,272	480,393
79	453,584	81,903	40,811	576,298
80	427,113	77,027	40,582	544,722
81	657,759	74,581	61,563	793,903
82	437,764	56,084	38,595	532,443
1883	—	71,427	—	—

## Export from Suriname (Netherl. Guyana).

Years.		In bags.	REMARKS.
1853	Amst. $\text{R}$ 666,618	5,489	<p>These statistics are taken from the annuals for 1873 and 1883, published by the Netherland Society of Statistics.</p> <p>In calculating by bags, 1 kilogram is reckoned as equal to 2,02392 Amst. <math>\text{R}</math>, thus 1 bag = 421,435 <math>\text{R}</math>.</p> <p>These data are given to show how much coffee-planting has declined since the emancipation of the slaves.</p> <p>Neither Dutch, English, nor French Guyana, produce any coffee now for general consumption.</p> <p>Instead of coffee-producing countries they have become coffee-consuming ones.</p> <p>Other American States, such as Equator and Peru, may produce coffee; but they certainly do not export it.</p> <p>The detailed Tables of Export to Europe, do indeed mention coffee imported from Equator, Peru, etc.; but in my opinion this item refers to coffee grown in other countries and despatched via one of the harbours (as the last port touched at) of the countries aforesaid. So, for instance, coffee arrives direct from Buenos-Ayres and Monte Video, of course grown in Rio or Santos).</p>
54	» 720,277	5,931	
55	» 459,638	3,785	
56	» 383,707	3,160	
57	» 716,649	5,901	
58	» 134,401	1,404	
59	» 665,214	5,478	
60	» 488,069	4,019	
61	» 139,735	1,451	
62	» 426,021	1,038	
1863	» 281,540	2,318	
64	» 181,008	1,491	
65	» 237,484	1,956	
66	» 28,154	232	
67	» 18,523	153	
68	» 41,908	345	
69	» 15,441	127	
70	» 16,735	198	
71	» 8,190	67	
72	kilograms 900	15	
1873	» 27,000	450	
74	» 400	7	
75	» 600	10	
76	» 300	5	
77	» 100	2	
78	» 50	1	
79	» 600	10	
80	» 200	3	
81	» 500	8	
82	» —	± 5 1)	

1) Average of the last five years.

## Honolulu (Sandwich Islands).

Years.	Pounds.	REMARKS.
1853	—	Coffee-planting in Australasia does not appreciably affect
54	—	the total amount produced throughout the world.
55	—	In the Consular Reports (1871) the following mention of
56	—	this subject is made by Consul F. Banning.
57	—	„Le Café a été attaqué de nouveau plus fortement par
58	—	les insectes, et l'espoir, qu'on avait formé dans les der-
59	—	nières années de voir disparaître cette peste peu à peu,
60	—	n'a malheureusement pas été réalisé, au contraire presque
61	45,000	la récolte (de 1871) entière a été détruite.”
62	—	In the volume for 1875, part 4 <sup>th</sup> page 256, it is further
1863	—	asserted: „La cultivation de cet article restera probablement
64	341,000	toujours très précaire dans les îles.”
65	—	The figures opposite, stating amount of export from
66	—	Honolulu (1861—1877) are according to Mr. N. P. van den
67	—	Berg's Historical Statistical Notes page 62.
68	—	In the Consular Reports I have only been able to find
69	341,000	the export of 1863 = 340,841 $\text{₤}$ ; 1870 = 415,111 $\text{₤}$ ;
70	415,000	and 1871 = 46,929 $\text{₤}$ . In the volumes of the succeeding
71	47,000	years, so far as I could learn from the incomplete set in
72	393,000	the Royal Library at the Hague, no exports are mentioned.
1873	262,000	In the Report of 1880, however, reappears the export of
74	75,000	1879, amounting to 71,275 $\text{₤}$ . The industry, therefore, is
75	166,000	rapidly declining.
76	154,000	According to Mr. N. P. van den Berg the estimated pro-
77	131,000	duce in 1865 was 300,000 kilograms, and in 1878 =
78	—	150,000 kilograms (probably a mistake for pounds. See,
79	74,275	however, Historical Statistical Notes, page 63). We shall
80	—	not be far from the truth if we rate the present produce
81	—	(for general consumption) at about 70,000 $\text{₤}$ or 529 bags
82	—	of 60 kilograms.

## Export from the Philippine Islands.

Years.	In picols	In bags.	REMARKS.
1853	—	19,000	The figures marked with a dagger are taken from Mr. N. P. van den Berg's Historical Statistical Notes.
54	18,080†	19,065	
55	—	19,000	
56	—	20,000	Those marked with an asterisk are from Dr. von Neumann-Spallart's last «Uebersichten», 1881/82.
57	21,080†	22,228	
58	24,530†	25,866	Instead of reckoning the picol at 61,76 kilograms, as Mr. van den Berg does here, I have adopted the calculation of Dr. Neumann-Spallart, who rates the picol at 63,27 kilograms.
59	—	24,000	
60	—	24,000	
61	—	25,000	
62	—	26,000	
1863	—	27,000	The picol or Pico on the Philippine Islands, however, is as appears from Friedrich Noback's Münz-, Maass-und Gewichtsbuch — equal to 137½ Spanish Castilian pounds or 63.2000 kilograms. 1)
64	37,845†	39,907	
65	37,590†	39,638	The exports of 1853, 1855/56, 1859/63, 1867/69 and 1872 are approximative estimations.
66	33,960†	35,810	
67	—	38,400	To have correct statistics of the Philippine Islands they must be asked from the Colonial-Spanish Government.
68	—	38,400	
69	—	38,400	
70	34,190†	36,052	
71	53,370†	56,277	
72	—	46,000	
1873	56,205†	59,267	
74	45,920†	48,421	
75	66,620†	70,249	
76	57,317*	60,438	
77	61,097*	64,425	
78	38,282*	40,367	
79	64,391*	67,898	
80	83,999*	88,574	
81	86,682*	91,405	
82	81,039*	85,453	

1) See Appendix, Reduction table no. 10.

## Arabia (Aden).

Years.	In Centners.		In bags.		Portion exported to England.
	Import for re-export.	Export.	Import for re-export.	Export.	
1853	—	—	—	80,000	—
54	—	—	—	80,000	—
55	—	—	—	80,000	—
56	—	—	—	80,000	—
57	—	—	—	80,000	—
58	—	—	—	75,000	—
59	—	—	—	75,000	—
60	—	—	—	75,000	—
61	—	—	—	75,000	—
62	—	—	—	75,000	—
1863	—	—	—	68,000	—
64	—	—	—	68,000	—
65	—	—	—	68,000	—
66	—	—	—	68,000	—
67	—	—	—	65,000	—
68	—	—	—	45,000	—
69	—	—	—	45,000	—
70	—	—	—	45,000	—
71	18,128	24,116	15,350	20,419	2,261
72	27,644	50,043	23,406	42,371	1,185
1873	23,798	27,545	20,150	23,322	—
74	36,592	43,882	30,983	37,155	5,099
75	36,128	40,726	30,590	34,483	12,750
76	53,066	70,130	44,931	59,379	8,177
77	1) ± 50,000	± 65,000	42,335	55,036	14,185
78	77,063	75,417	65,249	63,856	11,005
79	66,189	97,449	56,043	82,512	17,300
80	64,918	105,462	54,967	89,296	11,645
81	23,805	53,383	20,155	45,200	8,877
82	48,118	66,214	40,742	56,064	12,656
1883	63,885	82,520	54,091	69,870	?

1) Estimated. In the Report of 1878, page 128 there was no statement made of export and import; it was simply noted that the import was somewhat less; the export likewise was below that of the previous year.

## Arabia (Aden).

## REMARKS.

These statistics are compiled from the Collection of Consular Reports, etc. The years are from 1870/71 to 1883. Those figures from 1853 to 1870 are estimated. See Table of the Coffee produce of Asia.

The coffee is despatched from the interior to Aden on camels.

An average camel-load is three Cwt. or 336 pounds.

The export consists of raw and prepared coffee, the latter, dried in the husk, is termed by the Arabs jafal coffee.

The export of this (heavier) coffee amounted during the years from 1878 to 1883 to 15,630, 16,211, 20,822, 13,271, 13,400 and 12,802 centners respectively.

Seeing that Arabia, though the parent soil of the coffee-tree, is comparatively little known as a coffee-producing country, it may be useful to transcribe some particulars of the coffee-trade from the first Report, dated 30 April 1873, submitted by the Netherland Consul at Djeddah, Mr. R. W. J. C. de Menthon Bak.

«The exports, the amount of which it is difficult to determine, seeing that there is no real Custom-house control in the country, and at all events one would have great difficulty in obtaining the Custom-house reports, consists of:

COFFEE, which takes a prominent place, and of which about 100,000 centners, each of 45 kilograms, are exported annually, consequently nearly half the produce of Mocha. This article is, however, so badly manipulated, and so much adulterated with coffee of foreign origin and inferior quality, that the buyer, if he desires pure Mocha, has to lose from 15 to 25 per cent on the weight.

The principal imports 1) are tobacco, grain, flour, rice, COFFEE from Yemen (Hodehdah) to the amount of  $\pm$  100,000 centners of 45 kilograms. Value about £ 1,400,000 and from India 13,000 centners, value about £ 90,000.

Hodehdah. The second considerable seaport of Arabia and the Red Sea, situated between Djeddah and Bab-el-Mandeb. The vicinity of Mocha makes it the staple market for the chief product of Arabia, coffee.

The cultivation of coffee is no longer so extensively carried on in Mocha; it is receding

1) Likewise slaves, black from Nubia, Abyssinia, the Soudan, and other African countries; white from the Caucasus, Georgia and Circassia. The import duty is 5 piastres = 1 franc a head. Except in very extraordinary cases, the market price is from \$ 60 to \$ 100.

There are also slaves from the Netherland East Indies found in the interior of Arabia (probably pilgrims from the Indian Archipelago, who have been doomed to slavery).

It is probable that throughout the whole of Arabia the coffee is cultivated by slaves, as it is in most coffee-producing countries in Africa such as Abessinia, the Soudan, etc.

## Arabia (Aden).

## REMARKS.

farther and farther south. The average crops of coffee produced annually in Mocha is upwards of 240,000 centners, each of 45 kilograms. This estimate is adopted from the late Mr. M. Bourgerel, who had great experience in the coffee-trade at Hodehdah and here; it agrees with the calculations made by Mr. T. Paolo Georgiadis, also an experienced and trust worthy dealer in that article here, as well as at Hodehdah and Confuda. It includes likewise the coffee exported from the little port of Lechia between Confuda and Hodehdah, which is not insignificant in quantity though of inferior quality.

The coffee is sold in bales of 90 kilograms = 200 rotolis = 80 inland or 72 Egyptian ocques; which are also employed at Djeddah.

In the coffee-trade 115 rotolis — inclusive of sample weighing two rotolis — are weighed out for the 100 rotolis charged for.

The coffee is despatched from the interior to Hodehdah at almost every season of the year, but principally in February, March, and April. The purchasers are chiefly Arab dealers, who, in the interior, frequently barter English manufactured goods for this article.

The producers very seldom attend the Hodehdah market.

The principal coffee-dealers in Hodehdah are Arabs from Hadramant, Indians from the English dependencies, Mussulmans and Buddhists or Brahmins, also trading in drapery, which they send through their agents in the interior to pursue the aforesaid system of carter.

Last year there was only one European House at Hodehdah, that of M. Michael Bourgerel, selling on commission for a French House; this firm exported about 10,000 centners of coffee this year.

There are three or four great Anglo-Indian Houses at Hodehdah, which deal in coffee on their own account, and especially with England via Aden (free-port).

Those Hodehdah Houses also receive Ceylon and Abyssinian coffee, which they blend with Mocha coffee, and this mixture undergoes similar treatment a second time at Aden, before it reaches Europe.

At Hodehdah the coffee is sold in the Custom House, whither it is brought from the interior.

The standard weight there is the Arabian, called boekara, equal to 290 ocques or 340 kilograms, which usually represents a price of \$ 80—\$ 120. It has to be winnowed there, a process which usually reduces the weight by at least 10 or 15 per cent.

The coffee is paid cash down, in Imperial Austrian dollars (thalaris) with the head of Maria Theresa; English, French, Turkish, or Egyptian gold pieces are not current.

The Hodehdah merchants, accept this gold, however, at the Djeddah rate of exchange, thus without loss, especially since numerous Turkish troops have made the different currencies more familiar.

A new quality of coffee is coming to the front in Aden; it is called havar, or hazar, comes from the South African coast of the Red Sea, and is preferred by connoisseurs to Mocha.

Lechia, a small sea-port to the North of Hodehdah, exports inferior coffee, as also derra (a kind of maize) and millet. ■

In the volume for 1876, part 1<sup>st</sup> of above-mentioned «Collection» appears a very inte-

## Arabia (Aden).

## REMARKS.

resting paper on the Aden trade, from the pen of the Netherland Consul there, Mr. I. Salmon. In regard to coffee he gives the following information:

«Coffee is one of the staple articles here (Aden); since 1872/73 the delivery has increased 80%. The greater part is imported to America, England, France, Italy, and Triest.

The principal sorts that arrive here are:

1. The Hodehdah coffee, from the interior of Yemen;
2. The Djebelli coffee (mountain coffee) which is imported here;
3. The Berberah coffee (from the African coast).

The first kind is distinguished by its yellow and greenish colour, the mountain coffee by the darker green, while Berberah coffee may be recognised by the larger and more tapering bean, and light yellow colour.

Purchases are concluded through inland brokers, while the bargain is made per frassal. The Hodehdah frassal is equal to 28 English pounds weight, the Djebelli to 32, and the Berberah to 35 pounds. 1)

The coffee trade is altogether in the hands of Arabs or Banians, who receive the coffee, either in consignment or on their own account, from the Houses established at Hodehdah.

The Banians are mostly agents for Bombay firms, while some Marseilles, London, Triest, and American houses, have established agencies here in order to pay up coffee.

The Hodehdah coffee is sold per 9 frassals for thalaris.

The thalari are reduced to rupees 2) according to the Bombay rates of exchange, which now reckons 215 rupees as equal to 100 thalaris. Payment is usually made in bills on Bombay.

The coffee grown on the mountains is bought up directly from the cameldrivers.

One frassal on 10 is always allowed on the bargain.

Payment is made cash down in thalaris, while the coffee brought in by inland vessels from Berberah, is disposed of on board these vessels, and paid ready money in thalaris.

The coffee is winnowed at Aden and the refuse disposed of afterwards. The average price unwinnowed is 12 or 13 rupees per 28 English pounds, winnowed from 13 to 14, the Berberah coffee being on an average 1 rupee per 28  $\text{fr}$  dearer.

The fear that the extension of the Turkish supremacy in Yemen might work injuriously on the coffee-trade, has not been realised.

1) In the coffee trade the following weights are used. (See Consular Reports 1881 page 49):

1 farahsila	=	30,75 rattals	=	13,94789 kilograms	(Aden).
1 idem	=	32,50 »	=	14,74167 »	(Jekel).
1 idem	=	33,— »	=	14,96847 »	(Berberah).
1 idem	=	35,— »	=	15,87525 »	(Harrar).
1 bahar	=		+	152,—	»
1 hakisah	=		+	165,—	»

2) 1 rupee = 16 anna's; 1 anna = 12 pies; 1 rupee =  $\pm f$  1,20 = 1 milreis.

## Export from Ceylon.

Years.	In Cwt.		In bags.		
	„Plantation”.	„Native”.	„Plantation”.	„Native”.	Total.
1852/53	328,000	—	277,720	—	277,720
54	408,000	—	345,456	—	345,456
55	506,541	—	428,891	—	428,891
56	307,684	133,135	260,518	112,726	373,244
57	430,061	172,204	364,135	145,806	509,941
58	354,566	190,068	300,213	160,932	461,145
59	411,562	178,436	348,472	151,083	499,555
60	477,606	154,843	404,392	131,107	535,499
61	517,499	132,818	438,170	112,458	550,628
62	478,634	127,074	405,262	107,594	512,856
1863	670,068	158,517	567,351	134,217	701,568
64	576,315	95,448	487,969	80,816	568,785
65	695,934	233,268	589,252	197,510	786,762
66	704,189	195,291	596,241	165,354	761,595
67	776,218	167,374	657,229	141,717	798,946
68	784,889	222,590	664,570	188,468	853,038
69	792,569	127,643	671,073	103,076	779,149
70	921,506	132,524	780,245	112,209	892,454
71	775,454	170,396	656,582	144,275	800,857
72	582,432	140,623	493,149	119,066	612,215
1873	830,261	122,077	702,987	103,363	806,350
74	635,983	97,020	538,491	82,147	620,638
75	813,401	115,205	688,712	97,545	786,257
76	586,580	80,585	496,661	68,232	564,893
77	896,534	82,281	759,101	69,668	828,769
78	586,917	46,237	496,946	39,149	536,095
79	725,325	54,414	614,137	46,073	660,210
80	611,842	44,753	518,051	37,892	555,943
81	407,222	29,769	344,797	25,206	370,003
82	429,203	35,499	363,409	30,057	393,466

## Export from Ceylon.

## REMARKS.

Total.

These statistics are taken:

1. Those of 1853—66 from the Statistical Tables relating to the colonial and other possessions of the United Kingdom, part II — III. The exports of 1853 and 1854 are there given in bushels; in 1855 the export was for the first time classified into „Plantation” and „Native” coffee.

2. Those of 1867—1882 from the „Statistical abstract for the several Colonial and other Possessions of the United Kingdom, part XIX—XX.

The Ceylon „Native” coffee is also exported to British India, Mauritius and Bourbon.

I have felt called upon to make an exception here and give the export also in centners, seeing that the export statistics are to be found nowhere else than in the above mentioned official reports, and consequently are beyond the reach of some of those who may wish to verify my figures.

The years 1852—66 run from 1 May to 30 April, after the last-mentioned year from April to 31 March.

These statistics from 1873 to 1882 differ considerably from those compiled by the Rotterdam coffee-brokers Messrs. G. Duuring & Son, Dalen & Plemp, Kolff & Witkamp, and Leonard Jacobson & Sons, and stated on their market reports of 31 Dec. 1883. According to information received from the first mentioned firm, they have calculated the year from 1 October to 30 September, while on comparing their statistics with mine I observe that said firms had reckoned the English Centner at 50 kilograms, instead of 50,802,377 kilograms, as I have done in my reduction table.

The statistics given by F. B. Thurber in his „Coffee from plantation to cup,” agree neither with those of the firms named, nor with mine; firstly because he reckons the years from 11 October to 10 October, secondly because he has taken his statistics second hand. His statistics, however, have been adopted without revision by Neumann Spallart in the Uebersichten of 1881—82.

## Export from British India.

Years.	From the seaports of the presidencies.			Total.	Total in bags
	Bengal.	Madras.	Bombay.		
1853	₹ 236,386	₹ 3,986,206	₹ 3,642,960	₹ 7,865,552	59,462
54	» 300,000	» 3,965,223	» 3,772,569	» 8,037,792	60,765
55	» 383,488	» 3,679,169	» 3,349,261	» 7,411,918	56,033
56	» 429,979	» 4,730,038	» 4,046,086	» 9,206,103	69,597
57	» 400,000	» 5,179,824	» 4,604,776	» 10,184,600	76,994
58	» 130,477	» 4,249,849	» 1,743,481	» 6,123,807	46,295
59	» 573,776	» 7,356,833	» 3,764,586	» 11,695,195	88,411
60	» 489,888	» 9,989,686	» 3,866,235	» 14,345,809	108,453
61	» 506,044	» 14,235,232	» 4,377,765	» 19,119,041	144,537
62	» 32,286	» 18,157,771	» 3,315,619	» 21,205,676	162,581
1863	» 39,200	» 16,482,212	» 4,524,321	» 21,045,733	159,102
64	—	—	—	—	201,976
65	» 19,712	» 26,744,810	» 5,623,367	» 32,387,889	244,849
66	» 134,344	» 31,103,081	» 3,462,772	» 34,700,197	262,329
67	—	—	—	Cwt. 157,493	133,350
68	—	—	—	» 296,332	250,906
69	—	—	—	» 426,685	361,277
70	—	—	—	» 322,152	272,768
71	—	—	—	» 301,935	255,650
72	—	—	—	» 507,296	429,531
1873	—	—	—	» 375,887	318,266
74	—	—	—	» 367,132	310,853
75	—	—	—	» 312,874	264,912
76	—	—	—	» 373,499	316,244
77	—	—	—	» 304,158	257,533
78	—	—	—	» 293,587	252,815
79	—	—	—	» 342,268	289,801
80	—	—	—	» 361,037	305,692
81	—	—	—	» 370,713	313,885
82	—	—	—	» 351,981	298,025
1883	—	—	—	» 364,008	308,208

## Export from British India.

al in bag

## REMARKS.

59,462  
60,765  
56,033  
69,597  
76,994  
46,295  
88,411  
108,453  
144,537  
162,581

These statistics were obtained as follows: those of 1853—66 from the detailed statements of the Statistical Tables; those of 1867—1883 from the undetailed tables of the statistical Abstracts, parts XIX and XX.

The figures representing exports of 1854 and 1857 from the ports of the Presidency of Bengal are wanting in the Statistical Tables; but I have given them approximately, calculating from the value of goods exported.

In part XI of the Statistical Tables the export of 1864 is wanting: I have taken the average of 1863 and 1865 which squares almost exactly with the figure stated by Mr. N. P. van den Burg (Historical Statistical Notes) viz. 238,800 cwt. or 202,193 bags.

In addition to exports from Ceylon, British India has exported very considerable quantities of coffee to Arabia, the Persian Gulf States, Mauritius, and Bourbon.

British Indian coffee is even exported to Ceylon and vice versa.

The presidency of Madras furnishes the largest quantity of coffee; then follow Mysore, Travancore and Coorg.

Seeing that the financial years 1853—1866 end on April 30<sup>th</sup>, while those of 1867—1883 are concluded on March 21<sup>st</sup>, we must not forget that the year 1866 cover 13 months, 1867 only 11 months.

The last statistics given by Dr. Neumann Spallart in his Uebersichten 1881—1882, are lacking in accuracy. F. B. Thurber, in his „Coffee from plantation to cup,” is not always correct either. For instance, he estimates the produce of 1856/57 at only 5,205,400  $\text{R}$ !

318,266  
340,853  
264,912  
316,244  
257,533  
252,815  
289,801  
305,692  
313,885  
298,025

308,208

## Amount of Government Coffee

Years.	Java, inclusive Soerakarta and Djoedjokarta. 1)	Sumatra (Padang).	Celebes. (Menado).	General-Total.	
				In picols.	In bags.
1853	682,953	119,420	16,114	818,487	839,236
54	1,065,100	131,522	22,934	1,219,556	1,250,472
55	1,146,000	127,547	25,262	1,298,809	1,331,734
56	749,000	128,259	26,965	904,224	927,146
57	893,800	190,947	14,612	1,099,359	1,127,228
58	895,200	129,121	22,866	1,047,187	1,073,733
59	734,600	140,648	21,580	896,828	919,563
60	987,600	157,571	15,011	1,160,182	1,189,593
61	895,667	123,772	15,240	1,034,679	1,060,908
62	658,100	159,157	7,580	824,837	845,747
1863	1,112,300	125,605	13,187	1,251,092	1,282,807
64	433,200	187,505	15,551	636,256	652,385
65	949,419	123,746	36,894	1,110,059	1,138,199
66	1,094,097	134,000	15,551	1,243,648	1,275,174
67	920,058	158,417	13,448	1,091,923	1,119,603
68	588,616	142,780	7,092	738,488	757,209
69	962,800	141,962	37,631	1,142,393	1,171,353
70	986,038	182,869	13,458	1,182,365	1,212,338
71	446,304	155,547	7,936	609,787	625,245
72	985,961	90,819	6,580	1,083,360	1,110,823
1873	773,920	108,505	10,769	893,194	915,836
74	1,031,989	131,474	16,054	1,179,517	1,209,418
75	493,420	145,014	10,580	649,014	665,466
76	1,266,196	102,891	8,024	1,377,111	1,412,021
77	875,411	175,034	12,653	1,063,098	1,090,047
78	831,516	82,351	35,528	949,395	973,462
79	1,267,168	112,030	12,107	1,391,305	1,426,575
80	558,281	123,347	13,140	694,768	712,380
81	1,007,839	109,985	9,842	1,127,648	1,156,234
82	1,025,217	98,309	18,959	1,142,485	1,171,447
1883	1,081,919	150,127	10,284	1,242,330	1,273,823
84a	± 1,031,695	± 99,360	± 15,300	1,146,355	1,175,415

(Crop) in Netherland-India.

## R E M A R K S.

These statistics are taken from the Colonial Reports; as in the case of the other tables, the figures relating to the crops and export of coffee always present the last, revised estimates. The reduction of picols into bags, has been done according to table N<sup>o</sup>. 9. (1 picol = 61,5210 kilograms).

a). According to the rough estimate printed in the „Java Courant” of 26 and 30 September 1884, N<sup>o</sup>. 77 and 78, the crop of

Java would amount to	1,031,695 picols,
Padang . . . . .	99,360 »
Menado . . . . .	15,250 »

Seeing, however, that it was also stated that on the last day of August 1884, there were already lodged in the warehouses of Menado 15,287 picols, I have raised the last estimate to 15,300 picols.

1) Soerakarta and Djocdjocarta are two provinces of Java still belonging to the vassal-princes: the Soesoehoenan of Soerakarta and the Sultan of Djocdjocarta.

The coffee of those provinces are delivered to the government at the price £ 2-1-8 1 picol.

Op

## Coffeegrown by private parties

Years.	Crops of Java.				Average difference between the crops of private estates in Java and exports.	Sumatra, Celebes, Bali, crops.		General Total.	
	Lands let in the Vassal-domains.	Freehold property.	Lands held on emphyteutic lease.	Total.		Re-export from Java.	Export from Macassar.	In picols.	In bags.
1853	52,517	45,483	—	98,000	12,577	69,974	6,000	186,551	191,280
54	?	?	—	119,000	12,577	55,701	7,069	194,347	199,274
55	53,371	54,629	—	108,000	12,577	30,038	20,000	170,615	174,940
56	?	?	—	61,000	12,578	27,340	24,016	124,934	128,100
57	62,143	72,857	—	135,000	12,578	18,888	28,117	194,583	199,515
58	48,313	46,687	—	95,000	12,578	16,423	28,800	152,801	156,675
59	43,919	39,981	—	83,000	12,578	16,488	42,668	154,734	158,657
60	50,099	69,901	—	120,000	12,578	12,397	35,000	179,975	184,538
61	57,985	52,015	—	110,000	12,578	11,621	21,000	155,199	159,134
62	58,036	30,964	—	89,000	12,578	10,855	38,000	150,433	154,247
1863	67,406	70,594	—	138,000	15,400	16,973	36,000	202,373	207,503
64	56,319	44,681	—	101,000	15,400	13,826	25,000	155,226	159,161
65	80,531	42,469	—	123,000	15,400	15,471	28,000	181,871	186,481
66	76,930	16,070	—	93,000	15,400	28,610	50,000	187,010	191,751
67	85,738	53,262	—	139,000	15,400	24,019	47,000	225,419	231,133
68	83,436	47,564	—	131,000	15,400	31,365	44,500	222,265	227,899
69	72,300	71,700	—	144,000	15,400	35,215	53,224	247,839	354,122
70	69,700	83,300	—	153,000	15,400	22,822	67,192	258,414	264,963
71	70,668	50,332	—	121,000	15,400	30,472	50,056	216,928	222,427
72	86,670	98,330	—	185,000	15,400	27,647	62,434	290,481	297,843
1873	73,886	24,629	51,846	150,361	20,639	29,908	83,857	284,765	291,984
74	98,458	24,629	65,619	188,706	20,634	30,000	60,795	300,135	307,743
75	68,610	13,287	39,500	121,397	20,633	30,000	110,308	282,338	289,493
76	90,735	34,114	77,205	202,054	20,636	30,000	111,707	364,397	373,634
77	103,431	20,603	61,056	185,090	20,640	30,000	114,741	350,471	359,353
78	34,523	31,089	50,836	116,448	20,632	30,000	94,139	261,219	267,842
79	89,909	26,756	93,018	209,683	20,637	30,000	133,226	393,546	403,522
80	84,609	8,508	70,442	163,559	20,641	30,000	113,172	327,372	335,671
81	101,150	11,581	153,984	266,715	20,635	30,000	97,278	414,628	425,130
82	71,295	30,427	171,602	273,324	20,676	30,000	119,512	443,512	454,753
1883	121,979	13,557	203,607	339,143	19,857	30,000	116,609	505,609	518,426

(crops) in Netherland-India.

parties

Total.

In bags.

191,280  
199,274  
174,940  
128,400  
199,515  
156,675  
158,657  
184,538  
159,134  
154,247  
  
207,503  
159,161  
186,481  
191,751  
231,133  
227,899  
354,122  
264,963  
222,427  
297,843  
  
291,984  
307,743  
289,493  
373,634  
359,355  
267,842  
403,522  
335,674  
425,139  
454,753  
  
518,428

R E M A R K S.

From this table the reader will perceive that the quantity of coffee grown by private parties is steadily increasing.

When we compare the sum total of column 5 with those of columns 7 and 8, we shall see that there is produced on an average:

In Java,		In the Foreign Possessions	
from 1853 to 1862	per annum	101,800 picols.	52,039 picols.
» 1863 » 1872	» »	132,800 »	70,582 »
» 1873 » 1881	» »	200,502 »	148,642 »

The extension of coffee-growing by private parties dates from 1878/79, so that a few years must pass before the full scope of it can be properly judged of. See the detailed tables relating to Java.

The statistics on column 2 are taken from the Colonial Reports. Statistics of 1854 and 1856 are wanting.

Seeing that I could not obtain a statement of the crops of „Freehold Estates” in 1873, from the Colonial Reports for lack of accurate statistics, I have adopted the estimates given by Mr. N. P. van den Berg in his Historical Statistical Notes; — which were compiled in India from official authorities.

The statements (column 5) showing the total crops of Java coffee raised by private parties from 1853 to 1872, give, after subtracting the crops of the lease-holds, the presumptive produce of the Freehold estates.

Since 1873 the Colonial Reports have again been more complete, owing to the increased co-operation of private planters. So I succeeded in obtaining from them statistics of the crops of lease-hold, estate free-hold, estates and estates held on emphyteutic lease.

From the table exhibiting the Export of Coffee from Java (page 442), it appears, however, that there is more „private Java coffee” exported than the amount of crop, as put down in the official statistics.

Seeing that the estimates of export are more correct than the estimates of crops — which, as appears from the Colonial Reports, are very incomplete owing to the want of accurate figures supplied by the planters, I have — that I might give approximately the most accurate estimate possible of the quantity of coffee grown, compared the statements of crop and export extending over ten years, divided the excess of export by 10, and added the product to the crop; see column 6.

Of the private Java coffee for instance was:

from 1853 to 1862	Exported,	harvested, excess of export,
» 1863 » 1872	1,144,677 picols . . . . .	1,018,900 picols . . . . . 125,777 picols.
» 1873 » 1881	1,481,993 » . . . . .	1,328,000 » . . . . . 153,993 »
	1,810,385 » . . . . .	1,604,013 » . . . . . 206,372 » 1)

We must, however, recollect that the figures put down for export of private Java coffee during the last 5 or 6 years are really too high, seeing that the coffee exported does not consist wholly of the prepared article but also of gaba coffee, the horny husk of wich makes it much heavier.

Taking this into consideration, and likewise the export of jafal (glondongan) coffee from Aden, I have not raised the total estimate of exports in the table relating to Asia, as I have done in that relating to America.

Over against the increased weight of export from Java and Aden (owing to the gaba and jafal coffee) stand the unobtainable statistics of exports from the Soenda Islands, direct to Singapore or America.

In order to calculate the coffee raised by private parties in the Foreign Possessions, I have taken in columns 7 and 8 the export from Sumatra, Celebes, and Bali to Java and from Macassar.

The total (column 9) gives in my opinion a pretty correct statement of the produce per harvest year, that is to say, the crops taken into account for foreign consumption.

1) The statistics of 1882 were incorporated as the sheets were passing through the press.

Op

Export of Coffee from the Gov

Years.	Java Coffee. (picols).	Bali and Palembang Coffee imported, but again exported. (picols).	Total in picols.	Total in bags.
1825	267,245	10,377	277,622	284,660
26	332,974	7,085	340,059	348,680
27	395,950	3,608	399,558	409,687
28	414,480	1,692	416,172	426,722
29	276,753	4,909	281,662	288,802
30	279,637	9,105	288,742	296,062
31	290,585	8,501	299,086	306,668
32	292,984	21,189	314,173	322,137
33	337,456	22,710	360,166	369,296
34	445,186	40,832	486,018	498,338
1835	441,402	25,469	466,871	478,706
36	459,754	38,324	498,078	510,704
37	637,305	47,642	684,947	702,310
38	567,584	22,016	589,600	604,546
39	731,573	25,903	757,476	776,678
40	1,085,375	47,000	1,132,375	1,161,081
41	924,467	37,000	961,467	985,840
42	972,855	41,000	1,013,855	1,039,556
43	929,103	89,000	1,018,103	1,043,912
44	1,158,025	82,000	1,240,025	1,271,460
1845	948,190	58,000	1,006,190	1,031,697
46	866,877	50,000	916,877	940,120
47	992,819	45,000	1,037,819	1,064,128
48	758,170	23,000	781,170	800,973
49	857,213	62,000	919,213	942,515
50	768,881	50,000	818,881	839,639
51	1,129,991	81,000	1,210,991	1,241,690
52	929,848	74,000	1,003,848	1,029,295
53	949,601	69,974	1,019,575	1,045,421
54	961,895	55,701	1,017,596	1,043,392

Government and private produce.

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 R E M A R K S.
 

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The figures representing the total amount of export (column 4 are) taken: from 1825 to 1839 from the «Geographical and Statistical Dictionary of Netherland India and those from 1840 to 1854 from Mr. C. F. de Bruyn Kops' „Statistics of Trade and Shipping in Java and Madura”.

The figures given in columns 2 and 3; that is to say those for 1825—1839, are taken from the Geographical and Statistical Dictionary, while those for 1840—52, as far as relates to column 3, are extracted from Mr. N. P. van den Berg's Historical Statistical Notes.

The Statistics of the years 1853—1854, that is to say, those given in column 3, are from the „Reports of the Trade, Shipping, Import and Export Duties of Java and Madura. The difference between the statistics on columns 3 and 4 gives the missing figures of column 2.

If the reader compares this table with that given by Mr. N. P. van den Berg in his Historical Statistical Notes, he will find slight discrepancies in the sums total of exports (column 4), and others rather considerable in the statistics on column 3; especially those of the years 1834—39.

Seeing that I have not been able to consult the „Reports of Trade etc.” for 1853, I could not examine more closely into these discrepancies.

The reductions into bags was done according to table no. 9.

Qp

## Export of coffee from Java.

Years.	On private account (in picols).				On Government Account (in picols).	General Total.	
	Private Java-produce.	Govern. Java produce (sold in Java).	Re-export of imported private produce.	Total.		In picols.	In bags.
1853	109,800	nihil.	69,974	179,774	839,801	1,019,575	1,045,421
54	107,393	»	55,701	163,094	854,502	1,017,596	1,043,392
55	121,584	»	30,038	151,622	1,112,644	1,264,266	1,296,315
56	66,025	»	27,340	93,365	1,095,043	1,188,408	1,218,534
57	77,650	»	18,888	96,538	880,301	976,839	1,001,602
58	134,279	»	16,423	150,702	945,726	1,096,428	1,124,222
59	91,651	»	16,488	108,139	875,432	983,571	1,008,505
60	123,356	»	12,397	135,753	763,860	899,613	922,418
61	198,530	»	11,621	210,151	807,227	1,017,378	1,043,169
62	114,409	50,000	10,855	175,264	803,913	979,177	1,003,999
1863	140,715	50,000	12,973	203,688	733,137	936,825	960,573
64	94,852	50,000	13,826	158,678	895,664	1,054,342	1,081,070
65	161,069	50,000	15,471	226,540	581,413	807,953	828,435
66	152,787	50,000	28,610	231,397	801,317	1,032,714	1,058,893
67	155,949	50,000	24,019	229,968	931,980	1,161,948	1,191,403
68	80,531	50,000	31,365	161,896	713,476	875,372	897,563
69	92,924	50,000	35,215	178,139	722,341	900,480	923,307
70	157,338	50,000	22,822	230,160	983,048	1,213,208	1,243,963
71	197,157	50,000	30,472	277,629	643,159	920,788	944,130
72	248,671	50,000	27,647	326,318	691,462	1,017,780	1,043,581
1873	231,136	100,000	30,000 <sup>1)</sup>	361,136	756,623	1,117,759	1,146,094
74	217,162	100,000	± 30,000	347,162	713,695	1,060,857	1,087,750
75	165,234	100,000	± 30,000	295,234	700,240	995,474	1,020,709
76	211,441	100,000	± 30,000	341,441	856,638	1,198,079	1,228,450
77	206,669	100,000	± 30,000	336,669	911,361	1,248,030	1,279,667
78	96,673	100,000	± 30,000	226,673	601,455	828,128	849,121
79	190,922	100,000	± 30,000	320,922	855,763	1,176,685	1,206,514
80	247,231	100,000	± 30,000	377,231	924,568	1,301,799	1,334,800
81	243,918	100,000	± 30,000	373,918	942,089	1,316,007	1,349,368
82	260,800	100,000	± 30,000	390,800	814,062	1,204,862	1,235,405
1883	394,413	100,000	± 30,000	524,413	927,842	1,451,955	1,488,762

1) Actually 29,908 picols.

Export of Coffee from Java.

R E M A R K S.

From the Reports and statistics of Trade, Shipping, Import and Export Duties in Java and Madura are taken:

From 1853—59 the figures of the 4<sup>th</sup>, and 5<sup>th</sup> column.

1860—73 » » » » 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> column.

In 1860, however, the Imports and Exports were first classified into private and government produce; on the other hand the total quantity exported was not stated. It can thus be ascertained by adding up the figures on the 5<sup>th</sup> and 6<sup>th</sup> column.

By comparing these figures with those given by Mr. N. P. van den Berg in his Historical-Statistical Notes, (pages 8 and 9) the reader will perceive that his statement of exports for the years 1866—73 differs considerably from mine. Likewise the import (column 4) of 1857—59, is differently stated by Mr. van den Berg; viz. at 38,600, 37,000, and 50,000 picols.

On observing the above discrepancies I verified my figures again and again, and I have sufficient grounds to feel that I can answer for them.

The figures relating to exports from 1853 to 1859 (columns 5 and 6) are taken, like the statistics of 1874—1882, (columns 5 and 7) from the Colonial Reports.

For the sake of completeness I must here add the following notes.

The Colonial Reports for 1874—1882, give only the total quantity of Java and Menado coffee exported on account of Government.

While, however, there are tables in the Reports for 1878—1883, which state, under letters *e*, *f*, and *g*, the export of Menado coffee, so that all one has to do to ascertain the export of Java coffee, is to subtract this quantity from the sum total, — these tables are wanting in the Reports for 1873—77.

In order to calculate the Government export of Java coffee during those years, I have subtracted the amount of the analogous Menado crops from the total export.

The exports consisted of:

Government Java and Menado coffee.		Crop of Menado.		Export from Java.	
1874	. . . . .	729,749	picols less	16,054	= 713,695
75	. . . . .	710,820	» »	10,580	= 700,240
76	. . . . .	864,662	» »	8,024	= 856,638

The actual export of Government Menado coffee amounted to:

1877	. . . . .	8,084	picols.
78	. . . . .	18,625	»
79	. . . . .	18,576	»
80	. . . . .	10,728	»
81	. . . . .	10,856	»
82	. . . . .	20,513	»

Seeing that I have not been able to ascertain the actual export of Government Menado coffee from 1853 to 1856, I have merely calculated the Menado crop as having been exported, and put this down in the Export tables.

The difference between the crops and exports of Menado is so slight that it does not appreciably effect the total amount of exports, calculated for a period of 3 or 5 years.

The quantity of Menado coffee exported by private parties, is very insignificant.

Seeing that the import and re-export of coffee from the Lampongs and Palembang to and from Batavia, and of Bali coffee to and from Soerabaya, — are no longer stated under separate heads, I have estimated this import to and re-import from Java at 30,000 picols per annum.

tal.

bags.

45,421  
43,392  
96,315  
18,534  
01,602  
24,222  
08,505  
22,418  
43,169  
03,999  
  
60,573  
81,070  
28,435  
58,893  
91,403  
97,563  
23,307  
43,963  
44,130  
43,581  
  
46,094  
87,750  
20,709  
28,450  
79,667  
49,121  
06,514  
34,800  
49,368  
35,405

88,762

Op

Export from Java on private account, according to:

Years.	Mr. N. P. v. d. Berg „The Trade of Java”.	Colonial Reports 1880—1883.	Colonial Reports 1880supplem. J. J. J. » » K. K. K.	Governments Almanac 1884 (Mr. Kuneman.)
	Kilograms.			
1875	18,784,000	18,233,646	19,850,106	19,850,106
76	21,443,000	21,087,360	21,626,499	21,626,499
77	20,793,000	20,792,697	28,138,872	28,138,872
78	13,999,000	13,999,328	13,704,537	13,704,537
79	19,820,000	19,820,194	19,820,194	23,802,056
80	23,298,000	23,297,737	23,297,737	24,439,279
81	23,093,000	23,293,212	—	25,507,172
82	24,136,000	24,135,807 2)	—	—
	165,366,000	164,459,981	126,437,945	157,068,521
	Picols. 1)			
1875	304,146	295,234	321,407	321,407
76	347,199	341,441	350,170	350,170
77	336,674	336,669	455,616	455,616
78	226,668	226,673	221,900	221,900
79	320,919	320,922	320,922	385,396
80	377,235	377,231	377,231	395,714
81	373,915	373,918	—	413,004
82	390,803	390,800	—	—
	2,677,559	2,662,888	2,047,246	2,543,207

1) In reducing kilograms into picols and vice versa, I adopt the official standard: 1 picol = 61,76 kilograms.

In reducing picols into bags, however, I employ the actual proportion: 1 picol = 61,521 kilograms. (See remarks appended to table „Production of Coffee in Neth. India”, page 449).

2) According to Colonial Reports for 1884, the exports on private account amount to . . . . . 36,234,770 k.

As an inquiry instituted by Mr. N. P. van den Berg, at the Bureau of Finance, has brought to light, this estimate is too high by . . . . . 3,865,559 »

The actual export thus amounted to . . . . . 32,369,211 k.

(See Locomotive X or 524,413 picols <sup>11</sup>/<sub>9</sub>-84) to . . . . .

In this Indian Daily Mr. van den Berg says that the average annual export on private account has amounted to:

In 1879—83 according to Government. . . . . 393,950 picols.

» » Commercial Union. . . . . 394,217 »

The remarks printed opposite, show my grounds for doubting the correctness of the Government estimate. According to my reduction of kilograms into picols the private exports have amounted (see page 442) to . . . . . 1,986,984 »

during the five years 1879—83 or average per annum. . . . . 397,397 »

Bearing in mind the difference between the customs and trade calculations, I believe this last average is more correct. Indeed the customs looks on goods as imported when they are only shipped, although the vessel has not yet sailed.

Export of Coffee from Sumatra and Celebes.

REMARKS.

As I noted in the Remarks appended to table on page 545 I did not expect that the compilation of the tables relating to the export of coffee from Neth. India would cost me as much trouble as I had experienced in drawing up the statistics of Brazil. I soon observed, however, that the statistical data of Java are quite as uncertain as those of Brazil.

To give an example of this I have here drawn up a table exhibiting the relative amounts of export from Java from 1875 to 1882, according to the best authorities.

Mr. N. P. van den Berg, in his „Trade of Java during the Last Eight years”, gives on page 40-41 the export of private Java coffee in kilograms, according to column 2.

According to my reduction (1 picol = 61,76 kilograms), the export in picols is that stated in this very column 2; Mr. van den Berg, however, gives in his book (page 47) entirely different figures, differing from mine by upwards of 4000 picols. Seeing that I knew from his Historical Statistical Notes that he, like myself, rated a picol at 61,76 kilograms, I could not conceive that in his last book he should calculate one picol as equal to 62,50 kilograms. It was not till after long and fruitless investigation that I made this discovery.

I deem myself obliged to point out this fact, that any one wishing to verify my statistics may not be led astray, and spend their time needless by infructuous researches.

Moreover, Mr. van den Berg's reputation as a Statist stands so high, that I am morally bound to give full explanations of my statements wherever they differ from his.

It lies in the nature of things, that I feel bound to adhere in this case to the statistics given in the Colonial Reports according to column 3.

The statistics on columns 4 and 5 are obviously incorrect. I have printed them here as a proof that it is not all statistics that one can adopt safely without previous investigation.

In the „Statistics of the Trade, Shipping, Import and Export Duties of Neth. India”, 1874-78, the private exports of Java are not mentioned.

In the volume for 1879 — the last I was able to consult — these exports were again stated.

The private export was there rated at 23,802,056 kilograms, which figures are probably in correct, at all events they are not in harmony with the later estimates in the Colonial Report, 1880, page 210.

The following example may suffice as a proof that said figures must be inaccurate.

In Table III of the volume for 1879 the collective exports of Neth. India from 1875 to 1879.

There it is asserted that the total exports in 1879 amounted to. . . 74,131,695 kilogr.

On page 48 of same volume, however we find private exports, inclusive of 23,802,056 kilograms from Java. . . 40,322,155 kilogr.

and on page 70 the government exports rated at. 41,873,972 »

Total . . . . .	82,196,127 »
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consequently a discrepancy of . . . . .	8,064,432 kilogr.
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## Export of Coffee from Sumatra and Celebes

Years.	Sumatra (Padang) in picols.	Celebes.		Total.	
		Macassar in picols.	Menado in picols.	In picols.	In bags.
1853	119,420	6,000	16,114	141,534	145,122
54	131,522	7,069	22,934	161,525	165,620
55	127,547	20,000	25,262	172,809	177,190
56	128,259	24,016	26,965	179,240	183,784
57	127,721	28,117	14,612	170,450	174,771
58	192,347	28,800	22,866	244,013	250,199
59	119,777	42,668	21,580	184,025	188,690
60	124,199	35,000	15,011	174,210	178,626
61	169,928	21,000	15,240	206,168	211,394
62	149,633	38,000	7,580	195,213	200,161
1863	129,357	36,000	13,187	178,544	183,070
64	161,058	25,000	15,551	201,609	206,720
65	154,170	28,000	36,894	219,064	224,617
66	146,574	50,000	15,551	212,125	217,502
67	112,609	47,000	13,448	173,057	177,444
68	189,891	44,500	7,092	241,483	247,605
69	168,320	53,224	37,631	259,175	265,745
70	121,099	67,192	13,458	201,749	206,863
71	202,978	50,056	7,936	260,970	267,586
72	110,839	62,434	6,580	179,853	184,412
1873	97,805	83,857	10,769	192,431	197,309
74	128,557	60,795	16,054	205,406	210,612
75	160,844	110,308	10,580	281,732	288,874
76	141,780	111,707	8,024	261,511	268,140
77	140,923	114,741	12,653	268,317	275,119
78	121,795	94,139	35,528	251,462	257,837
79	104,633	133,226	12,107	249,966	256,303
80	134,612	113,172	13,140	260,924	267,538
81	106,182	97,278	9,824	213,284	218,691
82	101,800	119,512	18,959	240,271	246,362
1883	144,800	116,609	10,284	271,693	278,580

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## REMARKS.

Seeing that the Colonial Report for 1869 was the first that gave statistics relating to the export from Pandang — consisting almost exclusively of Government coffee sold there — I could not fill in the exports of 1853—57 otherwise than by using the estimate for crops. Taking into consideration the large crop of 1857 and the large export for 1858, however I have taken as export for 1857 the difference between the sum total of crops in 1857 and 1858 and the known export of the latter year.

The figures stating the exports of 1858—80 are taken from the table printed in the Colonial Report for 1881, supplement L.L.L. and do not altogether agree with the statistics of former Reports, for instance with those of 1872 and 1873.

The figures showing exports from Macassar are likewise taken from the various Colonial Reports.

For Menado Government coffee-crops, which are sold in the Netherlands — are calculated as export, seeing that the Colonial Reports give no other figures and the export of private coffee is not worth mentioning. 1)

The yearly total of all these statistics shows with the utmost possible accuracy the annual export from Sumatra and Celebes to countries beyond the Neth. Indian Archipelago.

The export of private coffee from Palembang, the Lampongs and Bali, which for the most part is shipped to Java in the first place, will be found under Exports to Java.

1) See Remarks appended to table «Export of Coffee from Java (Page 443)».

## Coffee produced in Netherland-India.

Years.	Government produce.	Private produce.	Total.	
			In picols.	In bags of 60 kilograms.
1853	818,487	186,551	1,005,038	1,030,515
54	1,219,556	194,347	1,413,903	1,449,746
55	1,298,809	170,615	1,469,424	1,506,674
56	904,224	124,934	1,029,158	1,055,247
57	1,099,359	194,583	1,293,942	1,326,743
58	1,047,187	152,801	1,199,988	1,230,408
59	896,828	154,734	1,051,562	1,078,219
60	1,160,182	179,975	1,340,157	1,374,130
61	1,034,679	155,199	1,189,878	1,220,042
62	824,837	150,433	975,270	999,993
1863	1,251,092	202,373	1,453,465	1,490,310
64	636,256	155,226	791,482	811,546
65	1,110,059	181,871	1,291,930	1,324,681
66	1,243,648	187,010	1,430,658	1,466,925
67	1,091,923	225,419	1,317,342	1,350,737
68	738,488	222,265	960,753	985,108
69	1,142,393	247,839	1,390,232	1,425,474
70	1,182,365	258,414	1,440,779	1,477,303
71	609,787	216,928	826,715	847,672
72	1,083,360	290,481	1,373,841	1,408,668
1873	893,194	284,765	1,177,959	1,207,820
74	1,179,517	300,135	1,479,652	1,517,161
75	649,014	282,338	931,352	954,962
76	1,377,111	364,397	1,741,508	1,785,655
77	1,063,098	350,471	1,413,569	1,449,403
78	949,395	261,219	1,210,614	1,241,303
79	1,391,305	393,546	1,784,851	1,830,097
80	694,768	327,372	1,022,140	1,048,051
81	1,127,648	414,628	1,542,276	1,581,373
82	1,142,485	443,512	1,585,997	1,626,202
1883	1,242,330	505,609	1,747,939	1,792,249
84	± 1,146,355	± 503,645	1,650,000	1,691,827

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## Coffee produced in Netherland-India.

## REMARKS.

In reducing picols into bags I have used table no. 9, seeing that a picol is really equal to 125 Dutch-pounds Troy = 61,<sup>521</sup> kilograms. See detailed account of coffee produced in Neth. India.

From this table, consequently, it appears that there was produced during:

1853/62	Government Coffee	10,304,148 picols,	or 1,030,415 p. per annum.			
	Private	» 1,664,172	» » 166,417	»	»	»
		<u>11,968,320</u>	<u>1,196,832</u>			
1863/72	Government Coffee	10,089,371	» » 1,008,937	»	»	»
	Private	» 2,187,826	» » 218,783	»	»	»
		<u>12,277,197</u>	<u>1,227,720</u>			
1873/82	Government Coffee	10,467,535	» » 1,046,754	»	»	»
	Private	» 3,422,383	» » 342,238	»	»	»
		<u>13,889,918</u>	<u>1,388,992</u>			

It appears than, that Government coffee-growing in Neth. India has not made much progress since 1853; on the other hand the produce of private plantations has nearly doubled.

When we compare the annual produce of Neth. India with the annual export, a seeming impossibility will present itself: viz that the export now and then exceeds the estimated crop.

But we must not forget the fact that Government always keeps large quantities of coffee — the so-called old-coffee — in the public warehouses (and did so also previous to 1853) in order to supplement small harvests, according to the requirements of the exchequer.

## Export of Coffee from Netherland-India.

Years.	On Government Account:		Total.	On private account.		Total, inclusive of the Government Coffee sold in Java and Padang.	General Total.	
	Java.	Menado (crops).		from Java. via	Padang— Macassar.		In picols.	In bags.
1853	839,801	16,114	855,915	179,774	125,420	305,194	1,161,109	1,490,544
54	854,502	22,934	877,436	163,094	138,591	301,685	1,179,121	1,209,015
55	1,112,644	25,262	1,137,906	151,622	147,547	299,169	1,437,075	1,473,501
56	1,095,043	26,965	1,122,008	93,365	152,275	245,640	1,367,648	1,402,313
57	880,301	14,612	894,913	96,538	155,838	252,376	1,147,289	1,176,377
58	945,726	22,866	968,592	150,702	221,147	371,849	1,340,441	1,374,421
59	875,432	21,580	897,012	108,139	162,445	270,584	1,167,596	1,197,191
60	763,860	15,011	778,871	135,753	159,199	294,952	1,073,823	1,101,044
61	807,227	15,240	822,467	210,151	190,928	401,079	1,223,546	1,254,563
62	803,913	7,580	811,493	175,264	187,633	362,897	1,174,390	1,204,161
1863	733,137	13,187	746,324	203,688	165,357	369,045	1,115,369	1,143,644
64	895,664	15,551	911,215	158,678	186,058	344,736	1,255,951	1,287,781
65	581,413	36,894	618,307	226,540	182,170	408,710	1,027,017	1,053,052
66	801,317	15,551	816,868	231,397	196,574	427,971	1,244,839	1,276,396
67	931,980	13,448	945,428	229,968	159,609	389,577	1,335,005	1,368,847
68	713,476	7,092	720,568	161,896	234,391	396,287	1,116,855	1,145,167
69	722,341	37,631	759,972	178,139	221,544	399,683	1,159,655	1,189,032
70	983,048	13,458	996,506	230,160	188,291	418,451	1,414,957	1,450,826
71	643,159	7,936	651,095	277,629	253,034	530,663	1,181,758	1,211,716
72	691,462	6,580	698,042	326,318	173,273	499,591	1,197,633	1,227,993
1873	756,623	10,769	767,392	361,136	181,662	542,798	1,310,190	1,343,403
74	713,695	16,054	729,749	347,162	189,352	536,514	1,266,263	1,298,363
75	700,240	10,580	710,820	295,234	271,152	566,386	1,277,206	1,309,583
76	856,638	8,024	864,662	341,441	253,487	594,928	1,459,590	1,496,591
77	911,361	12,653	924,014	336,669	255,664	592,333	1,516,347	1,554,780
78	601,455	35,528	636,983	226,673	215,934	442,607	1,079,590	1,106,958
79	855,763	12,107	867,870	320,922	237,859	558,781	1,426,651	1,462,817
80	924,568	13,140	937,708	377,231	247,784	625,015	1,562,723	1,602,338
81	942,089	9,824	951,913	373,918	203,460	577,378	1,529,291	1,568,059
82	814,062	18,959	833,021	390,800	221,312	612,112	1,445,133	1,481,767
1883	927,842	10,284	938,126	524,113	261,409	785,522	1,723,648	1,767,342

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Export of Coffee from Netherland-India.

REMARKS.

In reducing picols into bags, I have employed table N<sup>o</sup>. 9.

Under the head of «Exports on Private-Account» are in point of fact included from 50 to 100,000 picols Government Coffee, sold in Java, and a still larger quantity of Government coffee in Padang.

See for further particulars the detailed accounts of Exports from Neth. India. From this table it appears that were exported during:

1853 '62	on Government account	9,166,613	picols or per annum	916,661
	» Private	3,105,425	» » » »	310,543
		<u>12,272,038</u>	» » » »	<u>1,227,204</u>
1863 '72	» Government	7,864,325	» » » »	786,433
	» Private	4,184,714	» » » »	418,471
		<u>12,049,039</u>	» » » »	<u>1,204,904</u>
1873 '82	» Government	8,224,132	» » » »	822,413
	» Private	5,648,852	» » » »	564,885
		<u>13,872,984</u>	» » » »	<u>1,387,298</u>

The total produce of Neth. India thus has been:

	On Government account.	On private account.
1853—62 . . . . .	10,304,148 picols . . . . .	1,664,172 picols.
1863—72 . . . . .	10,089,371 » . . . . .	2,187,826 »
1873—82 . . . . .	10,467,535 » . . . . .	3,422,383 »
	<u>30,861,054</u> » . . . . .	<u>7,274,381</u> = 38,135,435.
EXPORT.	On Government account.	On private account.
1853—62 . . . . .	9,166,613 picols . . . . .	3,105,425 picols.
1863—78 . . . . .	7,864,325 » . . . . .	4,184,714 »
1873—82 . . . . .	8,224,132 » . . . . .	5,648,852 »
	<u>25,255,070</u> » . . . . .	<u>12,938,991</u> = 38,194,061.

The difference between produce and export during a period of 30 years amounts to only 58,626 picols, so that my figures may be accepted as sufficiently correct.

It is true that the produce must exceed the export on the last day of December; seeing that at that date the entire crop has not been shipped and exported; but we must recollect that the export here is virtually rated too high, because it is not prepared coffee alone, but also half-prepared or horny-husked coffee that is exported. To obtain the correct weight of prepared coffee 18 or 19 per cent must be deducted from the quantity of horny-husked coffee. Of late years Government, as well as private parties, has exported small quantities of gaba coffee. In 1863 f. a. there were 13,680 picols of horny-husked coffee exported by Government to the Netherlands. Besides, it is very probable that there has been more surplus coffee exported from the public warehouses — for sale in the Netherlands than the quantity of new coffee deposited can make up for.

Quantity of Coffee sold in the N

Civil years.	On account of the Dutch Government.	On private account and consignment.	Government.	Private consignment.	Government medium- price.
	In kilograms.		In bags of 60 kilogr.		per 1/2 kilo cent.
1853	—	—	—	—	—
54	—	—	—	—	—
55	—	—	—	—	—
56	—	—	—	—	—
57	—	—	—	—	—
58	56,556,989	3,253,712	942,616	54,229	31
58	48,543,036	1,167,684	809,051	19,461	38
60	51,027,404	4,122,625	850,457	68,710	39 <sup>35</sup>
61	55,772,425	3,011,832	929,540	50,197	40 <sup>20</sup>
62	43,236,121	2,390,745	720,602	39,846	45 <sup>64</sup>
1863	50,848,060	3,360,112	847,468	56,002	46 <sup>37</sup>
64	42,824,616	2,121,741	713,744	35,362	43 <sup>60</sup>
65	50,858,842	3,435,057	847,647	57,251	45 <sup>20</sup>
66	38,018,352	3,795,578	633,639	63,259	42 <sup>89</sup>
67	59,096,232	2,879,714	984,937	47,995	40 <sup>64</sup>
68	43,322,327	3,932,760	722,039	65,546	36 <sup>64</sup>
69	47,322,327	3,007,386	788,705	50,123	38 <sup>60</sup>
70	58,854,392	1,716,255	980,906	28,604	35 <sup>30</sup>
71	39,067,522	3,502,997	651,125	58,383	37 <sup>62</sup>
72	43,903,238	2,437,750	731,721	40,630	45 <sup>49</sup>
1873	45,213,872	3,715,887	753,565	61,931	56 <sup>50</sup>
74	46,738,114	3,008,515	778,969	50,142	59 <sup>26</sup>
75	40,294,315	3,376,929	671,572	56,282	59 <sup>07</sup>
76	52,184,766	3,886,362	869,746	64,773	54 <sup>28</sup>
77	57,470,807	1,141,066	957,848	19,018	53 <sup>06</sup>
78	40,557,715	2,360,584	675,962	39,343	50 <sup>17</sup>
79	53,714,602	2,904,666	895,243	48,411	46 <sup>50</sup>
80	55,090,588	2,512,342	918,176	41,872	43 <sup>25</sup>
81	55,670,646	3,022,953	927,844	50,383	38 <sup>65</sup>
82	51,279,522	1,091,183	854,659	18,186	30 <sup>70</sup>
1883	59,554,309	1,438,836	992,572	23,981	32 <sup>70</sup>

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the Netherlands by the Dutch Commercial Company.

## R E M A R K S.

For these important statistics I am indebted to the Directors of the Dutch Commercial Company of Amsterdam.

I take the liberty of quoting the following passage from their letter of 30 July 1884, No. 474.

„We must, however, add that it is not in our power to complete these Statements by the statistics of previous years, while we are unable to subdivide the figures in the subjoined table, relating to Java, Sumatra, and Celebes.”

„The medium prices of the Government coffee sold by auction in the Netherlands during these years, are stated in this table.”

This estimate of the Dutch Commercial Company does not agree with the statistics given in the „Mercantile Annals of 1881 and previous years”, (No. 1 page 162) published by the Society of Statistics in the Netherlands, where 1 picol is reckoned equal to 62½ kilograms.

The figures on page 164 relating to the production and export of Java and Padang coffee (in bales of 60 kilograms), and „the Coffee Sales of the Dutch Commercial Company,” seem to me likewise far from correct. Those figures do not seem to be taken from official sources — like the statistics in this table — but extracted from the private market reports of the Rotterdam coffee-brokers, Messrs. G. Duuring and Son; on which, for the reasons stated in the various tables, no unreserved reliance can be placed: compare for instance the figures given by said firm in their market reports of 31 December, relating to the „General Imports” of the Dutch Commercial Company from 1874—1883, with those furnished by that body themselves. To conclude, it may seem almost superfluous to note here, that the statistics of Government-exports from Neth. India do not agree with those of Government-import into the Netherlands (See Table „Export of Coffee from Neth. India”), firstly because the quantities exported are not all imported in the same year, owing to the transport per sailing vessel, and secondly because we must keep in mind on the one hand that cargoes are lost now and then, on the other that a sea-voyage causes coffee to increase in weight.

## America.

Years	Export from :						Total in bags.
	Brazil.	Venezuela and Columbia.	Central America.	Mexico.	West- Indian Islands.	Surinam (Neth. Guyana).	
1852—53	2,353,563	172,332	2,000	181	332,075	5,489	2,865,640
54	2,126,100	168,884	3,000	2,228	291,093	5,931	2,597,236
55	2,557,347	196,196	6,000	680	319,370	3,785	3,083,378
56	2,841,604	209,578	8,500	390	215,012	3,160	3,278,244
57	3,205,092	172,876	10,000	15	246,577	5,901	3,640,461
58	2,369,954	200,223	9,000	224	225,982	1,104	2,806,487
59	2,735,785	229,231	14,500	725	312,832	5,478	3,298,551
60	2,499,547	170,610	73,000	4,876	390,036	4,019	3,142,088
61	3,568,995	220,148	57,000	3,754	278,163	1,151	4,129,211
62	2,586,958	213,258	64,000	54	296,402	1,038	3,161,710
1862—63	2,163,054	166,502	67,000	7,073	343,135	2,318	2,749,082
64	2,003,180	245,454	112,000	89	244,061	1,491	2,606,275
65	2,686,618	191,060	84,000	4	328,882	1,956	3,292,520
66	2,433,566	234,557	149,000	3,967	344,227	232	3,165,549
67	3,093,425	293,073	137,000	7,072	308,242	153	3,838,965
68	3,501,338	327,932	192,000	7,015	414,752	345	4,443,382
69	3,221,704	312,580	210,000	2,328	256,293	127	4,003,032
70	3,512,879	158,956	181,000	2,017	389,247	138	4,244,237
71	3,796,913	410,127	294,000	3,980	262,922	67	4,768,009
72	2,522,310	443,040	220,000	14,321	334,462	15	3,534,148
1872—73	3,588,047	529,330	293,000	15,444	413,346	450	4,839,617
74	2,804,428	456,956	271,000	22,234	423,035	7	3,977,660
75	4,035,700	489,523	307,000	20,876	602,314	10	5,455,423
76	3,621,040	513,973	228,500	41,121	591,906	5	4,996,545
77	3,500,405	525,738	344,000	54,562	511,105	2	4,935,812
78	3,814,047	609,580	276,000	49,353	480,393	1	5,229,374
79	4,921,483	578,686	375,000	73,302	576,298	10	6,524,779
80	4,120,951	512,677	366,000	79,905	544,722	3	5,624,258
81	5,551,993	517,377	356,000	107,507	793,903	8	7,326,798
82	5,567,586	503,291	477,000	131,398	532,443	5 <sup>1)</sup>	7,211,723
1882—83	6,094,688	544,322 <sup>1)</sup>	370,000 <sup>1)</sup>	88,293 <sup>1)</sup>	585,552 <sup>1)</sup>	5 <sup>1)</sup>	7,682,860
84	5,117,367	544,322 <sup>1)</sup>	370,000 <sup>1)</sup>	88,293 <sup>1)</sup>	585,552 <sup>1)</sup>	5 <sup>1)</sup>	6,705,539

1) Average from the previous five years.

## America.

total bags.	Presumptive export to Spain and other countries, not stated in the tables.	General total in bags.	Average exports during 5 years.	REMARKS.
5,640	50,360	2,916,000		Besides the export from the Spanish possessions to Spain, the sum total or column 8 shows as accurately as possible the annual exports from America during the years 1853—84.
7,236	50,764	2,648,000	15,718,000	
3,378	50,622	3,134,000	3,143,600	In my opinion we may conclude from these statistics that the export (consequently the production) of coffee from Venezuela, Columbia, Central America, Mexico, and the West Indian Islands during the last ten years, has not increased to such a startling extent as people suppose from loose statements in dailies and market-reports.
8,244	50,756	3,329,000		
0,461	50,539	3,091,000		Brazil alone can boast of an extraordinary increase of production and exports. In column 9 I have given an estimate of the quantities probably exported to Spain and other countries, which I have not included in the detailed tables.
6,487	50,513	2,857,000		
8,551	50,449	3,349,000	16,791,000	I have judged it necessary to make a lower estimate for the last 12 years than that given for the preceding 10, and to make these estimates differ again from those for the previous 10 years by 5000 bags, especially because of the defective calculation of exports from Columbia, Central America, Mexico, and the West Indian Islands.
2,088	50,912	3,193,000	3,358,200	
9,211	50,789	4,180,000		
1,710	50,290	3,212,000		
9,082	45,918	2,795,000		
6,275	45,725	2,652,000	15,880,000	
2,520	45,480	3,338,000	3,176,000	
5,549	45,451	3,211,000		
8,965	45,035	3,884,000		
3,382	45,618	4,489,000		
3,032	45,968	4,049,000	21,222,000	
4,237	45,763	4,290,000	4,244,400	
8,009	45,991	4,814,000		
4,148	45,852	3,580,000		
9,617	40,383	4,880,000		
7,660	40,340	4,018,000	24,407,000	
5,423	40,577	5,496,000	4,881,400	
6,545	40,455	5,037,000		
5,812	40,188	4,976,000		
9,374	40,626	5,270,000		
4,779	40,221	6,565,000	32,120,000	
4,258	40,742	6,665,000	6,424,000	
6,798	40,202	7,367,000		
1,723	41,277	7,253,000		
2,860	40,140	7,723,000	14,469,000	
5,539	40,461	6,736,000	7,234,500	

## Asia.

Years.	Export from:						Total in bags.	Pres exp Austr Ara other
	Neth. India.	Ceylon.	British-India.	Philip- pine Islands.	Aden.	Hono- lulu.		
1852/53	1,190,543	277,720	59,462	19,000	—	—	1,546,725	8
54	1,209,012	345,456	60,765	19,065	—	—	1,634,298	8
55	1,473,505	428,891	56,033	19,000	—	—	1,977,429	8
56	1,402,318	373,244	69,597	20,000	—	—	1,865,160	8
57	1,176,373	509,941	76,994	22,228	—	—	1,785,536	8
58	1,374,421	461,145	46,295	25,866	—	—	1,907,727	8
59	1,197,194	499,555	88,411	24,000	—	—	1,809,159	8
60	1,101,044	535,499	108,453	24,000	—	—	1,768,996	8
61	1,254,563	550,628	144,537	25,000	—	340	1,975,068	8
62	1,204,161	512,856	162,581	26,000	—	?	1,905,598	8
1862/63	1,143,644	701,568	159,102	27,000	—	?	2,031,314	7
64	1,287,789	568,785	201,976	39,907	—	2,350	2,100,807	6
65	1,053,052	786,762	244,849	39,638	—	?	2,124,301	7
66	1,276,396	761,595	262,329	35,810	—	?	2,336,130	7
67	1,368,847	798,946	133,350	38,400	—	?	2,339,543	6
68	1,145,167	853,038	250,906	38,400	—	?	2,287,511	6
69	1,189,052	779,149	361,277	38,400	—	2,578	2,370,456	5
70	1,450,826	892,454	272,768	36,052	—	3,138	2,655,238	5
71	1,211,716	800,857	255,650	56,277	20,419	355	2,345,274	
72	1,227,993	612,215	429,531	46,000	42,371	3,917	2 362,081	
1872/73	1,343,403	806,350	318,266	59,267	23,322	1,981	2,552,589	
74	1,298,363	620,638	310,853	48,421	37,155	567	2,315,997	
75	1,309,583	786,257	264,912	70,249	34,483	1,255	2,466,739	
76	1,496,591	564,893	316,244	60,438	59,379	1,164	2,498,709	
77	1,554,786	828,769	257,533	64,425	55,036	991	2,761,540	
78	1,106,958	536,095	252,815	40,367	63,856	?	2,000,091	
79	1,462,817	660,210	289,801	67,898	82,512	580	2,563,818	
80	1,602,338	555,943	305,692	88,574	89,296	?	2,641,843	
81	1,568,059	370,003	313,885	91,405	45,200	?	2,388,552	
82	1,481,767	393,466	298,025	85,453	56,064	?	2,314,775	
1882/83	1,767,342	224,377 a)	308,208	74,740 b)	69,870	—	2,444,537	
84	1,650,000 c)	± 304,814 a)	± 303,122 b)	74,740 b)	68,588 b)	—	2,401,264	

## Asia.

	Presumptive export of Australasia, of Arabia and other parts of Asia.	Total general.	Average exports during 5 years.	REMARKS.
725	83,275	1,630,000		<p>Seeing that I have not ascertained for myself the exports of Arabia previous to 1871, I have, on the authority of Mr. N. P. van den Berg, estimated the production and export of that country and the surrounding districts at full 80,000 bales in 1853/57, and gradually reduced that estimate in accordance with the proved decline of coffee-planting there.</p> <p>For the produce of Australasia and to round off the sum total, I have allowed rather more than 3000 bales per annum for the years of which estimates were wanting.</p> <p>For the last four years I have taken about 1000 bales for Honolulu and other small coffee-producing countries not represented in the various tables.</p> <p>From this table it appears that the export of Asiatic coffee steadily increased during the first five <i>cinquenniums</i>, but has been declining since 1878, chiefly because of the unprosperous condition of the industry in Ceylon.</p> <p>Prices being so low as they are, I do not think the exports from Asia will show any increase during the coming <i>cinquennium</i>.</p> <p>a) According to the Ceylon Observer of 2 September 1884.  b) Average of the last 5 years.  c) In proportion to the presumptive produce in bags.</p>
298	83,702	1,718,000	9,227,000	
429	83,571	2,061,000	1,845,400	
160	83,840	1,949,000		
536	83,464	1,869,000		
727	80,273	1,988,000		
159	80,841	1,890,000	9,769,000	
996	80,004	1,849,000	1,953,800	
068	80,932	2,056,000		
598	80,402	1,986,000		
314	70,686	2,102,000		
807	68,193	2,169,000	11,273,000	
301	70,699	2,195,000	2,254,600	
130	70,870	2,407,000		
543	60,457	2,400,000		
511	60,489	2,348,000		
456	50,544	2,421,000	12,184,000	
238	50,762	2,706,000	2,436,800	
274	726	2,346,000		
081	919	2,363,000		
589	411	2,553,000		
997	003	2,316,000	12,597,000	
739	261	2,467,000	2,519,400	
709	291	2,499,000		
540	460	2,762,000		
091	909	2,001,000		
818	1,182	2,565,000	11,915,000	
843	1,157	2,643,000	2,883,000	
552	1,448	2,390,000		
775	1,225	2,316,000		
537	1,463	2,446,000	4,849,000	
264	1,736	2,403,000	2,424,500	

## Africa.

Years.	Portuguese possessions.		Total.	English Possessions. Export to England.	Presumptive increase of export to Europe and America.	Total general.
	Export to Portugal.	Export to England.				
1852/53	20,000	1,000	21,000	—	—	21,000
54	20,000	1,000	21,000	—	—	21,000
55	22,000	1,000	23,000	—	—	23,000
56	22,000	1,000	23,000	—	—	23,000
57	24,000	1,000	25,000	—	—	25,000
58	24,000	1,500	25,500	—	500	26,000
59	26,000	1,500	27,500	—	500	28,000
60	26,000	1,500	27,500	—	500	28,000
61	27,000	1,500	28,500	—	500	29,000
62	27,000	1,500	28,500	—	500	29,000
1862/63	28,000	2,000	30,000	—	1,000	31,000
64	28,000	2,000	30,000	—	1,000	31,000
65	30,888	2,727	33,615	nihil.	385	34,000
66	28,123	1,300	29,423	3,033	544	33,000
67	30,954	1,557	32,511	5,148	341	38,000
68	38,455	1,110	39,565	2,004	431	42,000
69	45,833	967	46,800	3,127	73	50,000
70	45,199	5,295	50,494	4,553	953	56,000
71	39,571	7,394	46,965	3,984	51	51,000
72	58,291	10,314	68,605	3,589	806	73,000
1872/73	55,705	11,642	67,347	nihil.	653	68,000
74	66,961	9,794	76,755	»	245	77,000
75	67,209	5,136	72,345	»	655	73,000
76	54,176	5,912	59,988	2,168	844	63,000
77	58,304	6,758	65,062	1,742	196	67,000
78	45,012	8,828	53,840	8,019	141	62,000
79	47,050	6,610	53,660	103	237	54,000
80	58,958	19,427	78,585	3,668	947	83,000
81	46,295	20,902	67,197	3,980	823	72,000
82	66,958	21,454	88,412	nihil.	588	89,000
1882/83	96,335	± 20,594 a)	116,929	?	1,071	118,000
84	± 69,863 a)	± 20,594 a)	90,457	?	1,543	92,000

## Africa.

## REMARKS.

The export from the Portuguese possessions to Portugal is stated on the authority of official statistics obtained from the Statistic Bureau of Lisbon, through Senhor Eduardo Lemos, Managing Director of the „Centro da Lavoura e Comercio”, Rio.

The export to England, from the Portuguese as well as the English possessions from 1865 to 1882 inclusive, is stated according to the detailed Export tables to England.

From the detailed export tables of Hamburg, Bremen, Denmark, Havre, Marseilles, and Italy, it appears that there is no direct export trade between Africa and those ports and countries.

It is only now and then that small lots are mentioned in the export tables; on the other hand we find export from Hamburg to Africa stated in the export tables; — but to a very insignificant extent.

Taking into consideration the slight but tolerably steady extension of coffee-planting in the Portuguese possessions, I have estimated the export from 1853 to 1864, that I might be able to state the total produce throughout the world from 1853 up to date. (See next table).

a) Averaged from the three preceding.

## Africa.

Years.	EXPORT		to Rotterdam.
	from Banana (Angola).	from Liberia.	
1870	3,556	5	3,561
71	4,220	0	4,220
72	7,568	44	7,612
73	6,083	31	6,114
74	2,945	48	2,993
75	2,467	126	2,593
76	5,855	110	5,965
77	3,974	117	4,091
78	5,104	200	5,304
79	12,278	166	12,444
80	6,776	375	7,151
81	5,690	408	6,098
82	14,268	736	15,004
83	24,421	753	25,174
84	23,510	511	24,021

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## Africa.

## REMARKS.

I just received these figures from Mr. Hendrik Muller, chief of the firm Hendrik Muller & Co., at Rotterdam, who writes me in his letter of 6 January:

It was a pleasure to me to have the administration of the „Nieuwe Afrikaansche Handels-vennootschap” make the statistics you require. These figures (col. 2) only represent the direct transports from Banana to Rotterdam; the Africa coffee, shipped to this place for our account or for that of other merchants via Lisbon or Liverpool, is not included.

This as far as concerns the coffee from Angola or the southern part of the Congo-territory.

It will however interest you most probably to know the direct import — though not very important, — of Liberia-coffee in this country. There I myself possess since many years factories, wholly independent from the African trade society, just mentioned. I add these figures (col. 3), and beg to state that the import at Hambourg by the firm C. Woermann, who possesses also factories at Liberia, may be estimated of equal importance. Besides, Liverpool (see next tableau) receives small quantities of this article by mail steamer.

„The total crop of Liberia-coffee will not exceed 250,000 kilos (4167 bags).”

This communication made me ask for more information from the firm Woermann, at Hambourg. The chief of the firm being absent, it was our Consul-general in that town, who assured me „that the transport of Liberia is included in the general import of Hambourg.”

This import, according to the reports of the Chamber of trade, was:

	Cazengo and Encongo	Liberia and Gabon.
1884 . . . . .	2 à 3,000 bales.	
82 . . . . .	5 à 6,000 »	about 500 bales.
83 . . . . .	about 9,500 »	(via Lisbon) . . . » 3,000 »
	» 3,000 »	(Woermann)
84 . . . . .	» 9,000 »	(via Lisbon) . . . » 3,000 »

Ambriz is the principal port of expedition in the Congo-land.

The Liberia-coffee comes for the greatest part from plantations of natural coffee („wildgewachsenen Caffee”).

The prices, this coffee of inferior quality fetches, are low; still it is difficult to sell. (See Reports of the Chamber of trade at Hambourg, 1879—’84).

## Coffee produced throughout the world.

Years.	America.	Asia.	Africa.	Total in bags.	Average for during five years.	Increase during five years.
1852/53	2,916,000	1,630,000	21,000	4,567,000	25,058,000	6,55 0/0
54	2,648,000	1,718,000	21,000	4,387,000		
55	3,134,000	2,061,000	23,000	5,218,000	5,011,600	
56	3,329,000	1,949,000	23,000	5,301,000		
57	3,691,000	1,869,000	25,000	5,585,000		
58	2,857,000	1,988,000	26,000	4,871,000		
59	3,349,000	1,890,000	28,000	5,267,000	26,700,000	
60	3,193,000	1,849,000	28,000	5,070,000	5,340,000	
61	4,180,000	2,056,000	29,000	6,265,000		
62	3,212,000	1,986,000	29,000	5,227,000		
1862/63	2,795,000	2,102,000	31,000	4,928,000	27,320,000	2,32 0/0
64	2,652,000	2,169,000	31,000	4,852,000		
65	3,338,000	2,195,000	34,000	5,567,000	5,464,000	
66	3,211,000	2,407,000	33,000	5,651,000		
67	3,884,000	2,400,000	38,000	6,322,000		
68	4,489,000	2,348,000	42,000	6,879,000		
69	4,049,000	2,421,000	50,000	6,520,000		
70	4,290,000	2,706,000	56,000	7,052,000	33,678,000	
71	4,814,000	2,346,000	51,000	7,211,000	6,735,600	
72	3,580,000	2,363,000	73,000	6,016,000		
1872/73	4,880,000	2,553,000	68,000	7,501,000	37,352,000	10,91 0/0
74	4,018,000	2,316,000	77,000	6,411,000		
75	5,496,000	2,467,000	73,000	8,036,000	7,470,400	
76	5,037,000	2,499,000	63,000	7,599,000		
77	4,976,000	2,762,000	67,000	7,805,000		
78	5,270,000	2,001,000	62,000	7,333,000		
79	6,565,000	2,565,000	54,000	9,184,000	44,395,000	
80	5,665,000	2,643,000	83,000	8,391,000	8,879,000	
81	7,367,000	2,390,000	72,000	9,829,000		
82	7,253,000	2,316,000	89,000	9,658,000		
1882/83	7,723,000	2,446,000	118,000	10,287,000	19,518,000	9,91 0/0
84	6,736,000	2,403,000	92,000	9,231,000	9,759,000	

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Coffee produced throughout the World.

REMARKS.

From this table the reader will learn that the great extension of coffee-planting took place in the cinquennium 1863-67, for the produce increased by full 234% during the succeeding five years.

I do not think my calculation of the total produce throughout the world can be called incomplete or inaccurate; and yet it does not tally with that of the well-known Rotterdam firm, Messrs. G. Duuring and Son.

I subjoin, that the reader may compare for himself the statistics drawn up by said firm, as stated in their market report of 31 December 1883 (published 23 February 1884).

According to my calculations, which the reader may check by the foregoing tables, there was produced during 1873/1882 . . . . . 81,747,000 bales.

According to the estimate of Messrs. G. Duuring and Son . . . . . 85,119,000 »

Consequently an immense discrepancy of . . . . . 3,372,000 bales within ten years.

In the same market-report occurs an estimate of the produce of 1883/84. To show how circumspectly one must deal with such calculations I subjoin, as a curiosity, seven estimates of the total production and consumption throughout the world, all drawn up by exports.

Estimate of Messrs. G. Duuring and Son, Rotterdam.

1872/73	6,145,000	}	36,643,000
74	8,123,000		
75	7,130,000		
76	7,811,000		
77	7,434,000		
78	8,855,000	}	48,476,000
79	8,569,000		
80	9,719,000		
81	10,239,000		
82	11,094,000		
	85,119,000		

## Specimens of estimates of Coffee produced throughout the world.

	G. Dunning & Son, Rotterdam. (23 February 1884).	Mr. N. P. v. d. Berg « Historical Statistical Notes » 1880.	Estimate in Venezuela 1884.	Journal do Commercio. Rio de Janeiro. (9 January 1884).	Revue Commerciale Financière et Maritime Rio de J. (31 January 1884).	Syndicate of Santos (8 Fe- bruary 1884).
Rio de Janeiro . . . . .	3,500,000	2,875,000	2,500,000	3,750,000	3,000,000	2,750,000
Santos . . . . .	1,900,000	783,334	1,200,000	2,000,000	1,500,000	1,600,000
Bahia . . . . .	120,000	100,000	140,000	250,000	150,000	200,000
Central-America . . . . .	920,000	544,667	1,390,000	850,000	1,590,000	1,350,000
Venezuela and Columbia . .	820,000	583,334		700,000		
Cuba, Portorico and Jamaica	140,000	280,000	200,000	150,000		200,000
Hayti and S. Domingo . . .	450,000	416,666	580,000	500,000	460,000	550,000
Java . . . . .	1,350,000	1,523,413	1,416,000	1,750,000	1,300,000	1,400,000
Padang . . . . .	155,000					
Menado . . . . .	13,000					
Macassar, Timor enz. . . . .	150,000	622,747	270,000	300,000	300,000	260,000
Ceylon . . . . .	300,000	324,240	420,000	500,000	450,000	250,000
British-India and Manilla . .	375,000	112,934	150,000	200,000	300,000	300,000
Afrika, Mocha enz. . . . .	120,000	—	—	—	—	—
Sundry countries . . . . .	33,000	—	—	—	—	—
Ecuador and Guyana . . . . .	—	6,499	—	—	—	—
America . . . . .	—	1) 8,333	—	—	—	—
Australasia . . . . .	—	2,500	—	—	—	—
Produce . . . . .	10,346,000	8,180,667	2) 8,266,000	10,950,000	9,050,000	8,860,000
Consumption . . . . .	?	8,151,167	13,000,000	11,950,000	?	10,922,470

1) On page 49 of his Historical Statistical Notes Mr. N. P. v. d. Berg has rated the produce of South America at 261,390,000 kilograms = 4,356,500 bags.

There must be a mistake (probably a printer's error) in the detailed estimate, of 500,000 kilograms or 8,333 bags; for those figures yield a sum total of 260,890,000 kilograms. For this reason I have corrected the mistake in this way.

2) « Alza y baja del Café descerezado en el mercado de Carácas durante los Años de 1876 à 1883. »

3) Without Manilla.

4) With Manilla.

Specimen of estimates of Coffee produced throughout the world.

Financière et Maritime Rio de Janeiro (31 January 1884).	Syndicate of Santos (8 February 1884).	J. E. Etard of Havre (1884, 5)	REMARKS.
000,000	2,750,000		<p>5) This gentleman, whose essay „La Verité au sujet des cafés en fèves”, was published in the Rio Weekly, Revue Commerciale, Financière et Maritime, seems to be a Baissier. I give here his figures „compilés et coordonnés scrupuleusement”, of the produce and consumption throughout the world, as a proof how people often trifle with statistics and then try to pose as experts! In the article mentioned he ascribes the „hausse excessive” of 1872-74 to the „efforts prodigieux, desespérés de nombreux spéculateurs, notamment Hollandais, Brésiliens, Américains, Anglais, Allemands et Français, ayant à leur tête le Gouvernement Hollandais, sous le nom de Société de Commerce des Pays Bas.” Further remarks on this table are assuredly unnecessary.</p> <p>If the calculation of the produce throughout the world appears, according to that table, somewhat arbitrary, — notwithstanding that tolerably accurate statistics are to be had, if one will only take the trouble to look for them, it fairly passes my comprehension to ascertain how the consumption throughout the world, has been estimated.</p> <p>Basing views on the scrupulously accurate table of produce throughout the world during the last 30 years, I do not hesitate to express my firm conviction that the consumption of coffee throughout the world (of course not consisting the coffee-producing countries) has not yet reached an average of 8½ million bales per annum.</p> <p>With the calculations of Mr. N. P. van den Berg I cannot altogether agree; this estimate also I consider incorrect; for if it be actually true that the excess of crop over consumption amounts to only 30,000 bales, there would really be a dearth of coffee. But one must not forget that there are great quantities besides what comes to market, either not yet despatched, disposed of on the way, or lost at sea.</p> <p>However it be, we may conclude from the foregoing table that, now that the average produce throughout the world is not so large as most experts estimate it to be, their assertion that the low prices are due to over-production, must be taken at a heavy discount.</p> <p>From the following tables the reader may easily ascertain what the consumption is in the 14 or 15 principal countries.</p> <p>To conclude, it may be noted that, according to Dr. von Neumann Spallart, Uebersichten for 1881/82, (edition 1884) the total produce throughout the world 6,570,000 M C. = 10,950,000 bales.</p> <p>The consumption . . . . 6,200,000 » » = 10,333,333 »</p> <p>This estimate, likewise appears to me too high, which is quite explicable when we recollect, that the above-mentioned scholar does not discriminate between the crops and the exports.</p>
000,000	4,600,000	7,500,000	
50,000	200,000	833,334	
90,000	1,350,000	916,667	
	200,000	800,000	
60,000	550,000	166,667	
800,000	4,400,000	4,666,666	
800,000	260,000	4,100,000	
50,000	250,000		
300,000	300,000	400,000	
—	—	—	
—	—	—	
—	—	—	
50,000	8,860,000	13,383,334	
?	0,922,479	10,400,000	

## United States of North-America.

Years.	Import in bags.	Export.	Consumption.	Average value per pound in \$ cents.	Consumption of coffee per head in pounds.	Import-duties per pound.
1852—53	1,507,500	101,066	1,406,434	7,7	7,26	Free (since 14 July 1832).
54	1,226,635	90,791	1,135,844	8,9	5,68	»
55	1,447,555	123,439	1,324,116	8,8	6,43	»
56	1,783,113	92,434	1,690,679	9,1	7,96	»
57	1,819,483	181,590	1,637,893	9,1	7,49	»
58	1,430,414	111,237	1,319,177	9,6	5,86	»
59	1,999,108	133,172	1,865,936	9,4	8,07	»
60	1,528,189	151,917	1,376,272	10,8	5,79	»
61	1,394,795	49,814	1,344,981	11,1	5,55	»
62	928,348	73,978	854,370	11,3	3,46	4 cents 5/7 1861 5 cents 24/12 1862
1862—63	608,280	42,735	565,545	12,5	2,24	5 cents
64	995,052	28,564	966,488	12,0	3,76	»
65	804,848	167,429	637,419	6,6	2,43	»
66	1,371,461	42,473	1,328,988	11,2	4,96	»
67	1,415,482	45,088	1,370,394	10,9	5,01	»
68	1,882,288	59,731	1,822,557	10,1	6,52	»
69	1,921,426	81,385	1,840,041	9,7	6,45	»
70	1,778,511	30,867	1,747,644	10,3	6,—	3 cents 31/12 1870
71	2,403,981	39,741	2,364,240	9,8	7,91	»
72	2,258,936	26,213	2,232,723	12,7	7,28	Free since 1/5 1872
1872—73	2,217,291	51,793	2,165,498	15,0	6,87	»
74	2,155,862	24,839	2,131,023	19,3	6,59	»
75	2,403,819	51,664	2,352,155	15,8	7,08	»
76	2,568,765	67,167	2,501,598	16,7	7,33	»
77	2,507,156	74,773	2,432,383	16,2	6,94	»
78	2,342,674	96,929	2,245,745	16,8	6,24	»
79	2,856,488	114,100	2,742,388	12,4	7,42	»
80	3,378,137	50,817	3,327,320	13,5	8,78	»
81	3,441,177	241,259	3,199,918	12,4	8,23	»
82	3,476,960	184,034	3,292,926	9,8	8,25	»
1882—83	—	—	—	—	—	—

## United States of North-America.

Consumption of Tea per head in pounds.	REMARKS.
0,75	These figures are extracted from the «Quarterly Report of the Chief of the Bureau of Statistics, Treasury Department, relative to the Imports, Exports, Immigration and Navigation of the United States. Washington, Government printing office, 1883», a work presented to me by the Consul-General of the United States at Rio de Janeiro, C. C. Andrews.
0,73	The statement in pounds is carefully reduced into kilograms, and these again into bags.
0,73	To this end use has been made of the previously calculated reduction table, which is appended here.
0,65	Before going to press this and the following statistics have been verified anew according to a new table (also appended) for the reduction of pounds into bales of 60 kilograms.
0,57	The financial years are from 1 July to 30 June.
0,97	That this and following tables might not be too lengthy, I have omitted from my statistics the value, of import, export, and consumption.
0,76	The import statistics given by Mr. N. P. van den Berg in his Historical Statistical Notes of 1870/71—1877/78 are correct, with the exception of those for 1873/74. Instead of 295,272,000 ₤ there were there imported 285,171,512 ₤; the difference, consequently, being 10 million ₤. In the Quarterly Report statistics are given of «Total Imports», «Foreign Imports», and «Nett Imports» besides «Consumption per Capita or population».
0,84	
0,66	
0,71	
0,80	
1,04	
0,49	
1,17	
1,09	
0,97	
1,08	
1,10	
1,26	
1,46	
1,53	
1,27	
1,44	
1,36	
1,23	
1,33	
1,21	
1,39	
1,54	
1,46	
—	

## Denmark.

Years.	Import.	Export.	Consumption.	Export to and consumption in Greenland, Iceland and the Faroe Islands.	REMARKS.
1852/53	119,233	27,683	91,550	3,675	<p>a) From 1865 to 1874 these statements are according to the financial years 1864/65 to 1873/74. The import, export, and consumption according to the table are thus for half a year in 1864, while in 1873 they cover a year and a half.</p> <p>These statistics were obtained from the Bureau of Statistics, Copenhagen, through the kind intervention of the Consul there, Mr. Ch. E. de Coninck.</p> <p>After telegraphic communication was established between Denmark and Brazil in 1874, the direct import, of Brazilian coffee has decreased; this coffee is now imported for a great part via London, Lubeck, and Kiel. Since 1874 the import of Java coffee via the Netherlands has considerably increased.</p> <p>The yearly consumption in Denmark is reckoned, according to Mr. de Coninck, at 5½ pound (½ kilogr.) per head.</p> <p>The data furnished by the Bureau of Statistics are in Danish pounds = ½ kilogram.</p> <p>The export to and consumption in Greenland, Iceland, and the Faroe Islands, is included in the export — column 2 — of the Kingdom.</p> <p>The Statistics given by Mr. N. P. van den Berg in his Hist. Stat. Notes, 1874—77 do not tally with those I have received; I presume because chicory or some other articles used to adulterate coffee are included in his statements.</p>
54	138,850	18,817	120,033	4,158	
55	192,509	44,551	147,958	4,208	
56	187,759	37,009	150,750	4,275	
57	126,475	21,525	94,950	4,508	
58	132,900	25,975	106,925	3,325	
59	145,509	33,159	112,350	4,358	
60	154,992	38,234	116,758	3,708	
61	178,567	29,542	149,025	3,875	
62	165,017	45,059	119,958	4,033	
1863	104,200	36,742	67,458	3,625	
64	a) 65,833	18,633	47,200	2,925	
65	128,092	42,059	86,033	5,183	
66	120,800	48,083	72,717	3,017	
67	119,150	44,092	75,058	3,983	
68	141,792	37,367	104,425	4,083	
69	83,483	47,708	35,775	3,567	
70	110,900	60,508	50,408	5,758	
71	151,609	48,284	103,325	4,375	
72	115,958	63,933	52,025	4,300	
1873	196,325	103,350	92,975	3,733	
74	118,483	76,266	42,217	3,950	
75	132,158	53,016	79,142	3,800	
76	132,025	56,392	75,633	4,100	
77	124,975	57,508	67,467	4,367	
78	108,608	41,041	67,567	4,225	
79	121,442	33,600	87,842	4,425	
80	109,050	30,400	78,650	4,417	
81	129,400	33,450	95,950	5,333	
82	136,992	38,325	98,667	5,733	
1883	—	—	—	—	

Sweden, Norway, Russia.

Years.	Import and consumption.			REMARKS.																																				
	Sweden.	Norway.	Russia.																																					
1852/53	—	—	—	<p>Sweden. I received these statistics from the Consul General at Stockholm, Mr. O. C. W. Blanck. From his letter of 25 May 1884, I quote the following: «Official figures relating to former years are not to be had, while the re-export of coffee from here is very inconsiderable, so that no statistics exist regarding that either.»</p> <p>Norway. I am indebted for these statistics to the Consul General at Christiania, Mr. G. Kienitz, who obtained them from the Managing Director of the Central Bureau of Statistics for Norway.</p> <p>The annual consumption is estimated at: 1879 = 3,34, 1881 = 3,60, 1882 = 3,68 kilograms per head.</p> <p>Russia. These figures are extracted from «Le Brésil à l'Exposition Internationale de St. Pétersbourg, 1884» forwarded to me by the Managing Director of the «Centro» there, Baron de Araujo Maia.</p> <p>According to Mr. Lischine, Russian Ambassador at Rio de Janeiro, these figures represent the import into Russia. In that case the consumption in Russia and Finland during the last 5 years would amount to scarcely 0,90 kilogram per head. As I have received no statistics from the Dutch Consul-General at St. Petersburg, I have taken the exports of 1870—76 from Mr. N. P. van den Berg's «Historical Statistical Notes on the Production and Consumption of Coffee, 1880.» The poed is reckoned = 16,395 kilograms as appears from the Reduction table.</p> <p>In Russia the consumption of coffee is so trifling, and coffee as yet so unfamiliar a beverage, that the first coffee-house in St. Petersburg was established so late as June 1884, subsequent to the Brazilian coffee show.</p> <p>Coffee is for the most part imported into Russia through Germany, England and Holland, the ports being St. Petersburg, Reval, Odessa and those on Lake Azoff (Taganrog, Marianopol, Berdiansk and Yeisk).</p> <p>The greater part of the imports come via St. Petersburg, as will appear from subjoined table, compiled, as far as possible from the Consular Reports.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>St. Petersburg.</th> <th>Odessa.</th> <th>Azoff.</th> </tr> </thead> <tbody> <tr> <td>1870 poeds =</td> <td>221,000</td> <td>?</td> <td>?</td> </tr> <tr> <td>71 » =</td> <td>277,392</td> <td>94,742</td> <td>22,817</td> </tr> <tr> <td>72 » =</td> <td>217,776</td> <td>98,651</td> <td>4,413</td> </tr> <tr> <td>73 » =</td> <td>214,794</td> <td>61,831</td> <td>23,344</td> </tr> <tr> <td>74 » =</td> <td>238,392</td> <td>80,721</td> <td>14,643</td> </tr> <tr> <td>75 » =</td> <td>212,046</td> <td>?</td> <td>?</td> </tr> <tr> <td>76 » =</td> <td>226,012</td> <td>65,995</td> <td>?</td> </tr> <tr> <td>77 » =</td> <td>197,739</td> <td>?</td> <td>?</td> </tr> </tbody> </table> <p>The later Reports contain no detailed statistics,</p>		St. Petersburg.	Odessa.	Azoff.	1870 poeds =	221,000	?	?	71 » =	277,392	94,742	22,817	72 » =	217,776	98,651	4,413	73 » =	214,794	61,831	23,344	74 » =	238,392	80,721	14,643	75 » =	212,046	?	?	76 » =	226,012	65,995	?	77 » =	197,739	?	?
	St. Petersburg.	Odessa.	Azoff.																																					
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54	—	73,158	—																																					
55	—	—	—																																					
56	—	—	—																																					
57	—	—	—																																					
58	101,306	80,290	—																																					
59	109,474	—	—																																					
60	107,354	—	—																																					
61	112,317	85,873	—																																					
62	112,565	—	—																																					
1863	113,639	—	—																																					
64	110,857	85,873	—																																					
65	119,430	—	—																																					
66	107,719	—	—																																					
67	132,300	—	—																																					
68	112,445	96,307	—																																					
69	119,930	—	—																																					
70	131,830	—	120,124																																					
71	146,580	109,362	134,320																																					
72	136,964	—	122,308																																					
1873	188,133	—	111,660																																					
74	152,000	109,362	147,394																																					
75	165,333	—	124,765																																					
76	188,456	117,063	136,776																																					
77	180,226	123,280	78,363																																					
78	176,551	101,676	113,905																																					
79	171,702	120,489	128,982																																					
80	188,484	119,447	136,521																																					
81	205,683	126,711	115,873																																					
82	225,549	116,552	138,928																																					
1883	251,700	—	105,692																																					

## The Netherlands.

Years.	Import.	Export.	Consumption and in stock.
1853	1,029,617	680,633	348,984
54	991,233	888,167	103,066
55	1,230,483	976,150	254,333
56	1,356,783	972,233	384,550
57	1,223,217	759,233	463,984
58	1,110,183	1,254,700	— a
59	1,068,417	891,100	177,317
60	1,113,650	901,067	212,583
61	1,227,817	1,047,433	180,384
62	1,267,983	1,023,767	244,216
1863	1,165,133	936,083	229,050
64	1,367,850	1,115,767	252,083
65	1,303,333	1,180,417	122,916
66	1,420,400	1,209,483	210,917
67	1,534,467	1,186,617	347,850
68	1,610,700	1,244,683	366,017
69	1,440,050	1,082,867	357,183
70	1,619,233	1,327,117	292,116
71	1,735,550	1,403,217	332,333
72	1,337,500	1,166,166	171,334
1873	1,863,767	1,177,517	686,250
74	1,456,983	1,045,216	411,767
75	1,896,567	1,191,534	705,033
76	1,533,850	1,292,717	241,133
77	1,866,817	1,303,583	563,234
78	1,554,750	1,189,100	365,650
79	1,693,333	1,223,750	469,583
80	1,839,450	1,164,400	675,050
81	1,799,583	1,126,866	672,717
82	1,920,467	1,169,434	751,033
1883	2,232,533	1,244,800	987,733

## The Netherlands.

## REMARKS.

These statistics were obtained from the Ministry of Finance, and tally, as far as for 1863—77 by Mr. N. P. van den Berg in his Hist. Stat. Notes.

To give the reader an opportunity of comparing, I append a table showing the import, delivery, and stock, of coffee in the Netherlands, furnished me at my request with the utmost readiness by the esteemed firm Mess<sup>rs</sup>. G. Duuring and Son, Rotterdam.

Like this firm and Mess<sup>rs</sup>. Koch and Suermondt of Rotterdam, I see no chance whatever to ascertain, even approximately, the quantity of coffee per head consumed in the Netherlands.

Up to this time this quantity has, on the authority of Mr. van den Berg, been estimated at 8.<sup>120</sup> kilograms.

Seeing that I cannot perceive any practical utility in calculating the consumption per head, I refrain, likewise to save unnecessary trouble, from making any attempt.

Whenever I could obtain official figures I used them, for the sake of those they might interest, leaving it to their own pleasure to fill in the missing statistics or to verify those given, which is easily done with the foregoing figures relating to population.

If a short comparative view of the production of coffee in Europe, be desired, it would in my opinion be expedient to calculate according to the extent of the country in square kilometers. These proportions are not — barring wars of annexation — liable to annual alterations as is the case with population. By this we may see whether the consumption is increasing or decreasing; which is impossible with the present method of calculating per head, unless the numbers we have of population before as at the same time.

For the sake of those who may wish to make these calculations, I would draw attention to the lists in Chapter I, showing the extent of the various countries.

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*a.* In 1853 there was more exported than had been imported that year. This seeming contradiction must be ascribed to the fact, that the actual difference between Import and Export in 1853 must not be reckoned at 348,984 bales, but that figure augmented with the stock of 1852.

Statistics relating to the import, delivery and stock of coffee in the

Financial years.	Import in bags of 60 kilograms.				Delivery for export and consumption, impossible to state separately.
	From Netherlands-India.		The West-Indies.	Total.	
	Dutch Commercial Company, almost wholly Government produce. <i>a.</i>	Private, mostly private produce.			
1857	886,000	23,300	177,300	1,086,600	999,800
58	995,100	146,800	16,000	1,157,900	1,448,500
59	915,200	71,900	30,900	1,018,000	1,132,400
60	868,100	102,250	4,600	974,950	1,012,300
61	904,600	132,250	56,200	1,093,050	1,029,200
62	923,800	218,800	63,300	1,205,900	1,203,300
63	805,800	236,900	32,600	1,075,300	1,087,700
64	950,200	235,400	19,900	1,205,500	1,103,200
65	723,000	311,500	67,500	1,102,000	1,178,000
66	837,400	222,400	13,900	1,073,700	1,149,300
67	1,018,200	214,500	20,800	1,253,500	1,175,800
68	882,200	256,500	28,600	1,167,300	1,140,300
69	681,200	206,300	90,700	978,200	991,000
70	910,600	230,100	5,900	1,146,600	1,152,400
71	1,041,200	292,500	4,300	1,338,000	1,154,700
72	523,500	228,600	1,500	753,600	989,300
73	882,400	284,100	3,600	1,170,100	1,064,400
74	728,300	303,200	33,100	1,064,600	1,099,400
75	963,200	292,200	95,800	1,351,200	1,084,600
76	609,300	299,900	20,900	930,100	1,272,900
77	1,055,300	337,500	6,200	1,399,000	1,245,200
78	732,800	292,200	101,000	1,126,000	1,198,400
79	856,600	196,300	70,100	1,123,000	1,148,500
80	985,100	329,100	39,300	1,353,500	1,277,800
81	962,000	271,900	43,700	1,277,600	1,210,200
82	879,100	345,000	46,800	1,270,900	1,258,800
83	1,069,600	556,800	102,200	1,728,600	1,593,700

*a.* Compare these estimates with those of the Commercial Company itself (p. 452).

*b.* Compare these figures with those of the Ministry of Finance (page 470).

*c.* See (page 452) the medium prices made by Government.

coffee in the Netherlands, compiled by Mess<sup>rs</sup>. G. Duuring & Son, Rotterdam.

	Stock.			Price per $\frac{1}{2}$ kilogram.				Brazil.	
	Government.	Private.	Total Stock.	Government		Private		Lowest.	Highest.
				Java.		Java.			
				Lowest.	Highest.	Lowest.	Highest.		
800	556,100	104,800	660,900	36	41 $\frac{1}{2}$	33	43 $\frac{1}{2}$	24	33
500	338,100	32,200	370,300	27 $\frac{1}{2}$	32	27 $\frac{1}{2}$	34	19	28
400	245,000	10,900	255,900	37	37 $\frac{1}{2}$	34	39 $\frac{1}{2}$	25	35
300	215,850	2,650	218,500	38 $\frac{1}{2}$	39 $\frac{1}{2}$	38 $\frac{1}{2}$	40	35	36 $\frac{1}{2}$
200	257,900	24,500	282,400	37 $\frac{1}{2}$	43	37 $\frac{1}{2}$	45	33	36
300	258,200	26,850	285,050	44 $\frac{1}{2}$	45 $\frac{1}{2}$	44	46	35	40
700	236,800	35,800	272,600	45 $\frac{1}{2}$	46	44	46 $\frac{1}{2}$	40	41
200	350,100	24,750	374,850	40 $\frac{3}{4}$	46	40 $\frac{1}{2}$	46 $\frac{1}{2}$	36	40
000	221,100	77,700	298,800	44 $\frac{3}{4}$	45 $\frac{3}{4}$	43 $\frac{1}{2}$	46	35	36
300	187,900	35,250	223,150	40	44 $\frac{1}{2}$	38	45	30	35
800	264,600	36,200	300,800	37 $\frac{1}{2}$	41 $\frac{1}{2}$	37	40 $\frac{1}{2}$	26	30
300	265,400	62,400	327,800	30 $\frac{3}{4}$	36	30	37	23	26
000	223,100	91,900	315,000	32 $\frac{1}{2}$	42 $\frac{1}{2}$	32 $\frac{1}{2}$	35 $\frac{1}{2}$	24 $\frac{1}{2}$	32
400	269,000	40,200	309,200	32 $\frac{1}{2}$	34 $\frac{3}{4}$	31 $\frac{1}{2}$	35 $\frac{1}{2}$	25	30
700	420,500	72,000	492,500	33 $\frac{1}{2}$	41 $\frac{1}{2}$	32 $\frac{1}{2}$	43	28	40
300	209,800	45,000	254,800	41 $\frac{1}{2}$	47	40 $\frac{1}{2}$	49 $\frac{1}{2}$	38 $\frac{1}{2}$	45 $\frac{1}{2}$
400	332,300	28,200	360,500	51 $\frac{1}{2}$	62	49 $\frac{1}{2}$	65 $\frac{1}{2}$	45 $\frac{1}{2}$	63
400	253,400	72,300	325,700	53	71 $\frac{1}{2}$	50	72 $\frac{1}{2}$	47	67
600	413,700	117,900	531,600	53 $\frac{1}{2}$	60 $\frac{3}{4}$	53	61	45	55
900	197,200	65,300	261,500	50	57	50	58	43	54
200	321,900	65,900	387,800	50	53 $\frac{1}{2}$	50	58	47	52
400	191,400	98,500	289,900	42 $\frac{1}{2}$	51	40 $\frac{1}{2}$	54	37	50
500	160,000	79,400	239,400	40 $\frac{1}{2}$	50	40 $\frac{1}{2}$	50	37	53
800	224,100	91,000	315,100	38	47	37	48	36 $\frac{1}{2}$	43
200	315,300	110,800	426,100	33 $\frac{3}{4}$	37 $\frac{3}{4}$	33 $\frac{3}{4}$	38 $\frac{1}{2}$	30 $\frac{1}{2}$	37
800	326,800	103,400	430,200	25 $\frac{1}{2}$	30 $\frac{1}{2}$	25 $\frac{1}{2}$	34 $\frac{1}{2}$	22 $\frac{1}{2}$	30 $\frac{1}{2}$
700	420,400	142,200	562,600	28	35	26	35 $\frac{1}{2}$	21	33

52).

TABLE showing the import (in bags of 60 kilograms)  
into Sundry countries and ports according

Financial years.	Dutch Commercial Company.					
	Java.	Padang.	Macassar.	Menado and Manilla.	Santos.	Rio.
1868	831,300	40,800	400	11,000	—	—
69	623,100	39,300	3,700	15,100	21,700	15,400
70	844,600	21,500	6,100	38,400	—	—
71	991,800	24,800	12,300	12,300	—	—
72	506,300	4,000	5,700	7,500	—	—
73	860,200	7,100	14,700	400	—	—
74	693,000	3,400	18,300	13,600	—	—
75	927,700	1,400	18,000	16,100	17,300	—
76	580,500	10,800	5,000	13,000	—	—
77	1,035,700	—	12,100	7,500	—	—
78	702,900	4,500	8,400	17,000	15,500	—
79	812,100	—	23,400	21,100	—	—
80	964,800	—	2,300	18,000	—	—
81	937,800	—	13,500	10,700	—	—
82	843,600	5,500	18,500	10,900	—	—
83	1,040,300	5,800	3,000	20,500	—	—

1) Compare this statement with that of the Dutch Commercial Company itself. See page 452, Remarks.

by the Dutch Commercial Company and on private account to Messrs. G. Duuring and Son, Rotterdam.

Private.

Rio.	Java.	Padang.	Macassar.	Manilla.	Div. N.-I. and Ceylon.	Santos.	Rio.	Laguayra and div. West-Indies.	Total.
—	178,200	46,600	22,100	—	8,300	24,500	—	4,100	1,167,300
15,400	145,200	39,700	12,200	—	7,200	30,300	19,600	2,700	978,200
—	173,900	20,900	27,500	—	12,000	—	1,200	500	1,146,600
—	204,700	32,500	28,200	—	27,200	—	1,100	3,100	1,338,000
—	191,800	11,500	12,800	—	12,500	—	—	1,500	753,600
—	210,100	30,200	29,700	—	13,700	3,600	—	400	1,170,100
—	228,800	16,200	38,700	—	19,500	29,800	3,000	300	1,064,600
—	221,600	12,300	43,000	—	15,300	54,300	3,200	21,000	1,351,200
—	206,900	21,900	61,500	—	9,600	11,500	—	9,400	930,100
—	271,900	400	51,500	—	13,700	5,900	—	300	1,399,000
—	189,900	30,900	64,000	—	7,400	81,000	—	4,500	1,126,000
—	128,200	1,600	41,100	—	25,400	66,900	—	3,200	1,123,000
—	242,500	800	69,100	—	16,700	36,800	—	2,500	1,353,500
—	203,700	400	58,900	—	8,900	37,700	—	6,000	1,277,600
—	256,600	3,100	59,100	8,100	17,900	45,300	—	1,500	1,270,100
—	453,500	2,500	67,200	1,300	32,300	100,100	—	2,100	1,728,600

lf. See

## England.

Years.	Import.	Export.	Consumption.	Consumption of Coffee per head.	Consumption of Thea per head.
				Lbs.	Lbs.
1852—53	280,409	201,523	—	—	—
54	502,734	246,370	282,369	1,35	2,24
55	484,296	217,471	270,375	1,29	2,28
56	430,853	208,674	264,565	1,25	2,26
57	445,222	119,315	259,705	1,22	2,45
58	458,864	217,432	266,175	1,24	2,58
59	494,061	223,667	259,522	1,20	2,67
60	625,714	345,196	268,360	1,23	2,67
61	631,496	353,805	266,123	1,21	2,69
62	710,945	430,156	260,451	1,18	2,69
1863	887,184	539,664	247,685	1,11	2,89
64	826,124	599,568	237,081	1,06	2,99
65	1,043,244	755,112	230,621	1,02	3,28
66	960,443	716,086	231,563	1,02	3,40
67	1,041,220	737,813	236,488	1,03	3,66
68	1,314,682	1,021,085	229,494	0,99	3,49
69	1,311,006	968,818	218,019	0,93	3,62
70	1,360,036	1,094,831	228,539	0,97	3,77
71	1,451,442	1,305,205	231,383	0,97	3,92
72	1,256,974	1,199,524	235,668	0,98	4,01
1873	1,386,501	1,168,841	240,338	0,99	4,11
74	1,189,557	914,260	236,264	0,96	4,23
75	1,346,036	1,022,662	242,279	0,98	4,44
76	1,152,911	1,036,733	248,679	0,99	4,51
77	1,361,742	941,155	244,078	0,97	4,52
78	1,075,043	868,077	248,188	0,97	4,66
79	1,362,677	1,093,966	257,958	1,—	4,70
80	1,309,390	1,005,276	240,922	0,92	4,59
81	1,040,604	817,382	241,485	?	?
82	1,154,978	860,245	?	?	?
1883	1,183,889*	824,700*	?	?	?

## England.

## REMARKS.

Through the kindness of the Consul General in London, Mr. J. W. May, I procured a table drawn up by the Commercial Department, Board of Trade, «Statement, showing the quantity and value of coffee exported from the United Kingdom to the un-  
mentioned Foreign Countries and British Possessions in each of the years 1853 to 1883 inclusive as far as the particulars can be given» (May 19. 1884).

These statistics are extracted from that statement; the figures for 1883 are not yet definitively fixed.

From the Dutch Consul at Liverpool, Mr. H. S. van Santen, I received likewise a detailed statement: «Statistics of Import, Home Consumption, and Export of Coffee in the United Kingdom of Great Britain and Ireland, during 1860—1882.»

The statistics relating to the total consumption of coffee, and the consumption of it per head, are extracted from the «Return. Foreign Trade, Revenue etc. 1854—1880. Ordered by the House of Commons to be printed, 15 August 1882.»

The figures relating to consumption per head do not agree, — especially during the last few years — with those given by T. B. Thurber in his «Coffee from plantation to cup» (page 212).

How trifling the consumption of coffee in England is, compared with the consumption of tea, will appear from column 5.

How far the statement of consumption (in pounds) given by Mr. N. P. van den Berg in his Historical Statistical Notes, 1846—1879, is correct, I have been unable to ascertain, seeing that in the above mentioned «Return» the consumption is stated in cwts., and the reduction into pounds would have cost too much time. A comparison of those figures and the estimate (in pounds) of consumption made by Messrs. Koch and Suermondt for 1860—1883 inclusive (see their market-report of 17 September 1884), shows discrepancies of several hundred thousand pounds!

## Belgium.

Years.	Import (Comm. Générale).	Export (transito).	Consumption (Comm. Spécial).	REMARKS.
1852—53	347,357	70,928	312,656	<p>These statistics were compiled from the «Statistique de la Belgique. Tableau Général du Commerce avec les pays étrangers publié par le Ministre des Finances». Besides what goes right through, there is the trifling export of the Commerce Spécial; the quantity is inconsiderable, worth from 250 to 425 pounds sterling per annum.</p> <p>The statistics (consumption) given by Mr. N. P. van den Berg in his Historical Statistical Notes, 1860—1877, and evidently taken from the «Annuaire Statistique de la Belgique», agree, within a few hundred kilograms, with the figures I have obtained.</p> <p>The statistics from 1860 to 1883 (consumption) given by Messrs. Koch &amp; Suermondt of Rotterdam (see their market report of 17 September 1884) agree to some extent with mine, with the exception of those from 1860 to 1864, which are several millions kilograms too low. In this report the consumption for those years is stated to have been 14<sup>4</sup>, 17<sup>4</sup>, 18<sup>8</sup>, 14<sup>1</sup> and 13<sup>0</sup> (in million kilogr.); whereas the correct figures are 18<sup>9</sup>, 20<sup>6</sup>, 19<sup>0</sup>, 17<sup>8</sup> and 19<sup>2</sup>.</p> <p>The statistics for the years 1865 and 1880/83 are incorrect also. From this statement it appears that the through-trade in coffee has been largely increasing during the last 15 years, a circumstance which must be ascribed to the increasing commerce of Antwerp with Central Brazil and the coffee-producing countries of America.</p> <p>The difference between import and consumption cannot be wholly accounted for by the stock. It includes likewise a small quantity of exported powdered coffee, which, as I have said above, is not classed with the through-trade.</p>
54	377,453	68,939	307,116	
55	420,030	61,158	336,438	
56	370,046	50,356	303,411	
57	569,370	145,241	367,909	
58	378,964	114,353	356,822	
59	416,466	147,165	302,135	
60	432,348	113,939	316,380	
61	474,846	116,301	343,585	
62	491,887	157,312	317,215	
1863	402,744	112,491	297,148	
64	404,735	115,638	320,620	
65	525,189	151,210	344,539	
66	487,713	178,510	322,567	
67	575,250	196,893	358,202	
68	683,325	257,963	393,312	
69	617,740	270,417	342,201	
70	598,353	260,496	374,015	
71	665,474	295,045	390,504	
72	559,045	202,419	371,372	
1873	620,581	243,852	377,043	
74	599,588	257,024	317,034	
75	707,367	291,673	364,865	
76	716,302	328,231	441,213	
77	634,042	293,564	339,766	
78	793,145	373,209	384,657	
79	851,418	461,799	416,039	
80	848,284	401,081	379,266	
81	996,957	461,475	422,741	
82	844,195	437,858	470,102	
1883	890,779	451,046	475,112	

## France.

Years.	Import (Commerce Général).	Export.	Consumption (Entrées à la consomma- tion).	REMARKS.
1853	463,054	150,295	332,613	<p>These statistics were forwarded me by Mr. M. J. H. van Lier, Consul at Paris, and obtained from the Central Bureau of Statistics there.</p> <p>If we count the exports and consumption during the years 1872/83, and subtract the sum thus obtained from the sum total of imports during the same period, we find 1,511,974 bales to have been the stock in France on 1<sup>st</sup> January 1884.</p> <p>It appears from the statistics of Havre that the stock there at the same date amounted to <math>\pm</math> 1,027,000 bales.</p> <p>The figures given by Mr. N. P. van den Berg in his Historical Statistical Notes of 1861—1876 (consumption) agree, within a few hundred kilograms, with the statistics I received.</p> <p>The statistics of consumption given by Messrs. Koch &amp; Suermond of Rotterdam, from 1860 to 1883 (see their market report of 17<sup>th</sup> September 1884) are correct, except those for 1863, 1870—71, 1874, and 1876—1883.</p>
54	582,950	152,843	362,000	
55	665,252	269,708	445,676	
56	668,174	200,514	387,040	
57	894,174	260,274	466,624	
58	568,731	283,903	470,171	
59	829,111	314,107	505,606	
60	1,027,839	359,312	572,609	
61	1,021,989	460,752	626,335	
62	1,063,400	321,851	629,850	
1863	1,091,442	337,615	661,667	
64	903,290	384,314	674,285	
65	1,230,311	423,899	725,022	
66	1,128,907	426,416	747,346	
67	1,308,542	512,164	787,763	
68	1,526,840	486,006	871,719	
69	1,409,475	534,656	838,795	
70	1,167,204	387,051	1,266,825	
71	990,111	311,357	669,245	
72	691,066	314,124	278,474	
1873	1,231,580	359,962	747,228	
74	1,080,635	471,577	645,149	
75	1,520,152	547,727	800,220	
76	1,443,279	491,925	891,455	
77	1,236,299	412,041	796,849	
78	1,456,930	479,765	901,751	
79	1,672,125	627,370	947,097	
80	1,502,757	488,695	962,224	
81	2,255,732	723,197	1,078,266	
82	1,825,495	643,582	1,063,982	
1883	2,348,314	942,194	1,137,536	

## Portugal.

Years.	Import in bags.	Export.	Consumption.
1853	—	—	—
54	—	—	—
55	—	—	—
56	—	—	—
57	—	—	—
58	—	—	—
59	—	—	—
60	—	—	—
61	—	—	—
62	—	—	—
1863	—	—	—
64	—	—	—
65	46,091	19,671	26,420
66	52,845	24,476	28,369
67	56,850	26,813	30,037
68	67,531	35,104	32,427
69	65,735	37,436	28,299
70	65,167	18,085	47,082
71	52,603	37,719	14,884
72	60,639	34,348	26,291
1873	60,641	34,255	26,386
74	72,355	46,512	25,843
75	74,288	46,047	28,241
76	57,436	27,757	29,679
77	63,289	34,823	28,466
78	52,518	17,842	34,676
79	58,875	23,778	35,097
80	65,940	33,800	32,140
81	53,585	18,650	34,935
82	74,944	35,158	39,786
1883	104,070	66,639	37,431

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## Portugal.

## REMARKS.

By far the greater proportion of coffee imported into Portugal is grown in her African possessions.

The average import of Brazilian coffee during the last five years, has been about 62,000 bales,

From the Asiatic possessions (Timor) Portugal receives very little, during 19 years only 7,239 kilograms or 121 bags.

The export during the last few years has been:

To France . . . . .	39,7 %
» England . . . . .	26,7 »
» Germany . . . . .	20,5 »
» The Netherlands . . . . .	5,8 »
» Belgium . . . . .	3,2 »
» Italy . . . . .	2,0 »
» North America . . . . .	0,8 »
» Divers countries . . . . .	1,3 »

Total . . . . 100,— %

The consumption from

1869/1873 was	1,715,000	kilogr.	per	annum.
1874/1878 »	1,763,000	»	»	»
1879/1883 »	2,153,000	»	»	»

As Portugal, including the Azores and Madeira, has a population of 4,745,124 souls, the consumption during the last 5 years may be rated at 454 grams per head. These statistics were obtained from the Chamber of Commerce, Lisbon, through Senhor E. de Lemos, representative of the „Centro” of Rio de Janeiro. It was not possible to go further back, seeing that the science of statistics did not exist in Portugal previous to 1862. Owing to circumstances which seem unaccountable the statistics of 1862/64 are lost to history. Authentic statistics exist only from 1865, the year in which the metric system came into operation in Portugal. From the following table of Imports in kilograms, we may perceive that the import of Brazilian coffee is decreasing, while the import of coffee from Africa and the ports of Europe shows a very considerable increase.

## Portugal.

Years.	Import (in kilograms) from :					REMARKS.	
	The African possessions.	Brazil.	Asiatic possessions.	Various countries.	Total.		
1853	—	—	—	—	—	This detailed statement was forwarded to me by Senhor Edwards de Lemos, Managing Director and likewise representative of the Centro da Lavoura e do Comercio, at Lisbon. Portugal consumes for the greater part coffee from Africa.	
54	—	—	—	—	—		
55	—	—	—	—	—		
56	—	—	—	—	—		
57	—	—	—	—	—		
58	—	—	—	—	—		
59	—	—	—	—	—		
60	—	—	—	—	—		
61	—	—	—	—	—		
62	—	—	—	—	—		
1863	—	—	—	—	—		1) Of this quantity 129,318 kilograms are from Germany, 44,896 kilogr. from England, and 7,854 kilogr. from other countries.
64	—	—	—	—	—		
65	1,853,272	898,301	296	13,583	2,765,452		
66	1,687,366	1,473,067	281	9,997	3,170,711		
67	1,857,222	1,546,388	250	7,139	3,410,999		
68	2,307,329	1,733,805	4,067	6,664	4,051,865		
69	2,749,959	1,184,861	475	8,820	3,944,115		
70	2,711,956	1,194,440	44	3,571	3,910,011		
71	2,374,262	775,539	78	6,333	3,156,212		
72	3,497,459	135,300	188	5,373	3,638,320		
1873	3,342,329	279,182	—	16,987	3,638,498		
74	4,017,682	281,104	—	42,523	4,341,309		
75	4,032,565	397,353	71	27,312	4,457,301		
76	3,250,547	161,088	117	34,433	3,446,185		
77	3,498,229	267,945	—	31,173	3,797,347		
78	2,700,730	316,775	63	133,522	3,151,090		
79	2,822,996	604,744	645	104,163	3,532,548		
80	3,537,441	348,458	238	70,253	3,956,390		
81	2,777,727	255,271	56	182,068 1)	3,215,122		
82	4,017,491	304,965	370	173,805	4,496,631		
1883	5,780,078	347,637	—	116,512	6,244,227		

## Italy.

Years.	Import.	Export.	Consumption.	Consumption per head in kilograms.	REMARKS.
1852—53	—	—	—	—	<p>These statistics, exclusive of the through-trade, were extracted from the detailed Statements «Movimento Commerciale del Caffè in Italia dall' anno 1860 al 1882» drawn up by the orders of the Italian Government and forwarded to me through the Dutch Embassy at Rome.</p> <p>The figures showing the consumption of coffee per head are taken from the «Atti parlamentari sessione del 1878—79. Camera dei Deputati No. 145—A.»</p> <p>The export is for the most part to Austria, Switzerland, Turkey and Greece.</p> <p>To Mr. L. Heukensfeld Slaghek, Consul at Livorno, I likewise owe thanks for the trouble he took to obtain those statistics.</p> <p>The statistics given by Mr. N. P. van den Berg, in his Historical Statistical Notes, for 1862—1877, tally, within a few hundred kilograms, with those I received.</p> <p>Livorno and Genoa appear from the Consular Reports to have declined greatly as coffee ports. From 1870 to 1874 Livorno received regularly ± 32,000 bags of coffee, mostly from Brazil; after 1875 the coffee market there seemed to have decayed so much that no more statements of export were included in the Consular Reports. The same may be said of Genoa since 1872.</p> <p>a. Exclusive of Sicily, Venice and Rome.  b. Exclusive of Venice and Rome.  c. Exclusive of Rome.  d. Present Italy.</p>
54	—	—	—	—	
55	—	—	—	—	
56	—	—	—	—	
57	—	—	—	—	
58	—	—	—	—	
59	—	—	—	—	
60	423,203	32,839	91,498	0,28 a)	
61	185,165	25,757	157,097	0,48	
62	182,000	23,177	155,671	0,42 b)	
1863	199,698	21,379	180,642	0,48	
64	255,091	10,232	244,213	0,65	
65	154,452	24,719	126,291	0,33	
66	221,709	16,691	209,324	0,54	
67	227,117	30,922	193,185	0,45 c)	
68	238,376	29,141	205,347	0,48	
69	247,205	24,156	211,329	0,49	
70	238,009	35,932	210,250	0,48	
71	258,710	38,558	218,540	0,48 d)	
72	264,634	57,777	206,203	0,45	
1873	329,922	118,917	215,997	0,47	
74	224,553	40,210	178,245	0,39	
75	275,958	41,432	226,330	0,49	
76	296,759	26,728	247,888	0,53	
77	191,087	16,297	203,672	0,44	
78	231,308	19,701	211,615	0,45	
79	273,133	14,895	258,245	—	
80	202,664	24,782	177,887	—	
81	273,640	38,000	235,640	—	
82	276,738	41,892	234,847	0,48	
1883	255,732	—	—	—	

## Germany.

Years.	Import netto.	Export (Chiccorry and Coffee) gross.	Export (coffee) netto.	Consumption netto.	Consumption per head in kilograms.
1853 <sup>1)</sup>	788,254 <sup>1</sup>	49,114	—	<sup>4</sup> 788,254	
54	930,089	45,058	—	930,089	
55	1,020,565	41,761	—	1,020,565	
56	958,620	52,643	—	958,620	
57	1,017,257	50,866	—	1,017,257	
58	1,118,856	49,614	—	1,118,856	
59	1,054,336	76,332	—	1,054,336	
60	1,091,064	68,581	—	1,091,064	
61	1,208,334	77,629	—	1,207,967	1,98
62	1,123,573	99,850	—	1,123,567	
1863	1,113,400	93,057	—	1,113,401	
64	1,165,700	76,467	—	1,165,700	1,98
65	1,212,750	70,967	—	<sup>5</sup> 1,212,634	
66 <sup>2)</sup>	1,203,993 <sup>2</sup>	3,582	—	1,200,884	
67	1,282,989	2,546	—	1,280,767	
68	1,416,275	5,486	—	1,411,517	2,20
69	1,391,115	3,560	—	1,388,016	
70	1,638,260	19,781	—	1,621,050	
71	1,439,957	18,327	—	1,424,000	
72 <sup>3)</sup>	1,546,139 <sup>3</sup>	5,756 <sup>3</sup>	5,642 <sup>3</sup>	1,540,500	2,27
1873	1,637,718	2,766	2,708	1,635,017	
74	1,500,692	4,368	4,283	1,496,417	2,27
75	1,679,370	4,626	4,533	1,674,833	
76	1,773,310	3,194	3,133	1,770,183	
77	1,596,941	2,006	1,967	1,594,983	
78	1,656,065	907	892	1,655,167	2,33
79	1,858,123	1,065	1,042	1,857,083	
80	1,570,367	—	643	1,569,717	
81	1,735,896	—	643	1,735,250	
82	1,785,385	—	595	1,784,783	2,32
1883	1,902,892	—	550	1,902,350	

## Germany.

## REMARKS.

There are two sources whence these statistics may be drawn; viz. the «Statistik des Deutschen Reiches» (detailed), and the «Statistisches Jahrbuch für das Deutsche Reich.»

Seeing that there was no complete set of either of those periodicals in the Royal Library at the Hague, I took the liberty of applying direct for the desired statistics to the «Direktor des Kaiserlichen Statistischen Amts, Geheimer Ober-Regierungsrath», Dr. Becker, of Berlin.

By letter dated 14<sup>th</sup> October 1884, I received from the Managing director the statistics I had asked; which, reduced from Zoll. Centrs. into bags, are printed opposite. Along with these, the following explanations were communicated:

1. «In den Zahlen für die Jahre 1853 einschl. 1865 ist die Einfuhr und Ausfuhr von rohem Kaffee und Surrogaten aller Art zusammengefasst.

2. Die Zahlen für die Jahre 1866 einschl. 1871 enthalten die Einfuhr und Ausfuhr von rohem Kaffee und Surrogaten ausschliesslich der Cichorien.

3. Für die Jahre 1872 einschl. 1883 beziehen sich sämtliche Angaben ausschliesslich auf rohem Kaffee.

4. Für die Zeit von Jahre 1853 bis 30 Juni 1865 sind die Verbrauchszahlen nahezu identisch mit den Zahlen für die Einfuhr in den freien Verkehr, und ist die Ausfuhr aus dem freien Verkehr, welche hauptsächlich in inlandischen Cichorien bestand, darin nicht in Abzug gebracht.

5. Für die Zeit vom 30 Juni 1865 bis ultimo 1871 beziehen sich die Zahlen auf den Verbrauch von rohem Kaffee und Surrogaten ausschliesslich der Cichorien und stellen den Ueberschuss der Einfuhr in den freien Verkehr über die Ausfuhr aus dem freien Verkehr dar.»

The statistics relating to consumption per head, will be found on page 134/135 of the Stat. Jahrbuch für das Deutsche Reich, 1882 and 1883.

The figures relating to the consumption of coffee in Germany, given, by Mr. N. P. van den Berg in his Historical Statistical Notes do not tally with the statistics I received. But the discrepancy is not serious, as appears from the subjoined figures.

		Zoll. Cntr.	Import.	Consumpt.
1875 . . . .	v. d. B. Cons <sup>n</sup>	1,915,600	Dr. Becker 2,015,244	2,009,800
76 . . . .	» »	2,128,000	» 2,127,972	2,124,220
77 . . . .	» »	1,916,300	» 1,916,330	1,913,980
78 . . . .	» »	1,985,700	» 1,987,279	1,986,200

## Austria-Hungary.

Years.	Import.	Export.	Consumption.	REMARKS.
1853	338,795	38	338,757	<p>Seeing that the «Statistische Jahrbücher der Oesterreichischen Monarchie, herausgegeben von der K. K. Statist. Central-Commission», are not found complete in the Royal Library at the Hague, I could only extract from there the statistics from 1863 to 1875.</p> <p>For the figures relating to 1853—1862 and 1876—1883 I am indebted to the esteemed President of the above mentioned Bureau of Statistics, Herr Dr. von Ixama-Sternegg, who was kind enough to forward them by letter dated 7<sup>th</sup> October 1884, No. 2876.</p> <p>In the interest of those who may desire fuller information regarding the coffee-trade in Austria-Hungary, I quote the following passage from this letter:</p> <p>..... «daz in den Oesterreichisch-Ungarischen Handels-Ausweisen alljährlich «ein Ausweis publicirt wird, aus welchem «die Daten über die Kaffee-Einfuhr bis «zum Jahre 1831 zurück entnommen werden können. Im letzten Jahrgang dieser «Ausweise, welcher als IV Band der «Oesterreichischen Statistik» erschienen ist, sind die betreffenden Angaben «im I Hefte aus Seite 137 für die einzelnen «Jahre 1831 bis 1882 und auf Seite 72 nach «Quinquennial-Durch schnitten ersichtlich gemacht.»</p> <p>The statistics given by Mr. N. P. van den den Berg in his Hist. Statist. Notes for 1862—1878 do not quite agree with those forwarded to me.</p> <p>The statistics showing consumption, given by Messrs. Koch &amp; Suermond of Rotterdam for 1866—1883 (see their market-report of 19<sup>th</sup> September 1884) are not correct.</p>
54	231,188	791	230,397	
55	314,650	673	313,977	
56	315,960	495	315,465	
57	328,783	416	328,367	
58	356,965	18	356,947	
59	325,577	130	325,447	
60	333,502	67	333,435	
61	337,480	18	337,462	
62	314,112	100	314,012	
1863	338,108	—	338,108	
64	338,772	2,845	335,927	
65	354,266	2,600	351,666	
66	322,031	2,657	319,374	
67	361,200	3,289	357,911	
68	390,331	3,762	386,569	
69	398,532	4,626	393,906	
70	440,859	3,337	437,522	
71	512,259	4,072	508,187	
72	535,886	5,012	530,874	
1873	538,835	412	538,723	
74	502,252	171	502,081	
75	527,877	67	527,810	
76	544,435	83	544,352	
77	563,768	92	563,676	
78	664,615	133	664,482	
79	321,717	202	321,515	
80	526,458	138	526,320	
81	596,440	468	595,972	
82	630,198	98	630,100	
1883	560,538	406	560,432	

## Switzerland.

Years.	Import.	Export.	Consumption of		REMARKS.
			Coffee.	Chicco-ry.	
1853	113,830	1,915	111,915	41,530	With the exception of the years 1853--1860 and 1864--1870, which are taken from the «Uebersichts-Tabelle der in der Schw.-Eidgenossenschaft zur Ein-, Aus- und Durchfuhr verzollten Waren,» contained in the Royal Library at the Hague, I am indebted for these statistics to the esteemed Director of the Eidg. Stat. Bureau at Berne, Herr Dr. Kummer. From column 4 the reader may perceive what large quantities of chiccory are consumed in Switzerland, as surrogate for the coffee. The Export statistics given by Mr. N. P. van den Berg in his Hist. Statist. Notes for 1860—1878. agree with the figures printed opposite. The Consumption-statistics given by Messrs. Koch & Suermondt of Rotterdam, for 1861—1883 (see their market-report of 17 <sup>th</sup> Sept. 1884) are not correct. From Messrs. G. Duuring & Son of Rotterdam likewise, I received statistics showing the consumption in Switzerland from 1882—1883 in bags of 60 kilograms. Seeing that they agree, within a few scores, with the Import figures printed opposite, I have not incorporated them here. However, none of these three authorities on the subject of coffee statistics, states the real consumption correctly.
54	102,375	1,467	100,908	39,313	
55	137,040	1,590	135,459	38,152	
56	120,647	1,509	119,138	38,515	
57	110,791	1,365	109,426	37,410	
58	125,451	1,623	123,828	35,564	
59	118,216	1,695	116,521	43,578	
60	108,384	1,287	107,097	46,012	
61	130,169	1,020	129,149	46,780	
62	120,375	1,175	119,200	47,920	
1863	122,233	987	121,246	50,033	
64	118,654	1,343	117,311	49,017	
65	126,886	1,233	125,653	48,573	
66	123,239	1,583	121,656	46,633	
67	135,105	2,015	133,090	46,882	
68	145,881	3,016	142,865	47,111	
69	133,943	1,569	132,374	46,470	
70	112,746	4,685	108,061	44,545	
71	156,378	1) 12,928	143,450	49,292	
72	127,669	1,812	125,857	49,214	
73	139,729	1,367	138,362	52,122	
74	109,820	1,349	108,471	54,152	
75	156,510	2,133	154,377	52,792	
76	166,090	1,323	164,767	59,054	
77	129,785	1,255	128,530	60,196	
78	138,881	1,485	137,396	56,035	
79	160,542	1,152	159,390	60,272	
80	140,508	1,033	139,475	59,587	
81	163,057	1,435	161,622	56,202	
82	159,148	1,543	157,605	54,947	
83	159,905	1,355	158,550	58,631	

1) For the most part to France.

United States of North Ame

Years.	Baltimore.	Boston and Charlestown.	Charleston.	New-York.	Ric
1853	—	—	—	—	
54	—	—	—	—	
55	—	—	—	—	
56	296,082	95,865	18,539	642,369	1
57	260,048	101,988	29,806	638,896	2
58	212,967	80,988	12,498	525,331	2
59	262,114	139,928	17,339	723,287	4
60	204,234	74,495	3,629	618,414	3
61	257,319	49,658	3,140	724,515	2
62	93,079	54,616	—	708,198	
1863	102,547	26,175	—	425,491	
64	102,265	36,220	—	743,530	
65	85,758	28,451	—	620,221	
66	163,293	22,253	34	1,013,250	
67	259,221	38,871	27	914,814	
68	298,952	48,768	90	1,219,796	
69	358,706	53,299	36	1,250,839	
70	486,002	74,805	—	918,147	
71	702,259	48,370	2,931	1,110,791	
72	557,743	19,939	3,188	1,274,604	
1873	464,903	39,523	10,528	1,220,251	
74	421,809	60,138	13,568	1,304,797	
75	530,374	25,185	13,006	1,364,199	
76	588,750	4,735	7,192	1,540,572	
77	536,582	6,531	—	1,523,107	
78	406,165	4,568	—	1,451,127	
79	525,905	6,656	56	1,959,735	
80	513,754	9,355	455	2,389,238	
81	443,391	6,496	2,093	2,482,952	
82	372,763	9,017	847	2,591,834	
1883	—	—	—	—	

North America (Atlantic Ports).

	Richmond.	Philadelphia.	Savannah.	All other „Atlantic ports”.	Total.
	—	—	—	—	—
	—	—	—	—	—
	—	—	—	—	—
9	12,148	167,351	6,649	9,659	1,248,662
6	24,853	142,501	18,213	7,817	1,224,122
1	28,589	170,753	3,326	7,395	1,041,847
7	44,335	228,062	17,518	6,294	1,438,877
4	33,520	126,032	10,633	8,086	1,079,043
5	21,527	134,891	5,141	2,734	1,198,925
8	—	51,767	—	5,623	913,283
	—	15,639	—	1,458	571,310
0	—	54,602	—	446	937,063
1	—	23,389	—	644	758,463
0	—	50,950	3,756	2,681	1,256,217
4	—	24,421	3,646	1,385	1,242,385
6	—	57,174	11,442	1,030	1,637,252
9	1	43,881	12,855	84	1,714,701
7	—	14,170	12,112	211	1,505,447
1	—	43,794	16,199	48,444	1,972,788
4	—	25,957	7,809	325	1,889,556
	2,483	34,296	16,616	50	1,788,650
7	3,133	25,164	12,291	7,911	1,848,811
9	16,580	25,747	24,395	569	2,000,055
2	17,789	17,857	13,750	892	2,191,537
7	6,985	29,231	17,284	143	2,119,863
7	7,205	26,555	18,265	17	1,914,202
5	7,016	3,313	23,106	151	2,525,938
8	3,600	8,682	19,447	2,308	2,946,839
52	3,500	6,700	20,335	77	2,965,544
34	3,500	42	25,773	1,201	3,004,977
	—	—	—	—	—

Qp

United States of North

Amc

Years.	Galveston.	Mobile.	New Orleans.	All other ports on the Gulf of Mexico.
1853	—	—	—	—
54	—	—	—	—
55	—	—	—	—
56	2,121	14,030	468,744	159
57	7,935	23,717	531,236	137
58	—	12,535	344,736	16
59	6,073	14,269	502,615	91
60	15,212	25,225	360,513	9
61	2,945	—	138,166	46
62	—	—	—	919
1863	—	—	3,199	144
64	—	—	411	36
65	—	—	480	6
66	1,711	7,026	55,212	134
67	12,417	6,359	91,436	52
68	9,367	10,865	134,596	93
69	7,094	19,104	136,266	110
70	14,270	37,535	172,286	230
71	23,611	69,290	250,027	1,916
72	23,555	70,264	192,155	350
1873	45,277	49,942	235,782	137
74	25,395	18,358	161,956	1,656
75	37,102	56,632	208,669	226
76	44,358	68,012	202,012	532
77	53,368	28,414	184,339	564
78	39,270	51,299	227,293	284
79	41,238	29,578	167,706	274
80	22,521	16,592	234,726	19
81	38,644	16,917	287,935	20,618
82	66,520	16,416	225,755	21,105
1883	—	—	—	—

North America (Gulf Ports).

Total.	REMARKS.
—	In the United States they reckon by financial years, ending June 30 <sup>th</sup> .
—	The statements must therefore be considered to cover the years 1855/56 etc.
485,054	
563,025	
357,287	
523,048	
400,959	
144,157	
919	
3,343	
147	
486	
64,083	
110,264	
154,921	
162,574	
224,321	
344,844	
286,324	
331,138	
207,365	
302,629	
314,914	
266,685	
318,146	
238,796	
273,858	
364,114	
329,796	
—	

Qp

## United States of North America

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Years.	San Francisco.	All other Pacific ports.	Total.	Total import into the:			Total import into United States.
				Lake-ports.	« Gulf ports ».	« Atlantic ports ».	
1853	—	—	—	—	—	—	4,500
54	—	—	—	—	—	—	1,500
55	—	—	—	—	—	—	1,500
56	49,365	30	49,395	2	485,054	1,248,662	1,735,711
57	32,301	8	32,309	27	563,025	1,224,122	1,813,456
58	31,209	71	31,280	—	357,287	1,041,847	1,429,314
59	37,173	9	37,182	1	523,048	1,438,877	1,999,108
60	48,186	2	48,188	1	400,959	1,079,043	1,528,184
61	54,712	—	54,712	1	141,157	1,198,925	1,794,794
62	14,114	32	14,146	—	919	913,283	928,348
1863	33,544	82	33,626	1	3,343	571,310	608,283
64	57,769	69	57,838	4	147	937,063	995,914
65	45,653	242	45,895	4	486	758,463	804,842
66	50,676	345	51,021	140	64,083	1,256,217	1,461,326
67	62,596	237	62,833	—	110,264	1,242,385	1,415,474
68	89,821	292	90,113	2	154,921	1,637,252	1,882,287
69	43,771	375	44,146	5	162,574	1,714,701	1,900,422
70	48,029	713	48,742	1	224,321	1,505,447	1,778,510
71	86,128	214	86,342	7	344,844	1,972,788	2,103,979
72	82,835	37	82,872	184	286,324	1,889,556	2,358,752
1873	96,327	45	96,372	1,131	331,138	1,788,650	2,216,150
74	99,571	112	99,683	3	207,365	1,848,811	2,057,857
75	100,343	229	100,572	563	302,629	2,000,055	2,303,259
76	61,976	337	62,313	1	314,914	2,191,537	2,254,851
77	120,584	13	120,597	11	266,685	2,119,863	2,307,145
78	110,308	16	110,324	2	318,146	1,914,202	2,142,672
79	91,609	133	91,742	12	238,796	2,525,938	2,656,476
80	157,436	—	157,436	4	273,858	2,946,839	3,128,129
81	111,518	—	111,518	1	364,114	2,965,544	3,139,173
82	140,837	—	140,837	1,350	329,796	3,004,977	3,475,610
1883	—	—	—	—	—	—	—

merica (Pacific and Lake ports).

	Total import into the United States.	Value in dollars.	REMARKS.
	1,507,500	15,545,986	<p>These figures are taken from the Quarterly Report, the financial years are 1852/53 to 1881/82.</p> <p>The calculations have been made with the most scrupulous care; the tables appended here having been employed: after that I took the sums total for 10 years, which, being reduced were found to agree with the figures shown in this statement.</p> <p>Seeing that this method of calculation has not been followed by Messrs. H. E. Moring &amp; Co., R. D. Perry, F. N. Saunders, Manager of the Coffee Exchange at New-York, and Messrs. Laurence &amp; Crane, coffee brokers of Baltimore, there estimates do not altogether agree with mine.</p>
	1,226,635	14,549,718	
	1,447,555	16,940,400	
662	1,783,113	21,573,558	
122	1,819,483	22,426,758	
847	1,430,414	18,369,840	
877	1,999,108	25,086,029	
043	1,528,189	21,883,797	
925	1,394,795	20,568,297	
283	928,348	14,192,195	
310	608,280	10,395,860	
063	995,052	16,221,586	
463	804,848	11,241,706	
217	1,371,461	20,531,764	
385	1,415,482	20,696,259	
252	1,882,288	25,288,451	
701	1,921,426	24,531,743	
447	1,778,511	24,234,879	
788	2,403,981	30,992,869	
556	2,258,936	37,942,225	
650	2,217,291	44,109,671	
811	2,155,862	55,048,967	
055	2,403,819	50,591,488	
537	2,568,765	56,788,997	
863	2,507,156	53,634,991	
202	2,342,674	51,914,605	
938	2,856,488	47,356,819	
839	3,378,137	60,360,769	
544	3,441,177	56,784,391	
977	3,476,960	46,041,609	
	—	—	

## Europe. — Baltic Ports.

Years.	Copenhagen.				Prices 1).	
	Import.	Export.	Consumption.	Stock on ult. December.	Lowest.	Highest.
1853	72,100	13,548	41,685	21,000	16½	22½
54	65,032	12,985	41,542	12,800	19	21½
55	112,177	31,937	49,090	25,300	17½	22
56	105,428	23,451	38,743	51,000	19	20¾
57	59,493	15,036	34,452	46,000	19	23
58	52,676	17,227	40,810	29,000	16½	19½
59	59,616	23,747	35,603	13,000	19½	24½
60	76,000	23,233	36,117	12,500	24	27
61	80,913	13,000	48,000	19,000	24½	26½
62	97,995	31,200	39,300	32,500	25½	29½
1863	59,450	23,200	32,300	21,000	29¾	31
64	59,998	12,200	31,000	22,000	29	30½
65	80,000	24,000	38,500	23,000	26	29
66	91,500	33,300	38,700	28,500	24½	27
67	75,200	22,500	33,200	30,000	21	23½
68	92,500	21,500	39,500	44,000	19½	21
69	88,000	28,000	48,000	42,000	18	22½
70	60,000	28,000	40,000	14,000	18	21¾
71	118,000	32,000	47,000	33,000	21¾	30¾
72	88,000	38,000	42,500	19,000	29½	33
1873	152,000	73,000	46,500	33,000	33	45½
74	105,800	51,000	41,800	21,000	34	49
75	130,180	38,500	53,400	36,000	74	86
76	113,000	42,000	50,400	27,000	71	82
77	109,800	45,000	38,500	24,500	73	79
78	86,000	32,700	38,800	13,000	59	73
79	102,500	27,700	41,800	17,000	53	67
80	84,500	21,500	37,200	15,000	54	66
81	105,000	20,000	48,000	24,000	41	56
82	99,500	23,200	40,300	30,600	33	41
83	130,000	29,300	41,700	62,500	33	48

## Europe. — Baltic Ports.

## REMARKS.

These statistics are taken from the market-report of Mr. F. Ring, coffee-broker, Copenhagen, 31<sup>st</sup> Dec. 1883: Oversigt over Caffeehandelen i Kjöbenhavn, 35 aar, 1849—1883, forwarded to me by Mr. Ch. E. de Coninck, Consul there.

The estimates are not all accurate; in re-calculating I discovered several mistakes, which are rectified in this table; f. i. Ring states the import of 1864 to have been 160,000 bags, whereas the adding up of the detailed statements for Rio, Santos, Costarica, Laguaira, Guatemala, and Ceylon, gives:

Coffee = 46150 bags; and Guaira, S. Domingo, Java, Portorico-  
Coffee = 13,848 »

59,998 bags as the sum total.

The figures showing stock in hand are correct, with the exception of a few trifling mistakes, and agree with the statistics next them in „Pund” consequently it follows that either the figures relating to export or the figures relating to consumption are erroneous; for the sum of the last three columns must be equal to the import.

It seems to me, after comparing them with the statistics of Demark, that the figures showing the consumption are incorrect.

The statistics for the year 1869 are presumably erroneous, seeing that the Import and consumption for Demark are stated respectively to be 83,483, and 33,775 bags.

1) Prices for „good ordinary Rio and Santos Coffee” of 1853—1874 in  $\beta$ ; — 1874—1883 in Ore.

## Europe. — North Sea Ports.

Years.	Bremen.		REMARKS.
	Import.	Export.	
1853	136,129	95,342	I received these statistics from the Bureau of Statistics, Bremen, through Mr. C. F. T. Roesingh, Consul there. The circumstance that the annual exports often exceed the imports is due to the quantity lying over from previous years. The largest exports are chiefly to: Germany. Russia. Ship-consumption. Hamburg. Austria Hungary. England. Belgium. Holland. Sweden and Norway, etc
54	89,182	96,406	
55	171,342	136,237	
56	116,013	89,337	
57	170,127	135,762	
58	92,912	118,304	
59	109,420	130,084	
60	100,848	92,692	
61	135,988	91,398	
62	84,345	79,704	
1863	74,895	65,386	
64	73,239	54,243	
65	145,410	102,714	
66	84,261	70,970	
67	147,669	102,686	
68	165,219	124,520	
69	133,036	121,033	
70	64,654	96,772	
71	100,896	94,192	
72	142,846	121,405	
1873	152,200	130,575	
74	113,753	84,595	
75	135,717	112,017	
76	142,522	119,491	
77	140,051	125,038	
78	133,084	105,484	
79	151,456	127,935	
80	113,877	77,606	
81	148,720	115,523	
82	141,918	107,478	
1883	174,899	136,107	

## Europe. — North-Sea ports.

Years.	Hamburg.		Average price. 1)	REMARKS.
	Import.	Export.		
1853	721,085	662,773	4 <sup>13</sup> / <sub>10</sub> β	<p>These statistics, given originally in centners of 50 kilograms, are taken from the „Tabellarische Uebersichten des Hamburgischen Handels“, forwarded to me by Herr R. Von Schmidt Pauli, Consul General at Hamburg.</p> <p>From his letter of 10<sup>th</sup> June, supplemented by letter dated 24<sup>th</sup> June 1884, I extract the following passage:</p> <p>„The statement of Imports is as accurate as possible. That of Exports, however, is less complete, firstly because it is the custom here to name only the countries and places to which coffee is exported, without any mention of the sort; secondly, there are no statistical data at all from 1857 to 1872, relating to export by sea, so that all we can ascertain is, how much has been exported during these years per rail and to the Upper Elbe.”</p> <p>„I must add here that in the tables I have sent the weight of the entire imports from 1853 to 1882 and of the Exports to and with the year 1856, are stated nett; where as the Exports from 1856 to 1882 are stated gross weight.”</p>
54	750,014	702,947	4 <sup>7</sup> / <sub>8</sub> »	
55	785,463	725,217	4 <sup>3</sup> / <sub>4</sub> »	
56	640,678	623,107	4 <sup>15</sup> / <sub>16</sub> »	
57	698,653	382,408	5 <sup>7</sup> / <sub>16</sub> »	
58	584,243	440,675	4 <sup>7</sup> / <sub>8</sub> »	
59	584,055	456,158	5 <sup>3</sup> / <sub>4</sub> »	
60	579,728	432,250	6 <sup>1</sup> / <sub>2</sub> »	
61	678,475	455,092	6 <sup>9</sup> / <sub>16</sub> »	
62	681,917	440,475	7 <sup>3</sup> / <sub>16</sub> »	
1863	653,690	440,666	7 <sup>1</sup> / <sub>2</sub> »	
64	614,930	487,442	7 <sup>7</sup> / <sub>16</sub> »	
65	819,216	446,342	7	
66	689,134	416,117	6 <sup>1</sup> / <sub>2</sub> »	
67	910,510	560,592	5 <sup>13</sup> / <sub>16</sub> »	
68	1,051,898	569,617	5 <sup>1</sup> / <sub>8</sub> »	
69	1,127,672	620,142	5 <sup>5</sup> / <sub>16</sub> »	
70	904,957	670,983	5 <sup>3</sup> / <sub>8</sub> »	
71	1,211,924	872,367	5 <sup>15</sup> / <sub>16</sub> »	
72	1,063,604	916,648	7 <sup>13</sup> / <sub>16</sub> »	
1873	1,329,732	1,062,182	89 δ	
74	1,302,517	1,011,059	93 »	
75	1,447,242	1,119,391	90 »	
76	1,467,886	1,276,887	83 »	
77	1,528,760	1,137,362	86 »	
78	1,467,304	1,271,358	75 »	
79	1,709,858	1,227,029	68 »	
80	1,688,932	1,273,845	1 <sup>13</sup> M	
81	1,948,240	1,372,838	1 <sup>21</sup> »	
82	1,852,593	1,365,453	1 »	
1883	—	—	—	

1) From 1852 to 1873 the value is stated in Banco Mark, and afterwards in Reichs Mark.

From 1853 to 1880 the price is stated per pound, from 1880 per kilogram.

Brokerage = <sup>5</sup>/<sub>16</sub>%.

Commission on sales = 2%.

## Europe. — North-sea ports.

Years.	Amsterdam.		REMARKS.
	Import.	Export.	
1853	—	—	These statistics were furnished by the Department of Finance, the Hague.
54	—	—	
55	—	—	
56	—	—	
57	—	—	
58	—	—	
59	—	—	
60	—	—	
61	—	—	
62	—	—	
1863	—	—	
64	592,183	346,233	
65	490,733	332,200	
66	638,250	338,750	
67	683,117	363,967	
68	679,200	355,200	
69	588,883	282,467	
70	552,183	349,267	
71	711,017	369,800	
72	492,900	262,683	
1873	794,467	284,800	
74	481,850	234,783	
75	722,600	244,650	
76	518,517	322,300	
77	681,167	333,783	
78	560,700	299,100	
79	513,116	220,783	
80	802,150	312,750	
81	667,733	258,100	
82	825,500	287,183	
1883	971,367	428,133	

Europe. — North-sea ports.

Years.	Rotterdam.		REMARKS.	
	Import.	Export.		
1853	—	—	<p>These statistics were received from the Department of Finance, the Hague.</p> <p>Previous to 1864 there was no distinction made between the exports and re-exports.</p> <p>From this and the preceding table the reader will perceive that Rotterdam ranks superior to Amsterdam as a coffee emporium.</p> <p>The imports and exports via all other places are as follow:</p>	
54	—	—		
55	—	—		
56	—	—		
57	—	—		
58	—	—		
59	—	—		
60	—	—		
61	—	—		
62	—	—		
1863	—	—	Import.	Export.
64	597,967	607,584	177,700	161,950
65	694,067	666,117	118,523	182,100
66	625,083	617,517	157,067	253,216
67	667,183	594,667	184,167	227,983
68	752,883	658,233	178,617	231,250
69	720,583	600,217	130,584	200,183
70	878,150	729,400	188,900	248,450
71	868,533	804,100	156,000	229,317
72	730,083	733,483	114,517	170,000
1873	892,867	706,550	176,433	186,167
74	729,267	595,083	245,866	215,350
75	916,150	681,334	257,817	265,550
76	842,200	684,700	173,133	285,717
77	891,167	735,500	294,483	237,300
78	764,517	682,633	229,533	207,367
79	915,150	750,933	265,067	252,034
80	818,017	587,767	219,283	263,883
81	890,650	547,833	241,200	320,933
82	858,600	576,734	236,367	305,517
1883	874,766	534,417	386,400	282,250

## Europe. — North-sea ports.

Years.	Antwerp.		REMARKS.
	Import.	Export.	
1853	347,357	70,928	<p>Seeing that the Consul-General could not furnish me with statistics, I applied to the President of the Chamber of Commerce, Antwerp, Mr. A. Deppe, who was kind enough to send me the Report of the Chamber for 1883</p> <p>Although I obtained important information from this report, especially in regard to the coffee-trade of Antwerp, yet I could not compile from it the desired statistics; so I resolved, — that the statistics of Antwerp, might not be wanting to this book — to enter into direct correspondence with the managing Director of the Administration des Contributions directes, Douanes et Accises."</p> <p>In a communication dated 16<sup>th</sup> October 1884 No. 9835 I received from the manager a table „showing the quantity of coffee imported and again exported via Antwerp from 1853 to 1883, according to documents furnished by the custom offices in this town," — from which these figures are extracted.</p>
54	377,453	68,939	
55	420,030	61,158	
56	370,046	50,356	
57	445,473	103,823	
58	218,209	55,350	
59	242,598	70,710	
60	253,520	32,080	
61	308,950	40,842	
62	308,187	74,562	
1863	260,368	47,103	
64	244,690	47,602	
65	366,715	71,380	
66	316,130	80,765	
67	401,820	104,823	
68	487,433	147,447	
69	449,342	175,195	
70	414,707	158,673	
71	481,565	200,715	
72	367,733	101,800	
1873	422,533	136,317	
74	433,200	170,150	
75	526,483	202,867	
76	495,933	217,733	
77	420,800	182,883	
78	588,734	271,400	
79	657,233	368,983	
80	658,100	314,917	
81	808,350	387,017	
82	639,883	351,683	
83	641,923	355,519	

## Europe. — Atlantic sea-ports.

Years.	Hâvre.			REMARKS.
	Import.	Export.	Stock on 31 December.	
1853	204,000	228,000	20,000	<p>These statistics are taken from the «Tableau statistique du Café au Hâvre depuis 1845», sent to me by Mr. F. Bunge, Consul there.</p> <p>In this Tableau are stated the prices of the various coffees during the period named.</p> <p>The stock lying in 1852 consisted of 44,000 bales.</p>
54	185,000	177,000	28,000	
55	290,000	299,000	19,000	
56	270,000	243,000	46,000	
57	357,000	286,000	117,000	
58	180,000	266,000	31,000	
59	348,000	317,000	62,000	
60	384,000	375,000	71,000	
61	430,000	444,000	57,000	
62	462,000	369,000	150,000	
1863	401,000	410,000	141,000	
64	362,000	412,000	91,000	
65	520,000	476,000	135,000	
66	489,000	502,000	122,000	
67	556,000	561,000	117,000	
68	655,000	556,000	216,000	
69	621,000	565,000	272,000	
70	535,000	738,000	69,000	
71	450,000	359,000	160,000	
72	332,000	408,000	84,000	
1873	520,000	507,000	97,000	
74	524,000	499,000	122,000	
75	776,000	683,000	215,000	
76	730,000	775,000	170,000	
77	662,000	601,000	231,000	
78	734,000	680,000	285,000	
79	892,000	892,000	285,000	
80	817,000	672,000	430,000	
81	1,251,000	910,000	762,000	
82	1,124,000	1,012,000	874,000	
1883	1,429,000	1,276,000	1,027,000	

## Europe. — Atlantic sea-ports.

Years.	Bordeaux.		REMARKS.
	Import.	Export.	
1853	—	—	These statistics are taken from the «Compte rendu des travaux de la Chambre de Commerce de Bordeaux», 1878/79 and 1883/84, sent me by the Consul-General at Bordeaux, Mr. J. J. O. Beijerman.
54	—	—	
55	—	—	
56	—	—	
57	—	—	
58	—	—	
59	—	—	
60	—	—	
61	—	—	
62	—	—	
1863	205,995	nihil	
64	115,557	»	
65	164,984	17,460	
66	158,620	9,242	
67	154,895	11,650	
68	179,687	8,632	
69	156,065	nihil	
70	109,814	»	
71	89,330	»	
72	117,352	25,620	
1873	201,978	24,548	
74	140,480	23,017	
75	175,138	19,743	
76	209,538	33,593	
77	141,073	76,453	
78	190,470	19,314	
79	147,863	20,685	
80	156,845	12,965	
81	204,798	24,712	
82	169,728	19,230	
1883	177,275	?	

## Europe. — Atlantic Seaports.

Years.	Lisbon.			REMARKS.
	Import.	Export.	Consumption.	
1853	—	—	—	<p>For these statistics I am indebted to Mr. E. George, Consul General at Lisbon. They are drawn from official sources. There were no data of previous years to be had (see Portugal). The Import is ascertained by summing up Export and Consumption; seeing that coffee is imported exclusively for home use; that is to say, taxes are paid on that alone.</p> <p>The Export represents the coffee for through-trade and re-shipment (baldeação).</p> <p>A comparison with the statistics of the kingdom will show that the coffee destined for home consumption is landed almost exclusively at Lisbon.</p> <p>The slight discrepancy between the imports of the last two years — for Lisbon greater than for the whole kingdom — is probably owing to a mistake in the figures received. The reduction however, is perfectly correct.</p>
54	—	—	—	
55	—	—	—	
56	—	—	—	
57	—	—	—	
58	—	—	—	
59	—	—	—	
60	—	—	—	
61	—	—	—	
62	—	—	—	
1863	—	—	—	
64	—	—	—	
65	38,733	12,323	26,410	
66	38,907	10,575	28,332	
67	42,600	12,623	29,977	
68	49,129	16,782	32,347	
69	53,841	25,560	28,281	
70	54,445	7,387	47,058	
71	42,006	27,128	14,878	
72	59,123	32,853	26,270	
1873	58,676	32,303	26,373	
74	71,311	45,515	25,796	
75	71,470	43,285	28,185	
76	57,313	27,697	29,616	
77	63,193	34,822	28,371	
78	52,373	17,792	34,581	
79	55,479	20,502	34,977	
80	63,748	31,760	31,988	
81	53,094	18,604	34,490	
82	75,575	35,790	39,785	
1883	104,424	66,993	37,431	

## Europe. — Mediterranean sea-ports.

Years.	Marseilles.		REMARKS.
	Import.	Export.	
1853	158,817	58,798	<p>For these statistics I am indebted to the kindness of Mr. H. W. Alma, Consul at Marseilles.</p> <p>I cannot give here a detailed account of the imports, as it would render the tables too elaborate.</p> <p>The larger half of the import consists of Brazilian coffee imported direct.</p>
54	201,617	95,010	
55	230,233	125,900	
56	189,517	144,989	
57	256,717	129,665	
58	196,200	152,665	
59	191,500	161,485	
60	337,250	188,550	
61	265,850	186,082	
62	242,167	142,842	
1863	221,800	151,679	
64	252,767	194,977	
65	284,467	187,005	
66	205,000	194,520	
67	327,033	242,534	
68	273,467	228,303	
69	311,467	257,483	
70	257,117	169,511	
71	245,900	147,062	
72	167,317	166,611	
1873	346,817	193,441	
74	336,317	268,007	
75	407,033	255,131	
76	383,667	223,484	
77	302,583	191,741	
78	307,017	187,923	
79	365,033	219,497	
80	316,117	180,275	
81	441,167	273,708	
82	346,600	233,175	
1883	411,500	283,117	

## Europe. — Mediterranean sea-ports.

Years.	Venice.		REMARKS.
	Import.	Export.	
1853	—	—	<p>These statistics were sent me by Mr. J. H. Teixeira de Mattos, Consul at Venice, in the form of very detailed tables, showing the import of and export to the various countries, — drawn up by the Venetian Chamber of Commerce.</p> <p>The charges in Venice are:            Brokerage <math>\frac{1}{2}\%</math>.            Warehousing, 1 centime per day and per quintal.            Fire Insurance 30 centimes per mille.            There is no tariff for commission.            Import duties in Italy amount to 100 francs per quintal (100 kilograms).</p>
54	—	—	
55	—	—	
56	—	—	
57	—	—	
58	—	—	
59	—	—	
60	—	—	
61	58,263	38,212	
62	45,362	22,490	
1863	43,895	23,210	
64	42,972	27,748	
65	36,000	26,123	
66	34,370	18,822	
67	42,447	22,308	
68	36,768	26,048	
69	55,588	29,008	
70	47,452	35,662	
71	33,943	26,518	
72	47,258	27,472	
1873	86,407	57,598	
74	45,107	50,440	
75	61,733	53,375	
76	67,397	54,538	
77	51,480	47,105	
78	51,038	45,723	
79	58,650	42,752	
80	41,365	40,232	
81	64,743	46,728	
82	62,703	59,300	
1883	52,127	54,910	

## Europe. — Mediterranean sea-ports.

Years.	Trieste.		Stock on 31 December.	REMARKS.
	Import.	Export.		
1853	—	—	—	<p>Seeing that the Dutch Consul at Trieste, Mr. A. J. Suringar, could only furnish me with the statistics of import and export of that town during the years from 1874 to 1883, I have endeavoured to complete these statistics by consulting the „Collection of Consular and other Reports and Statements relating to Industry, Trade, and Navigation.”</p> <p>In the collection for 1871, col. 3, part. 6, page 208, I found a statement „Movimenta del mercato generi coloniali nel decennio 1860/70”, from which these figures are extracted. The statistics of 1871—73 are likewise from the above-mentioned „Collection”. In this work the figures do not always tally; compare collection 1874, part 1, page 47, with, those for 1875 and 1876 part 4, page 474, and 1877, page 596.</p> <p>From Mr. Suringar's letter, dated 19 April 1884, no. 688, I extract the following passages.</p> <p>„I have only to add that the reason why coffee for the last two years has been imported into the Austro-Hungarian Monarchy exclusively by way of Trieste, is, that Trieste is a free port, and that there is a little allowance granted on coffee, in paying the taxes.</p> <p>„Coffee imported by way of Trieste pays in Austria and Hungary O. W. 37 fl. in gold per 100 kilograms, while if imported by rail over the frontier, either via Passau, Kufstein, Oderberg, or Bodenbach, it pays O. W. 40 fl. in gold. The difference of O. W. 3 fl. in gold or six shillings English Money on every 100 kilograms, is a very considerable one for the importer.”</p> <p>„I am unable to send you copy of Invoice of a lot of imported coffee, as coffee is only bought here franco Trieste, all expenses, freight and insurance being included.</p> <p>The merchants are mostly London, Bremen, Hamburg, Amsterdam, or Antwerp firms, who have agents here, and sell the cargoes of coffee sailing Valmouth or London for orders, or lots still to be shipped, in behalf of Brazilian or East Indian houses.”</p>
54	—	—	—	
55	—	—	—	
56	—	—	—	
57	—	—	—	
58	—	—	—	
59	—	—	—	
60	—	—	31,802	
61	192,611	183,875	40,538	
62	135,202	144,649	31,092	
1863	194,426	155,208	70,311	
64	135,508	152,721	53,099	
65	121,035	96,347	44,453	
66	119,010	134,313	29,150	
67	186,757	150,615	65,292	
68	135,006	147,423	52,875	
69	163,738	153,905	62,708	
70	156,110	166,385	52,434	
71	203,040	172,510	—	
72	136,450	159,633	—	
1873	173,350	170,800	—	
74	128,300	136,000	—	
75	219,467	203,050	—	
76	237,517	222,050	—	
77	203,917	206,433	—	
78	220,967	233,150	—	
79	213,133	172,017	—	
80	186,517	199,017	—	
81	225,433	207,867	—	
82	342,732	341,417	—	
1883	614,867	528,983	—	See Invoice No. 18.

## Europe. — Mediterranean sea-ports.

Years.	Constantinople		REMARKS.
	Import.	Export.	
1853	48,131	12,958	<p>These statistics have been obtained from the Customs Department, Constantinople, through Consul-General Travers.</p> <p>There is no re-exportation except to Varna, Trébisonde, Adrianople, Philippopoli and Anatolia.</p> <p>From 1853 to 1864, Mess<sup>rs</sup>. Ralli and Mess<sup>rs</sup>. Tamvaco of Constantinople, had branch houses at Rio, so that Brazilian coffee was imported direct from Rio and Santos. Since then Constantinople has received almost all its coffee via Marseilles and London. Since 1870, however, coffee has also been imported from the Netherlands, while since 1879 Trieste also has been exporting to Constantinople.</p> <p>In consequence of the Commercial treaty which came into operation between France and Turkey in 1882, the export of coffee from Marseilles entirely ceased some two years ago.</p> <p>Seeing that the commercial treaties between England and France have expired, 8% import-duty (ad valorem) is now levied on coffee.</p> <p>During the last five years the annual consumption of coffee in Constantinople has been 842,340 kilograms or 14,039 bales. Smyrna is also a very important coffee-port.</p>
54	59,130	15,184	
55	60,736	15,938	
56	58,400	18,341	
57	54,482	21,292	
58	66,400	20,172	
59	70,329	19,771	
60	60,347	18,615	
61	56,186	16,912	
62	50,236	27,953	
1863	55,334	29,005	
64	49,710	24,255	
65	34,810	27,430	
66	38,650	19,270	
67	41,025	23,150	
68	38,850	20,480	
69	36,350	18,830	
70	36,450	18,230	
71	53,330	26,970	
72	45,020	27,900	
1873	42,940	22,000	
74	48,125	25,720	
75	34,850	16,975	
76	25,555	9,400	
77	29,125	8,350	
78	33,605	13,430	
79	29,205	11,705	
80	35,050	13,845	
81	27,600	14,555	
82	21,580	11,235	
1883	14,600	6,500	

## Africa. — Cape of Good Hope.

Years.	Import.	Export.	Import for Consumption.
1853	—	—	—
54	—	—	—
55	—	—	—
56	—	—	—
57	41,909	2,096	—
58	38,341	4,491	—
59	45,497	3,767	—
60	51,721	5,291	—
61	56,716	9,765	—
62	44,145	5,723	—
1863	54,777	8,126	—
64	45,075	3,487	—
65	22,947	1,329	—
66	69,767	7,792	—
67	42,896	—	—
68	44,871	—	—
69	48,079	—	—
70	54,273	—	—
71	42,085	5,293	48,829
72	59,380	2,858	45,750
1873	32,071	733	46,292
74	60,248	2,001	50,764
75	67,474	5,479	57,076
76	56,268	6,676	51,985
77	71,435	6,355	57,152
78	95,425	16,161	77,182
79	65,182	3,436	66,728
80	80,890	839	72,863
81	100,875	4,627	84,067
82	69,273	420	74,716
1883	69,115	1,576	73,554

Africa. — Cape of Good Hope.

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R E M A R K S.

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For statistics relating to the Cape, from 1871—73, I am indebted to Mr. G. Myburgh, Consul General at Cape Town, who, writing on May 21<sup>st</sup>, 1884, said:

«I have great pleasure in complying with your request and as far as possible, furnishing you with accurate statistics from Government statements; the only source whence these can be obtained, is the annual «Blue Book» published by Government (of Cape Colony).

These only cover the period from 1871; previous to that year no such book exists so that I could not compile any statistics previous to that date.

From the statements you will observe that these last two years Government has only published an all round estimate of imports and exports.

I may further inform you that the coffee mentioned as having come from Java or the Indies is damaged, discharged from ships that have put into our harbours for repairs, and that this article, having been cleaned and sorted, is for the greater part re-exported to Europe (England).

Coffee exported from the Cape is mostly despatched to Natal, Angra Pequena, Ichaboe, Walwich-bay, Zanzibar etc.

The statistics relating to exports, given by Mr. Myburgh in pounds, agree fully when reduced into centners with the statement of imports in the «Statistical Abstract for the several Colonial and other Possessions of the United Kingdom from 1868 to 1882.»

In that work, however, there are no figures given concerning consumption and re-export.

The circumstance that the import for consumption is greater some years than the general import is owing to the stock in entrepôt of the previous year.

At Cape Town an import duty is levied of 13 sh. 6 d. per 100 English ₤ + 15% rise since June 1883.

In order to make these statistics as complete as possible I incorporated the statement of imports and exports from 1857—1866 contained in the «Statistical Tables relating to the Colonial and other Possessions of the United Kingdom »

## Africa. — Nátal and St. Helena.

Years.	Import Cwt.	Import in bags	Export Cwt.	Export in bags.	St. Helena. Import in bags.
1853	—	—	—	—	—
54	—	—	—	—	—
55	2,327	1,970	—	—	—
56	1,760	1,490	—	—	—
57	3,205	2,714	—	—	—
58	—	—	—	—	—
59	3,246	2,748	—	—	—
60	3,636	3,079	—	—	—
61	4,129	3,496	—	—	—
62	3,996	3,383	—	—	—
1863	7,171	6,072	—	—	—
64	7,057	5,975	—	—	—
65	2,608	2,208	—	—	—
66	3,910	3,311	—	—	—
67	3,194	2,704	25	21	—
68	3,806	3,223	556	471	—
69	3,954	3,348	1,617	1,369	—
70	4,856	4,112	2,699	2,285	—
71	1,003	849	2,023	1,713	—
72	1,003	849	2,325	1,969	—
1873	821	695	797	675	63
74	2,282	1,932	680	576	74
75	8,536	7,227	363	307	91
76	5,161	4,370	179	151	37
77	8,913	7,547	91	77	93
78	24,757	20,962	280	237	76
79	9,508	8,050	120	102	60
80	12,645	10,707	126	107	82
81	19,380	16,409	279	236	62
82	29,609	25,070	559	473	31

Africa. — Natal and St. Helena.

## R E M A R K S.

These statistics are taken from the «Statistical Tables» down to 1866, and from the Statistical Abstract down to 1882.

Natal began to grow coffee about 1860, but up to the present time has not produced enough for home consumption; as much of it as is exported goes to neighbouring sea-ports.

In 1863 there were only 269 acres planted with coffee, in 1866 as much as 3154 acres, 109,666  $\text{R}$  of coffee were harvested.

Mr. N. P. van den Berg, in his Historical Statistical Notes, gives only the export from Natal, not the import.

In calculating the produce of Africa, Natal must in my opinion be considered as a coffee-consuming and not a coffee-producing country.

The same may be said of Mauritius, Mozambique, Madagascar and Liberia.

As a curiosity I give here the import into St. Helena since 1863, extracted from the «Papers relating to her Majesty's Colonial Possessions, 1884,» wherein the little island is spoken of in the following way.

«The chief hope is, that if an intelligent gardener is appointed to take charge of the Crown lands and teach the people the elementary principles of cultivation, coffee will be included among the first object to receive special attention.»

The entire import during these 10 years, amounting to 669 bales, represents a value of 2998 pounds sterling.

Simmonds (Tropical Agriculture), on whose authority Mr. N. P. van den Berg considers St. Helena as to some extent a coffee-producing country, is a little too much in advance of his time; just at present there is no rivalry to be dreaded from that quarter.

## Africa. — Mauritius.

Years.	Import. Cwt.	Export. Cwt	R E M A R K S.
1853	—	—	This island is ranked mistakenly among coffee-producing countries.
54	—	—	
55	10,131	—	Mauritius receives its coffee more especially from Ceylon and British India, according to the «Statistical Tables».
56	4,064	—	
57	6,792	—	The exports, which are free though a duty of 4 shillings a cwt. is paid for imports, consists for the greater part of coffee, brought by ships that have suffered damage and put in for repairs.
58	15,081	—	
59	13,025	8,252	
60	6,509	—	
61	9,034	—	
62	6,184	—	
1863	11,090	—	
64	8,331	—	
65	5,972	—	In the «Statistical Abstract» from 1867—1883, coffee is no longer mentioned among the principal articles of export or import.
66	18,392	6,391	
67	—	4,139	
68	—	3,426	
69	—	8,961	
70	—	1,744	
71	—	2,068	
72	—	—	The statement of export subsequent to 1867 is taken from the detailed accounts of export relating to Great Britain.
1873	—	2,665	These statistics are given merely as evidence of what I have stated above, for this reason I think it unnecessary to reduce the Cwts. into bags.
74	—	—	
75	—	—	
76	—	—	
77	—	—	
78	—	—	
79	—	6,776	
80	—	6,276	
81	—	—	
82	—	—	

## Asia. — Singapore.

Years.	Imports. in picols.	Export.	REMARKS.
1853	—	—	<p>In the Statistical Tables relating to the Colonial and other Possessions of the United Kingdom, Part II — XII coffee from the Strait Settlements does not appear among the « principal articles » of export</p> <p>I have therefore adopted the following statistics from Mr. N. P. v. d. Berg's Historical Statistical Notes.</p> <p>As Singapore lies in the coffee zone it seems to be pretty generally assumed in Europe that Malacca too produces coffee:</p> <p>The well-known statist, Dr. X. von Neumann Spallart, whose work <i>Uebersichten über Production, Verkehr und Handel in der Weltwirthschaft</i> is quoted everywhere, shares this mistake.</p> <p>In the volume of this work relating to 1878, page 92, he includes the Straits Settlements among coffee-producing countries, stating the productions to be 46,100 Z. Cent., while in the volume relating to 1879 he rates it at as much as 64,000 Z. Centr. In the last instalments 1881—82 Singapore is omitted from the list of coffee-producing countries.</p> <p>Singapore receives nine-tenths of its imported coffee from Batavia, Samarang, and Soerabaya (Java) and Macassar, and one tenth direct from Bali and the other small Sunda islands.</p> <p>Singapore is the only import and export port in Asia at least of any importance.</p> <p>It appears to me unnecessary to reduce the picols into bags. It can easily be done with the help of the reduction table I have appended.</p> <p>Mr. N. P. van den Berg, on page 32 of his Historical Statistical Notes, reckons a picol equal to 61,76 kilogr.; I on the other have adopted the standard laid down in Friedrich Nobacks' <i>Münz-, Mass- und Gewichtsbuch</i>, and drawn up the reduction table with the picol counted equal to 61,5210 kilograms.</p>
54	—	—	
55	—	—	
56	—	—	
57	—	—	
58	—	—	
59	—	—	
60	—	—	
61	—	—	
62	—	—	
1863	—	—	<p>Singapore receives nine-tenths of its imported coffee from Batavia, Samarang, and Soerabaya (Java) and Macassar, and one tenth direct from Bali and the other small Sunda islands.</p> <p>Singapore is the only import and export port in Asia at least of any importance.</p> <p>It appears to me unnecessary to reduce the picols into bags. It can easily be done with the help of the reduction table I have appended.</p> <p>Mr. N. P. van den Berg, on page 32 of his Historical Statistical Notes, reckons a picol equal to 61,76 kilogr.; I on the other have adopted the standard laid down in Friedrich Nobacks' <i>Münz-, Mass- und Gewichtsbuch</i>, and drawn up the reduction table with the picol counted equal to 61,5210 kilograms.</p>
64	—	—	
65	—	—	
66	—	—	
67	—	25,429	
68	—	44,073	
69	—	35,376	
70	45,569	33,937	
71	30,939	28,241	
72	34,414	47,938	
1873	50,456	47,634	<p>Singapore is the only import and export port in Asia at least of any importance.</p> <p>It appears to me unnecessary to reduce the picols into bags. It can easily be done with the help of the reduction table I have appended.</p> <p>Mr. N. P. van den Berg, on page 32 of his Historical Statistical Notes, reckons a picol equal to 61,76 kilogr.; I on the other have adopted the standard laid down in Friedrich Nobacks' <i>Münz-, Mass- und Gewichtsbuch</i>, and drawn up the reduction table with the picol counted equal to 61,5210 kilograms.</p>
74	42,165	38,417	
75	51,673	46,552	
76	?	43,685	
77	59,511	53,258	
78	45,800	29,585	
79	?	?	
80	?	?	
81	?	?	
82	?	?	
1883	?	?	

View of the production and consumption of coffee throughout the world during the years 1878—1882 (in bales of 60 kilograms.)

	1878	1879.	1880.	1881.	1882.
Germany . . . . .	1,655,167	1,857,083	1,569,717	1,735,250	1,784,783
France . . . . .	901,751	947,097	962,224	1,078,266	1,063,982
Austria. . . . .	664,482	321,515	526,320	595,972	630,100
Holland . . . . .	365,650	469,583	675,050	672,717	751,033
Belgium . . . . .	384,657	416,039	379,266	422,741	470,102
England. . . . .	248,188	257,958	240,922	241,485	250,000 <sup>1)</sup>
Italy . . . . .	211,615	258,245	177,887	235,640	234,847
Sweden. . . . .	176,551	171,702	188,484	205,683	225,549
Switzerland . . . . .	137,396	159,390	139,475	261,622	157,605
Russia . . . . .	113,905	128,982	136,521	115,873	138,928
Norway . . . . .	101,676	120,489	119,447	126,711	116,552
Denmark . . . . .	71,834	71,792	92,267	83,067	101,283
Portugal . . . . .	34,676	35,097	32,140	34,935	39,786
Total. . . . .	5,067,548	5,214,972	5,239,720	5,709,962	5,964,550
North America . . . . .	2,245,745	2,742,388	3,327,320	3,199,918	3,292,926
	7,313,293	7,957,360	8,567,040	8,909,880	9,257,476

Remarks. Thinking it not unimportant I have given above the consumption of the principal countries in Europe and America during 1878—82. Assuming that the consumption of coffee in those countries represents the consumption of it throughout the world; that is to say, that the stock lying in those countries counterbalances the consumption of the countries not mentioned, such as Turkey, Spain, Greece, The African-Mediterranean maritime states, etc., the production of page 459 of 1878—182 is = 44,395,000 bales.  
 or per annum . . . . . 8,879,000 bales.  
 while the total consumption in Europe is . . . . . 27,196,752

Per Annum 5,439,350  
 In America 14,808,297  
 Per Annum 2,961,660  
 Per Annum ————— = 42,005,049 „  
 8,401,010 „

The production thus exceeds the consumption by . . . . . 478,000 „  
 per annum.

This proportion is not unfavourable enough to justify the assertion that there is an extraordinary overproduction of coffee, especially if we consider that, the consumption has increased more rapidly than the production during the last four or five years, an increase which is steadily growing, owing to the low prices. Besides, there is always a considerable proportion of the produce, on its way from the one port to the other, and thus temporarily beyond the reach of the detail trade.

<sup>1)</sup> Calculated for this table (see page 476).

## CHAPTER XII.

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### COFFEE PLANTING IN NETHERLAND-INDIA.

Theuer ist mir der Freund, doch auch den  
Feind kann ich nützen;  
Zeigt mir der Freund, was ich kann, lehrt  
mich der Feind, was ich soll.  
SCHILLER.

Now that I am approaching the conclusion of my Report, it may be permitted to propound the question:

„What, in the well-apprehended interests of Government coffee-planting in India, can be done to increase the production and improve its quality?”

In order to answer this important question, we require, in my humble opinion, first to state the exact stand-point from which we wish to view it.

I think the only legitimate stand-point is stated in article 56 of the Regulations of Government in Netherland-India, which runs thus:

The Governor General will maintain, as far as is practicable, the branches of agriculture introduced by the supreme authority; and will act up to the commands of the King, which are:

1. That those branches of agriculture do not interfere with the cultivation of necessary articles of food.
2. That, when those branches of agriculture are pursued on lands cleared by the aborigines for their own use, strict justice be observed in regard to the appropriation of the land, so that existing rights and usages may not be infringed upon.
3. That in the division of labour similar rules be observed.
4. That the wages of the inlanders, while not such as to act as a bribe, be high enough to offer them at least as much profit for working on the Government lands as they could make by equal labour on their own fields.

5. That the objections which, after express investigation, may be found to exist against these branches of agriculture, be removed as far as possible.

6. That in this way an arrangement be made resting on voluntary agreements between the communities and individuals concerned, in order to prepare the way for a condition of affairs wherein the intervention of the state may be dispensed with.

In the report, mentioned in the first division of art. 60 of the Constitution, an account is given annually of the measures taken by the Governor General, in compliance with that article."

The fundamental principle aimed at, must therefore be gradual transition to private farming.

But then the question immediately arises, what must be understood, or to speak more correctly, what do we desire to be understood by private or free coffee-planting.

Is it coffee-planting pursued without the assistance of Government, by Europeans possessed of knowledge and capital, or carried on by stolid aborigines destitute of means?

In other words, is coffee-planting to be pursued with a view to the general market with its frequently capricious demands? or merely with a view to the production of coffee, no matter what be the quality, method of preparation, or flavour?

In my opinion it can hardly be the latter; seeing that the trade already insists on better quality and more careful sorting.

The production might, — the fact has yet to be demonstrated however, — be temporarily increased by so-called peasant- or small farming, but that production would inevitably soon decline on account of the lowness of the prices. For, from peasant farming, if by this we continue to understand the planting, picking, and preparing of the coffee, nothing in the world can be expected but bad, or at the very best, very ordinary coffee.

I think I have sufficiently demonstrated the truth of this thesis, by pointing to the fate of tobacco planting in Java.

Much sought after formerly for its special qualities, it is

now depreciated so much that in most of the residencies of Java, especially where it was pursued as a branch of peasant-farming, the cultivation of it is as good as abandoned, to the detriment more especially of the aborigines themselves, for whom a lucrative source of income has thereby ceased to flow.

As for coffee-planting, it is sufficient to allude to the produce of the Palembang uplands, of Macassar, of Bali; to the native coffee of Ceylon, which is still inferior in quality to the Government coffee of Java and Sumatra.

Just look at the coffee produced in Central America and the various islands of the Antilles. All these coffees are spoiled more or less by the method of harvesting and preparation.

How very important the careful harvesting and proper manipulation of the coffee is, may be seen from the great difference in price between the Government and private Java coffee, between the native and plantation produce of Ceylon.

Consequently, I am convinced that, if the desire is to raise coffee of good quality, judged by the requirements of trade, private farming by European capitalists is preferable to the so called peasant-farming, more generally known in Java by the name of *monosoeko* plantations.

No crop whatever that, after being harvested, has to undergo careful manipulation before it is saleable in the general market, can possibly be delivered to the trade in the required condition by the peasant or small farmer.

The upholders of the so-called peasant-farming are too apt to lose sight of the fact that coffee, sugar, and indigo planting is a very different thing from the raising of rice, potatoes, or turnips, for instance; crops that require no special manipulation to render them fit for market.

For the three first mentioned (colonial) products, the preparation is, next to careful cultivation, the chief requisite.

No more striking example in support of this statement can be found than Brazil.

Notwithstanding that the manner of dressing and harvesting leaves a great deal to be desired, yet the *fazendeiros* have been able to supply a better article during the last seven or eight years than they could have done but for the careful

mechanical preparation, which the want of labourers compelled them to resort to.

I presume nobody entertains a doubt that the Government coffee planting will at some time or other be superseded by free or private farming. But it is still an open question what time this is likely to take place. In my humble opinion there can and must be no question of it in the immediate future.

This much desired change cannot be thought of now, seeing that the exchequer cannot do without the revenues derived from coffee-planting; or, to speak more correctly, because the aborigines cannot pay in money's worth the tax which he now pays by his labour. So soon as there is a possibility of this, Government may conveniently abandon coffee-planting. But, in my humble opinion, it would be wrong to do so now, because nothing has been done hitherto to facilitate a transition from forced to free labour, such as I alluded to above.

For it is not enough to endeavour to promote that transition by abandoning the Government industry; it is necessary to consider and settle before hand how and by what means the exchequer is to receive its dues.

And this is exactly what is too much lost sight of in the public discussion of this weighty problem; indeed people lose themselves in generalities, and sketch a broad scheme of financial administration, which, however fine it may be on paper, does not improve matters much, and leaves the problem practically unsolved.

Acknowledging the pressure exercised by the circumstances of the times, and convinced that, as I noted above, Government coffee-planting, according to the will of the legislators, must at some time or other give place to private farming, free from all interference from the administration, I take the liberty of submitting to the reader's superior judgment a system of measures which I am firmly convinced would conduce to the practical solution of the problem:

„What can and ought to be done now in the interest of Government coffee-planting, with a view:

1. To the wants of the exchequer.
2. To the pecuniary interests of the aborigines engaged on Government coffee-plantations.

3. To the future exchange of Government for free or private coffee-planting, without imperilling the future existence of coffee-planting in Java, as the cultivation of tobacco was ruined?

In my humble opinion the interests of the exchequer would be sufficiently secured if it could firmly calculate on the average revenues obtained from coffee-planting during the last ten years. But this does not alter the fact that the increase of those revenues by increasing the production of coffee and improving its quality, is a consummation devoutly wished.

By increasing the production of coffee, however, I by no means intend the extension of the Government industry, still less that Government should encourage the extension of the so-called peasant or monosoeko coffee-planting.

It is my firm conviction that the sooner an end is put to the artificial extension of the monosoeko plantations the better, unless the reputation of Java coffee is to be sacrificed altogether.

In my opinion no good can be expected of the monosoeko plantations; and it must be pronounced inexplicable that just now, when an intensive and rational system of cultivation is insisted upon everywhere, jungle coffee-planting, the most irrational system in the world, is nevertheless patronised and encouraged.

In this encouragement I can see nothing but an infeasible effort to further coffee-planting, without acting in opposition to the first paragraph of article 56 of the Regulations of Government.

But those that make this effort overlook the fact that any increase of production, obtained in this way, must of necessity be secured at the expense of quality. From badly kept trees, from badly harvested fruit, which, moreover, cannot possibly be subjected to careful manipulation, an excellent article of commerce can hardly be expected.

In using the expression, „badly kept trees,” I think I have not spoken too strongly.

The Indian Government has issued an order prohibiting every civil servant from interfering with the monosoeko plantations, and although some zealous official may now and then take a look at those monosoeko gardens, he may not exert his influence in any way to further the proper dressing

of those jungle coffee-plantations. The order is too peremptory for that.

And what is the result of this state of things?

There has indeed been a certain increase in the production of Java coffee during the last ten years, but a special inquiry would be required to ascertain whether this increase is owing to a better method of cultivation, or the result for the greater part of the enlargement of the plantations, consequent on the increase of population, and as a matter of course the increase in the number of families engaged in this industry. 1)

At all events this increase of production does not go hand in hand with improvement of quality. In this respect the complaints of the trade are not altogether unfounded.

Every effect has its cause, and it is just the bad dressing, the bad (without supervision) harvesting of the monosoeko coffee, added to injudicious and over-hasty preparation, which has led to the deterioration of the quality of Java coffee.

The superior produce of the Government plantations, where the picking is superintended, and which, if carefully prepared, would just as easily make superior or fancy coffee, is blended with that of the jungle coffee-plantations. In this way it is always inferior qualities that are obtained.

The quality of Government Java has deteriorated, while that of Brazilian coffee has on the whole acquired a better and well-deserved reputation, the result of careful preparation by machinery.

The difference of price between Government Java coffee and the Brazilian article is getting smaller and smaller in the great emporiums throughout the world, and will soon cease to exist, if we, mindful of that saying of the genial German poet which I have adopted as the motto to this chapter, do not follow in the footsteps of our great and spirited rival in the coffee markets of the Old and the New World.

I do not suppose that it would be possible just now to state the average yield of the Government coffee-plantations in various residencies and departments in Java, on the authority of any statistics such as the generally very accurate ones by

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1) From the statement showing the results of Government coffee-planting during the last 30 years, this may already be ascertained to some extent.

which I have succeeded in calculating the average crop of the coffee tree in the three principal coffee-producing provinces of Brazil.

The statistics in the Colonial Reports are after all based on dessa-statements, which are not always verified, so that calculations based on them would presumably lead to mistakes. As regards private coffee planting in Java, my own experience does not permit me to class myself with those that fancy the coffee-tree there, even in the Eastern corner, yields after the fifth or seventh year an average crop of 1 kilogram or 1 kattie of 615 grams prepared fruit.

I have no statistics, from which I can calculate the average yield per tree on certain private plantations, for a period of from 5 to 10 years.

As far as I can judge from the known statistics, I do not think the yield is heavier in Java than in the Rio zone, that is to say 333 grams per tree; I fear it is even less. So much, however, is certain, that Government cannot reckon on an average yield of more than 250 grams!

Up to the present time, however there are not sufficient correct statistics to enable one to pronounce a well-founded opinion regarding either the Government or private coffee-planting in Java.

From the coffee enquête of 1868 it appeared that in Pasoe-roean the coffee-producing estates of Genitri and Ardjosarie respectively yielded, from 1853 to 1858 inclusive, 47,580 and 7974 picols of coffee, or 6797 and 1139 picols per annum, obtained from 839,187 and 130,000 fruit-bearing trees, consequently on an average 1 picol of coffee from 123 and 144 trees; while Government obtained during the same period, in the districts of Kotta Malang and Pandakan 1 picol from 271 and 172 fruit-bearing trees. 1)

However, I am almost certain, that a minute, honest, and impartial inquiry district by district or department by department, would lead to the discovery that in many parts of

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1) See page 2988 of the Supplement to the Transactions of the States-General. Second Chamber 1870—71 D 2, and the tables appended to this report, relating to the private coffee planting in Netherland India, compiled from the various Colonial Reports.

Java the number of trees is not in proportion to the produce obtained, that is to say, the average yield per tree will be found to be so small that even the present payment of pds 1, 3 s. 4 d. per picol, although not too little on the whole, is not in proper proportion to the services pressed into the industry.

And it is exactly on certain and trustworthy statistics that any improvement, any alteration in the Government system of coffee-planting must, in my humble opinion, be based.

These figures being obtained, I think it would be expedient.

1. To maintain and carry on Government coffee planting on the intensive system in those provinces of Java where an adequate average has been obtained or can soon be secured; and where, consequently, the rate of payment can be considered commensurate to the services impressed.

2. In those residencies where the average produce turns out to be too small, and — a consideration that must by no means be overlooked — where, moreover, the costs of transport appear to Government too high compared with the presumable selling price; — in these provinces, I say, the gardens should be handed over, under certain conditions, to private enterprise.

In order to explain what I have said above, I allow myself the following remarks.

It is universally known in Java that very much Government coffee is not delivered according to the obligations entered into.

In my Essay published by the Society of Agriculture and Industry, Batavia, in their Transactions for 1882, D. XXXVI: „Must the clearing of waste lands in Java by private parties be encouraged or resisted in the interests of Government coffee-planting,” I have shown — on good grounds I flatter myself — how unfounded is the fear that the private emphyteutic lease-holders may buy from the natives apart of the coffee belonging to Government. I have also expressed my opinion that if there be examples forth-coming of detention or theft of coffee from the government plantations these occur exclusively among the small coffee-producers, who could not gain anything by it unless they, leaving the fruit in the gardens which are their own full and unquestionable property, could

sell all the produce brought in, consequently their own also, higher than pst. 1,3 s. 4 d. a picol. This opinion is founded on what came under my own observation when I was employed in the Department of Home Affairs in India.

I repeat that a very great part of the coffee that ought to be brought into the Government warehouses is kept back or lost; not that there is robbery on the part of private parties but by reason of:

1. Bad and insufficient picking,
2. Intentional throwing away of the fruit, because the picker very often dislikes to prepare it.
3. The primitive method of preparation and its natural consequence:
4. The large quantities of ground coffee brought to market.

In order to increase the annual production so as to be a considerable benefit to the exchequer, without any enlargement of coffee plantations belonging to the State, all that is necessary is to take judicious measures to prevent the coffee from being treated in this manner.

There are experts that seem to expect a higher rate of production combined with superior quality, from the simple expedient of raising uniformly the wages for planting (a very inaccurate expression). I cannot agree with the opinion, when I consider the statistics relating to the productiveness of the coffee-tree in Java in connection with this rise in the Government rate of wages since 1840, which statistics I have appended to this Chapter.

Granted that, for the first few years, perhaps, some increase of production may be looked for in consequence of a higher rate of wages, in no case will such a measure conduce to improve the quality of the produce, so long as the preparation, on which everything depends, is left to the plucker.

On the contrary, though this rise might give a temporary impulse to the production, it would indubitably lead to deterioration of the quality.

The higher the wages — paid as they are now — the quicker the coffee will be dried, prepared and delivered, out of eagerness to obtain those wages; the more the good and bad coffee will be blended so as to get the so-called first quality.

Moreover, a rise in the „wages for planting,” does not benefit the planter or picker, but the purchasers and manipulators of the dessa-coffee.

By discussing the method by which the four circumstances mentioned above may be removed, I think I shall be able to show likewise in what way the pecuniary interests of the aborigines employed on the Government coffee-plantations, can be made to correspond with the services they render to the industry, even in case of obligatory coffee-planting being superseded by voluntary planting.

There are three principal reasons why the aborigines of Java.

1. Do not pick all the fruit in the gardens;
2. Fling the fruit they have plucked deliberately away instead of bringing it home, to dry, sort, and deliver it into the Government warehouses, for the sum of pst. 1, 3 s. 4 d. a picol first quality and 11 s. 8 d. a picol second quality;
3. Keep back the produce for their own consumption, or to sell in the form of powder.

These reasons are:

- a. The great bustle and loss of time entailed by the manipulation.
- b. This being done, the tardy rather than inadequate payment.
- c. The rule that only 11 s. 8 d. a picol is paid for the second quality of coffee.

If the obligatory preparation and sorting be a very disagreeable and thankless task for the population, for Government it is likewise very disadvantageous from a pecuniary point of view. The reason is self-evident to everyone that knows the interior of Java; nevertheless, so far as I know, no skilled official has ever tried to draw attention to it.

The method of preparation is still very primitive in Java; as a rule the block is employed.

This unequal stamping of the glondongan coffee, a task often assigned to romping children or stolid greybeards, causes more beans to be broken, split, and bruised, than the monjolla in Brazil did, though this mode of preparing by machinery was condemned long ago.

It is safe to say that from 25 to 30 per cent of the Government coffee is husked in this way.

Well, seeing that this coffee being 2d. quality can bring only 11 s. 8 d. per picol when delivered, it is quite natural that the natives prefer to keep it for their own use, or send it to the inland markets in the form of powder.

This is why Government receives so little coffee of the second quality; in Java only from three to five thousand picols. 1)

This is why the average yield per tree on the Government plantations appears so far inferior to the actual crop obtained by private parties.

This, in short, is why the payment of pst. 1, 3 s. 4 d. per picol is, in many parts of Java, no longer commensurate with the services rendered.

If the native could prepare the coffee he picks, in such a way that 95 pct. of the crop could be delivered as coffee of the first quality, pst. 1, 3 s. 4 d. per picol would not be too scanty wages.

But the native is unable to apply better methods of manipulation, even if his „wages for planting” were doubled.

The system of paying after preparation, that is when the coffee is delivered at the warehouse, also gives occasion to bad, because over-hasty drying, frequently over the fire or in the smoke, as I had frequent opportunities of witnessing when I was in the Malangese.

Rapid drying is as bad for coffee as for tobacco, nay worse, because the latter article can be improved to some extent by judicious fermentation in the sheds of the purchasers.

The too tardy payment, delayed till after the coffee is prepared, is also the reason why the planter and picker derive no benefit from Government coffee-planting. And it is just those very persons to whom, in my opinion, this industry must become a source of prosperity, if it be really desired to establish a system of peasant farming.

The native of Java is, once for all, so constituted that he, for various reasons, prefers to sell his coffee to buyers to-day for 8 or 10 shillings a picol, to preparing it him-

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1) See Supplement to the Coffee enquête in 1868.

self and getting, weeks afterwards, pst. 1, 3s. 4 d. per picol for the first quality, delivering it at the warehouse. 1)

Every effort must be made, therefore to strip coffee-planting of everything that makes it less agreeable, less profitable to the native. And this can be done only by relieving him from the duty of preparing the coffee.

Were he paid for the red coffee-berries, as soon as they are picked, he would indubitably be encouraged to pluck well, and especially to pluck all the fruit on the trees.

The certainty that all that is picked can be delivered, the prospect of being relieved from the hated manipulation, and consequently from the danger of losing a third or a fourth of the crop (which at the price of second quality does not at present pay the trouble of delivering it,) all these things would make him see the profitable aspect of coffee-planting.

In such a case there would be reason to entertain the hope that real peasant planting could exist side by side with the industry now maintained by the State. For, and here lies the

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1) As appears from his Note of observations on the jottings of Mr. C. J. Bosch, regarding coffee-planting in the various provinces of Java (see page 2987 of the Supplement to the Transactions of the States General, 2d Chamber". 1870—71 Part 2. the then President of the Local Government, Mr. F. G. van Bloemen-Waanders, in his letter to the Attorney-General, dated 28 April 1868, No. 2915, said among other things the following:

«The buying and selling of coffee-berries is very general among the aborigines of Java; it is not considered punishable, as it is not done with the intention of holding back that coffee from the obligatory delivery to Government.

In the province of Pasoeroean, the most important coffee-producing province in Java, there is, so to say, hardly a picol of coffee brought into the Government warehouses by the real planters (and pickers.)

There is a separate class of people, known under the name of djoeragans, who make their living by going the round of the dessas and buying up the coffee lying ready for delivery at the state warehouses, in order to take it to these warehouses themselves. The difference between the price paid to the planter and the price paid by Government represents their profit. In this and many other forms business is doing daily in coffee among the native population. Here a bargain is struck for the fruit remaining on the trees, there one helps another to pick, receiving in return part of the crop, etc. Coffee is also used as a means of barter.

«The picker generally pays the warong-keepers bill (for board etc.) in coffee.»

heart of the proposals I am about to develop, if coffee-planting in Java is to be made a popular industry, it must be pruned of all the faults that now cling to it, and the native must be brought back to the only natural position, that of planter and picker.

I should assuredly not venture to make such a proposal as this, which would take the preparation of the coffee out of the hands of the native, had the experiences I met with and the observations I made while fulfilling my mission, not assured me of the practical possibility of applying this important and vigorous measure.

And more, I am so firmly convinced that in this way alone is the desideratum of Government coffee-planting — increase of production without enlargement of plantations, improvement of the quality by means of better manipulation, gradual transition to voluntary planting, — to be obtained, that I have on my own responsibility caused plans to be prepared of complete Brazilian establishments for preparing coffee in the ordinary and the West Indian manner, and have persuaded Messrs van Erven Irmãos, Engineers, of Rio, to confide to me a technical description of these establishments and machines, which documents, however, I have pledged myself not to make public unless the firm can obtain official protection for their patents.

With this description are two cases, containing  $\pm$  22 large technical drawings of machines and parts of machines.

I have had these establishments calculated to produce 100 bags per day of 10 working hours, a norm which can only be raised by increasing the number of machines. The cost of erection is, at Rio prices, about 20,000 milreis.

With such establishments at well-selected points, the three-fold purpose I spoke of above might be easily attained.

To secure the better preparation of the coffee by distributing husking mills to be worked by hand to the labourers in the *dessas*, seems to me an illusion. It is not to be expected from the native that he will take such care of the coffee pulped in this way as it urgently requires to give it a good and standing colour.

In proposing to distribute those hand-mills, people seem to me to overlook the enormous difference between the ordi-

nary and the West Indian method of preparing coffee.

While coffee prepared in the ordinary way does not require to be so scrupulously cared for, because in the first period of drying, that is to say at the time when the picker requires to be a good deal in the gardens still, alternate rain and sunshine will not injure the quality of the glondongan coffee, the pulped or gaba coffee has to be tended with anxious care to protect it from all injurious atmospheric influences.

The husked coffee is ill calculated to bear rain, dew, or fog, or yet scorching sunshine.

Bearing in mind the well-known apathy and thoughtlessness of the native, not only in regard to Government coffee, but to his own property as well, have we any right to expect that he will bestow this great care on the coffee?

I very much doubt whether any private coffee-planter in Java would be willing to try the experiment.

Those hand husking-mills lighten labour, that cannot be denied, but conduce rather to the deterioration than improvement of the quality.

In Brazil, where the West Indian method of preparation has become commoner of late years, the coffee is as a rule badly manipulated as yet, because there also they act on the supposition that all that is wanted to make good West Indian coffee, is to procure the necessary machinery.

Comparatively few planters, such as Senhors Vergueiro, S. Clemente, Nova Friburgo, and Rio Bonito, make superior West Indian coffee, which would be classed also as fancy coffee in the European markets.

If the Javanese pickers could convey the coffee pulped in the gardens to a central factory or establishment within 24 hours, then, and not till then, would the introduction of hand husking mills have any effect.

But then those central-establishments would require to be properly managed, if the business is to have any chance of succeeding. More especially there must be no officials appointed who do not understand the difference between the common method of preparation and the West Indian.

In this case the managers and overseers would have to be chosen from among the administrators and employés, of

private coffee-plantations, without classing them officially as civil servants.

The work in the factories might be done at first as paid fatigue-duty.

The settlement of details, however, might be left for later consideration.

As I noted above, I think it might be reasonably expected that the erection of such central manufactories, large enough to hold ten or fifteen thousand picols, would conduce to the increase and improvement of the production.

Although central establishments of greater capacity might perhaps be erected comparatively cheaper, yet, bearing in mind the ultimate necessity of voluntary coffee-planting, it will be to the advantage of the exchequer as well as of the population, not to build too large central manufactories.

In this we must also consider the furtherance of the transition from forced to voluntary coffee-growing.

Both the exchequer and the population would be the losers if the coffee-manufactories were made so costly that few planters would be rich enough to take them off the hands of Government. For the ultimate aim after all must be the abandonment of State coffee-planting, as soon as this can be done without detriment to the exchequer, and without imperilling the existence of coffee-planting, which is, and must be, one of the native's chief sources of income.

In this way alone, so far as I can judge, can the way be prepared for replacing forced coffee-growing by free planting.

In coffee-planting as well as sugar-cane planting, the native must only plant and gather, leaving to Government and private parties at present, to the latter in the future, the care of preparing and sorting the produce.

If the establishments are judiciously managed, I think it would be easy to dispose of them to private parties, with a definite sphere within which no other private manufacturer may settle for the purpose of buying up coffee.

When that time comes, Government intervention, as far as planting, dressing, and picking are concerned, may cease, without giving occasion to the fear that coffee-planting in Java may share the fate of tobacco-growing.

The private planter will be sure to take care that the existing coffee-plantations within his bounds are not only maintained but enlarged.

The people will then be paid for planting, dressing and plucking, on the same system as now on the estates held on emphyteutic lease.

In short, in the event of abandoning the cultivation of coffee on its own account, Government might dispose of its central manufactories with a definite extent of land around them to private parties as so many fazendas, and that under such conditions as are now demanded in bestowing grants of waste lands.

For the first few years Government itself will have to act as coffee preparer. To call in the aid of private enterprise throughout the whole of Java now, would, in my opinion, be to hazard the very existence of the industry.

Moreover, this would be an impossibility, partly because private enterprise in Netherland India is not yet sufficiently developed to command at a given moment so many millions as would be required for the erection of central manufactories, for the indemnification of Government, and especially for the working of plantations yielding a million picols.

And moreover, the times are not such as to warrant this desired transition from obligatory to free farming, without very careful preparation.

Moreover, the experiments tried in the Preanger Regencies and now again in Malang, show how dangerous it is to rely in this matter on the assistance of private enterprise. This assistance, or intervention, such as it usually proves to be, brings nothing but disappointment to everybody concerned, and is merely a source of complications. Rather than call in such crude co-operation, I should express the wish that Government coffee-planting, for better or worse as the case may be, be maintained on the present footing.

As a transitional measure Government ought itself to act as coffee preparer. This is the more necessary, because in this case it must be demonstrated to the native, — who has already seen so many improvements in coffee-planting proposed or tried, — that this fresh innovation is actually to his advantage also.

In what way can this measure be carried out without over-taxing the present financial resources of Government?

This is a vital question.

It stands to reason that the present payment of pst. 1, 3 s. 4 d. per picol prepared coffee will then have to be reduced in proportion to the reduction of labour.

Private planters in Java universally pay from 6 s. 8 d. to 8 s. 4 d. per picol for a heavy crop and from 8 s. 4 d. to 11 s. 8 d. for a light one, which, reckoning a picol of prepared coffee equal to five picols of red coffee, comes to 1 s. 4 d. or 1 s. 8 d. or 1 s. 8 d. and 2 s. 4 d. per picol red coffee.

The correct measure in gantangs would have to be fixed more definitely.

The private planter, however, pays this exclusively for picking, the expenses of planting and dressing being over and above. Not so Government; it pays pst. 1, 3 s. 4 d. as remuneration for laying out, dressing, picking, preparing, and sorting, altogether.

Keeping in the foreground the fact that the labour in the coffee-gardens is a tax in natura, I think a payment of 3 s. 4 d. per picol, (or so many gantangs as shall prove on investigation to be equal to that) for coffee in the red husk, may be not only considered proportionate to the services rendered previous to, and inclusive of picking, but so liberal that the growth of voluntary coffee-planting will certainly be assured by it.

At present the native receives, pst. 1, 3 s. 4 d. for a picol of prepared coffee, or, in the proportion adopted, 4 s. 6 d. for picking, preparing, and sorting one picol raw.

For 1 s. 2 d. a picol less, he is relieved from the tedious preparation and sorting, while he gets his wages sooner, and has fewer heavy burdens to carry, seeing that the only transport then will be from the garden to the central-establishment, whereas now he has to carry the coffee home, there to be prepared before it is despatched to the Government magazines.

This rate of payment is in fact so high, compared with the wages paid by private planters for „picking,” that it removes all danger of coffee being kept back from the obligatory delivery. Nay, the private planters will rather have to guard

against coffee being stolen from their gardens and warehouses.

When glondongan coffee is delivered, the price paid for a picol red — 3 s. 4 d. — might be raised in proportion.

The price need not be uniform throughout the whole of Java. A special inquiry into the average production per district or department, would be required to ascertain where the above amount might be raised and where reduced, taking into consideration also the respective difficulties attending transport to the central manufactories.

When I assume that, the average rate of payment being 3 s. 4 d. for a picol of red coffee, the picking of a picol prepared will cost 16 s. 8 d.; I do not suppose that, paying 6 s. 8 d. a picol for preparation by machinery, Government will — at least after the first few years — be put to heavier expenses than it has now to disburse for badly prepared coffee.

I may go so far as to say that no well-founded objections can be raised to my views when I express my belief that within a few years this measure will turn out to be profitable to the exchequer; not only by reason of the higher prices which may confidently be expected for coffee of better quality, but also by increased production, what with the coffee which at present is not delivered at all in consequence of bad preparation, what with the reduction of expenses for overseers or police, now required on the coffee-plantations.

Indeed, when the condition of affairs I have pictured has once been realised, very many of the prohibitive and preventative measures now in operation may be abolished, while in those districts where coffee-planting has been handed over to private enterprise there will be a large reduction in the number of people, European and native, required to work the plantations.

As I remarked above, the payment of 3 s. 4 d. per picol red coffee, would remove all fear of coffee being held back from the obligatory delivery to Government. Consequently private coffee-growing need no longer be considered inimical to the Government industry.

Also taking into consideration an increase of production by which the market might be glutted, private industry need not be looked at askance, as we may see from what has appeared from this Report in regard to the future of coffee-planting in Brazil.

Consequently private enterprise must be encouraged and sustained, since further grants of waste lands could only tend to the advantage of all parties, even to the advantage of Government coffee-planting.

The more private parties settle in the almost uninhabited uplands of Java, the sooner the nomadic population will settle also.

New centres of population cannot be formed unless private parties take the initiative, for the people throng eagerly to places where they can get regular and good wages. And their settling down in this way secures a more regular supply of labourers for Government, also for Government coffee-planting.

Through the greater number of people, the forced labour becomes so much the lighter, so much the more easily borne. There is more prosperity, more money among the working classes and this makes them larger tax-payers.

In this way the transition to exclusively voluntary coffee-planting will be furthered and simplified, without any detriment whatever to the interests of Government.

As to what can be accomplished by private industry, that may be seen now in the south of Malang, and in Blitar.

In districts where it appears on investigation that Government coffee-planting yields little or no profit worth mentioning, the aid of private capital can be called in immediately.

There need, however, be no question of selling the coffee-plantations in those residencies.

On the other hand there can be no serious objections to letting out the regular Government-plantations on emphyteutic lease, the tenant paying a rent equal to the average profit realised by Government from these gardens during the last ten years, and this instead of canon and ground-tax.

If, moreover, it were enacted that no other private coffee-buyers or planters were allowed to settle within a certain distance, I think I shall not be deemed too optimistic when I say that I think few persons will ask any longer for waste lands for coffee-planting, so long as already existing and productive coffee-plantations are to be had on emphyteutic lease.

Even now many a private planter would think himself lucky if he only were allowed to work the plantations Government treats as exhausted.

In order to be guarded against having to deal with speculators, let Government demand ten years rent paid in advance, but on the other hand let it aid and sustain the planter.

In what way he is to be sustained, will be stated below.

In my opinion, however, Government ought not to demand more than ten year rent. I think, even, that it would be wiser to make the sum a little lower, with a view to the taxes, which the native would be able to pay in hard cash as soon as he is freed, in the way stated, from the obligation to work on Government plantations, that is to say, free from taxation in natura.

I would remind those that fear that the thus liberated population will not maintain the existing plantations — in one word will neither plant nor pick coffee, — that private enterprise has succeeded in inducing the aborigines to clear waste lands in sparsely populated districts, and plant them with coffee and Peruvian bark.

As the letting out by Government of the coffee lands to be granted on emphyteutic lease, would be a very slow process, because it is necessary that they should first be surveyed, it is more expedient, in my humble opinion, to go to work in the following way.

As soon as it is decided that this or that residency or part of a province is to be thrown open to private enterprise, it should be publicly stated how much, per district if possible, the province or the department has produced on an average during the last ten years.

Intending applicants should then be invited to send in their offers, stating:

1. What rent per picol they are inclined to pay over and above the fixed minimum.
2. How many picols, on which the settlement of the tract left free from competition must be based, they desire to have.

The highest bidder would have to be empowered to make a choice, districts-wise, out of the existing Government-plantations, which he must then survey and describe in a plan.

That coffee-planting may not share the fate that has overtaken tobacco-planting in Java, it seems to me expedient to

fix definite rayons, by districts or subdistricts, within which no one but the contracting tenant shall be allowed to settle for the purpose of buying up coffee.

If this is not prohibited, no serious applicant will present himself, because unhealthy competition, in coffee as in tobacco planting, cannot fail to lead to deterioration of quality, consequently to decline of the voluntary cultivation of the article.

I said above that Government ought to support the private enterprise whose aid it will ultimately have to call in.

In what way this support is to be rendered, is a question which the Brazilian Government, acting on behalf of private coffee-planting in that empire, answered and solved upwards of ten years ago.

In this case as in others it may be: „Zeigt mir der Freund, was ich kann, lehrt mich der Feind, was ich soll.“

One of the most difficult duties of the mission entrusted to me, was to inquire into the financial condition and prospects of coffee-planting in Brazil.

But this question demanded solution: how it came that in a land where labourers are so scarce, where wages are so frightfully high, where the costs of transport are so exorbitant, a branch of agriculture can live, can be maintained, can even be extended, while the same industry is doomed to a pining, nay almost hopeless existence in Netherland India, where there are labourers in abundance, where the wages are, in comparison with Brazil, ridiculously low; consequently where every circumstance points to a state of things diametrically opposite to the fact.

I think it is in my power to answer this question.

In my opinion the financial possibility of maintaining coffee-planting in Brazil is to be attributed solely, first to the spirited co-operation with the fazendeiros of their consignees, the commissarios, and secondly, to the liberal support the fazendeiros enjoy from Government.

As appears from the documents I have appended, sanction was given by decree issued 17 September. 1873, No 2400, to the conclusion of a more intimate arrangement with the Bank of Brazil, the agreement with which was almost expired.

This new agreement was concluded by decree passed 26 December, 1873, No. 5506.

Taking the liberty of referring the reader to the document themselves for details, I merely note in passing, that in consideration of the old agreement being renewed for fourteen years, and the extension of its privileges in the matter of mortgages, the bank is bound:

1. To hold 25 million milreis, or 2½ million pounds sterling ready to meet the requirements of agriculture, in point of fact, of coffee-planting.

2. To fix the maximum interest of money lent on mortgage at 6 pct. per annum; and not to demand more repayment of the capital as 5 pct. per annum.

On what way the Bank has discharged its obligations, and met the views of Government, will appear from the tables inserted in my chapter on Commerce and Banking, whence we may learn that at this day the Bank of Brazil is supporting 776 estates, extending to about 557,000 hectares, with upwards of 99 million coffee-trees, 34,837 slaves, representing an aggregate value of upwards of 95 million milreis or 9½ million pounds sterling, on which loans to the amount of full 42 million milreis had been advanced, 29 million milreis remaining unpaid on July 1st 1883.

It is to this assistance, and the co-operation of the consignees, that the fazendeiros are indebted for ability to enlarge their plantations, and to weather the crisis which the present fall in market prices has brought about.

If it were not for the labour difficulty, the fazendeiros would indeed have small cause of complaint.

The view stated by the Batavian Chamber of Commerce in the address I have quoted, that it was the high prices of 1874—1878 that occasioned the extension of coffee-planting in Brazil, is a very mistaken one. It was the direct influence of the Mortgage Act that gave that impulse; the high prices that were obtained soon after that law came into operation, affected the industry indirectly only; it seems to me that without these very high prices coffee-planting would have extended, in consequence of the ampler means at command of the fazendeiros.

I cannot refrain from expressing my surprise at the possibility that the trade and industry in Holland and Netherland-India could have remained in such ignorance of the

„more than colossal growth of coffee-planting in South America,” that they, „without being aware of the more than extraordinary enlargement of plantations in Rio and Santos, saw themselves suddenly and without preparation brought face to face with the produce of these plantations.”

„I say the trade and industry here in Holland and in Netherland India,” because the excuse of ignorance alleged in the statement of the Chamber of Commerce, cannot be granted to the trade in general.

In foreign parts, however, in Havre, Bordeaux, Marseilles, Lisbon, London, Liverpool, Genoa, Venice, Trieste, Hamburg, Bremen, and even in Antwerp, the trade were not taken by surprise when confronted with the produce of Brazil, any more than in New York, Baltimore, Boston, Charlestown, Philadelphia, Richmond, Savannah, Galveston, Mobile, New Orleans, and other coffee-ports of the New World.

In these places it was a well-known fact that Brazil, not only within the last few years, but . . . even from 1840, had proved herself the greatest coffee-producer in the world; in these places people were, through direct communication with Brazil, fully aware of the state of things. 1)

If our countrymen had only consulted the French, English, American, German, and Italian trade, the Dutch and Indian trade would not have been struck with „panic” as they were; but on the other hand the „fall” in the price of coffee, would not have been „more gradual than has been the case.”

Although I do not presume to set my own judgment higher than that of so esteemed a body as the Batavian Chamber of Commerce, which numbers so many experts in commercial matters, yet I feel myself bound to draw attention to another cause, which in my opinion exercised a more direct

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1) My attention has been drawn to a newspaper article, published by Mr. G. Hintzen, in the Rotterdam Courant of 8 November, 1883, in which this gentleman, in contradiction to the declaration of the Batavian Chamber of Commerce, assures his readers that the Rotterdam Trade was perfectly familiar with the condition of affairs in Brazil. Accepting this statement with pleasure, I must say that the panic-shriek of the Batavian Chamber of Commerce, some of whose members have close relations with the Rotterdam trade, — appears to me more inexplicable than ever.

influence on the rise and fall in the price of coffee. This cause is the excessive mania for speculation which, within the last five or six years, has taken possession of the coffee-trade.

I think it will suffice for the completion of this report, if I point to the history of the various syndicates in North America, particularly the syndicate of New York, where, the present President of the new coffee exchange there, Mr. B. G. Arnold, then reigned supreme as „King of the coffee trade”; to the syndicates of Håvre and other European ports, where a game is played of which we Dutch can hardly form the slightest conception; to the recently (1883) established coffee-syndicates of Rio and Santos, which, as a set off extravagant profits in the beginning, suffered losses in April and May 1884 amounting to upwards of one million pounds sterling!

It is the game between the „haussiers” and the „baissiers,” between the „bulls” and the „bears,” it is the buying and selling „à terme” which must be regarded as the true cause why statistics are turned upside down, that trade and industry have been thrown into a panic.

Men speculate, and haul in statistics to bolster up their calculations.

I have statistical calculations before me; by „haussiers” as well as by „baissiers,” from which one may see with half an eye that, according to the former there must be an enormous deficit in 1884 and 1885, while according to the latter, there will be a huge stock in hand.

I have mastered the intricacies of the coffee-trade as far as I could, with a view to ascertain the production and consumption of coffee in various countries; in order to obtain the most accurate statistics, I have spared no trouble to myself or others in entering into correspondence with almost every Dutch Consul in every part of the world; while I have applied in person to official institutions; from all quarters the desired data were promptly and obligingly forwarded to me; and, after examining all I received, I am bound to declare that proper statistics relating to coffee have still to be compiled, that none of the predictions regarding production and consumption have been based on reliable figures.

In one word, the statistics relating to coffee have hitherto been nothing more than „l'art de grouper les chiffres.”

And yet it is by means of accurate statistics only that the ruinous game that is being played now, can possibly be combated and frustrated.

Brazil has initiated the idea of opening new outlets for the coffee-trade, of securing the necessary stability of prices by means of the world-wide propaganda by which she seeks to encourage the consumption of coffee; let us, let the Indian trade and industry aid and encourage the endeavours of our great but fair-spirited rival, and on our part also endeavour to temper the mania for speculation, by furnishing the necessary statistics! 1)

This last necessity can easily be complied with. The representatives of Indian trade and industry have only to place themselves in communication with the foreign trade, with the Dutch Consuls in foreign parts, with the various statistical Societies abroad, to be sure of obtaining the necessary Statistics; statistics which I, the time at my disposal being so limited, could not obtain in sufficient numbers to make this report complete.

When these statistics are made public in separate brochures to be circulated free of cost everywhere, or published in periodical reports, then, in my humble opinion, more light will be thrown on the coffee-trade, and as a matter of course, a stop will be put to unadvised speculation, and . . . . unnecessary panics!

As I said above, it is the support extended to the fazendeiros that private coffee-planting in Java urgently requires; and it is with a view to this that I judge the realisation of the desideratum for Government coffee-planting to be possible.

If I am not mistaken the Java Bank is prohibited by

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1) According to the information forwarded me, the Brazilian propaganda in Russia has already been attended with success.

In St. Petersburg there are dépôts established already, and some orders have been given for small cargoes, to be shipped direct from Brazil to St. Petersburg.

The brilliant success of the propaganda at Moscow, however, is surpassed by that at Nishni-Novgorod. There is a grand pavilion building there now; substantial enough to stand for years.

statute, from lending money on estates held on emphyteutic lease. Consequently such lease-holders are often compelled to mortgage their lands on ruinous terms to financial establishments which, taking advantage of these circumstances, decline to lend money except on obligatory consignments.

I could cite examples of those ruinous contracts, by which 9 pct. per annum is exacted on the capital advanced, besides 5 pct. commission on the gross proceeds of the produce, 2½ pct. on the shipment of the coffee to Europe, and 3 pct. commission and del credere when the cargo is realised in Holland; contracts, therefore, by which the planter is delivered, bound hand and foot, into the hands of his consignee!

This untenable state of affairs must cease, must make way for a better arrangement, if the existence and future welfare of private coffee-planting in Java is to be assured!

The Dutch Government might copy the action of the Brazilian Government in behalf of coffee-growing in that empire, by concluding a contract with the Java Bank (or any other financial establishment, existent or to be founded 1), and therein lay down, likewise keeping in sight the realisation of the above-mentioned desideratum of Government coffee-planting, the following leading conditions.

In return for an extension of privileges in regard to affairs of mortgage, that is to say, in return for permission to invest a fixed proportion of its capital in mortgages and lands held on emphyteutic lease, the Government might propose that the Java Bank shall not:

1. Demand more than 6 pct. per annum for money advanced in the interests of agriculture.
2. It shall keep a maximum sum of 5 million guilders (about pst. 420,000) ready at the call of the Indian Government, bearing interest at 4 or 5 pct. per annum.

Seeing that the Java Bank, as appears from its reports, has great difficulty in finding investments for its large capital, I think I may take it for granted that the said Bank would not

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1) The establishment of Credit Banks, with power of issuing notes, on the principle of the American „National Banking system,” would be a blessing to the agriculturists of India.

be unwilling to meet with such a client as Government; all the more if it at the same time obtained sanction, such as has been accorded to the Bank of Brazil, to advance part of the loan in mortgage-bills of, say, pst. 8 or 10.

These mortgage bills (bearing interest at 6 pct) might be accepted by the Indian Government instead of money to be deposited as security for civil servants, etc. Nay Government might even allow those a certain preference over other substitutes for hard cash. In this way the circulation of those mortgage bills would be furthered, and indeed secured.

This is not the place to enter into details on the subject; it suffices to me to have simply suggested the idea, leaving the working out of it to a more convenient season and more qualified authorities.

But I wish to say a word here as to what I have in view with those five million guilders.

I must state beforehand that the exact amount can really not be determined yet, but that this seems to represent the maximum amount required by Government under the circumstances I suggest.

To make a rough calculation, I have adopted this figure, which is obtained by — the average Government production of coffee in Java being rated at about one million bales — reckoning the necessary central establishments at 100, costing at utmost pst. 4,275 each.

It is just in order that there may be no undue calculations that I adopt very high figures; it is not to be expected that a central establishment for drying and preparing coffee, will cost a sum of nearly pst. 5000.

Accepting these figures for the present, I think those 100 central establishments ought (after the inquiry I have recommended has decided which residencies of Java coffee-planting is to be maintained and improved) to be erected and put into working order within five years, at least in districts such as Pasaroean and the Preanger Regencies, where it is already certain that coffee-planting will have to be maintained.

Every year, therefore, about pst. 84,600 would have to be sunk, to be advanced by the Java Bank on the above conditions.

Suppose that Government spends five million guilders on

the necessary central establishments, then the cost — in round numbers — of a million picols of coffee would be as follows:

- a. Purchase of 1 million picols . . . 10 million guilders  
(to be delivered in the red husk)
- b. Preparation, inclusive of costs of staff  
f 2½ per picol . . . . . 2½ " "
- c. Interest at 5 pct. on 5 million . . .  $\frac{1}{4}$  " "  
13 million guilders,

for carefully prepared coffee, whereas 14 " "  
is now paid for coffee not carefully prepared. 1)

The saving, which would be effected on the wages for „picking” alone, (one million guilders) might be applied to paying off the debt of 5 million.

Within ten years, therefore, Government might have 100 central establishments, quite free from debt, which, reckoning each establishment equal to 10,000 picols coffee, being a money value of 1¼ million, would with the plantations attached represent a capital of 125 million guilders!

The coffee obtained in this way would, not counting the increased quantity, which more thorough gathering and less injury done to the fruit would secure, unquestionably command a higher price in the market.

I think I run no risk of experts considering me too optimistic, when I express my full conviction that the mere taking of the manipulation of coffee out of the hands of the natives would immediately raise the production of the article by at least 10 pct.

That is to say, by 100,000 picols, representing a value. . . . . 3½ million guilders.  
while at least . . . . . 2½ " "  
extra may be reckoned for increased market value.

Summing up what I have stated, and taking into consideration all the circumstances to which I have drawn attention, I beg to submit the following suggestions:

I. That it be determined in principle, that Government shall take the manipulation of coffee into its own hands, in

1) A guilder = 1 s. 8 d. English money.

the provinces where it wishes to maintain Government coffee-planting.

II. That a thorough inquiry be instituted into the advantages and disadvantages, incident to coffee-planting in each district or department of the various provinces in Netherland-India (beginning with Java); also in connection with the costs of transport, and in comparison with private coffee-planting.

III. That, on the basis of the results obtained, a decision be come to as to the residencies in which Government coffee-planting ought to be maintained and improved, and as to those in which it can be abandoned by letting out the plantations, on conditions to be settled at future time, on emphyteutic lease.

IV. That, in the residencies where government coffee-planting is maintained:

*a.* The coffee be bought up (unprepared) from the natives, immediately after it is picked, to be delivered at the central establishments at an average price, equal to at most 16 sh. 8 d. per picol prepared coffee.

*b.* That the coffee be prepared as far as possible in the West Indian manner, in central establishments built to contain at least 10,000 picols per harvest year.

V. That immediate steps be taken to erect central establishments and put them into working order, in the Residencies of Pasaroean and the Preanger Regencies, where coffee-planting is least fatiguing to the native.

VI. That negotiations be entered into with the President and Directors of the Java Bank in Batavia, with a view to such an alteration of the statutes that they, receiving an extension of their privileges in the matter of mortgage:

*a.* Hold part of their capital (the amount left for future arrangement) at the disposal of the Indian agriculturists, charging a maximum interest of 6 pct. per annum.

*b.* That they advance a maximum sum of 5 million guilders, bearing interest at 4 or 5 per cent, for the use of Government on the coffee-plantations, by yearly instalments of one million, a certain part of both loans being in mortgage-bills of f 100, bearing interest at 6 pct. and 4 or 5 pct. annum.

VII. That in the interests of coffee-planting and the coffee-trade in general:

*a.* All possible assistance may be rendered to the endeavours of the Brazilian Government to open new débouchés for the coffee-trade; for instance by co-operating with the propaganda for stimulating the consumption of coffee in Russia and Central Asia.

*b.* That encouragement be given to the establishment in Java of a Commercial and Agricultural Union, to the purpose of collecting and publishing statistics regarding coffee-planting, the coffee-trade, the production and consumption of coffee, the publication of which statistics would tend to curb and frustrate the speculation and jobbing at present carried on in this article.

With this I conclude, flattering myself that I have duly discharged the mission entrusted to me.

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TABLE, showing results obtained from Government

Years.	Total. receipts of Coffee.	Portion contributed by Soerakarta and Djoedjokarta.	Governments-			Gardens.  Number families engaged in collec- planting
			Crop.	Number of fruit-bearing trees from which is gattered.	Number of fruit-bearing trees, required to yield one picol.	
1833	336,100	—	336,100	—	—	—
1834	431,700	4,100	427,600	—	—	—
1835	358,500	—	358,500	—	—	—
1836	575,686	—	575,686	—	—	—
1837	588,582	4,100	584,482	—	—	—
1838	538,800	3,300	535,500	—	—	—
1839	905,200	2,700	902,500	—	—	—
1840	688,700	3,500	685,200	196,913,894	287	—
1841	853,300	4,500	848,800	216,085,600	254	—
1842	951,000	3,100	947,900	224,289,182	236	—
1843	1,023,400	7,800	1,015,600	224,705,618	221	—
1844	948,800	6,300	942,500	225,138,986	238	—
1845	631,800	4,500	627,300	221,707,420	353	—
1846	872,000	5,800	866,200	226,901,693	261	—
1847	766,000	5,500	760,500	229,384,455	301	—
1848	853,400	5,800	847,600	221,658,657	261	—
1849	455,200	5,000	450,200	226,640,769	502	—
1850	966,800	7,700	959,100	233,701,799	243	—
1851	1,061,000	5,700	1,055,300	231,693,843	219	—
1852	873,166	10,100	863,066	228,075,219	333	—
1853	682,953	5,553	677,400	223,438,341	329	446,805
1854	1,065,100	9,600	1,055,500	225,132,508	118	459,948
1855	1,146,000	12,800	1,133,200	228,640,542	113	454,456
1856	749,000	4,800	744,200	219,327,485	294	455,229
1857	893,800	13,600	875,200	212,063,782	242	445,723
1858	895,200	11,200	884,000	200,726,007	227	450,628
1859	734,600	22,200	712,400	212,669,492	298	455,316
1860	987,600	16,400	971,200	218,678,781	225	466,207
1861	895,667	25,500	870,167	223,301,905	255	461,358
1862	658,100	19,900	638,200	226,054,147	354	483,100
1863	1,112,300	18,400	1,094,200	226,466,412	207	496,141
1864	433,200	20,900	412,300	225,956,444	548	497,616
1865	949,419	22,200	927,219	223,261,717	240	520,661
1866	1,094,097	25,655	1,068,442	230,101,030	215	531,834
1867	920,058	39,358	880,700	233,372,384	265	565,858
1868	588,616	31,466	557,150	234,051,454	420	572,419
1869	962,800	38,138	924,662	231,009,460	249	546,570
1870	986,038	44,281	941,757	214,553,997	223	613,036
1871	446,304	44,493	401,811	225,819,430	562	623,508
1872	985,961	66,355	929,606	226,927,481	244	709,471
1873	773,920	56,831	717,089	230,519,709	334	775,466
1874	1,031,989	77,610	954,379	238,838,333	250	619,180
1875	493,420	56,603	436,817	237,385,018	543	675,397
1876	1,266,196	59,335	1,206,861	238,187,768	197	673,825
1877	875,411	72,695	802,715	228,270,821	284	712,663
1878	831,516	16,692	814,823	226,933,599	278	726,804
1879	1,267,168	60,124	1,207,044	220,313,928	182	719,970
1880	558,281	59,033	499,248	222,567,087	445	725,977
1881	1,007,839	68,856	938,983	226,535,019	241	734,919
1882	1,025,217	39,717	985,500	239,430,216	243	721,944
1883	1,081,919	91,538	990,381	239,129,453	241	710,166

Government Coffee-planting (in picols). Java.

Gardens.	Average harvest during 5 Years.	Average number of fruit-bearing trees required to yield one picol.	Average number of families engaged in coffee planting five years.	Number of picols per family 5 years.	REMARKS.
—	1	—	—	—	<p>In this view of the results obtained from Government-Coffee-planting, I have taken the five-yearly average; firstly, because it lay ready to my hand; and secondly, because I had taken the same period for Brazil.</p> <p>From the table, the cost and selling-prices of Government Java coffee, the reader may see in how far the raising of wages for planting had conduced to the increase of production and the improvement of the quality.</p> <p>At all events, it seems to me that this table sufficiently proves that there has been no increase of production, per tree or per household, during the last score of years or more.</p> <p><sup>1</sup> G. = Government-Gardens. V. = Vassal-dominions.</p>
—	G. 456,474	—	—	—	
—	V. 1,640	—	—	—	
—	—	—	—	—	
—	G. 783,980	—	—	—	
—	V. 3,420	—	—	—	
—	—	—	—	—	
—	G. 842,360	225,567,634	—	—	
—	V. 5,980	267	—	—	
—	—	—	—	—	
—	G. 835,053	228,354,057	—	—	
—	V. 6,860	273	—	—	
—	—	—	—	—	
446,805	—	—	—	1.51	
459,948	—	—	—	2.30	
454,456	G. 897,100	221,720,531	452,432	(1.98) 2.49	
455,229	V. 10,271	247	—	1.64	
445,723	—	—	—	1.96	
450,628	—	—	—	1.96	
455,316	—	—	—	1.57	
466,207	G. 845,193	216,286,066	463,322	(1.76) 2.08	
461,358	V. 19,040	265	—	1.89	
483,100	—	—	—	1.32	
—	—	—	—	2.21	
496,141	—	—	—	0.83	
497,616	G. 876,572	227,831,617	522,422	(1.67) 1.78	
520,661	V. 25,242	260	—	2.01	
531,834	—	—	—	1.56	
565,858	—	—	—	0.97	
572,419	—	—	—	1.69	
546,570	G. 750,997	226,472,904	613,000	(1.23) 1.54	
613,036	V. 42,946	301	—	0.64	
623,508	—	—	—	1.31	
709,471	—	—	—	0.92	
775,466	—	—	—	1.54	
619,180	G. 823,572	236,440,329	691,306	(1.20) 0.65	
675,397	V. 64,015	287	—	1.79	
673,825	—	—	—	1.42	
712,663	—	—	—	1.12	
726,804	—	—	—	1.12	
719,970	G. 889,120	227,155,970	725,923	(1.22) 1.67	
725,977	V. 48,884	255	—	0.68	
734,919	—	—	—	1.27	
721,944	—	—	—	1.36	
710,166	—	—	—	1.39	

TABLE, showing the cost and selling prices

Years.	Rate of wages for planting in: (guilders)							Remaining provinces of Java.	Cost price	Of the total produce
	Soerakarta and Djoc-djokarta.	Buiten-zorg.	Patjitan, Madioen and Kediri.	Banjoe-Maas (Daija-Loeher).	Banjoe-wangi.	Preanger-Regencies.				
							10.—			
1833	18.33	3.24	6.25	6.25	5.—	2.43	»			
1834	»	»	»	»	»	»	»			
1835	»	»	»	»	»	»	»			
1836	»	»	»	»	5	3.12 <sup>5</sup>	»			
1837	»	»	»	10.—	»	»	»			
1838	»	»	»	»	»	»	»		10.80	
1839	»	»	»	»	»	»	»		10.74	
1840	»	»	»	»	»	»	»		10.02	
1841	»	»	»	»	»	»	»			
1842	»	»	»	»	»	»	»		10.48	
1843	»	»	»	»	»	»	8.34		9.45	
1844	15.56	»	5.21	8.50	»	»	»		9.85	
1845	»	»	»	»	»	»	»		9.60	
1846	»	»	»	»	»	»	»		9.52	
1847	»	»	»	»	»	»	»		9.65	
1848	»	»	»	»	»	»	»		10.37	
1849	»	»	»	»	»	»	»		9.45	
1850	»	»	»	»	»	»	»		9.16	
1851	»	»	»	»	»	»	»		9.27	
1852	»	»	»	»	»	»	»			
1853	»	»	»	»	»	»	»		9.20	
1854	»	»	»	»	»	»	»		8.06	
1855	»	»	»	»	»	»	»		8.89	
1856	»	»	»	»	»	»	»		9.28	
1857	»	»	»	»	»	»	»		9.53	
1858	16.94	»	5.61	9.17	5.61	»	9.17		9.98	
1859	18.34	»	»	»	6.12	5.—	10.—		11.38	
1860	19.16	»	»	»	6.43	5.25	10.50		11.61	
1861	20.—	»	»	»	6.73	5.50	11.—		12.37	
1862	20.84	»	»	»	7.04	5.75	11.50		13.05	
1863	»	»	»	»	»	»	12.—		12.60	
1864	»	»	»	»	»	»	12.50		13.61	
1865	21.66	»	»	»	7.34	6.—	13.—		13.28 <sup>5</sup>	
1866	22.50	»	»	»	7.65	6.25	»		13.49 <sup>5</sup>	
1867	23.34	»	»	»	7.96	6.50	»		14.28	
1868	»	»	»	»	»	»	»		15.15 <sup>5</sup>	
1869	»	»	»	»	»	»	»		14.20 <sup>5</sup>	
1870	»	»	»	»	»	»	»		14.48	
1871	»	»	»	»	»	»	»		15.97	
1872	»	»	»	»	»	13.—	»		15.47	
1873	»	»	»	»	13.—	»	»		15.80	
1874	25.—	»	»	»	»	»	14.—		16.68	
1875	»	»	»	»	»	»	»		17.25 <sup>5</sup>	
1876	»	»	»	»	»	»	»		16.11 <sup>5</sup>	
1877	»	»	»	»	»	»	»		16.91	
1878	»	»	»	»	»	»	»		16.38	
1879	»	»	»	»	»	»	»		16.22	
1880	»	»	»	»	»	»	»		17.41	
1881	»	»	»	»	»	»	»		16.40	
1882	»	»	»	»	»	»	»		16.66	

prices of Government Java coffee (per picol.)

Cost prices with carriage to Seaport.	Average price in the Netherlands.		REMARKS.	
	Of the total produce.	Of the produce of Government Gardens only.		Gross.
—	—	—	36.50	<p>These Statistics are taken from the Colonial Reports. The dash (—) indicates uniformity with the wages paid for coffee-planting in the other provinces of Java. (Column 8).</p> <p>The drawing up of these tables has cost more time and trouble, and led to more disappointment than I could have thought possible when I undertook the task.</p> <p>The statistics in the preceding table are all taken from the Colonial Reports; those relating to:</p> <p>a. The production, column 2, 3, and 4 from 1833-64 from supplement X N<sup>o</sup>. 25 of Col. Rep. 1868</p> <p>1865-67 » » Y N<sup>o</sup>. 26 » » »</p> <p>1868-82 » the later Reports, the revised statements being consulted in each case.</p> <p>b. The number of fruit-bearing trees, column 5, from 1840-48 from the Col. Rep. of 1849. 1848-82 from Colonial Reports of 1853-1883.</p> <p>c. Column 6, were calculated afresh by myself, with reference to the received estimates of the actual crops of the Government Gardens, estimates that differ considerably from those that appear in the Annuals, published by the Society for Statistics in the Netherlands, in the Geographical and Statistical Dictionary for Netherland-India, and in the work of Mr. J. P. Cornets de Groot van Kraaienburg, entitled: «Thoughts on the Management of our Colonies, 1864,» which does not always discriminate between the actual crops and the quantity received with the warehouses, where the produce of Soerakarta and Djocdjokarta are delivered likewise.</p> <p>Into the figures given in the Colonial Reports, errors have crept likewise, in so much as the</p>
—	—	—	30.—	
—	—	—	33.50	
—	—	—	30.—	
—	—	—	24.50	
—	—	—	26.30	
—	—	—	30.50	
10.80	—	32.70	22.35	
10.74	—	31.81	21.48	
10.02	—	28.47	18.59	
40.48	—	24.70	15.56	
9.45	—	26.71	17.59	
9.85	—	27.17	18.22	
9.60	—	25.01	16.18	
9.52	—	24.76	15.91	
9.65	—	21.96	13.36	
10.37	—	27.87	19.31	
9.45	—	33.93	25.14	
9.16	—	32.25	23.96	
9.27	—	30.49	23.07	
9.20	—	36.67	28.96	
8.06	—	34.76	27.46	
8.89	—	37.77	30.45	
9.28	—	39.93	32.04	
9.53	—	45.81	37.95	
9.98	—	37.23	29.68	
11.38	—	45.07	37.41	
11.61	—	46.49	38.53	
12.37	—	47.75	39.70	
13.05	—	55.30	46.75	
12.60	—	54.92	46.79	
13.61	—	52.35	44.55	
13.28 <sup>5</sup>	—	53.71	45.86	
13.49 <sup>5</sup>	13.26 <sup>5</sup>	51.08	43.55	
14.28	13.88	48.26	41.73	
15.15 <sup>5</sup>	14.68	42.84	36.68	
14.29 <sup>5</sup>	13.97	44.44	38.76	
14.48	14.06	41.93	36.73	
15.97	15.24	44.63	39.35	
15.47	14.95	54.10	48.37	
15.80	16.32 <sup>5</sup>	67.20	60.36	
16.68	15.96 <sup>5</sup>	70.40	63.91	
17.25 <sup>5</sup>	16.21	69.48	62.98	
16.11 <sup>5</sup>	15.40 <sup>4</sup>	64.11	57.99	
16.91	16.23	63.68	57.80	
16.38	16.20	59.54	53.61	
16.22	15.82	54.82	50.29	
17.41	16.66	50.15	45.23	
16.40	15.91	45.02	39.98	
16.66	16.36	36.19	31.22	

Statistics regarding the number of trees required to yield a picol of coffee, are not always rectified in accordance with the received statements of crops given in later volumes.

I have not succeeded in ascertaining the number of households engaged in coffee-planting in 1853, so the statistics for that year are wanting in this table.

Although these statistics do not all tally with those given in the Supplements to the «General Report of the results of the Inquiry regarding Coffee-planting in Java», (see Colonial Report, 1870—71, volume 2, page 3026—3052) yet the discrepancies are not serious enough to effect the accuracy of the general survey of coffee-planting.

In the last-mentioned supplements the coffee produced on the Government plantations is divided into:

- a. Produce obtained, without over-weight or inferior coffee (page 3035).
- b. Inferior coffee (page 3050).
- d. Light-weights (page 3052).

The sums total of the relative statistics agree almost exactly with the figures given in the second column of this table.

I have considered it necessary to make a draw distinction between the two constituent parts of the Government produce; viz. between that of the „Vassal-dominions”, and that of „Private plantations”.

If, however, the reader desire to ascertain the actual condition of Government coffee planting, he has only the latter produce to deal with, seeing that the statistics in the 5<sup>th</sup>, 6<sup>th</sup>, and 7<sup>th</sup> columns relate merely to the Government coffee-growing on the Government estates.

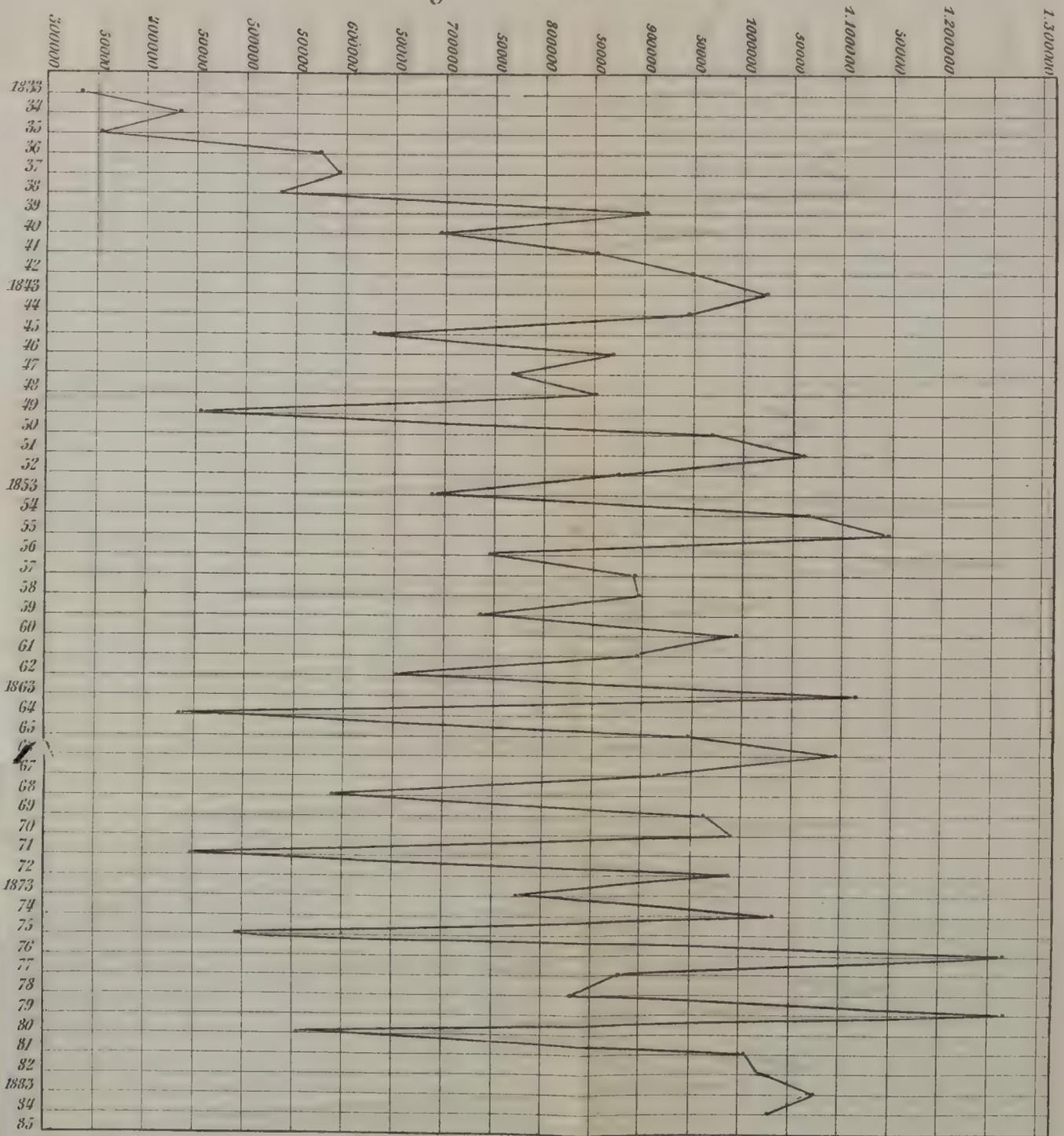
Further explanations are almost superfluous. From the last four columns of the table it may be seen in how far Government coffee planting has advanced during the last 30 years, taking into consideration firstly the increased number of families employed in coffee planting; secondly, the rise in the wages paid for planting, and, thirdly, the improvements introduced into the method of cultivation.

Government coffee planting reached its zenith in the cinquennium 1853—57, with an average production of 897,100 picols.

Although the production has again been increasing since 1873, it falls far short still of the average crop of 999,000 picols (even including the produce of the «Vassal-dominions»), which Mr. N. P. van den Berg reckons on in his Historical Statistical Notes.

And yet, the Government coffee planting might produce an average crop of at least 1 or 1¼ million picols, without enlarging the plantations.

Diagram showing the quantities of Java-coffee furnished to the Government from 1833 to 1884.





## Coffee plantations on lands held on Ordinary and Emphyteutic Lease (JAVA).

Provinces.	Departments.	Plantations.	Size in bahoës.	Date of Registration in the Emphyteutic Registers.	Value according to ground-tax (in guilders).	
Bantam.	Lebak. 4798 1)	Goenoeng Pontang	530	—	Lands rented.	
		Lebaksioe	532	—	Idem.	
		Pasir Pepatek	597	22 March 1876	24,000	
		Kosala I	508	26 Febr. 74	75,500	
		Kosala II	400	7 Febr. 76	5,000	
		Tjisela	1,500	1 Jan. 75	250,000	
		Lebak Parai	532	10 Sept. 75	60,000	
		Tjiparai	62	20 Nov. 78	—	
		Genteng	437	7 June 79	—	
		Preanger Regencies	Bandoeng. 409	Gombong	409	10 Sept. 1875
Tjitjalengka. 1595	Sidangwangi			335	22 June 75	60,000
	(Sitiardja			350	6 Dec. 73	140,000
	Idem			204	20 Nov. 75	50,000
	Idem		447	6 Dec. 77	55,000	
	Daoclat		259	30 Dec. 76	65,000	
Tjiandjoer. 7948	Sjipantjoe		498	15 March 1876	50,000	
	Tjikoedjang		305	27 March 76	20,000	
	Tjisawér		140	15 March 77	1,000	
	Tjidawong		42	»	—	
	Rarahan		103	3 July 77	—	
	(Tjikoleh 2)		500	1 Oct. 77	50,000	
	Idem		213	28 April 79	125,000	
	(Belapoelang		482	19 Dec. 77	—	
	Idem		567	18 May 78	—	
	(Tjimapag		464	16 May 79	—	
	Idem		403	25 Dec. 80	—	
	Tjipohpohan		185	24 April 79	—	
	Tjiparai		430	28 Jan. 81	—	
	Tjibeët		152	12 Jan. 82	—	
	Boengamaloer		283	30 April 78	—	
	(Tjiwangie		282	23 July 79	—	
	Idem		408	25 Sept. 79	—	
	Njemplong		58	23 Nov. 82	—	
	Tjikawoeng		585	23 June 81	—	
	Pasir Nangka		110	24 March 80	—	
	Tjimonteh		493	1 April 81	—	
	Tjitiis		540	29 July 82	—	
	Tjidadap		419	31 Dec. 79	—	
	Panjairan		368	17 May 79	—	
	Goenoeng Melati		218	3 April 80	—	

1) Number of bahoës.

2) This estate actually consists of three pieces; seeing however that the two last registered arcels are not yet valued for ground-tax, I have taken them together; to avoid making the table too lengthy, I have observed this rule, wherever it was possible.

## Coffee plantations held on Ordinary or Emphyteutic Lease (JAVA).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in bahoes.	Date of entry in the Emphyteutic Registers.	Valuation for ground-tax, in guilders.
Preanger. Regencies.	Soekaboemi. 9116	Soekabrenti	84	18 Nov. 1880	25,000
		Panglesiran	432	8 May 76	10,000
		Tjibaregbeg	146	13 Jan. 75	150,500
		Calorama	387	15 Jan. 78	—
		Pandan Aroem	417	28 Sept. 81	—
		Tjilodor	503	17 April 82	—
		Ongkrak	200	27 July 75	2,500
		Pamoeroejan	122	18 Dec. 77	2,500
		Tjisalak	1,025	23 March 76	34,000
		Aardenburg	420	12 May 77	85,000
		Plabocan	498	15 Oct. 77	5,000
		Tjiboengoer	500	23 May 81	160,000
		Soekamadjoë	536	20 March 78	—
		Malingoet	385	7 Jan. 78	—
		Tjiringin	141	27 Sept. 76	11,100
		Tjitjalobak	15	10 Febr. 77	3,300
		Sindangsari	566	10 Febr. 77	—
		Goenoeng Sahari	251	23 Aug. 77	10,000
		Goenoeng Malang	471	23 July 79	—
		Pasir Telaga Warna	283	2 Jan. 82	—
		Sinagar	1,235	7 Sept. 80	327,500
	Panoembangan	499	—	Land Rented	
	Soemedang. 629	Sarang Halimoen Tjidjeroek	150	29 Aug. 1880	—
			125	29 July 82	—
			354	28 Aug. 76	78,450
	Tasikmalaja. 552	Tendjolaut	552	10 June 1875	45,200
	Cheribon.	Madjalengka. 808	Pajoeng	436	5 May 1874
Tedja			372	18 Jan. 75	28,000
Pekalongan.	Pekalongan. 2409	Djolotigo	506	18 Aug. 1876	12,500
		Djampang	498	18 Oct. 76	90,000
		Proempang	316	12 July 78	60,000
		Panoembangan	500	24 April 74	100,000
		Lingo-Loetoeng	367	24 Dec. 74	125,000
		idem	222	16 July 77	15,100
	Batang. 3733	Wonodadi Tombo Tratak Pagiliran Karang Mego Segan I idem II Gesing	194	5 July 1875	60,000
			284	1 Nov. 75	100,000
			49	13 Aug. 77	8,000
			627	26 Nov. 75	150,000
	154	16 Aug. 78	—		
	239	7 March 74	4,000		
	500	»	6,000		
	126	9 March 75	50,000		

## Coffee plantations held on Ordinary or Emphyteutic Lease. (JAVA).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in bahoes.	Date of entre in the Emphyteutic Registers.	Valuation for ground-tax, in guilders.
Pekalongan.	Batang.	Gloegak	140	24 June 1880	—
		Djoerang-Asem	194	24 June 80	—
		Ketjoeboeng	85	6 Aug. 78	—
		Kedongong	167	15 May 75	80,000
		Banjoe Poctih Simbang	79 925	15 Aug. 78 —	— Land Rented
Samarang.	Salatiga. 1348	Flogo	425	5 Oct. 1875	110,000
		Golli	587	5 Febr. 78	72,000
		Samirono	159	5 June 77	14,200
		Moedjolosari	121	»	10,800
		Kedajon	56	31 July 77	37,000
	Grobogan. 204	Redjowinangoen	204	27 July 1880	—
	Ambarawa. 5164	Pringapoes-Nobo	1,090	18 April 1876	200,000
		Klepoe	400	28 Nov. 76	120,000
		Banaran	400	17 April 77	180,000
		Stomi	33	20 Nov. 77	13,000
		Djatironggo	1,084	12 Febr. 78	150,000
		Kedawong	402	6 Nov. 77	5,500
		Geboegan	800	12 Oct. 75	200,000
		Terwidi	190	26 Oct. 75	67,500
		Kalisidi	428	26 Oct. 75	67,000
		Lerep	317	24 Oct. 76	35,000
		Kalidodol	20	4 May 80	—
	Kendal. 11,686	Sidomoekti	817	16 Oct. 1877	307,000
		Poetjoeng-Seloka- ton	914	25 Aug. 74	2,285,350
108			21 Nov. 76	27,800	
Genting-Goenoeng		493	30 Nov. 75	50,000	
Dawoecan		5	4 Dec. 77	5,500	
Sedangdang Bodeh		198	31 Aug. 75	78,100	
Soerokonto		65	19 Sept. 76	13,000	
Sedangdang		75	29 March 81	—	
Seketjer		184	23 Nov. 75	55,000	
Soewoer-Pitoe		132	13 Oct. 74	30,000	
Tjoeroek		838	30 April 78	102,000	
Stinggo		170	19 March 78	—	
Kalisoeren		298	28 Aug. 79	—	
Pablengan		377	»	—	
Goening Salendah	72	»	—		
Gesangan	299	17 June 79	—		
Sringin	439	5 Dec. 76	103,000		
Rembes	230	5 Oct. 75	54,000		
Trisibo	206	9 Jan. 77	28,000		
Kalimas	1,089	15 July 79	400,000		

Coffee plantations held on Ordinary or Emphyteutic Lease. (JAVA).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in bahoes.	Date of entry in the Emphyteutic Registers.	Valuation for ground-tax, in guilders.
Samarang.	Kendal.	Djaticalangan	913	18 April 1876	300,000
		Redjosari	233	46 May 76	40,000
		Kaliwaroe	294	12 Sept. 76	50,000
		Blanten-Selerang	739	28 Sept. 76	250,000
		Getas	577	8 May 77	220,000
		Ngareanak	615	12 Febr. 78	160,000
		Tempoeran	486	12 Febr. 78	—
		Glagah-Omboh	495	22 June 80	—
		Pentjar	303	5 July 81	—
		Kliwatsoengi	622	26 July 81	200,000
Japara.	Pati. 500	Djolong	500	4 Dec. 1877	25,000
Rembang.	Bodjonegoro. 545	Doeren	53	15 March 1882	—
		Tadahan	492	»	—
Soerabaja.	Modjokerto. 2598	Sarikerto	241	3 Dec. 1877	9,000
		Pengadjaran	729	6 Jan. 80	—
		Djahee I	332	13 Sept. 81	—
		Djahee II	196	14 Sept. 82	—
		Dampak	530	20 Jan. 80	—
		Banjon-Gondang	570	20 Jan. 80	—
Paseroean.	Bangil. 589	Geboeg	589	14 Dec. 1874	200,000
	Malang. 22,092	Soekoredjo	480	11 Febr. 75	23,000
		Madoe-Ardjo	499	12 April 75	232,000
		Boemiredjo	535	3 June 75	251,800
		Boemi-Ajoe	109	14 Jan. 76	36,000
		Gendogo-Arjossari	416	29 May 76	—
		Soember-Nongko	445	20 Sept. 80	—
		Bandoe-Ardjo	619	20 Sept. 80	—
		Bandoe-Roto	549	16 July 80	—
		Kali-Telo	382	30 July 81	—
		Wonosari	472	27 Nov. 75	300,000
		Wonoagoeng	178	26 June 78	—
		Soemboel	499	31 Aug. 76	600,000
		Kembar	521	12 July 77	—
		Gangsiran	495	9 Oct. 74	741,000
		Djoenggo	518	20 Oct. 82	300,000
		Ampil-Gading	504	2 Aug. 75	596,000
		Tanah-Wangi	739	9 March 76	600,000
		Limburg	1,112	8 Dec. 75	797,000
		Soember-Andoeng	540	24 April 79	—
		Djandjangsoerat	465	»	—
		Soember-Sengkarang	521	»	—

## Coffee plantations held on Ordinary or Emphyteutic Lease. (JAVA).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in baloes.	Date of entry in the Emphyteutic Registers.	Valuation for ground-tax, in guilders.
Pasoeroean.	Malang.	Petoeng-Omboh	523	21 June 1879	—
		Soekarameh	672	14 May 80	—
		Soember-Soekoe	526	30 April 80	—
		Soember-Mangis	477	21 May 80	—
		Soember-Gesing	549	20 Sept. 80	—
		Polaman.	239	13 Dec. 80	—
		Petoeng-Omboh-Ki- doel	406	13 Oct. 80	—
		Soember-Gilang	632	17 May 80	—
		Wonokojo	581	30 June 81	—
		Pringapoes	486	20 June 81	—
		Kali-Bakor-lor	550	1 June 81	—
		Kali-Bakor-Kidoel	507	1 June 81	—
		Soember-Ringin I	511	17 May 81	—
		Soember-Ringin II	196	17 May 81	—
		Soember-Aroem	441	18 July 81	—
		Kali-Poetih	201	»	—
		Medajin	494	13 Oct. 81	—
		Soember-Redjo	500	»	—
		Soember-Mandjing	426	24 Aug. 81	—
		Soember-Gesing	524	»	—
		Soember-Gadoeng	430	26 July 81	—
		Soember-Peting	514	1 Oct. 81	—
		Soember-Telogo	506	18 March 82	—
		Soember-Kemadoc	453	19 May 82	—
		Tlogoredjo	450	11 Oct. 82	—
Probolinggo.	Kraksaän. 503	Alas Aijderingin	503	24 Nov. 1875	167,000
	Loemadjang. 6365	Kajoe-Anak	400	23 July 1875	85,000
		Alas-Petoeng	582	21 Sept. 75	137,500
		Kepoenden	300	26 Oct. 80	—
		Waderan	186	25 Jan. 81	—
		Danoë-Redjo	659	4 March 82	—
		Kali-Bening I	249	4 July 82	—
		idem II	543	»	—
		idem III	275	»	—
		Djarit	105	9 Sept. 82	—
		Pasirian	132	»	—
		Soember-Kerep I	508	23 June 82	—
		Tjandi	1,023	»	—
		Soember-Kerep II	513	»	—
		Alas-Leker	341	24 July 82	—
		Alas-Djeplak	549	»	—

## Coffee plantations on lands held on Ordinary and Emphyteutic Lease (JAVA).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in bathoes.	Date of entry in the Emphyteutic Registers.	Valuation for ground-tax in guilders.
Bezoeki.	Bondowosso 1428	Klatahan	500	18 March 1879	—
		Gerengredjo	517	28 May 81	—
		Bandjar-Baroe	411	20 Jan. 81	—
Banjoewangi.	Banjoewangi. 1272	Bendo	746	27 July 1878	70,000
		Wangkal	226	21 Aug. 80	—
		Ardjo-Blambangan	300	30 June 82	20,000
Bagelen.	Ledok 2118	Boerat	457	13 Dec. 1876	75,000
		Tangoelangin	239	23 Dec. 78	—
		Kali-Tengkek	390	26 March 77	60,000
		Kali-Tengkek-lor Bagelen	100 932	14 Dec. 78 7 Aug. 79	— 146,000
Kedoe.	Karanganjar 470	Kali-Sadang	170	7 Dec. 1877	3,500
		Lemahroto	94	19 Dec. 78	—
		Wagirkopo	206	1 Aug. 78	—
Kedoe.	Magelang. 692	Pandéan	66	30 Oct. 1877	15,000
		Ngrantjak	373	11 Sept. 76	100,000
		Ngori	151	14 Jan. 80	—
		Pringlegi	102	20 April 82	—
	Temanggoeng 3707	Kamiredjo	384	11 Jan. 1876	25,000
		Ngrimpak	137	21 Dec. 76	20,000
		Kebon-Dalem	272	7 March 78	25,000
		Bandjar-Sari	390	19 Oct. 80	65,000
		Djeroko-Pajoeng	268	9 Oct. 76	30,000
		Bandjar-Redjo	324	22 Jan. 77	—
		Bodjong	375	27 Dec. 77	—
		Petoeng	145	28 Jan. 79	—
		Toek-Bandoeng	412	4 March 75	48,300
		Ngrowo-Mergolilo	316	15 Oct. 75	20,000
		Tlogo-Pajoeng	111	8 Dec. 75	—
Gombang-Waloh	284	25 Dec. 76	45,000		
Ngoho	279	22 Dec. 76	30,000		
Kali-Gentong	40	14 Febr. 78	—		
Madioen.	Madioen. 4025	Pangoeng-Sari	500	21 July 1874	125,000
		Pangoeng-Agoeng	366	10 Jan. 76	70,000
		Sokalian	180	19 Jan. 77	900
		Sekaloos	666	10 Jan. 76	35,000
		Wilhelmina	348	14 Aug. 76	45,000
		Soember-Agoeng	580	21 July 74	95,000
		Waliran	500	20 June 76	125,000
		Kangandan	885	5 Aug. 76	185,000

## Coffee plantations on lands held on Ordinary and Emphyteutic Lease (JAVA.)

PROVINCES.	DEPARTMENT.	PLANTATIONS.	Size in bahoës.	Date of entry in the Emphyteutic registers.	Valuation for ground-tax, in guilders.
Madioen.	Ngawie. 2459	Blaboer	120	18 Febr. 1875	160,000
		Djamoës	516	"	—
		Ampé	187	28 April 80	—
		Gidoro	498	2 March 76	50,000
		Gondang	227	8 Febr. 79	—
		Sakarsari	459	7 Jan. 81	—
		Ardi-Lawoe.	452	3 Nov. 81	—
Kediri.	Kediri. 1355	Petoeng-Roto I	353	24 Febr. 1877	43,000
		idem II	127	9 Nov. 76	5,000
		Petoeng-Sewoe	565	31 March 79	—
		Kali-Kadjar	310	27 Aug. 75	11,200
	Ngrowo. 2746	Sidhoredjo	168	16 Jan. 1875	40,200
		Penampean	503	26 Dec. 75	50,000
		Bismo	507	5 Febr. 78	—
		Mringin	500	29 April 78	—
		Bringin	497	13 March 78	—
		Sapoeangin	571	—	Land Rented
	Tregalek. 2665	Soeka-Radja	578	11 June 1877	500,000
		Krandon	238	2 Aug. 77	—
		Bonowati	434	—	Land Rented
		Simbar-Wangi	500	—	idem
		Boeloeroto	515	5 Febr. 79	—
		Ngrantjah	400	1 Nov. 79	—
	Blitar. 20.054	Tawang-Redjo	620	13 March 1874	170,256
		Karang-Redjo	446	12 Nov. 75	40,000
		Maria Anne Charlotte	498	27 Febr. 79	—
		Karang-Tendjang	386	6 Oct. 79	—
Soemenoer		84	"	—	
Karang-Anjar		497	23 March 80	—	
Petoeng-Ombo		500	27 Aug. 81	—	
Karang-Nongko		338	15 July 79	—	
Kemloko		492	31 Jan. 76	—	
Gogoniti I		497	11 March 74	25,000	
idem II		499	"	77,000	
idem III		377	27 May 81	—	
idem IV		126	"	—	
Siwalan		500	14 May 74	27,000	
Papo I		500	12 Febr. 76	142,000	
idem II		169	—	Land Rented	
Daroengan	123	5 Sept. 76	10,000		
Djoeleg	567	13 Jan. 77	72,000		
Gabroe	531	13 Jan. 77	90,000		

Coffee plantations on lands held on Ordinary or Emphyteutic Lease (JAVA).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in bahoes.	Date of entry in the Emphyteutic Registers.	Valuation for ground-tax in guilders.
Kediri.	Blitar.	Kenongo	185	12 April 1877	—
		Djarangan-Bobo	834	26 May 77	—
		Soember-Wader	200	»	—
		{ Kalimanis I	564	29 June	—
		{ idem II	564	»	—
		{ Barakan I	533	1 April 78	—
		{ idem II	383	10 May 81	—
		{ idem III	172	6 Febr. 82	—
		{ Soember-Mangis	487	»	—
		{ Soember-Redjo I	221	7 Nov. 81	—
		{ idem II	386	5 April 82	—
		{ Tjondrokaton	256	11 Febr. 82	—
		{ Tjéleng	528	29 April 78	—
		{ Sengon	520	29 Aug. 78	—
		{ Rini	805	4 Dec. 78	—
		{ Kedawoeng	505	8 Jan. 79	—
		{ Ngoesri	584	28 Febr. 79	—
		{ Kemiri-Gedeh	592	14 June 79	—
		{ Branggat	507	7 June 81	—
		{ Djabon	514	25 Aug. 79	—
		{ Djerok	563	25 May 80	—
		{ Njoenjoer	290	29 Sept. 80	—
		{ Bantaran	501	9 Aug. 80	—
		{ Loengoeredjo	251	12 May 81	—
		{ Kali-Lekso	570	9 June 81	—
		{ Banaran	588	29 Sept. 81	—
		{ Kawi-Sari	501	20 March 82	—

Coffee plantations on Lands Rented in SOERAKARTA and  
DJOCDJOKARTA. (JAVA).

RESIDENCY.	DEPARTMENT.	PLANTATIONS.	Size in bahoës.	Crops grown in addition to Coffee.	Yearly Rental, in guilders.	
Soerakarta.	Klaten. 1)	Goenoengan	58		218	
		Kebon-Aroem	488	indigo and tobacco	3,808	
		Gantiwarno (Tjetok)	337	indigo	1,729	
		Logedé	581		2,540	
		Ngoevit-Poeloewatoe	1,505	indigo and tobacco	12,861	
		Ngoevit-Sadjajan	—	indigo and tobacco	—	
		Gemampier	5,970	indigo	13,562	
		Remeng	217	—	503	
		Kepitoe-Djetis	2,412	indigo	5,769	
		Prambonan	3,636	indigo and sugar	18,106	
		Keboetoch	327	—	450	
		Redjo-Sari	63	tobacco	425	
		Tegal-Sari	498	—	1,723	
		Mendjing Djombor	364	tobacco	1,301	
		Kradjan	550	—	534	
		Kategocan-Djetis	472	—	900	
		Weroe-Dalem	2,657	—	1,625	
		Weroe-Ngentak	254	—	751	
		Manggis	1,215	—	1,121	
		Prigi	669	—	387	
		Paniron	1,056	—	876	
		Trènjèng	149	—	600	
		Masaran-Kidoel	636	tobacco	1,747	
		Kradjegan	493	—	931	
		Madjasto	615	—	620	
		Bojolali.	Satrijan-Selep	1,338	indigo	9,447
			Gendoelan	626	—	973
	Karang		803	—	4,811	
	Trompé c. a.		1,047	—	6,436	
	Tambak		474	—	2,355	
	Bradjan c. a.		2,785	—	12,902	
	Karang-Gondang		361	—	796	
	Pengoeng		1,941	—	5,695	
	Baros-Tampir		7,181	—	14,165	
	Poetjan-Kiringan		472	—	1,047	
	Djati-Paras	494	—	6,089		
	Watoe-Penganten	540	—	1,893		
Moedal-Bimo	1,012	—	9,013			
Ngares-Kopèn	288	tobacco	3,407			
Wonosari	6,986	—	2,958			

1) See Supplement Z.Z. to the Colonial Report of 1879.

Coffee plantations on Lands Rented in SOERAKARTA and  
DJOCDJOKARTA. (JAVA).

RESIDENCY.	DEPARTMENT.	PLANTATIONS.	Size in bahoes.	Crops grown in addition to Coffee.	Yearly Rental, in guilders.	
Soerakarta.	Bedjolali.	Kedoengdowo	1,927	—	927	
		Brodjol-Gondang- manis	1,252	—	600	
		Mangenardjo	1,983	tobacco	2,117	
		Soember	9,023	tobacco	925	
		Simo	7,534	—	6,561	
		Soko-Djenkilong	5,414	—	1,100	
		Plaer	456	—	1,687	
		Ampel	7,570	—	11,453	
		Melambong	3,927	—	2,700	
		Ploembon Paterran	658	—	6,562	
		Soekaboemi	5,420	—	6,043	
		Gondang-Wedelan	204	—	1,200	
		Stoegoer	281	—	1,750	
		Gesangan	207	—	1,500	
		Getas	11,615	—	30,336	
		Gagatan	14,484	—	8,196	
		Pringapoes	732	—	1,671	
		Boeloek	300	—	1,668	
		Repaking	2,980	—	1,833	
		Trantang Wonosido	1,576	—	1,300	
		Glonggong	600	tobacco and indigo	2,018	
		Dampak	253	—	200	
		Sragen.	Modjo-Sragen	8,538	tobacco and sugar	15,689
			Gemantar	445	—	230
			Moenggoer-Pering	2,276	—	14,458
	Ngaroem		8,155	—	5,069	
	Batoe-Djamoes		3,192	—	17,408	
	Karangdowo		640	native crops	367	
	Gebang-Winong		1,440	—	944	
	Tarik		5,920	—	15,584	
	Singgé		5,120	—	1,143	
	Kedong-Wedoes		242	—	879	
	Toendoengan		273	—	102	
	Moetian		196	—	1,708	
	Bangsri		549	—	1,535	
	Kakoean-Kemoesoeck		2,870	—	7,640	
	Wonogiri.		Kaliboto	1,342	—	1,000
		Koentjen c. a.	2,281	—	9,344	
		Djeroek-Wangi	1,000	—	5,700	
		Begadjah	1,410	—	2,500	
		Blorong	1,999	—	2,634	

Coffee plantations on Lands Rented in SOERAKARTA and  
DJOCDJOKARTA. (JAVA).

RESIDENCY.	DEPARTMENTS.	PLANTATIONS.	Size in bahoes.	Crops grown in addition to coffee.	Yearly rental in guilders.
Soerakarta.	Bojolali.	Tawang	533	—	1,967
		Goemawang	2,793	—	6,000
		Gadoengan	3,581	—	21,733
		Kemoening	3,564	—	12,600
		Pakem	1,190	—	8,893
		Tengklik	325	—	210
		Kredjo	8,547	—	25,450
		Tiris	3,611	—	2,135
		Begaden-Gempol	1,255	—	1,500
		Bretjak Wilatoeng	2,765	—	15,000
Djocdjokarta.	Djocdjocarta.	Mentatoelakan	1,000	—	46
		Bandjar-Ardjo	4,236	—	2,346
		Kradjan	208	—	777
		Redjosari	723	—	255
		Sorogedoek	2,572	—	9,316

Coffee plantations on Lands held on Emphyteutic Lease.  
(SUMATRA and CELEBES).

PROVINCES.	DEPARTMENTS.	PLANTATIONS.	Size in bahoes.	Date of entry in the Emphyteutic Registers.	Valuation for ground-tax.
Padang lowlands. 535	Ommelanden Painan.	Rimboe-Datar	35	14 July 1879	—
		Leboe-Gedang	500	7 Jan. 78	—
Padang uplands. 7831	Tanah Datar.	Kota-Zuidewijn	1,332	18 May 77	—
		Gedang-Batoe	2,041	2 Aug. 77	—
	XIII and IX Kotas.	Soerian	459	25 June 77	—
		Oeloe-Silité	209	17 Nov. 81	—
		Kajoe-Kaleh	196	27 Nov. 77	—
		Loeboeh-Gedang	400	3 Dec. 77	—
		Loeboeh-Selasie	1,061	7 May 78	—
		Soebang	635	2 June 79	—
		Boekit-Gompong	670	16 July 80	—
		Rimbo-Soegei- Pasampan	508	2 July 81	—
Agam.	Si-Berasap	320	6 Dec. 78	—	
Tapanoeli. 771	Mandheling- Angkola.	Aik-Sisomo	771	29 Dec. 76	—
Menado. 2865	Tondano.	Talissé	2,470	6 Aug. 1879	—
		Langowan	395	12 May 81	—

## RECAPITULATION.

Coffee plantations on Lands held on Ordinary or Emphyteutic Lease.

1. JAVA.			bahoes.	
Bantam Preanger	Lebak	. . . . .	4,798	
	Bandoeng	409		
	Tjitjalengka	1,595		
	Tjiandjoer	7,948		
	Soekaboemi	9,116		
	Soemedang	629		
	Tasikmalaja	552		20,249
Cheribon Pekalongan	Madjalengka	. . . . .	808	
	Pekalongan	2,409		
	Batang	3,733		6,142
Samarang	Salatiga	1,348		
	Grobogan	204		
	Ambarawa	5,164		
	Kendal	11,686		18,402
Japara Rembang Soerabaja Pasoeroean	Pati	. . . . .	500	
	Bodjonegoro	. . . . .	545	
	Modjokerto	. . . . .	2,598	
	Bangil	589		
	Malang	22,092		22,681
Probolinggo	Kraksään	503		
	Loemadjang	6,365		6,868
Bezoeki Banjoewangi Bagelen	Bondowosso	. . . . .	1,428	
	Banjoewangi	. . . . .	1,272	
	Ledok	2,118		
	Karanganjar	470		2,588
Kedoe	Magelang	692		
	Temanggoeng	3,707		4,399
Madioen	Madioen	4,025		
	Ngawie	2,459		6,484
Kediri	Kediri	1,355		
	Ngrowo	2,746		
	Trengalek	2,665		
	Blitar	20,054		26,820
2. SUMATRA.	Westcoast	. . . . .		126,582
3. CELEBES.	Menado	. . . . .		9,137
				2,865
			Total . .	138,584

## Coffee Plantations on private Estates (freehold).

RESIDENCY. (JAVA.)	DEPART- MENT.	PLANTATIONS.	Size in bahoes.	Population.	Valuation for ground-tax.	Crops grown in addition to coffee.
Bantam. Batavia.	Serang. Buitenzorg.	Tjikandi Oedik	26,785	21,761	525,000	rice
		Tjiseroea	11,693	5,861	930,000	»
		Tjikopo	6,174	5,495	645,000	»
		Pondok-Gede	34,415	29,818	2,233,000	» and other product.
		Tjiomas	10,718	9,014	1,138,940	»
		Tjitrap	31,133	26,590	750,000	»
		Soekaradja	3,264	4,916	261,090	»
		Tjampea	11,315	—	1,423,000	»
		Tjiboenboelan	13,843	27,828	2,73,000	»
		Sading	16,899	7,189	467,000	»
		Toeroek- Bitoeng	7,021	1,800	1,047,000	»
		Jasinga	23,630	8,515	349,000	»
Tjipaminkis	74,889	28,476	1,360,000	»		
Krawang.	Krawang.	Pamanoekan and Tjiasem- lands	300,000	130,360	2,200,000	»
Samarang.	Samarang.	Krapijak	630	1,097	115,000	»
		Melojo	396	3,408	175,000	»
		Soesoekan	49	53	32,000	»

Production of Coffee on the following Plantations in the Residencies of SAMARANG AND PASSOEROEAN, according to the Report concerning the Coffee-enquête," by the Inspector General, Mr. C. J. Bosch, page 1432—1447, Colonial Reports, 1870/71 D. 2.

Years.	Fruit-bearing trees.	Crop.						
<b>PRINGAPOES-NOBO.</b>								
1853	821,792	3,021	unknown,	1,931	unknown	unkn.	unknown.	617
1854	910,254	3,955	»	3,417	»	»	»	898
1855	910,254	4,120	»	2,334	»	»	»	846
1856	1,138,945	1,674	»	960	»	»	»	489
1857	1,138,945	5,824	»	2,657	150,000	1,000	120,000	1,635
1858	1,138,945	1,500	406,000	1,392	150,000	435	140,000	701
1859	1,329,282	2,695	444,500	2,190	150,000	630	140,000	376
1860	1,108,570	4,403	444,500	2,209	150,000	935	195,000	702
1861	1,150,712	3,662	444,500	1,862	210,000	957	335,000	482
1862	1,205,610	5,543	241,400	1,310	250,000	1,498	355,000	546
1863	1,146,058	3,286	242,300	1,578	300,000	556	398,000	1,012
1864	1,029,000	4,452	242,300	1,087	460,000	1,170	398,000	533
	13,028,367	43,835	2,465,500	11,628	1,820,000	7,181	2,081,000	6,047
1 picol of Average crop.	297	3,653	212	1,885	253	898	344	741
<b>BANARAN.</b>								
<b>KALIEOELOE.</b>								
<b>SAMIRONO.</b>								
<b>KEDAJON.</b>								
1853	45,856	217	unknown.	1444	340,000	867	5,940	20
1854	45,856	299	»	2265	400,000	1,259	5,940	20
1855	55,856	443	»	1413	400,000	1,150	5,940	7
1856	73,000	122	448,900	672	490,000	169	5,940	12
1857	87,000	425	548,900	2883	490,000	2,310	5,940	150
1858	87,000	263	550,000	1432	390,000	872	225,340	321
1859	87,000	349	550,000	2293	500,000	1,190	451,640	1,590
1860	88,000	588	550,000	2439	500,000	962	475,640	1,750
1861	90,000	586	500,000	2437	430,000	838	595,040	3,275
1862	100,000	536	450,000	1676	430,000	782	652,450	2,211
1863	100,000	817	450,000	1588	386,000	545	678,390	2,687
1864	100,000	349	450,000	1823	250,366	778	472,890	1,015
	950,568	4,994	4,497,800	16,943	5,006,366	11,722	3,581,090	13,058
1 picol of Average crop.	192	416	265	1,839	427	977	274	1,088
<b>TLOGO.</b>								
<b>GOLLI.</b>								
<b>GETAS.</b>								
<b>KEMETEP.</b>								
1853	300,000	1,204	225,000	1,205	675,000	2,267	unknown.	1,522
1854	360,000	2,091	495,500	1,448	720,000	3,270	»	2,117
1855	410,000	3,088	380,000	1,569	700,000	2,911	»	3,050
1856	373,000	1,837	394,000	880	624,000	1,028	»	1,164
1857	470,000	4,000	370,000	2,487	891,000	6,956	»	2,793
1858	615,000	2,039	486,000	1,646	980,000	3,105	407,483	1,499
1859	681,489	3,738	676,000	2,083	1,080,000	4,768	250,534	1,359
1860	672,620	3,983	826,000	3,000	1,080,000	5,697	213,154	2,799
1861	791,600	5,030	917,000	3,288	1,080,000	4,251	300,810	1,613
1862	857,280	3,700	817,739	1,916	1,080,000	4,854	546,285	1,607
1863	910,910	7,003	817,739	2,301	922,000	2,992	543,423	2,496
1864	770,640	2,807	817,739	654	819,750	2,553	988,742	912
	7,272,539	40,517	7,222,717	22,477	10,651,750	44,652	3,250,431	12,285
1 picol of Average crop.	179	3,376	321	1,873	239	3,721	265	1,910
<b>NGARIANAK.</b>								
<b>SIDOMOEKTI.</b>								
<b>POETJONG-SELOKATON.</b>								

Coffee produced on the following Plantations in the Residencies of SAMARANG and PASOEROEAN according to the Report concerning the Coffee-enquête by the Inspector General Mr. C. J. Bosch, page 1432-1447 Colonial Report 1870/71 D. 2.

Years.	Fruit-bearing trees.	Crop.	Fruit-bearing trees.	Crop.	Fruit-bearing trees.	Crop.	Fruit-bearing trees.	Crop.				
<b>KEDAWOENG.</b>												
1853	unknown.	395	unknown.	550	unknown.	2,393	»	»				
1854	»	695	»	1,066	»	3,997	»	»				
1855	»	493	»	910	»	2,647	»	»				
1856	»	403	»	652	»	1,637	»	»				
1857	»	871	»	2,201	»	3,646	»	»				
1858	»	259	»	1,051	»	3,093	»	»				
1859	»	244	»	805	»	2,071	244,010	493				
1860	154,000	364	»	1,142	»	3,100	330,020	1,630				
1861	154,000	210	»	802	»	1,669	509,570	984				
1862	154,000	440	»	700	»	1,619	696,970	1,194				
1863	154,000	370	»	1,014	»	2,666	814,820	1,255				
1864	204,000	132	400,000	554	566,500	707	696,370	394				
	820,000	1,516	—	—	—	—	3,291,660	5,950				
1 picol of	541	—	—	—	—	—	553	—				
Average crop		381		954		2,437		992				
<b>GOENOENGPATI.</b>												
<b>GEBOEGAN.</b>												
<b>KALIMAS.</b>												
<b>KLEPOE.</b>												
1853	unknown.	1,793	unknown.	1,741	unknown.	2,107	unknown.	1,123				
1854	»	2,987	»	2,570	»	2,683	»	1,907				
1855	»	1,586	»	1,580	»	2,264	»	1,205				
1856	»	985	»	417	»	1,388	»	690				
1857	»	2,305	»	2,276	»	2,720	»	1,831				
1858	»	1,150	»	1,680	»	1,638	»	1,112				
1859	634,480	1,982	»	2,139	»	3,323	»	1,260				
1860	657,180	2,401	»	3,625	»	3,537	»	1,810				
1861	689,180	2,186	»	3,290	»	3,466	421,000	1,682				
1862	706,580	2,579	»	4,000	»	1,948	413,500	1,135				
1863	694,662	1,457	861,000	2,000	470,000	4,650	441,000	1,397				
1864	642,977	1,304	700,000	1,550	670,000	1,124	342,000	607				
	4,025,059	11,909	—	—	—	—	1,617,500	4,821				
1 picol of	338	—	—	—	—	—	335	—				
Average crop		1,893		2,239		2,570		1,313				
<b>DJATIRONGO.</b>												
<b>DJATIKALANGAN and TAMBANGAN.</b>												
<b>TJOEROEK.</b>												
<b>GENITRI (Pasoeroean).</b>												
1853	839,187	6,992	130,000	1,160	<b>REMARKS.</b> According to page 1451 of the above-mentioned Colonial Report, no higher average can be reckoned on than 5-6 picols per hectare; among all the hired plantations mentioned therein, there are only two estates that have yielded more than 10 picols; viz.: Kalieloe in 1875 = 1,33 per bahoe. Sidemoektie in 1857 = 12,88 » » in 1860 = 10,55 » » But even in these years the yield of plantations did not reach 1 katti per tree, seeing that there were much more than 1000 trees to a hectare.							
1854	839,187	7,287	130,000	1,100								
1855	839,187	7,033	130,000	1,157								
1856	839,187	3,005	130,000	953								
1857	839,187	10,264	130,000	803								
1858	839,187	5,393	130,000	1,235								
1859	839,187	7,606	130,000	1,575								
1860	—	—	—	—								
1861	—	—	—	—								
1862	—	—	—	—								
1863	—	—	—	—								
1864	—	—	—	—								
	5,874,309	47,580	910,000	7,973								
1 picol of	123	—	114	—								
Average crop		6,797		1,139								
<b>ARDJOSARIE (Pasoeroean).</b>												

## COFFEE PRODUCED during 10 years on some

PROVINCE.	NAMES OF THE PLANTATIONS.	1882.	1881.	1880.	1879.	1878.
Bantam	Tjisella I and II . . . . .	523	490	300	700	1,110
	Tjiocpit . . . . .	750	200	300	382	200
	Goenoeng Pontang . . . . .	400	500	350	325	300
	Kosala . . . . .	335	125	188	161	500
	Lebaksioe . . . . .	542	200	?	500	200
Preanger.	Sitiardja . . . . .	5,800	3,000	1,250	3,000	700
	Calorama . . . . .	1,530	280	650	656	200
	Tjiboengoer . . . . .	36	0	200	517	
Cheribon.	Pajoeng . . . . .	1,505	250	572	434	
	Tedja . . . . .	2,771	360	476	374	
Pekalongan.	Djampagan-Sidosoekmo . . . . .	1,500	530	260	1,450	400
	Loetoeng-Linggo . . . . .	500	300	410	1,380	1,200
	Wonodadi . . . . .	550	162	160	300	100
Samarang.	Lerep . . . . .	630	450	460	600	600
	Kalisidi-Terwidi . . . . .	1,797	1,120	970	786	?
	Geboegan . . . . .	?	1,168	?	1,710	?
	Banaran . . . . .	492	757	610	1,056	1,200
	Pringapoes-Nobo . . . . .	2,793	3,019	?	?	600
	Klepoe . . . . .	580	667	441	267	?
	Djatirongo . . . . .	2,300	2,376	?	?	?
	Tlogo . . . . .	1,526	1,530	1,107	1,800	600
	Samirono . . . . .	198	682	80	220	?
	Kedajon-Moedjo . . . . .	283	162	52	83	?
	Golli . . . . .	357	1,082	1,157	1,645	200
	Djatikalangan-Tambangan . . . . .	4,000	1,200	895	4,210	4,500
	Getas . . . . .	1,225	635	970	1,226	400
	Seringin . . . . .	3,085	1,195	2,096	3,332	800
	Kliwat-Soengie . . . . .	1,500	1,350	1,600	2,490	800
	Ngarianak . . . . .	2,000	1,274	1,012	1,035	200
	Kalimas . . . . .	4,040	4,847	3,939	1,122	400
	Blantang-Selarang . . . . .	1,500	860	1,500	665	100
	Sidomoekti . . . . .	2,300	3,053	3,370	?	1,000
	Seketjër . . . . .	1,060	2,385	1,745	505	200
	Dandang-Bodeh-Widoro . . . . .	600	550	1,100	730	?
	Poetjoeng-Selokaton . . . . .	5,227	3,000	2,896	5,000	3,000
Genting-Goenoeng . . . . .	1,765	350	215	1,800	1,800	

of the principal coffee-plantations in Java.

	1878.	1877.	1876.	1875.	1874.	1873.	REMARKS.
	1,180	800	1,404	1,750	2,400	2,300	These statistics are taken from the Colonial Reports.
	252	55	14	30	?	?	
	300	50	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
	532	180	156	<i>a</i>	<i>a</i>	<i>a</i>	It is true that they are not always absolutely correct, for those figures represent the estimated crops, including prepared as well as horny-husked coffee; but they are sufficiently exact for our present purpose, which is to show that an average product of 1 katti per tree is not to be relied on.
	250	236	64	120	?	?	
	750	600	85	<i>a</i>	<i>a</i>	<i>a</i>	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	237	60	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
	60	450	325	204	450	300	
	67	25	10	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i> . No produce as yet.
	27	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
	400	400	?	250	94	800	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	1,200	830	835	392	356	360	
	104	45	2	<i>a</i>	<i>a</i>	<i>a</i>	
	609	810	826	356	750	451	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	?	859	1,220	354	915	829	
	?	1,585	2,578	887	2,800	1,293	<i>a</i> . No produce as yet.
	1,211	1,105	2,105	649	1,440	1,092	
	601	1,623	1,476	1,193	1,381	917	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	80	364	399	353	719	880	
	?	1,338	777	952	936	541	<i>a</i> . No produce as yet.
	686	2,180	1,565	794	2,408	1,761	
	?	80	93	39	105	130	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	65	185	240	161	450	350	
	295	1,750	796	1,130	1,061	656	<i>a</i> . No produce as yet.
	4,500	2,104	3,500	983	3,400	1,712	
	400	1,375	1,630	766	2,000	1,640	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	840	2,000	2,400	881	843	569	
	840	1,729	2,115	1,130	1,994	1,608	<i>a</i> . No produce as yet.
	262	783	1,035	462	1,136	1,083	
	438	1,300	2,000	927	3,200	2,922	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	113	43	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
	1,083	2,352	3,000	1,632	3,098	2,364	<i>a</i> . No produce as yet.
	261	675	762	523	651	312	
	?	435	790	310	633	460	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	3,641	3,226	4,586	1,982	4,527	4,003	
	1,803	651	1,499	379	969	619	

## COFFEE PRODUCED during 10 years on some

PROVINCE.	NAMES OF THE PLANTATIONS.	1882.	1881.	1880.	1879.	1878.
Bantam	Tjisella I and II . . . . .	523	490	300	700	1,100
	Tjioepit . . . . .	750	200	300	382	200
	Goenoeng Pontang . . . . .	400	500	350	325	300
	Kosala . . . . .	335	125	188	161	500
	Lebaksioe . . . . .	542	200	?	500	200
Preanger.	Sitiardja . . . . .	5,800	3,000	1,250	3,000	700
	Calorama . . . . .	1,530	280	650	656	200
	Tjiboengoer . . . . .	36	0	200	517	
Cheribon.	Pajoeng . . . . .	1,505	250	572	434	
	Tedja . . . . .	2,771	360	476	374	
Pekalongan.	Djampagan-Sidoseokmo . . . . .	1,500	530	260	1,450	400
	Loetoeng-Linggo . . . . .	500	300	410	1,380	1,200
	Wonodadi . . . . .	550	162	160	300	100
Samarang.	Lerep . . . . .	630	450	460	600	600
	Kalisidi-Terwidi . . . . .	1,797	1,120	970	786	800
	Geboegan . . . . .	?	1,168	?	1,710	?
	Banaran . . . . .	492	757	610	1,056	1,200
	Pringapoes-Nobo . . . . .	2,793	3,019	?	?	600
	Klepoe . . . . .	580	667	441	267	?
	Djatirongo . . . . .	2,300	2,376	?	?	?
	Tlogo . . . . .	1,526	1,530	1,107	1,800	600
	Samirono . . . . .	198	682	80	220	?
	Kedajon-Moedjo . . . . .	283	162	52	83	?
	Golli . . . . .	357	1,082	1,157	1,645	200
	Djaticalangan-Tambangan . . . . .	4,000	1,200	895	4,210	4,500
	Getas . . . . .	1,225	635	970	1,226	400
	Seringin . . . . .	3,085	1,195	2,096	3,332	800
	Kliwat-Soengie . . . . .	1,500	1,350	1,600	2,490	800
	Ngarianak . . . . .	2,000	1,274	1,012	1,035	200
	Kalimas . . . . .	4,040	4,847	3,939	1,122	400
	Blintang-Selarang . . . . .	1,500	860	1,500	665	100
	Sidomoekti . . . . .	2,300	3,053	3,370	?	1,000
	Seketjër . . . . .	1,060	2,385	1,745	505	500
Dandang-Bodeh-Widoro . . . . .	600	550	1,100	730	300	
Poetjoeng-Selokaton . . . . .	5,227	3,000	2,896	5,000	3,000	
Genting-Goenoeng . . . . .	1,765	350	215	1,800	1,800	

of the principal coffee-plantations in Java.

	1878.	1877.	1876.	1875.	1874.	1873.	REMARKS.
	1,180	800	1,404	1,750	2,400	2,300	These statistics are taken from the Colonial Reports.
	252	55	14	30	?	?	
	300	50	a	a	a	a	
	532	180	156	a	a	a	It is true that they are not always absolutely correct, for those figures represent the estimated crops, including prepared as well as horny-husked coffee; but they are sufficiently exact for our present purpose, which is to show that an average product of 1 katti per tree is not to be relied on.
	250	236	64	120	?	?	
	750	600	85	a	a	a	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	237	60	a	a	a	a	
	60	450	325	204	450	300	
	67	25	10	a	a	a	a. No produce as yet.
	27	a	a	a	a	a	
	400	400	?	250	94	800	
	1,200	830	835	392	356	360	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	104	45	2	a	a	a	
	609	810	826	356	750	451	
	?	859	1,220	354	915	829	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	?	1,585	2,578	887	2,800	1,293	
	1,211	1,105	2,105	649	1,440	1,092	
	601	1,623	1,476	1,193	1,381	917	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	80	364	399	353	719	880	
	?	1,338	777	952	936	541	
	686	2,180	1,565	794	2,408	1,761	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	?	80	93	39	105	130	
	65	185	240	161	450	350	
	295	1,750	796	1,130	1,061	656	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	4,500	2,104	3,500	983	3,400	1,712	
	400	1,375	1,630	766	2,000	1,640	
	840	2,000	2,400	881	843	569	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	840	1,729	2,115	1,130	1,994	1,608	
	262	783	1,035	462	1,136	1,083	
	438	1,300	2,000	927	3,200	2,922	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	113	43	a	a	a	a	
	1,083	2,352	3,000	1,632	3,098	2,364	
	261	675	762	523	651	312	The figures, however, are too high rather than too low, especially now since the new arrangement in Java for the transport of coffee, when an inaccurate valuation may laid to disagreeableness, when tickets are being taken.
	?	435	790	310	633	460	
	3,641	3,226	4,586	1,982	4,527	4,003	
	1,803	651	1,499	379	969	619	

## COFFEE PRODUCED during 10 years on some

of the

PROVINCE.	NAMES OF THE PLANTATIONS.	1882.	1881.	1880.	1879.	1878.
Pasoeroean.	Geboeg . . . . .	2,000	2,850	2,080	1,600	412
	Tanahwangie . . . . .	1,700	4,600	1,200	3,362	1,113
	Limburg . . . . .	3,000	12,000	3,944	5,719	1,150
	Madoe-Ardjo . . . . .	6,310	4,189	2,100	2,050	590
	Bloemiredjo . . . . .	7,927	5,859	2,666	2,274	125
	Gangsiran . . . . .	2,290	7,787	2,590	7,500	3,556
	Djoengo . . . . .	1,500	2,600	1,250	1,350	800
	Soembool . . . . .	5,500	12,737	1,008	6,180	1,650
Wonosari. . . . .	3,700	2,470	?	1,000	300	
Bagelen.	Boerat. . . . .	1,123	1,275	307	1,865	1,134
Kedoe.	Ngrantjak . . . . .	1,000	362	180	1,934	1,600
Madioen.	Waliran . . . . .	900	1,750	1,750	1,640	641
	Kandangan . . . . .	1,600	2,600	1,040	1,180	411
	Pangoengsari c. a. . . . .	2,860	1,931	1,700	2,000	224
	Bloeboer-Djamoës . . . . .	2,000	2,000	1,050	904	322
Kediri.	Soeka-Radja . . . . .	3,400	2,416	800	900	8,000
	Bonowati. . . . .	2,350	2,300	800	600	?
	Soemberwangie . . . . .	2,700	2,000	800	500	1,500
	Petoengroto I en II . . . . .	1,041	1,420	500	537	?
	Mringin . . . . .	1,700	1,170	320	350	151
	Tawangredjo . . . . .	4,500	3,750	720	1,624	475
	Papoh-Siwalan-Daroengan . . . . .	2,754	2,530	?	1,186	250

of the principal coffee-plantations in Java.

	1878.	1877.	1876.	1875.	1874.	1873.	REMARK.
600	412	200	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i> . No produce as yet.
862	1,113	3,600	8,000	5,100	5,000	3,600	
719	1,150	3,850	3,777	3,370	6,000	6,400	
950	590	36	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
274	125	2	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
500	3,556	6,325	7,400	3,620	5,063	2,377	
350	800	?	450	400	100	50	
180	1,650	1,400	973	493	375	114	
000	300	5	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
865	1,134	593	1,240	130	407	153	
934	1,600	800	1,200	150	244	64	
640	641	2,034	660	2,176	450	1,050	
180	411	432	66	<i>a</i>	<i>a</i>	<i>a</i>	
000	224	63	8	<i>a</i>	<i>a</i>	<i>a</i>	
904	322	400	400	?	<i>a</i>	<i>a</i>	
900	8,000	960	3,500	1,000	2,000	2,000	
600	?	338	70	<i>a</i>	<i>a</i>	<i>a</i>	
500	1,500	296	65	<i>a</i>	<i>a</i>	<i>a</i>	
537	?	18	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
350	151	30	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	
624	475	340	185	7	<i>a</i>	<i>a</i>	
186	250	40	50	<i>a</i>	<i>a</i>	<i>a</i>	

COFFEE PRODUCED, during 10 years, on some of the

REGENCIES.	NAMES OF THE PLANTATIONS.	1882.	1881.	1880.	1879.	1878.
Soerakarta- Klatèn.	Gemampier . . . . .	2,175	2,575	1,700	5,080	2,510
	Kepitoe-Djetis . . . . .	410	410	70	335	140
	Logedé . . . . .	244	530	270	1,416	651
	Ngoejit-Poeloewatoe . . . .	700	694	650	1,500	190
Bojolali.	Baros-Tampir . . . . .	3,177	4,156	3,918	5,668	3,733
	Bradjan-Kalitjebong . . . . .	1,100	2,000	2,490	1,700	1,200
	Djati . . . . .	1,077	2,586	2,032	2,645	1,505
	Gendoelan-Soerowono . . . .	332	259	214	504	370
	Kajoemaas-Bodeh . . . . .	900	1,300	750	500	682
	Karang . . . . .	990	1,013	740	940	400
	Moedal-Bimo . . . . .	341	854	735	1,381	823
	Penggoeng . . . . .	915	1,893	1,334	2,055	842
	Poetjang . . . . .	± 550	747	403	933	300
	Satryan-Selap . . . . .	1,650	1,500	650	1,800	450
	Tambak . . . . .	266	650	384	1,250	351
	Watsé Penganten . . . . .	385	873	607	1,100	810
Ampel.	Ampel . . . . .	3,000	1,700	1,882	3,100	1,155
	Asinan . . . . .	1,545	1,300	995	1,710	502
	Gesangan . . . . .	300	671	742	1,104	510
	Getas . . . . .	2,900	4,300	3,632	933	865
	Gondang-Wedelan . . . . .	183	260	258	333	263
	Plaer . . . . .	358	498	595	777	340
	Ploembon-Paterran . . . . .	900	486	432	900	500
	Simo . . . . .	752	2,350	2,500	1,586	400
	Soekaboemi (Tjepogo) . . . .	4,000	2,495	1,925	2,600	1,030
	Stoegoer . . . . .	665	450	618	760	419
Sragèn.	Batoe-Djames . . . . .	2,500	3,000	2,500	2,041	680
	Kemoesok-Kakoem . . . . .	632	1,064	915	786	446
	Madjo-Sragèn . . . . .	1,400	1,750	1,054	300	32
	Moenggoer-Pering . . . . .	2,300	4,100	2,578	1,233	532
	Ngaroem . . . . .	1,320	1,942	1,420	1,436	200
Tarik . . . . .	3,031	4,687	4,351	6,000	994	
Wonogiri.	Djeroekwangi-Gempol . . . .	1,840	2,774	1,530	1,500	440
	Gadoengan . . . . .	2,480	3,000	1,694	2,400	526
	Kemoening . . . . .	3,500	4,000	3,000	5,000	2,400
	Koentjèn . . . . .	432	826	982	532	240
	Kredjo . . . . .	8,320	8,600	7,800	7,251	1,235
	Pakem . . . . .	415	1,000	600	1,220	329
	Tengklik . . . . .	700	850	430	1,000	189
	Tiris . . . . .	886	3,000	2,243	1,553	157
Mankoe- Negaran.	Bretjak-Wilatoeng . . . . .	2,500	7,500	8,000	4,460	919
	Total Soerakarta 1) . . . .	71,035	100,926	84,392	98,530	34,339
	„ Djocdjokarta . . . . .	260	224	217	379	184

1) Inclusive of smaller plantations not mentioned here.

some of the principal coffee-grounds in Soerakarta (in picols).

1879.	1878.	1877.	1876.	1875.	1874. 1)	1873. 1)	REMARKS.
5,080	2,510	5,630	5,800	3,700	2,942	1,684	<p>It must be carefully borne in mind here that these statements of the landed proprietors concerning the amount of crop, do not represent the ascertained production, but the estimate of the crops.</p> <p>So far as I know, none of these plantations has produced an average yield of 10 picols per hectare during 10, nay, even during 5 years.</p> <p>The present notion that 10 picols per hectare is the regular yield, must be ascribed to the „parrot like prating” of certain would-be specialists.</p> <p>If this notion were correct, men might rightly talk of coffeeprinces as well as sugarlords, instead of using the present humble, but far more appropriate designation, coffee-farmer.</p>
335	140	300	462	157	392	231	
1,416	651	1,120	895	445	206	208	
1,500	190	850	850	?	400	200	
5,668	3,733	4,340	6,430	2,862	5,863	1,816	
1,700	1,200	2,785	4,052	2,300	3,181	2,704	
2,645	1,505	1,613	1,524	980	2,600	1,367	
504	370	480	1,100	510	800	315	
500	682	1,224	1,517	1,200	?	?	
940	400	560	1,145	710	1,050	917	
1,381	823	1,454	1,882	1,234	2,415	1,321	
2,055	842	1,247	2,179	1,329	2,499	1,242	
933	300	630	998	848	1,610	1,570	
1,800	450	1,300	2,050	1,300	2,500	1,140	
1,250	351	867	636	400	300	375	
1,100	810	895	1,623	820	1,821	887	
3,100	1,155	2,361	3,126	1,725	3,567	2,570	
1,710	502	1,552	1,221	1,117	1,200	1,110	
1,104	510	1,291	1,316	893	461	285	
933	865	3,431	2,195	2,810	3,000	2,879	
333	263	1,164	1,736	1,739	1,230	2,335	
777	340	910	550	680	850	700	
900	500	1,531	1,351	1,177	2,458	2,442	
1,586	400	1,500	900	1,204	1,470	1,257	
2,600	1,030	1,015	1,871	1,025	3,476	132	
760	419	487	905	690	670	547	
2,041	680	4,481	3,700	3,175	3,439	2,021	
786	446	1,807	1,602	1,290	?	?	
300	32	1,209	290	700	800	300	
1,233	532	3,610	3,574	2,540	3,041	2,608	
1,436	200	1,556	1,222	1,140	1,900	1,000	
6,000	994	5,538	6,064	3,082	5,500	3,595	
1,500	440	1,665	2,400	1,230	1,400	1,142	
2,400	526	1,286	1,448	910	1,657	1,153	
5,000	2,400	2,520	3,947	1,510	2,500	2,000	
532	240	2,000	1,360	1,354	2,100	2,044	
7,251	1,235	12,090	?	6,000	6,700	3,610	
1,220	329	1,060	?	750	1,358	921	
1,000	189	958	733	674	1,000	960	
1,553	157	2,254	?	2,374	1,700	1,990	
4,460	919	7,722	6,100	?	?	5,700	
8,530	34,339	103,156	90,111	68,245	} 98,456	73,886	
379	184	274	624	365			

1) Extracted from the Colonial Archives.



SUPPLEMENT I.

INVOICES.

No. 1. RIO DE JANEIRO.

Proforma Invoice of 1000 Bags Coffee shipped „to order”  
per Steamer „Vandyck” to Hamburg, by order and for  
account and risk of whom it may concern.

per 10 Kilos.

A. 1000 Bags contg 60,000 Kilos Coffee à 5 \$ 000

Rs. 30,000 \$ 000

Bags à 700 rs. » 700 » 000

Rs. 30,700 \$ 000

Charges.

To duty on 60,000 Kilos à 503 rs.

Rs. 30,180 \$ 000 à 11 0/0 . . . Rs. 3,319 \$ 800

» Wharfdues, Cartage, Shipping ex- }  
penses, Brokerage and Telegrams } 415 \$ 000

3,734 \$ 800

Rs. 34,434 \$ 800

Commission 3 0/0 . . . . . » 1,033 \$ 040

Rs. 35,467 \$ 840

Bill Stamp & Brokerage  $\frac{5}{16}$  0/0 . . . . . » 111 \$ 180

à Echange  $22\frac{1}{4}$  d, 90  $\frac{1}{8}$  = £ 3,298-9-5 . . . . . Rs. 35,579 \$ 020

E. & O. E.

Rio de Janeiro, 23rd February 1884.

Cost f.o.b. with freight of 40 sh. & 5 0/0 per ton to Hamburg, Exchange

M. 20.40, M. 52.90 per 100 pd.

» » » » » 40 c. & 5 0/0 per bag to New-York, Exchange

\$ 4.85, \$ 12,44 per 100 pd.

## No. 2. RIO DE JANEIRO, 7 June 1883.

Charges on the receipt and despatch to New York of 43 bags  
= 2580 kilos coffee, through Mess<sup>rs</sup>. Almeida & Castro,  
Commissarios.

To Railway Carriage . . . . .	103 mr. 600 r.	
» Payments to Intermediario . . . . .	79 » 240 »	
» Cartage from Station to Warehouse . . . . .	6 » 450 »	
	<hr/>	189 mr. 290 r.
» Re-Bagging and Weighing à 100 reis . . . . .	4 mr. 300 r.	
» 43 new double Bags à 700 reis . . . . .	30 » 100 »	
» Marking Bags à 350 reis . . . . .	15 » — »	
Cartage to the Docas and Wharfdues à 200 reis . . . . .	8 » 600 »	
Export Duties		
To 2580 kilos à 355 reis pauta = 915 mr. 900		
» 11 % on = 100 mr. 750		
» less 1 guia for		
2597 kilos = 28 » 560. . . . .	72 » 190 »	
» Receipt for duty paid (fixed charge) . . . . .	8 » — »	
» Consular declaration (idem) . . . . .	9 » — »	
» Samples, postage and petties . . . . .	5 » — »	
» Marine Insurance 1 % on 1300 m. . . . .	13 » — »	
» Policy 2 mr. and Stamp 2 mr. . . . .	4 » — »	
	<hr/>	169 » 190 »
		358 mr. 480 r.

At the moment of shipment this coffee could be  
sold at Rio à 360 reis per kilo = 928 mr. 800 r.  
less charges at Rio = 189,290

3 % commission. = 217,170 217 » 170 »  

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711 mr. 630 r.

At New York the same lot brought:

£ 105—9—9 à 21 $\frac{3}{4}$  = . . . 1,184 mr. 340 r.  
less charges at Rio = 358 m. 480 r.  
2 % commission = 23 » 170 »  

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382 » 170 »

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802 » 170 »  
Profit of sale in New York on 43 bags . . . 90 mr. 540 r.

No. 3. BREMEN.

VERKAUFF-RECHNUNG über 352 Säcke Caffee (220 Sack pr Grasbrook, 101 S. pr Rhenania, 31 S. pr Albingia) empfangen und hier auf Ordre und für Rechnung der Herren . . . . . in Quezaltenango verkauft wie folgt.

August 27 mit 4 Monat Ziel.

200 Säcke Caffee, gestürzt ergaben:

147 Säcke mit Brutto . . . . 24,684,<sup>5</sup> pd.  
Tara 1,<sup>8</sup> pd. per Sack. . . . 264,<sup>6</sup> »

Netto . . . . 24,419,<sup>9</sup> pd. à 52 ¢ M. 12,698.35

August 31 mit 4 Monat Ziel.

G R 152 Säcke Caffee, gestürzt ergaben:

GK & C 144 Säcke mit Brutto . . . . 18,566,<sup>5</sup> pd.  
E Tara 1,<sup>8</sup> pd. per Sack. . . . 205,<sup>2</sup> »

Netto . . . . 18,361,<sup>3</sup> pd. » 53 ¢ » 9,731.49

352 Säcke. Netto . . . . 42,781,<sup>2</sup> pd. M. 22,429.84  
pr 29 Decbr.

UNKOSTEN.

Fracht laut Connossement.

pr Grasbrook 27,065 pd. £ 5.—pr 2032 pd. £ 66.11.11 à 20.50 % M. 1,365.25  
» Rhenania 12,412 » » » » » 30.10.10 » 20.51 » » 626.40  
» Albingia 3,824 » » » » » 9. 8. 2 » 20.52 » » 193.05

M. 2,184.70

See-Assecuranz M. 28,160 à 1½ % . . . . » 422.40  
Declaration . . . . . » 4.10  
Aufsetzen, empfangen, Fahrlohn, lagern, stürzen,  
wiegen & abliefern . . . . . » 299.20  
Lagermiethe & Feuer-Assecuranz . . . . . » 168.25  
Umsatzsteuer ¼ % . . . . . » 37.38  
Police, Stempel, Porto & kl. Kosten . . . . . » 44.95

M. 3,160.98

Zinsen von Unkosten 6 % . . . . » 92.50  
Courtage ¼ % . . . . . » 56.07

Commission & Delcredere . . . . » 672.90 » 3,982.45

pr. 29 Decbr. M. 18,447.39

BREMEN, Septbr. 29, 1883.

S. E. & O.

No. 4.

BREMEN.

Cuenta de venta de 105 sacos de Café que recibimos pr S<sup>r</sup> Thuringia y que vendimos en esta de orden y cuenta de los Señores . . . . . de Bucaramanga, como sigue.

Enero 12 con 4 meses de plazo.

105 sacos, viciados, clasificados y rellenos resulta-

ron 98 sacos con Bruto . . . . 11,917 pd.

Tara . . . . . 98 »

Neto . . 11,819 pd. M. 60.— M. 7091.40

## GASTOS.

Flete segun conocimiento

11,985 pd. à £ 2.8, 5 % pr. 2032 pd. £ 14.17.3

	à 2037 %	M. 302.75
Aseguro de mar M. 8400 . . . . .	» 1 $\frac{3}{4}$ %	» 115.50
Declaracion . . . . .	»	» 1.40
Descargar, recibir, acarreo, vaciar, clasificar, rel-		
lenar, pesar y entregar. . . . .	»	89.25
Ahnacenege y seguro de incendio . . . . .	»	84.—
Derecho de venta $\frac{1}{8}$ % . . . . .	»	11.82
Poliza y sellos, porte de cartas, y gastos menores . . . . .	»	18.40

M. 623.12

Reditos de gastos 6 m. al. 6 % . . . . . » 19.69

Corretage  $\frac{1}{4}$  % . . . . . » 17.73

M. 659.54

Comision y garantia . . . . . » 212.74 » 872.28

al 12 de Mayo M. 6219.12

BREMEN, Enero 30 de 1884.

S. E. & O.

No. 5.

ANTWERP.

INVOICE of 963 bags Rio Coffee. Statement of the Dutch Consul.

963 sacs. Brut. . . . . 58,010 K.

Tare 2 % . . . . . 1,160 »

Net . . . . 56,850 K. 29 c. p.  $\frac{1}{4}$  kilo fl. 32,973.—

Escompte 2 % . . . . . » 659.46

fl. 32,313.54

à 400/189 . . . . .

fr. 68,388.44

## FRAIS.

Assurance maritime s/£ 2420-10 . . . . . £ 12.2

police & timbre . . . . . » 0.6.3

£ 12.8.3

à 25<sup>30</sup> . . . . .

frs. 314.04

## INVOICES.

577

fret s/ 57,806 K. à 30/— . . .	pr 1000 K.	frs. 314.04
	£ 86.14.2	
primage 5 % . . .	» 4. 6.8	
	£ 91.0.10	
	à 25 <sup>30</sup> . . .	» 2296.52
frais de débarquement payés au steamer . . .		» 109.25
déclaration à l'entrée, formalités en douane et timbre. »		» 40.—
droits d'entrée s/ Net 56,018 K. à frs. 13.20 p. 100 K. »		» 7394.38
frais de réception sur quai, peser, veilles, emma-		
gasiner, échantillonner, délivrer . . . . .		» 522.00
Magasinage . . . . .		» 58.01
Assurance contre incendie 1 <sup>0</sup> / <sub>00</sub> . . . . .		» 68.39
Courtage $\frac{3}{4}$ % . . . . .		» 512.91
Menus frais et ports de lettres . . . . .		» 25.08
Commission de vente et ducroire 2 % . . . . .		» 1367.77
		frs. 12,708.44
Net produit . . . . .		frs. 55,680.—

No. 6.

A N T W E R P.

INVOICE of 157 bags Rio coffee, for account of Mess<sup>rs</sup>. Almeida & Castro, Commissarios.

1883  
Octob. 8.

157 sacs Café Rio  
pesant Brut K. 9,458  
Tare 2 % » 191

Net . . . K. 9,267 à 28 c. EPB. . . frs. 5,239.92  
Escompte 2 % . . . » 104.80

PB. frs. 5,135.12

à 400/189

Valeur 7 Novembre 1883 . . . . . frs. 10,867.98

## FRAIS.

Oct. 5. Fret de Rio à Anvers . . . . .	frs. 335.45
Assurance. . . . .	» 55.41
Pesage, Camionnage et Veilles sur quai . . . . .	» 86.64
Déclaration en Douane . . . . .	» 6.—
31. Courtage $\frac{3}{4}$ % . . . . .	» 81.51
Commission 2 % . . . . .	» 217.36
Ducroire 1 % . . . . .	» 108.68
Port lettres & menus frais . . . . .	» 5.23
	» 895.98
Net produit, valeur comm <sup>ne</sup> 9 Nov. 1883 . . . . .	frs. 9,972.00

S. E. &amp; O.

ANVERS, 15 Octobre 1883.

Société Belge d'Exportation.

No. 7.

H A V R E.

INVOICE of 24 bags Rio coffee for account of Mess<sup>rs</sup>. Almeida  
& Castro, Commissarios.

24 sacs Café.  
pesant Brut . . . K. 1445.50  
pour emballage . . . » 8,50

K. 1437.—  
» 28,50

Tare 2 %

Net . . . K. 1408.50 à fr. 54 50 les 50 kilog. fr. 1535.25  
à 3½ mois du 15 Septembre.

## FRAIS.

Fret sur K. 1445 à f 30 & 10 % par 900 K. . . . fr. 53.—  
frais de quai, signaux et timbre du Connaiss. . . . » 1.40

fr. 54.40

Droit de Statistique, 10 c. par sac . . . . . » 2.40

Assurance maritime  
fr. 1600 à  $\frac{3}{8}$  % & police . . . . . » 12.—

Réception, voiliers, pour échantillonner, conditionner,  
port, mise en magasin, pesage, livraison & surveil-  
lance des opérations du Dock par nos gardemagasins . . . . . » 10.—

Magasinage, 2 mois sur K. 1500 à 15 c. par 100 K.  
par mois . . . . . » 4.50

Assurance contre le feu  
 $\frac{1}{2}$  ‰ & taxe 10 % sur f 1600 . . . . . » 90

Frais & Droits sur 1 boîte échantillon, permis, timbres,  
menus frais et ports de lettres . . . . . » 5.—

Courtage . . .  $\frac{1}{4}$  % } sur f 1535.25  
Escompte . . . 1½ % } » 3.85  
Commission . } 2½ % } » 26.85

Ducroire . . . } » 38.35

» 158.25

Valeur 15 Septembre . . . fr. 1377.—

S. E. &amp; O.

HAVRE, 3 Octobre 1883.

(S.) Delaroche &amp; Co.

No. 8.

V E N I C E.

INVOICE of 1000 bags Santos coffee (as stated by the Consul).

According to the Dutch Consul at Venice the following charges have to be  
deducted from the proceeds of 1000 bales coffee, value 80,000 francs.

To Stamp and Dock rates, lire or francs . . . . . 19,20

» Unloading and Cartage to the Warehouses of the  
« Punto franco » . . . . . 50,—

» Weighing and storage there . . . . . 84,—

» Brokerage  $\frac{1}{2}$  % . . . . . 400,—

To three month's warehousing à 1 centime per day per	
100 kilos . . . . .	540.—
» Fire Insurance 30 centimes per 1000 . . . . .	24.—
» Stamp on policy . . . . .	7,20
» Commission, according to agreement . . . . .	per memorandum.

NB. 1 franc per kilo, import duty is charged on sales for Italy.

The greater part of the coffee intended for Austria-Hungary is imported via Trieste for which town, being a free port, there is a brilliant future in store. The Austrian Government favours this port, especially in regard to the coffee-trade.

For import via Trieste, the import-duty on 100 kilos coffee is only 37 florins in gold, whereas the same quantity transported by rail, for instance, via Passau-Küfstein, Oderberg, or Bodenbach, is subject to an import duty of 40 florins in gold, this making a difference of 6 shillings, English Money, on every 100 kilos.

No. 9. LIVERPOOL.

INVOICE of 1000 bags Rio coffee (as stated by the Consul).

50 Bags coffee weighing net	56.0.25 à 36/	£ 401.43
40 » » » »	45.2.8 » 36/	» 82.0.7
100 » » » »	117.0.27 » 31/6	» 184.13.1
360 » » » »	407.2.23 » 33	» 672.44.3
450 » » » »	514.1.48 » »	» 848.15.7
2 » » » »	2.1.6 » 20/	» 2.6.1
		£ 1892.2.7
	Discount 2½ % . . . . .	» 47.6.1
		£ 1844.6.6

CHARGES.

Marine Insurance £ 2100. 12/6 & policy . . . . .	£ 43. 7. 9
Freight 58.8.19 40/ per ton . . . . .	» 116.16. 4
Entry docks & store dues . . . . .	» 6.15. 6
Quay portorage, sampling on quay, duty on sam- ples, cartage & attendance . . . . .	» 21. 5. 3
Dock Charges . . . . .	» 43. 7. 6
Extra rent . . . . .	» 38.16. 9
Fire Insurance. . . . .	» 15.15.—
Bank Commission on Charges . . . . .	» 42.10
Interests on Charges . . . . .	» 42.16.—
Brokerage ¼ % £ 1892.2.7 . . . . .	» 9. 9. 2
Petties . . . . .	» 7. 6
Commission & guarantee 2½ % . . . . .	» 47. 6. 4
	» 326.15.8
	£ 1518.—.10

Average due, date 25 Jan. 1884.

## No. 10. LIVERPOOL.

INVOICE of 500 bales coffee, shipped from Brazil to Liverpool,  
per . . . . . (statement of the Consul).

1884.

March 11. Per: Cwt.—qu.—pd.  
sound: 493 bales 565—0—15  
4—1—17 tare 1 pd. per bale.  
560—2—26

} 488 b. à 2 pd. |  
5 » » 1 » |

8—3—1 good weight.

Nett 551—3—25 à 53/— per Cwt. £ 1462.14.7

1<sup>st</sup> qu. damaged: 6 bales 6—3—27  
6 tare 1 pd. per bale.

6—3—21  
12 good weight 2 pd.

Nett 6—3—9 à 51/— per Cwt. » 47. 8.4

2<sup>d</sup> qu. damaged: 1 bale 1—0—17  
3 tare good weight.

Nett 1—0—14 à 49/— per Cwt. » 2.15.1

sweepings: 2 bales 1—1—3  
4 tare good weight.

Nett 1—0—27 à 38/— per Cwt. » 2. 7.2

£ 1485. 5.2

less 2½ pCt. . . » 37. 2.8

£ 1448. 2.6

» cartage . . . » 1. 9.0

£ 1446.13.6

## CHARGES.

To clearing, dock-rates, town-rates . . . . . £ 4. 3.5  
» porterage . . . . . » 2.16.8

Cwt.—qu.—pd.

» Freight 570—0—8 à 22/6 per Cwt. . . . . » 30.10.10  
» Sampling, weighing, repairing, etc. . . . . » 2.12.6  
» Stamps and petties . . . . . » 2.6  
» Duty on samples . . . . . » 6.3  
» Interest and bank-commission. . . . . » 2.5  
» Brokerage ½ % on £1485:5/2. . . . . » 7. 8.6

£ 48. 3.1

£ 1398.10.5

Payable 11 March 1884.

S. E. C.

LIVERPOOL, 19 March 1884.

No. 11.

LONDON.

PROFORMA account of Sale & Charges on 163 Bags Coffee	
sold at public Sale (as stated by Messrs. Patri & Pasteur).	
Lot 1—13 stated in detail on Invoice. . . . .	£ 1030.19.6
Discount 1 % . . . . .	» 10. 6.2
	<u>£ 1020.13.4</u>

## CHARGES.

To freight 248 a 8 ct. 55/ pr. cwt. . . . .	£ 37.18.-
Dock rates & stamps . . . . .	» 9. 3.8
Interest 25 days . . . . .	» - 3.2
Fire insurance. . . . .	» 4.15.2
Rent 4 weeks a 6 d. p. ton pr. week . . . . .	» 4. 5.6
Advertising & Sale Charges . . . . .	» 4. 6.-
Customs entry. . . . .	» - 3.6
Petty expenses. . . . .	» - 3.6
Brokerage $\frac{1}{2}$ % . . . . .	» 5. 3.1
	<u>£ 57.2.11</u>
Prompt 1 month from date of Sale . . . . .	£ 963.10.5

No. 12.

LONDON.

PROFORMA account of Sale & Charges on 1000 Bags Coffee sold on  
„c. i. f. terms” (cost, insurance and freight. Patry & Pasteur.)

1000 Bags weighing each 60 kilos a 50 $\frac{1}{2}$ ks = 1 cwt.	
or cwt. 1182.1.2 a 42/- c. i. f. London . . . . .	£ 2482.13.3
Less freight (say) . . . . .	» 410. » .»
	<u>£ 2372.15.3</u>
To Brokerage $\frac{1}{2}$ % . . . . .	12. 8.3
	<u>£ 2360. 7.</u>

No. 13.

LONDON.

PROFORMA account of Sale & Charges on 1000 Bags Coffee,  
sold on „London floating terms” (Patry & Pasteur.)

1000 Bags weighing each 60 k.	
60,000 kilos a 50 $\frac{1}{2}$ = 1 cwt.	
or cwt. 1182.1.2 nett a 42/- . . . . .	£ 2482.15. 3
Discount 2 $\frac{1}{2}$ % . . . . .	» 62. 1. 4
	<u>£ 2420.13.11</u>
Less interest 1 month . . . . .	» 11. 4. 9
	<u>£ 2410.12. 2</u>

## CHARGES.

To freight. . . . .	£ 108.12.6
Interest, say 108 days . . . . .	» 4.12.3
Transit rate . . . . .	» 7. 7.3
Rent (say for 13 weeks a 6 d. p. ton p. week). . . . .	» 19. 6.-
Sorting. . . . .	» 5.11.1
Prime warrants & stamps . . . . .	» 4. 6
Fire insurance (say for 3 months) . . . . .	» 4. 5.9
Brokerage $\frac{1}{2}$ % . . . . .	» 12. 8.4
	<u>» 159. 7. 8</u>
	<u>£ 2251. 4. 6</u>

Prompt 1 month from date of Sale or from last day of landing.

## No. 14. COPENHAGEN.

INVOICE of 1000 Bags Rio Coffee (as stated by the Consul).

1000 sacs pesant Brut	120,250	pd.
Tare $1\frac{1}{4}$ pd. par sac.	1,250	"
Net . . . . .	119,000	pd.
Bonification 1 pd. par 5 sacs	200	"
Net . . . . .	118,800	pd. à 45 = . . . kr. 53,460,— en entrepôt.

## FRAIS.

Frais de réception 11 öre par sac . . . . .	kr. 110,—
Magasinage (calculé pour 3 mois) . . . . .	" 40,—
Frais de livraison 7 öre par sac . . . . .	" 70,—
Courtage $\frac{1}{4}$ % . . . . .	" 133,65
Assurance <sup>1</sup> contre incendie $\frac{1}{2}$ $\frac{0}{100}$ sur kr. 68,000	" 34,—
Commission & Ducroire 2 % (jusqu'à $2\frac{1}{2}$ %).	" 1069,20
	» 1,456,85

Net produit, valeur à 3 mois de date de la vente kr. 52,003,15

NB. 1 krone = 100 öre = 66 $\frac{2}{3}$  cent.<sup>1</sup> En cas d'incendie on est tout de même responsable des droits d'entree, ce qui explique qu'il faut également assurer ces derniers.

## No. 15. NEW-YORK.

INVOICE of 67 Bags of Rio-Coffee, for account of Mess<sup>rs</sup>. Almeida & Castro, Commissarios.

26 bags . . . . .	3448	Lbs.
41 » . . . . .	5398	»
	8840	»
2 % Tare . . . . .	177	»
Net . . . . .	8663	»
Samples . . . . .	14	»
	8677	» à 9 $\frac{5}{8}$ cents \$ 835,16

## CHARGES.

Customs . . . . .	\$ 2,25
Freight from Rio to New-York . . . . .	» 16,75
Fire Insurance $\frac{1}{4}$ % over \$ 1000 . . . . .	» 2,50
Sampling . . . . .	» 67
Warehousing . . . . .	» 2,68
Conveyance to Warehouse . . . . .	» 2,68
Weighing . . . . .	» 2,65
Brokerage $\frac{1}{2}$ % . . . . .	» 4,18
Commission $2\frac{1}{2}$ % . . . . .	» 20,88
Discount 2 % . . . . .	» 16,70
	\$ 71,94

Value 23 September 1883 . . . \$ 763,22

of the rate of Exchange of  $4^{80\frac{1}{2}}$  on London = £ 158,16.9

New-York, 15 September 1883.

(w. g.) HUBST BROTHERS.

No. 16.

A T H E N S.

FACTURE à 100 sacs Café de Rio, qualité verte ordinaire, expédiés de Marseille au Pirée (as stated by the Consul).

100 sacs de 60 kilogr. . . . . kilogr. 6000	
à frs. 64 les 50 kilogr. . . . .	frs. 7,680.—
Escompte 2 % . . . . .	» 153.60
	<u>frs. 7,526.40</u>
Assurance, fret jusqu'au Pirée y compris 2 % de commission: 5½ % »	413.95
	<u>frs. 7,940.35</u>

Droits de douane:

Sur 5600 kilogr. (tare déduite) à 78 ocques les 100 kilogr.:	
ocques 4368 à centimes 66, $\frac{6}{10}$ l'ocque. . . . .	» 2,906.90
	<u>frs. 10,847.25</u>

Le prix de vente est de francs 3.<sup>80</sup>/<sub>100</sub> l'ocque.

LE PIRÉE, Avril 1884.

No. 17.

G E N O A.

Conti di vendita di 420 Sacchi di Caffè Rio naturale consegnati per vapore „Sud-America” e venduti per conto di chi spetta come segue (opgave van Berla Cotrim & Co.)

420 Sacchi di Caffè Rio nat.	
24,763.— kilos	
247.63 » tara 1 %	
<u>24,515.37</u> » p. N. à L. 128 %.	
	à 3 mesi . . . L. 31,379.67
38.— spazzatura	» L. 80 % . . . 30.40
<u>24,553.37</u> kilos.	<u>L. 31,410.07</u>
abbuono avuto dal vapore. . . . .	» 200.—
	<u>L. 31,610.07</u>

SPESE.

Dichiarazione, bollo & spedizione . . . . .	L. 8.50
nolo e cappa . . . . .	» 1108.80
sbarco e polizza . . . . .	» 85.20
imballatore . . . . .	» 25.20
caravana & dividere le marche . . . . .	» 5.—
porto a magazzino . . . . .	» 63.—
peso e mancia . . . . .	» 17.20
costo de 25 sacchi cambiati . . . . .	» 7.50
imballatore . . . . .	» 2.50
sicurtà contra l'incendio . . . . .	» 17.—
telegrammi a Parigi . . . . .	» 5.70
magazzinaggio . . . . .	» 63.—
mediazione $\frac{1}{4}$ % s/ 31,410.07 . . . . .	» 157.05
del credere 1 » » 31,379.67 . . . . .	» 313.80
commissione 2 » » 31,610.07 . . . . .	» 632.20
	<u>» 2,511.65</u>

valuta à 3 mesi . . . L. 29,098.42

S. E. & O.

GENOVA, 20 Novembre 1883.

NB. L. = lire. 1 lire = 100 Centesimi = 1 franc = f 0.50 NCr.

No. 18.

TRIESTE.

Conto di vendita di 1000 Sacchi di Caffè Rio naturale consegnati per vapore „La Plata” e venduti per conto de chi spetta come segue (opgave van Berla Cotrim & Co.)

1000 Sacchi di Caffè Santos.	
60056½ kilos p. B.	
500 » tara	
59556½ kilos à 55 . . . . .	f 32,756.08
4½ % sconto . . . . .	» 1,474.02
Nolo franco.	f 31,282.06
Sicurtà marittima	
1½ s/ 31,300 . . . . .	f 339.05
Int. 1 marzo 92 % à 5½ % . . . . .	» 4.75
Raccomandatorio . . . . .	» 40.—
Sicurtà fuoco ½ ‰ . . . . .	» 10.43
Ritiro e consegna . . . . .	» 100.—
Guardie polizze . . . . .	» 4.60
Del credere s/ 500 . . . . .	» 157.54
Magazzinaggio 1 % . . . . .	» 312.82
Sensarià ½ » . . . . .	» 156.41
Provisione 1 » . . . . .	» 312.82
Pesa pub. 2 p. 100 kilos . . . . .	» 12.02
Telegramma provata . . . . .	» 79.90
Porti, lettere, bolli . . . . .	» 8.16
Interessi 5½ % . . . . .	» 13.90
	» 1,552.40
v/a contanti . . . . .	f 29,729.66
	S. E. & O.
	TRIESTE, 14 Settembre 1883.
NB. f = gulden. 1 gulden = 100 Kreuzer = 1 sh. 11½ d. English money = 2	
Mark deutsche Reichswährung = frs. 2.469 = £ 0.0978979.	

No. 19.

CAPE OF GOOD HOPE.

PROFORMA INVOICE of 200 Bales Coffee consigned to and sold by the Undersigned, for account of Mr. N. N.

200 Bales Coffee, weighing 132½ $\mathfrak{C}$ =	26,500 $\mathfrak{C}$ 72/- . . . . .	£ 954.—
Due at 6 months.		
CHARGES.		
Import Duties 13/6 per 100 $\mathfrak{C}$ English & 15 % on duties	£ 205.14. 2	
Dock rates. 25/- per Ton of 2000 $\mathfrak{C}$ English . . . . .	» 1. 8.—	
Landing and Despatch to warehouse 3/- per ton . . . . .	» 2. 2.—	
Printed forms, stamps, etc. . . . .	» —. 7. 6	
Warehousing, Insurance, and Advertisements 1¼ % . . . . .	» 11.18. 6	
6 months Discount at 8 % per annum. . . . .	» 38. 4. 6	
Brokerage 1 % . . . . .	» 9.10.10	
5 % Commission on Sale . . . . .	» 47.14.—	
2¼ % Delcredere. . . . .	» 23.17.—	
	» 340.16.6	
	£ 613. 3.6	
	S. E. & O.	
	CAPE TOWN, 20 May 1884.	
N.B. Freight per sailing vessel from Rio to Trieste costs from 35/- to 45/-		
with 5 % primage.		

No. 20.

ROTTERDAM.

INVOICE of 506 1) bales Java Coffee (in husk).

505 bales Horny-husked Coffee,  
yielding after husking  
254 bales, of which:

31 bales were round beans B <sup>o</sup>	1,873 k.No.	1,817 k.	à 65½ c. f.	2,371,18
207 » » flat beans »	12,808½ »	12,424 »	» 62 » »	15,405,76
14 » » » »	858½ »	832½ »	» 42½ » »	707,62
2 » » broken »	113½ »	110 »	» 30 » »	66,—
254 bales =	B <sup>o</sup> 15,653½ = No. 15,183½			f. 18,550,56

CHARGES.

Freight 19,286 kilos à f 90 & f 1 per 1250 k.	f 1,404,02
Marine insurance not effected	—
Entry at Custom House	» 2,50
Unloading, weighing, cartage and storage	» 28,95
Husking, winnowing and insurance	
19,286 k. à 1½ cent 2)	f 578,58
selecting à ¼ cent	» 96,43
	<u>675,01</u>
deducted for husk and dust f 11,13	
225 empty bags 20 c.	» 45,—
26 » » 10 »	» 2,60
	» 58,73
	f 616,28
Interest on	f 2,051,75
From 28 October—27 February 123 days à 5%	» 35,06
Warehousing one month.	» 7,85
Fire insurance f 19,000 à ¼/100 and policy	» 5,75
Delivery, share telegrams and petty Expenses	» 30,29
Brokerage ½ p. cent	» 92,75
Cashier's provision.	» 11,59
Commission and delcredere 3%	» 556,52
	<u>f 2,791,56</u>
per 27 February 1882	f 15,759,—

YIELD.

207 Bales flat-bean B <sup>o</sup>	12,799½ ks.
14 » medium »	863 »
31 » round »	1,875 »
2 » broken »	115 »
1 » unhusked »	60 »
251 » empty (bags) »	252 »
stones	2 »
Husk and dust	3,339 »
	<u>19,305½ ks.</u>

S. E. & O.

ROTTERDAM, 31 December 1881.

International Credit- and Commercial Association «Rotterdam».

- 1) NB. Remainder 1 bale to be reckoned with next lot.
- 2) Weight of 506 bales good, included bags (for which freight is charged).

No. 21.

## ROTTERDAM.

INVOICE of 122 bales Java Coffee (Prepared).

122 bales coffee, consisting of:			
46 bales B <sup>o</sup>	960 kilos. Nett 937 kilos à	54½ c.	f 4,026,01
78 " "	4780 " " 4636½ " "	57½ " "	5,308,79
28 " "	1720 " " 1668½ " "	30½ " "	1,009,44
122 bales B <sup>o</sup> 7460 kilos. Nett 7242 kilos		p. 4 July	f 7,344,24
CHARGES.			
Freight of 7462 kilos à f 90 and f 1 per 1800 kilos			f 377,24
Marine insurance not effected			
Entry at Custom house			" 2,50
Unloading, weighing, portorage and storage			" 11,25
Emptying, winnowing and bagging			" 17,08
Sorting and sampling			" 3,75
Interest on			" 411,82
from 11 March to 4 July = 116 days à 5 <sup>o</sup> / <sub>100</sub>			" 6,64
Warehousing one month			" 3,75
Fire insurance, f 8000 ¼ <sup>o</sup> / <sub>100</sub> and policy			" 3,—
Delivery, share of telegrams and petty expenses			" 21,39
Brokerage ¼ <sup>o</sup> / <sub>100</sub>			" 36,72
Cashier's provision 1 <sup>o</sup> / <sub>100</sub>			" 4,59
Commission and delcredere 3 <sup>o</sup> / <sub>100</sub>			" 220,33
			" 708,24

S. E. &amp; O.

p. 4 July . . f 6,636,—

ROTTERDAM, 29 April 1881.

International Credit- and Commercial Association, «Rotterdam».

No. 22.

## ROTTERDAM.

INVOICE of 1000 Bales Santos Coffee.

1000 bales Coffee à 60 kilogr. nett.

Nett. 60,000 k. = 50½ per Cwt. = 1,182,26

à 35/6. . . . . £ 2098.10.3

£ 2098,10

Less freight 45/ — and 5<sup>o</sup>/<sub>100</sub> " 157,10£ 1941,— à 1<sup>o</sup>/<sub>100</sub> London.

Bankcommission . . . . . " 19. 8.2

£ 2117.18.5

à f 12 . . . . .

f 25,415,—

Insurance f 26,700 à 1¼<sup>o</sup>/<sub>100</sub> . . . . . " 333,75

f 25,748,75

Storage 7 cents per 100 kilos and 1 month ware-

house dues 4½ cents per bale. . . . . f 87,—

Loss of interest 1 month à 5<sup>o</sup>/<sub>100</sub> on f 26,300 = . . . . . " 109,58Damage and loss of weight 1¼<sup>o</sup>/<sub>100</sub> idem . . . . . " 394,50

" 591,08

Brokerage ½<sup>o</sup>/<sub>100</sub> . . . . . f 26,339,83Commission } 1<sup>o</sup>/<sub>100</sub>

and delcredere }

1¼<sup>o</sup>/<sub>100</sub> . . . . . " 395.10

1000 Bales à 60 k. Nett for Gross . . . . . f 26,734,93

Gross 60,000 k.

2<sup>o</sup>/<sub>100</sub> tare 1,200 "

Nett 58,800 k. à 23 c. p. ¼ kilo.

f 27,048,—

Cash 1<sup>o</sup>/<sub>100</sub> . . . . . " 270.48

f 26,777.52

No. 23.

ROTTERDAM.

CHARGES on 500 picols Malang Coffee, sold in Rotterdam.

500 bales Malang Coffee à f 30 per picol . . . . .	f 15,000.—
Exchange Broker's Commission 1 % . . . . .	» 150.—
500 new goeni bags à 45 cents . . . . .	» 225.—
Receiving, shipping, marking, sewing of bags, pirogue and coolie-hire till the coffee is on board, à 40 cents . . . . .	» 200.—
Export duties f 3 per 100 kilos . . . . .	» 930.—
Insurance 3 % . . . . .	» 495.15
Freight to Holland f 50 per 1800 kilos . . . . .	» 861.12
Receiving on board, weighers' and auctioneer's charges, 40 cent per bale . . . . .	» 50.—
Fire Insurance and Warehouse dues, 1 month à f 0.045 per bale. »	22.50
Charges for sampling f 0.02 per bale . . . . .	» 10.—
Underweight 1 kilo per bale . . . . . 500 kilos.	
Samples and spillage. . . . . 25 »	
Tare 3 % is more by 1 per cent than tare obtained, consequently loss on 500 bales = 31,000 kilos . . . . . 310 »	
	835 kilos à f 30 per pico » 404.03
Suppose selling price, after deducting tare and underweight, to be 32 cents per half kilo for 30,165 kilos. . . . .	f 19,305.60
Broker's Commission $\frac{1}{2}$ per cent . . . . .	f 96.53
Commission 2 % . . . . .	» 386.12
Delcredere 1 % . . . . .	» 193.06
	» 675.71
Delivery after sale f 0.25 per bale . . . . .	» 12.50
	Total . . . f 19,036.01
	Profit . . . » 269.59
	Selling price . . . f 19,305.60

N.B. Reckoning the freight at f 50 per 1800 kilos, and the selling at 32 cents per half kilo, the profit of sale in Holland is f 269.59, or nearly 54 cent per picol, if the bills due at 6 months can be taken up before the sale.

We might therefore say that when coffee is bought in Java, and the cost price of good ordinary is f 30 per picol, it must be sold at 32 cents per half kilogram in Holland, if the trader is not to lose by the transaction, for it must be taken into consideration also that losses at sea under 3 per cent are not made good by insurance companies, and that the freight may just as well be higher as lower than the figure stated here; that if a sale is not effected within a month, there is an additional charge for warehousing etc. and further loss of interest.

The freight per steamer is proportionate to the above mentioned freight per sailing vessel.

In that case the merchant saves 2 % on insurance, and about 3 months interest.

It is superfluous to say that in the case of Preanger, Menado, or other high-priced fancy coffees, the charges are proportionately less heavy a drain on the profit.

The two last accounts were furnished me by Messrs. J. Koning & v. Delden of Rotterdam.

Op

SUPPLEMENT II.

COFFEE PLANTING IN VENEZUELA.

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The following statistics regarding coffee-planting and the export from Venezuela were forwarded me by the Dutch Consul at Carácas, Mr. N. T. Hellmans, with a letter dated 5<sup>th</sup> June 1884, which runs thus:

„In compliance with the request contained in your favour of 21<sup>st</sup> February, I have the honour to enclose:

„Statistische Angaben über Ausfuhr von Kaffee aus Venezuela” compiled at my request by Dr. Ernst, Director of the National Museum, and professor of National History and Botany in the University here, in which you will find all the available statistics regarding this article of commerce; and in addition, a printed work on the rises and falls in the price of coffee during the years from 1876 to 1883” I send you besides, per book post by same mail, a work published by the Venezuelan Government, and entitled:

„Annuaire Statistique des Etats-Unis de Vénézuéla,” in which likewise you will find some statistics relating to coffee-planting.

„Should you desire further information, I shall be most happy to supply it; and I begg you to let me have three copies of your work when it is published, that I may present them to the Venezuelan Government and to Dr. Ernst.”

STATISTISCHE ANGABEN ÜBER AUSFUHR VON KAFFEE AUS  
VENEZUELA.

Ungemein spärlich sind die Angaben über den Kaffeehandel Venezuelas während der Zeit der spanischen Herrschaft.

Der Anbau selbst begann etwa in 1784, und dauerte es mehrere Jahre, bis die Ertrage in den Reiseberichten und Handelsstatistischen Werken jener Zeit erwähnt werden.

Humboldt gedenkt der Venezuelanischen Kaffees gar nicht, und auch by Depons (Voyage à la partie orientale de la Terre-ferme de l'Amérique méridionale, Paris 1860) sind die Mittheilungen kaum mehr als gelegentlich.

Die ersten Ausführen gingen über La Guaira:

1789	Centner	233
1792	"	1489
1794	"	3647
1796	"	4847
1797	"	3095
1798	"	2563
1799	"	8590
1800	"	1724; Puerto Cabello exportirte
1801	"	3069 und stieg die gesammte Ausfuhr in

1804 auf etwa " 10000, und in

1803 " " " 30000. (Dr. A. Rojas, Origenes del Cultivo de la Tierra enelvable de Carácas, im Almanequé para 1881, pag. 72).

Nach Depons (II. 374) betrug der Kaffeepreis 1804 (Juli) in Carácas 68 francs, wobei er bemerkt dasz wenig am Markt war, wahrscheinlich weil die Ernte bereits verschifft war.

Während des Unabhängigkeits-Krieges konnten natürlich Kaffeebau und Kaffeehandel keine Fortschritte machen, und auch in den ersten Jahren nach Vertreibung der spanischen Herrschaft konnte es nicht besser sein.

Dazu kommt noch, dasz die amtlichen Publikationen jener Zeit allen statistischen Materials entbehren.

Dagegen befindet sich in „Quarterly Report of the Chief of the Bureau of Statistics (Washington 1883, No. 3)“ auf Seite 440 und 441 eine Angabe über „Coffee imported into the United States of Colombia and Venezuela.“

Da diese Arbeit jedenfalls zugänglich ist, halte ich es für nicht nöthig, die Tabelle hier zu copiren.

Die aus den Venezuelanischen Häfen seit 1830 exportirten Quantitäten von Kaffee finden sich in tabellarischer Uebersicht verzeichnet in der „Memoria de la Direccion de Estadística“

(1874 III pag. 146) die ich hiermit wiedergebe, wobei indes die Pfunde in Kologrammen umgerechnet worden sind; Werthe in Pesos macuquinas zu 4 francs.

1830—31	5.247.284	\$ 1.063.446	1844—45	13.197.625	£ 2.372.669
1831—32 1)	5.247.284	1.063.446	1845—46	17.755.713	3.292.999
1832—33	5.415.523	1.192.876	1846—47	12.120.728	2.431.848
1833—34	5.273.925	1.293.565	1847—48	11.916.919	2.055.275
1834—35	2.705.782	711.834	1848—49	15.910.509	2.347.728
1835—36	5.268.722	1.466.999	1849—50	14.080.747	2.347.126
1836—37	7.561.277	1.659.908	1850—51	17.258.218	2.660.875
1837—38	7.950.548	1.587.148	1851—52	14.850.020	2.697.423
1838—39	9.946.050	2.353.959	1852—53	14.583.998	von hier ab
1839—40	8.693.707	1.938.116	1853—54	17.623.519	fehlen die
1840—41	11.817.842	2.446.962	1854—55	17.156.967	Werthe-An-
1841—42	14.997.389	3.350.238	1859—60	17.175.402	gaben.
1842—43	13.439.426	2.528.150	1864—65	12.796.499	
1843—44	13.087.257	2.223.208			

Aus den späteren Jahrgängen der Memoria de Hacienda können noch die nachstehenden Werthe hinzugefügt werden:

1873—74 = 31.082.400 kilos

75 = 35.721.310 "

76 = 32.846.727 "

1881—82 = 42.798.623 "

83 = 49.079.884 "

Hierbei ist zweierlei zu bemerken:

1o. das Finanzjahr Venezuela's geht von 1 Juli bis zum 30 Juni.

2o. die Statistik ist im Allgemeinen noch sehr unvollkommen, und die betreffenden Angaben können nur als Annäherungswerthe betrachtet werden.

Ausserdem darf nicht übersehen werden dass in den Ausfuhrangaben über Maracaibo etwa 3 bis 3½ million Kilogrammen Kaffee von Colombia dabegriffen sind, die über jenen Venezuelanischen Häfen zur Ausfuhr kommen.

Die Production nam ausserordentlich zu zeit 1873, als ausserordentlich hohe Preise diesen Zweig des Ackerbaues begünstigten.

Die Gesamtproduction schlieszt natürlich noch den im Lande consumirten Kaffee ein der jedenfalls 5 kilog. per Kopf beträgt, so

1) The sameness of these figures (for 1830—31 and 1831—32) must be an error.

dasz beispielsweise die Ernte 1882/83 auf nahezu 60.000.000 (?) zu berechnen ist; — den höchsten Preis erreichte Kaffee im Juni 1874 in Carácas, ich glaube \$ 31.50 oder 126 francs per Centner von 16 kilo's.

Leider ist es unmöglich genaue Angaben über die Ausdehnung des mit Kaffee bebauten Landes zu machen; die betreffenden amtlichen Zahlen im „Anuario Estadística de 1884“ beruhen auf keinerlei positiven und zuverlässigen Grundlagen und sind ganz werthlos.

Ebenso unmöglich ist es, die im Kaffee-Anbau repräsentirten Kapitalen angeben zu wollen.

Die Preis-schränkungen der letzten 7 Jahre sind in einer interessanten Arbeit des Herrn A. Behrens zusammengestellt und durch Curven veranschaulicht. (Rojas Hermann, Almanaque 1884 pag. 116 en 118.) 1)

Schliesslich möge noch bemerkt werden, dasz 1869 Schöffers erste Bröchure über den Kaffeehandel auf meiner Veranlassung von einem meiner Schüler ins Spanische übersetzt und von der Regierung publicirt wurde.

Sonstige Schriften über Kaffee und Kaffeebau, die hier erschienen sind, gibt es wenige, es wäre zu nennen:

Diaz.     Agricultor Venezolano. 2 Bände. 2e Aufl. Carácas, 1877.

Madriz.   El Cultivo de Café. (Paris, 1869).

A. Ernst. Misbildungen und Krankheiten des Kaffeebaums in Venezuela 1878. (ins Holländische übersetzt unter dem Titel „Studie van den Koffieboom in Venezuela“ und in der „Tijdschrift voor Nijverheid en Landbouw in Nederlandsch Indië 1879“ publicirt.)

Zu weitere Ausarbeitung über specielle Punkte ist gern bereit, soweit mir möglich.

A. ERNST.

Carácas, 4 Juni 1884.

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1) Added to this Suppl.

Export from La Guaiara, according to the work (?) sent me by the Consul, that is to say, a few pages from a spanish book with which I am unacquainted, probably that of Rojas Hermann, mentioned above:

1876—77 =	quintals	222.283
77—78 =	"	191.982
78—79 =	"	178.744
79—80 =	"	254.928
80—81 =	"	277.642
81—82 =	"	253.400
82—83 =	"	284.155

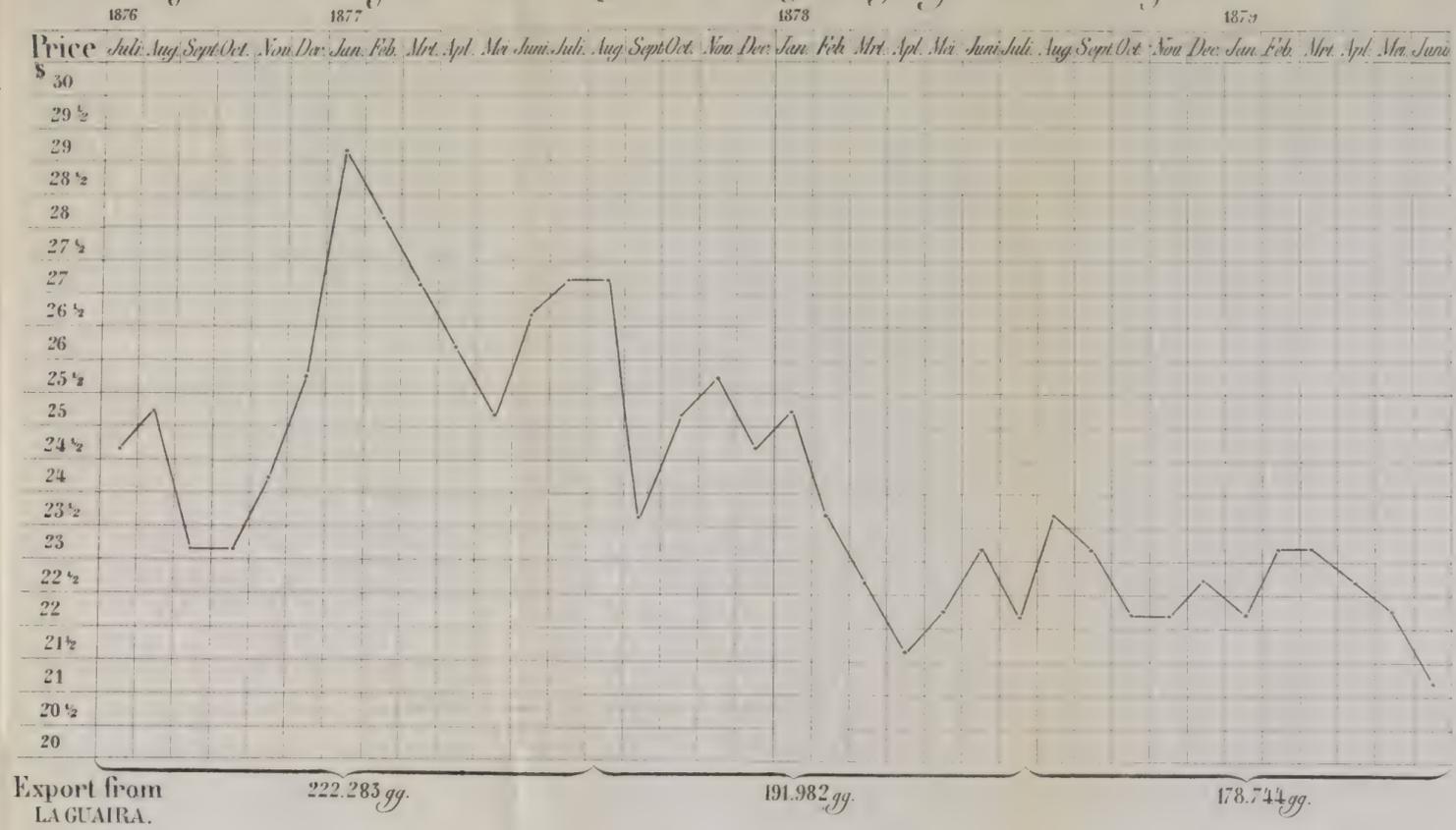
As a specimen of the means now resorted to by the coffee trade in order to influence the prices, I give the following extract from the pages sent me:

„A juzgar por las noticias llegados de los mercados europeos „y de Norte América, hai motivos para esperar aunque sea „una pequeña reaccion en el precio del fruto, debido á la casi „seguridad que se tiene ya de una cosecha mediana en el Brasil, „segun avisos que merecem fé de aquella localidad, y á la „destruccion de buena parte de los plantaciones „de Java en la ultima catástrofe que ha sufrido „dicha isla y otras de la misma zona.”

This sensational report went the round of almost all the North American dailies. To this is probably to be attributed the fact that Venezuela estimates the aggregate production of coffee throughout the world in 1884, five million bales lower than the aggregate consumption.

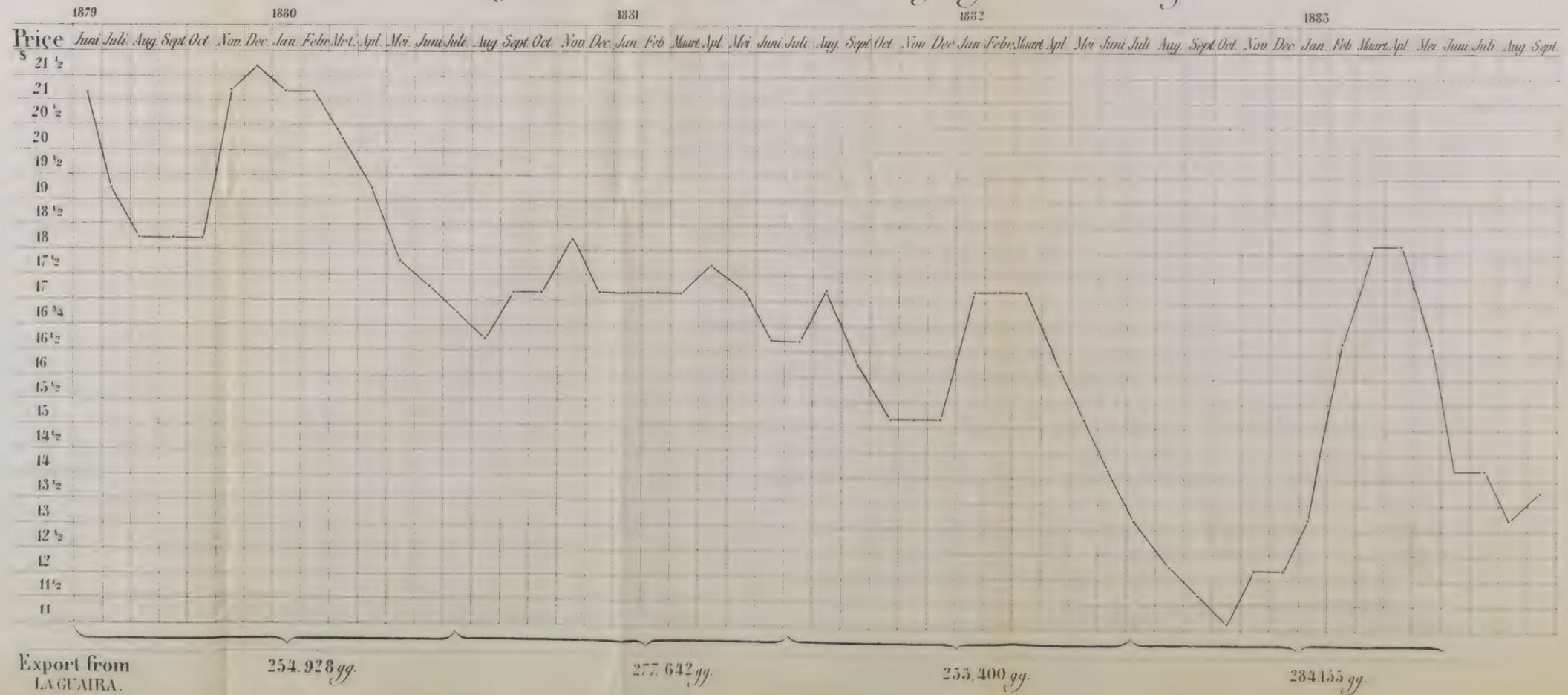
# I.

Diagram showing the rises and falls in the price of coffee at Carácas, from 1876 to 1879



# II.

Diagram showing the rises and falls in the price of coffee at Carácas, from 1879-1883





### SUPPLEMENT III.

#### LE CAFÉ AU MEXIQUE.

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Tout dernièrement il y a été fort question du Mexique, de ses acquisitions en chemins de fer, en routes et en télégraphes, et du développement de son agriculture, notamment de la culture du caféier. Le Consul britannique à Havane, Mr. L. Gardin, commissionné par son gouvernement afin d'étudier sur place les progrès de la République mexicaine, ayant publié l'année dernière un rapport de sa mission, référence en est faite dans le journal *Brésil*, publié à Paris, en date du 5 janvier dernier, à propos des chiffres concernant le café exporté au Mexique. Une correspondance longue et intéressante de New-York, du 15 janvier d<sup>er</sup>, publiée dans le *Jornal do Commercio*, Rio de Janeiro, le 5 mars, s'occupe aussi de cette question spéciale, en fournissant des chiffres d'exportation pour le café au Mexique, nullement en rapport avec ceux attribués par le *Brésil* au rapport du consul Mr. Gardin. L'auteur de ces lignes a donc entrepris d'éclaircir cette question au point de vue du présent et de l'avenir probable du café mexicain, en puisant ses informations à des sources officielles et authentiques, qu'il doit à l'amabilité du digne consul général du Mexique à Lisbonne, Mr. Breton y Sedra. Cet honorable fonctionnaire lui a fourni entr'autres l'importante publication statistique organisée en 1880 par Mr. Emiliano Busto 1) et un aperçu plus récent de l'exportation au Mexique, en 1882—1883, publié par Mr. Parvorandia, en octobre dernier 2).

1) *Estadística de la Republica Mexicana*, estado que guardan la agricultura, industria, mineria y comercio, por Emiliano Busto, jefe de la seccion 3<sup>a</sup> de la Secretaria de Estado y del Jupacha de Hacienda y Credito Público Mexico, 1880. 3 vol. in-4o. gr.

2) *Noticia de la Exportation Mercancias* en el año fiscal de 1882—1883, formade baja la direccion de J. M. Parmondia, jefe de la Seccion 7<sup>a</sup>, encargada de la estadística. Mexico, Octubre 1883.

Il résulte de l'examen de ces documents officiels, fort bien organisés du reste, une version qui ne s'accorde nullement avec les informations ci-dessus énoncées; toutefois les chiffres touchant le café se rapprochent mieux de ceux attribués au rapport de Mr. L. Gardin.

D'après celui-ci l'exportation de café au Mexique, dans la dernière année qu'il a pu constater (1882—1883?) serait de 14,000,000 kilogrammes pour les Etats-Unis de l'Amérique, 700,000 kilogrammes pour la France et 300,000 pour l'Angleterre, outre quelques expéditions de moindre importance à l'adresse de Santander, Barcelone, Anvers et Hambourg, estimées par analogie à 2,000,000 kilogrammes, total, 17,000,000 kilogrammes.

Le correspondant du *Jornal do Commercio* à New-York, fournit des chiffres incomparablement plus élevés. Il évalue l'exportation du café au Mexique pour les Etats-Unis, en 1883, à 124,213,000 livres; pour la France, 13,054,000 livres; pour l'Angleterre, 3,200,000 livres, outre les envois mensuels pour Barcelone, Santander, Hambourg et Anvers, qui ne peuvent pas rester au-dessous de 2 millions kilogrammes. Il en résulte donc un total de 64,707,560 kilogr., c'est-à-dire, presque quatre fois la quantité attribuée au rapport Gardin.

Voici les chiffres de l'exportation de café au Mexique, d'après la „*Noticia de la Exportacion de Mercancias en el año fiscal de 1882—1883*”, de concert avec le travail statistique de Mr. Busto:

	Kilos	valeur	Pesas
1873—1874	2,874,370		705,427
1877—1878	4,046,423	„	1,242,041
1878—1879	6,961,192	„	2,230,097
1879—1880	7,961,808	„	2,060,382
1880—1881	9,648,262	„	2,243,782
1881—1882	11,082,670	„	2,414,538
1882—1883	8,556,899	„	1,717,190

DOUANES PAR LESQUELLES L'EXPORTATION A EU LIEU  
EN 1882—1883:

Acapulco . . . . .	1,380 Kilog.
Frontera . . . . .	2,250 „
Manzanillo . . . . .	17,529 „
Transport . . . . .	21,159 Kilog.

Transport . . . . .	21,159 Kilog.
Mazathan . . . . .	70 "
Piedras Negras . . . . .	907 "
Puerto Angal . . . . .	166,218 "
Salina Cruz . . . . .	18,013 "
San Blás . . . . .	100 "
Soconusco . . . . .	60,566 "
Tuspan . . . . .	30,540 "
Veracruz . . . . .	8,259,326 "
Total . . . . .	8,556,899 Kilog.

## DESTINATION DU CAFÉ EXPORTÉ AU MEXIQUE EN 1882—1883:

Allemagne . . . . .	193,055 Kilog.
Espagne . . . . .	2,154,611 "
France . . . . .	461,875 "
Angleterre . . . . .	374,490 "
Italie . . . . .	960 "
Etats-Unis de l'Amérique	5,371,908 "

Total . . . . . 8,556,899 Kilog. 1)

Les colis en usage au Mexique dans l'exportation du café sont des balles de 100 à 125 kilog.: des sacs de 60 à 65 kilog. et des paniers contenant de 35 à 45 kilog. Le café ne paie pas de droits d'exportation au Mexique.

Selon les données officielles nous constatons donc que l'exportation de café au Mexique, en 1882—1883, ne dépasse guère la moitié de la version du rapport de Mr. Gardin et un peu plus de la huitième partie des chiffres fournis par le correspondant du *Jornal do Commercio* à Rio de Janeiro. Les différences en sont tellement considérables, que nous ne saurions mieux faire que de les attribuer à une erreur de calcul dans la réduction du poids, ou *errata* de transcription.

La moyenne de l'exportation du café au Mexique dans les cinq années écoulées de 1873—79 à 1882—83, est donc de 8,842,166 kilog., s'élevant à la valeur moyenne de \$ 2,133,198 pesas. En comparant cette moyenne à l'exportation de 1873—1874, on constate l'augmentation de 1: 3,07 pour la quantité, et de 1: 3,02 pour la valeur, c'est-à-dire, l'exportation de café au Mexique a triplé dans le cours de 10 années.

1) See page 412. Remarks.

Selon quelques informations récemment cueillies on est autorisé à supposer que l'exportation de 1883—84 ne dépassera guère celle de l'année antérieure; mais en admettant même que le progrès dans la production ne soit moindre que celui constaté dans les 10 années déjà vérifiés, il s'en suit qu'en 1893—1894 l'exportation de café mexicain pourra atteindre le chiffre important d'environ 30 millions de kilogrammes, quantité supérieure à la production respective dans la république de Haïti ou à Ceylon, mais fort loin d'être comparée à la production au Brésil, à Java, et même dans l'Amérique Centrale ou le Vénézuéla. Autrement dit, le Mexique, dont la production actuelle de café est d'environ 14 pCt. de la production totale au monde, pourra en 1893—1894 atteindre 5 pCt. du même total.

C'est un effet assez considérable au point de vue de la concurrence; nous nous permettrons cependant d'observer, que nous ne voyons rien de menaçant dans l'avenue de ce nouveau producteur, attendu que son progrès ne peut pas se manifester assez rapidement pour qu'il ne permette pas l'équilibre naturel qui résulte du développement progressif de la consommation.

A la quatrième exposition nationale de café à Rio de Janeiro, qui doit avoir lieu en Octobre ou en Novembre prochain, par les soins de la société *Centro da Lavoura e Commercio*, plusieurs échantillons de café du Mexique seront exhibés dans les colis proprement en usage dans l'exportation pour les différents pays.

## II.

Voici quelques renseignements statistiques puisés aux mêmes sources, et que nous croyons utiles à la question qui met sur le tapis un des pays les plus importants de l'Amérique, le même qui, à une époque pas trop reculée possédait une population quatre fois plus forte que l'actuelle, et qui avant les découvertes et les conquêtes du Nouveau Monde, par les hardis navigateurs de la renaissance, appartenait à la race la plus prépondérante parmi les peuples de cet immense continent.

La république du Mexique occupe une superficie totale de 1,958,912 kilomètres carrés entre les parallèles 15° 5' — 32° 43'36 lat. Nord. D'après le recensement le plus récent sa population est de 9,577,279 habitants; mais selon l'opinion de Mr. E. Busto dans le premier volume de son ouvrage (pag. LXXX), la popu-

lation actuelle n'est pas au dessous de 10 millions d'âmes. En 1838 elle était de 7,044,140; en 1872 de 9,097,056. La république est divisée politiquement en 27 états, un district (Districto-Federal) et un territoire (Baja-California).

Le gouvernement de la république tenant en août 1877, à faire constater les circonstances spéciales de chaque Etat au point de vue du commerce, de l'agriculture, de l'industrie et de l'exportation des mines, il a expédié de nombreuses circulaires contenant un long questionnaire à l'adresse des principaux agriculteurs, exploiters de mines, industriels, commerçants et fonctionnaires du gouvernement dans les provinces de la république. Ces circulaires, auxquelles on avait en grande partie déjà répondu en Juin de 1878, ont fourni matière au 3<sup>me</sup> volume de l'oeuvre de M. E. Busto, publiée en 1880; et quoique les informations recueillies de cette manière sur le chapitre de l'agriculture, ne possèdent point tout l'intérêt de l'actualité la plus prochaine, elles sont si importantes et minutieuses, que nous ne pouvons pas faire moins que de spécifier Etat pour Etat celles qui concernent spécialement le café, objet principal sinon unique de ce petit travail. Voici la description:

*Aguascalientes*: Etat situé entre 21°34' et 22°20' latitude nord; 5.776 kilomètres carrés de superficie, 140.430 habitants 1). Pas de culture de café dans cet Etat en raison de la température trop basse du climat (altitude).

*Baja-California*: 22°15'—32°43' lat. nord; 152,847 kilom. carrés, 23.195 habitants. Pas de culture de café, mais l'on assure que sur les bords du fleuve Colorado il y a des terrains propres à de vastes plantations.

*Campêche*: 17°29'—20°55' lat. N.; 67.539 kilom. carrés, 86,299 habitants. Pas de culture de café faute de bras. L'expérience a cependant démontré au moyen de quelques petites plantations que les terrains sont des meilleurs. Dans cet Etat il y a force de terrains propres à la culture du caféier.

*Chiapas*: 15°05'—17°27' lat. N.; 43.930 k. carrés; 219.745 habitants. L'on essaie la plantation du café, mais cette culture ne pourra se développer que dans des emplacements irrigables et sur des terrains humides. En

1) En donnant la latitude, la superficie et la population de chaque Etat, nous avons pour but d'en faciliter l'étude et l'observation au point de vue de la culture du caféier. Nous voudrions de même en pouvoir déterminer aussi les altitudes, information très-essentielle par rapport à des plantations qui ne peuvent prospérer hors d'un certain milieu et d'une certaine formation géologique, en égard aussi à la température et aux variations météorologiques.

quelques endroits les vents trop forts ne le permettent pas, en d'autres le terrain est défavorable.

*Districto-Federal*: 19°3'—19°31' lat. N.; 231 k. carrés; 354.340 hab. Pas de culture de café à cause de la basse température, résultat de l'altitude.

*Durango*: 22°52'—26°29' lat. N.; 110.463 k. carrés; 190.846 hab. Pas de culture de café à cause de la basse température<sup>1)</sup> mais à Guncumé, quoiqu'il n'y existe guère des plantations, le terrain est jugé favorable au caféier.

*Guanaquato*: 20°4'—21°43' lat. N.; 20.276 k. carrés; 788.202 hab. Pas de culture de café à cause des gelées.

*Hidalgo*: 19°37'—21°17' lat. N.; 21.693 k. carrés; 434.096 hab. Pas de culture de café dans cet Etat, en partie à cause du terrain trop-accidenté.

*Jalisco*: 18°39'—23°26' lat. N.; 114.896 k. carrés; 994.900 hab. Pas de plantations de café, mais au sud il y a des terrains favorables.

*Morelos*: 18°20'—19°07' lat. N.; 4.536 k. carrés; 154.946 hab. Il existe dans cet Etat quelques plantations de café de qualité inférieure, ce que l'on attribue à l'élévation exagérée de la température. Quelques terrains y sont fort favorables au caféier, mais on ne le cultive pas, vu le manque d'eau. La culture sera possible sur des terrains irrigables.

*Michoacan*: 17°50'—20°26' lat. N.; 55.693 k. carrés; 648.857 hab. L'on récolte du café de qualité supérieure dans une partie de cet Etat, et en d'autres on essaie sa plantation sur des terrains favorables. Dans le restant de l'Etat pas de culture, pas plus que de terrains propres.

*Nuevo-Leon*: 23°5'—27°9' lat. N.; 38.156 k. carrés 1); 194.861 hab. Pas de culture de café; ni le terrain, ni le climat s'y prêtent.

*Puebla*: 17°52'—20°36' lat. N.; 31.420 k. carrés; 704.372 hab. La basse température résultant de l'altitude ne consent pas le caféier; il y a cependant dans cet Etat quelques terrains adoptables à cette culture.

*Querétaro*: 20°01'—21°26' lat. N.; 8.300 k. carrés; 179.915 hab. Pas de plantations de café à cause de la basse température (altitude). On en a fait l'essai, mais les gelées ont détruit les caféiers.

*San Luis Potosi*: 21°14'—24°35', lat. N.; 71.210 k. carrés; 506.799 hab. En partie de cet Etat l'on cultive le caféier avec succès, mais il y manque des bras pour en développer la culture. En général pas de plantations, encore moins facilité de développement en raison de la stérilité du sol, climat défavorable et manque d'eau.

*Sinaloa*: 22°33'—28° lat. N.; 69.211 k. carrés 1); 167.093 hab.; Pas de culture de café, mais il y a au sud des terrains à même de le produire au moyen de l'irrigation.

*Tabasco*: 16°50'—18°40' lat. N.; 32.935 k. carrés; 93.387 hab. Plantations fort limitées, mais des terrains aptes au développement de la culture du caféier. On y récolte du cacao en quantité fort considérable.

*Tlaxcala*: 18°—19°50' lat. N.; 3.898 k. carrés; 133.498 hab. Pas de plantations de café.

1) Compare page 11.

*Veracruz*: 17°43'—23°15' lat. N.; 71.116 k. carrés; 504.970 hab. C'est vraiment dans cet Etat que la culture du café a pris le développement le plus considérable et qu'elle promet le plus de progrès. En général les terrains sont bons et appropriés, quoiqu'en quelques régions les vents du nord anéantissent les plantations. La production en est déjà très importante et a de l'avenir, attendu que l'on s'efforce avec instance au développement. La qualité du produit est sinon bonne, du moins régulière.

*Yucatan*: 17°50'—21°40' lat. N.; 84.585 k. carrés; 285.384 hab. Pas de plantations et point de terrains favorables.

*Zacatecas*: 21°15'—24°55' lat. N.; 68.596 k. carrés; 413.603 hab. Pas de culture du caféier; le sol et les conditions locales ne le permettent point. La statistique officielle de laquelle nous puisons ces renseignements, ne fait pas de référence aux Etats de:

*Colima*: 18°33'—19°27' lat. N.; 7.136 k. carrés; 65.827 hab., — dont la production est excellente quoiqu'en quantité minime, à peu près pour la consommation locale;

*Guerrero*: 16°10'—18°44' lat. N.; 68.568 k. carrés; 308.716 hab., et

*Mexico*: 18°21'—20°21' lat. N.; 25.245 k. carrés; 696.038 hab., — dont la latitude nous semble plus ou moins favorable au caféier, et

*Oaxaca*: 15°43'—18°19' lat. N.; 70.838 k. carrés; 718.194 hab. — l'un des Etats de grande extension et des plus productifs en café du pays entier.

*Coahuila*

*Chihuahua*

*Sonora* et

*Tamaulipas*, situés entre 22°14' et 32°25' lat. N.; la latitude où ils se trouvent les met hors de cause quant à la plantation du caféier. Ces quatre Etats réunis représentent la superficie de 710.118 k. carrés et sont habités par 568.776 âmes. En y ajoutant les autres Etats, au nombre de 14, dans lesquels on ne cultive et où le caféier ne peut point venir, il en résulte un total de 1.440.166 k. carrés, comprenant 5.573.511 habitants, c'est-à-dire, presque les  $\frac{3}{5}$  de la superficie totale de la république et  $\frac{3}{5}$ mes de la population générale.

La culture du caféier au Mexique est d'époque fort récente. Avant 1870 on ne la connaissait presque pas et on ne faisait pas mention de ce produit de l'exportation mexicaine, dont depuis lors on s'est occupé avec plus d'activité dans la plantation. Quatre années plus tard, de 1873—1874, l'exportation en était déjà le double, et elle s'est accrue par la suite dans les conditions que nous venons d'énoncer dans la première partie de cet article.

Voici les phrases par lesquelles M<sup>r</sup>. E. Busto exprime cette circonstance dans le chapitre consacré à l'agriculture, pag. 7 du vol. 1<sup>er</sup> de l'oeuvre *Estadística de la Republica Mexicana*, 1880:

„Esta planta, que es de la familia de las rabiáceas, hasta hace muy poco tiempo que nuestros agricultores se han dedicado con empuño á su cultivo. Antes el café de las villas (Orizaba, Cordova, Jalapa) se considerava como el mejor, y el que se consumia generalmente en todos los Estados, por su buena clase. Posteriormente se han obtenido en otras localidades productos de esta planta, que exceden con mucho en bondad y en abundancia á los de las villas, principalmente el de Uruápan, del Estado de Michoacan, y el llamado *caracolillo* en el Estado de Colima, que segun juicio de personas inteligentes, son las mejores que se conocen, y no obstante que las sembranzas aumentan y que ya se tiene conocimiento de que su cultivo es de altísima importancia en el porvenir de nuestro pais, aun puede decirse que se halla en embrion, si se considera el grande impulso de que es susceptible y los extensas terrinos que se pueden dedicar á su cultivo.

„Los sumidas precios, que el café ha alcanzado en todos los mercados de la republica y del extranjero, prueban hasta la evidencia la bondad de su clase. Sobre este interesante ramo de la rigenza publica, el ilustrado senhor Matias Romero, ha dado á luz un tratado, el mejor que conocemos sobre tan importante materia.”

### III.

Le fait le plus marquant dans le récent progrès matériel de la république Mexicaine, développement encore de plus en plus affirmé par de fort considérables acquisitions en chemins de fer et en télégraphes, consiste sans doute dans la compréhension la plus rationnelle des lois économiques et de l'application la plus énergique à l'expansion de l'industrie agricole, source de la plus forte richesse des peuples qui jouissent de territoires d'une extension relativement vaste.

Le Mexique, il est vrai, ne saurait pas mieux se conduire et guider sur le chemin de la prospérité. Ce pays, dont la principale exportation consiste en métaux précieux, notamment en argent, nous offre un trait saillant de la valeur minime de l'exploitation des métaux précieux par rapport à la richesse et au bien être des peuples. Cette exploitation doit être considérée toujours comme un moyen, jamais comme un but dans le travail des nations.

Selon une statistique officielle que nous possédons, signée par

Mr. Garmendia 1), le produit de la monnaie au Mexique, depuis l'époque coloniale jusqu'à 1883, s'élève à la somme fabuleuse de \$ 3,190,370,820,86 pesas, c'est-à-dire, plus de 16 milliards de francs, sans compter la somme prodigieuse qui, dans un si long période, a dû être nécessairement soustraite à l'action fiscale.

Eh bien; en dépit de ces véritables montagnes d'or et d'argent, la richesse actuelle de la nation, en propriété rustique et urbaine, d'après le cadastre le plus récent, est évaluée à un chiffre collectable de \$ 382,364,000 pesas, ce qui par de plus rigoureuses matrices pourrait s'élever à \$ 500,000,000 pesas. En y ajoutant la valeur des bâtiments et édifices publics et des biens nationaux, nous atteindrions un total de \$ 1,355,000,000 pesas = à environ 7 milliards de francs, chiffre vraiment insignifiant pour une nation de 10 millions d'individus, et qui n'a pas de comparaison possible avec d'autres pays qui basent leur richesse et leur économie sur l'agriculture et l'industrie. Il n'est point du tout téméraire d'attribuer cette pauvreté relative à l'influence annihilante de la minération de métaux précieux. Un chiffre égal en minération de fer, de charbon et autres minéraux directement utiles, produirait certainement une accumulation beaucoup plus forte de richesse publique; encore mieux si l'agriculture était la source de l'abondance et du bien-être de la nation. C'est probablement par cette même raison anti-économique que le mouvement commercial au Mexique est relativement minime.

Quoique le Brésil soit encore loin d'atteindre à cet égard l'importance d'autres nations au nombre desquelles la Hollande tient la première place, son mouvement de commerce, toutes proportions gardées, est quatre fois plus grand que dans la république mexicaine.

Voici encore quelques chiffres officiels concernant la situation économique du Mexique:

BUDGET DE 1883—1884:

Récettes générales \$ 31,860,000 pesas, dont \$ 21,000,000 pesas provenant des douanes.  
 Dépenses . . . \$ 30,713,998 pesas, dont \$ 11,127,600 pesas pour les travaux publics.

1) *Casas de Moneda* — noticia de acuñacion é introduccion de metales. Mexico, Octobre de 1883.

La rente douanière représente donc  $\frac{1}{3}$  des recettes générales, et le montant affecté aux travaux publics, notamment aux chemins de fer, plus d'un  $\frac{1}{3}$  de la dépense totale. Dans le cours des 10 dernières années la rente des douanes mexicaines a doublé.

Les droits sur l'exportation représentent au Mexique 7 à 8 pCt. de la rente générale des douanes. Nombre d'articles sont exempts de droit à l'exportation comme à l'importation. Le type de droits imposés à celle-ci est de 55 pCt. de la valeur des marchandises.

L'exportation au Mexique en 1882—1883, d'après la statistique Garmendia a été de \$ 41,807,595 pesas, dont \$ 29,628,658 pesas en métaux précieux et \$ 12,178,937 en plusieurs articles, parmi lesquels nous ne citerons que les plus importants, à savoir: le henequin, les bois de construction et d'ébénisterie, le café, l'ixtle, le bétail, la vanille, le tabac. Pour la destination nous citerons: l'Angleterre \$ 17,258,242; les Etats-Unis de l'Amérique \$ 16,739,097; la France \$ 4,204,905; l'Espagne 1,989,258; l'Allemagne \$ 1,125,719, la Colombie \$ 358,167; divers autres \$ 132,207.

Nous n'avons pas à notre portée des renseignements exacts et détaillés concernant l'importation, mais nous pouvons informer qu'elle atteint à peu près le montant de l'exportation et qu'elle consiste principalement en articles de l'industrie manufacturière. Les principaux pays qui fournissent à l'importation au Mexique, sont par ordre du dénombrement les Etats-Unis, l'Angleterre, la France, l'Allemagne et l'Espagne, lesquels embrassent presque le total de ce commerce extérieur.

La dette publique en 1883 est représentée par \$ 144,653,785 pes., dont \$ 104,412,570 dette extérieure et \$ 40,241,215 dette intérieure. Le service financier de ces dettes est loin de contribuer au crédit de la nation ainsi que de donner non plus un idée de la prospérité nationale: il laisse fort à désirer.

Pour les chemins de fer le progrès en est visible: à la fin de 1881 le réseau total ne dépassait guère 1865 kilomètres; il s'élevait à 3573 kilomètres en 1882, et atteignit à la fin de 1883, 4653 kilomètres en exploitation.

Télégraphes à la fin de 1883, 28,112 kilomètres de lignes y comprises celles des chemins de fer. En 1881 le chiffre en

était de 17,061 kilomètres, augmentation en deux ans, 11,051 kilomètres de lignes.

On a fait beaucoup de bruit dans ces derniers temps sur le compte du Mexique et de son progrès. Ce bruit que la réalité des événements ne justifie pas en entier, est plutôt externe qu'interne; il paraît viser plus particulièrement à des intérêts et à des entreprises dans lesquelles la grande république voisine est fortement engagée sinon compromise.

On a beaucoup parlé aussi des deux grands chemins de fer internationaux qui relient le Mexique aux Etats-Unis de l'Amérique, le *Mexican Central* et le *Mexican National*, dont le seul titre témoigne de l'origine des entreprises respectives. Le célèbre traité de commerce entre les Etats-Unis et le Mexique, non adopté par le congrès au commencement de cette année, et dont la ratification doit être soumise de nouveau au pouvoir législatif en Juillet prochain, a également fourni matière à de longues discussions. Fort probablement ce traité sera ratifié; mais l'opposition qu'il trouve de la part des représentants des états du Sud, en raison d'intérêts régionaux, est de nature à inspirer quelque crainte sur le résultat du vote.

Il faut avouer qu'il s'est fait beaucoup de réclame autour de ce traité et du nom de son inspirateur et protecteur le général Grant, que l'on dit assez discrédité pour le moment en raison de désastres financiers et de non-réussite d'entreprises dans lesquelles, toutefois, à ce qu'il paraît, le nom de l'illustre ex-président figure beaucoup plus que son individualité.

Nous touchons un peu à ces questions pour arriver à constater la crainte que l'on a voulu répandre dans les pays producteurs de café par le fait du reliement par chemin de fer de deux pays voisins, dont l'un aspirait, disait-on, à devenir grand producteur de l'article, et dont l'autre est et sera indiscutablement le plus fort consommateur au présent comme à l'avenir. Nous nous rapportons au Mexique et aux Etats-Unis.

Pour ce qui regarde les chemins de fer internes nous convenons de leur importance pour le développement et pour la prospérité de la culture du caféier au Mexique, quoique la nature du sol, trop accidenté en général, ne soit pas propre à en favoriser largement le progrès. Quant aux grandes voies internationales, ce n'est pas par là, assurément, que la con-

currence peut devenir sérieuse pour le Brésil, même si le progrès de la production mexicaine avait lieu dans les proportions tant soit peu exagérées annoncées par la presse américaine. Aussi bon marché que le transport par chemin de fer puisse devenir, il ne sera jamais en mesure de concourir avec les frets maritimes entre Rio de Janeiro et Santos et l'Amérique du Nord, service qui assure déjà pour le moment des prix minimes et une grande facilité pour le commerce en général entre les deux pays.

De droits différentiels en faveur du Mexique il ne faut pas se préoccuper malgré l'importance du commerce d'exportation dans les Etats-Unis, qui dépasse de 40 pCt. du total importé au Mexique. Cela ne fait pas l'affaire des E. Unis; on y est fort loin de penser à grèver l'entrée du café, et même dans cette hypothèse éloignée, le Brésil est à même d'acquérir la position de nation plus favorisée au moyen de raisonnables concessions qu'il ne doit du reste pas trop marchander. Toutes les circonstances favorisent le Brésil dans cette question; si question existe. Tandis que les échanges entre le Mexique et les Etats-Unis sont presque équilibrés de part et d'autre, représentés par des chiffres équivalents à 45 pCt. à peu près, du commerce total au Mexique et moins de 2 pCt. du commerce général des E.-Unis, le Brésil n'importe de l'Amérique du Nord qu'environ 20 pCt. de la valeur de son exportation pour ce pays-là, et les articles qui constituent cette importation au Brésil, ne fournissent pas grand'chose aux recettes générales de l'Etat.

Pour ce qui regarde le café en particulier il suffit de jeter un coup d'oeil sur les chiffres ci-après pour que les esprits se rassurent au sujet de l'hypothétique concurrence du café mexicain.

D'après le „*Shipping List*” de New-York l'importation totale de café aux Etats-Unis, en 1883, s'élève à 224,433,350 kilos, dont 138,879,000 importés directement du Brésil, c'est-à-dire, presque 62 pCt. de la masse générale. La part de Mexique dans cette importation étant de 5,371,908 kilos, c'est-à-dire, 2,4 pCt. de l'importation totale aux E.-Unis, il en résulte que le rapport du Mexique vis-à-vis du Brésil, chez le principal consommateur de l'article, est de 1: 26, ou un peu moins de 4 pCt. de l'exportation brésilienne.

En résumant les informations cueillies sur cette question qui a semblé préoccuper un moment les esprits au Brésil, un peu ébranlés du reste par des raisons économiques et sociales, qui y sont à l'ordre du jour, nous croyons à bon droit qu'elles ne sont pas de nature à menacer l'avenir du principal article de l'exportation brésilienne. Bien s'en faut.

Sans doute il ne faut pas nier que le Mexique soit en progrès; qu'il ait adopté le plan salubre de s'adonner plus sérieusement à l'exploration agricole, de préférence à l'industrie extractive, base principale actuelle de ses ressources, et qu'il trouvera probablement dans les différentes branches de l'agriculture l'origine de richesses à venir; — mais que le Mexique soit à même de devenir producteur de café capable de lutter avec le Brésil et même avec Java, voilà de quoi il nous est permis de douter, en égard aux conditions spéciales dans lesquelles se trouve ce pays, sa formation géologique excessivement accidentée, son climat variable, sa topographie et plusieurs autres circonstances, qui y rendent relativement assez restreinte la zone propice à une culture tellement exigeante, notamment les gelées, les vents trop forts, le manque d'humidité dans le sol et dans l'air, les altitudes exagérées dans les parallèles les plus favorables au caféier, les frais d'exploration et de transport et enfin le manque de bras pour les travaux agricoles, défaut que l'on ne peut pas éliminer facilement, attendu que l'on ne peut pas improviser dans un pays quelconque de mœurs nouvelles pas plus qu'une immigration étrangère d'importance pondérable. Il va sans dire que le café cultivé hors de son milieu le plus approprié ne répond pas toujours aux qualités qui lui sont indispensables. Si dans les Etats de Colima et de Michoacan le produit en est excellent, il n'en est de même des cafés que l'on cultive sur les versants orientaux du planalte mexicain, c'est-à-dire, de ceux qui contribuent le plus à la quantité du produit. Il nous semble donc que les républiques de l'Amérique Centrale constituent pour le café du Brésil un rival beaucoup plus sérieux que le Mexique, non seulement en quantité mais aussi en qualité, quoique l'on y lutte contre des obstacles qui ont empêché jusqu'à ce jour de pousser à de grands perfectionnements.

Somme toute nous devons rassurer et tranquilliser notre esprit au sujet de concurrences imaginaires de la part du

Mexique, aussi bien que de la concurrence des autres pays producteurs. Ceux-ci ne doivent nous préoccuper qu'au point de vue de tâcher d'en produire aussi bon que les meilleurs et meilleur marché qu'aucun autre, relativement. La propagande en faveur de la consommation est encore le moyen la plus pratique et la plus efficace de résoudre les difficultés inhérentes à une production, qui s'élève, qui s'accroît, et que l'on ne peut, ni ne doit limiter.

Et pourquoi n'organiserions-nous pas une propagande internationale en faveur de la consommation du café, à laquelle se rallieraient tout d'abord la Hollande, l'Amérique Centrale et le Mexique, en adoptant l'exemple du Brésil au moyen d'exportations et d'autres formes de divulgation de ce produit?

Aux rivalités chimériques et stériles substituons plutôt l'émulation utile et créatrice qui perfectionne au profit général l'article au point de vue du prix de revient et de bonne qualité relative, véritables véhicules du développement de la consommation. A ce point de vue même, il est de grand avantage pour *tous en général* que chacun en particulier produise du meilleur et à meilleur marché.

Du moment que tous ensemble et chacun en particulier s'efforcent au développement de la consommation et de l'amélioration des qualités essentielles du produit en son application pratique, pas de crainte que la production excède à tel point de menacer les intérêts généraux de la culture, que sont proprement les intérêts de chacun des concurrents. Afin de compléter cet argument nous ne pouvons faire mieux que de répéter les phrases critériuses par lesquelles le „*Jornal de Commercio*” à Rio de Janeiro, dans un article éditorial de Février dernier, définit la question du café à propos de la concurrence réelle ou imaginaire de la part du Mexique:

„Que ces nouvelles ne troublent point notre esprit. Le Brésil tient le sceptre de la production caféière et il saura le maintenir. Si l'on nous annonçait il y a un quart de siècle que le monde produirait aujourd'hui presque le double, l'on nous aurait sans doute effrayé sur le question réservé au plus grand producteur de café au monde. Et cependant la production s'est élevée au Brésil, pendant les derniers 25 ans, de 163 millions à 325 millions kilogrammes; elle s'est élevée, dans tout le monde de 330 à 600 millions, et malgré cela la consomma-

tion du café a suffi à utiliser cet accroissement de production, quoiqu'en vérité elle ne se soit développée sinon en mesure relativement restreinte.

„Le Brésil n'a pas seulement poussé sa production de café; il l'a fort améliorée dans les dernières années. . . . Si ce mouvement progressif ne s'arrête point et si nous voyons continuer avec activité la propagande dans laquelle s'est énergiquement engagé le „Centro da Lavoura e Commercio” nous n'aurons certes aucune compétence à craindre. Le danger pourrait seulement survenir si nous nous livrions à une tranquillité insouciant, à l'inertie ou à l'indifférence vis-à-vis des progrès ailleurs. . . .

„La consommation du café tend au développement, et sa production, sauf des accidents transitoires, n'est guère surabondante aux besoins du monde. La culture de cette précieuse denrée n'est pas tellement menacée qu'il faille la substituer rapidement avec déplacement des forces productives. Augmenter la production et en améliorer le droit est et sera encore de longtemps le vrai programme économique de la culture caféière.

„Le café a un large avenir devant soi. Succédant naturel de produits de qualité inférieure qui entrent encore pour beaucoup dans le complément des articles de l'alimentation au monde, il verra s'accroître et se dilater l'aire de sa consommation, jusqu'à des limites qu'il ne nous est point donné de fixer 1).

ED. LEMOS,

Mai 1884.

directeur et représentant du „Centro da Lavoura e Commercio” de Rio de Janeiro.

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1) *Mexico Cafeciro* — article éditorial du *Jornal do Commercio* à Rio de Janeiro, du 6 Février 1884.

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This important document on coffee-planting in Mexico I owe to the kindness of the author. I was very sorry to hear, when this

report was in the press, that Mr. Lemos, in whom I found an interesting friend, had died unexpectedly the 14<sup>th</sup> of Oct. last, near Lissabon.

His death is a great loss for the society of which he was one of the ornaments and he certainly will not be forgotten by all that have known him as the intelligent and unwearied champion for the interests of commerce and industry in Brazil.

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SUPPLEMENT IV.

RÉPARTITION DES HYPOTHÈQUES DE LA BANQUE  
DU BRÉSIL 1874.

LOI N<sup>o</sup>. 2400 DU 17 SEPTEMBRE 1873

*Autorise un nouvel accord avec la Banque du Brésil  
et réduit le rachat annuel des notes de cette Banque et des  
autres Banques de circulation.*

DOM PEDRO II<sup>e</sup>, par la Grâce de Dieu et l'unanime acclamation des peuples, Empereur Constitutionnel et Défenseur Perpétuel du Brésil.

Faisons savoir à tous nos sujets que l'Assemblée Générale a décrétée et que Nous voulons que soit exécutée la Loi suivante :

Art. 1<sup>er</sup>. La proportion marquée dans le § 3<sup>a</sup> de l'article 1<sup>er</sup> de la Loi du 22 août 1860, pour le rachat des billets des Banques de circulation, est réduite à 2½ pCt. par an, cette disposition étant applicable à la Banque du Brésil, de conformité aux dispositions de cette Loi.

Art. 2<sup>ème</sup>. Le Gouvernement est autorisé à proroger pour quatorze ans de plus la durée de l'existence de la Banque du Brésil, celle-ci étant obligée à employer le capital de son portefeuille hypothécaire, qui ne sera pas inférieure à 25.000,000 \$ 000, à des prêts faits à l'agriculture, et effectués dans les termes de cette Loi, cela dans le délai qui lui sera marqué par le même Gouvernement, et à étendre le cercle de ces transactions hypothécaires au delà de ce qui est désignée dans les statuts actuels.

Ce délai expiré, le rachat annuel des billets de la Banque sera élevé à 8 pCt. sur la différence entre le capital de 25.000,000 \$ 000 et la somme employée effectivement sur les prêts à l'agriculture.

§ 1<sup>er</sup>. Déduisant la valeur représentée par des titres en liquidation dans sa section des hypothèques, la Banque du Brésil

complètera le capital qui lui est fixé par cette Loi, comme fonds exclusif de la dite section, séparant de son portefeuille commercial pour l'hypothécaire une somme égale en apolices de la dette publique, ou en monnaie courante.

Et il comblera de la même manière tout déficit qui pourrait se présenter dans le dit capital après avoir été converti en prêts hypothécaires.

§ 2<sup>e</sup>. Dans sa section hypothécaire, la Banque du Brésil ne pourra exiger, pour les prêts qu'elle fera à l'agriculture, un intérêt supérieur à 6 pCt. par an, ni une amortisation annuelle supérieure à 5 pCt., calculée sur le total de la dette primitive, les intérêts et l'amortisation seront payés par semestres échus.

§ 3<sup>e</sup>. Les prêts faits par la Banque du Brésil avant la date de cette Loi, sous garantie d'hypothèques d'établissements agricoles, sont sujets aux dispositions du paragraphe précédent.

§ 4<sup>e</sup>. Dans le rachat de ses billets, la Banque du Brésil donnera la préférence à ceux qui resteraient des Caisses filiales de Pernambuco, Bahia, Maranhão et Pará.

§ 5<sup>e</sup>. Au cas où la Banque du Brésil refuserait d'accéder à quelqu'une des dispositions des paragraphes précédents, le Gouvernement fixera une quote annuelle, du rachat de ses billets au maximum de l'art. 1<sup>er</sup> § 6<sup>e</sup> de la Loi du 12<sup>e</sup> septembre 1866.

Art. 3<sup>e</sup>. Sont révoqués les dispositions contraires.

Nous ordonnerons par conséquent aux autorités auxquelles appartient la connaissance de la dite Loi, qu'elles l'exécutent et la fassent exécuter et garder telle qu'elle est exprimée. Le Secrétaire d'Etat du Département des Finances, la fera imprimer, publier et parvenir.

Donnée dans Notre Palais de Rio de Janeiro, le 17 septembre de l'année 1873, cinquante deuxième de l'Indépendance et de l'Empire.

L'Empereur, avec signe et sceau. — Vicomte de Rio Branco.

Lettre de Loi par laquelle Votre Majesté Impériale ordonne d'exécuter le Décret de l'Assemblée Générale, qu'elle a daigné sanctionner, concédant des faveurs à la Banque du Brésil, sous de certaines conditions.

Pour que Votre Majesté Impériale apprécie. — A été rédigée par Augusto Frederico Colin.

## ACCORD ENTRE LE GOUVERNEMENT ET LA BANQUE DU BRÉSIL.

*Exposition des motifs.*

Sire. — Le gouvernement est autorisé à innover le contrat conclu, avec la Banque du Brésil, en vertu de la Loi du 12 septembre 1866.

La pensée de la Loi du 17 septembre dernier est de mettre la Banque en état de venir plus amplement en aide à l'agriculture nationale, en emplifiant ses opérations hypothécaires sur les bases de la Loi du 24 septembre 1864, qui régularise l'organisation des sociétés de crédit réel, moyennant des conditions moins onéreuses que celles des contrats actuels.

La Loi de 1866 ordonna de séparer de l'ancien portefeuille de cet établissement, 35,000,000 \$ 000, en titres des plus propres, à être convertis en obligations hypothécaires, mais une partie de ces titres est devenue sans valeur réelle, et toute leur importance liquide n'a pas été employée effectivement à de nouveaux prêts de cette nature.

Au 30 juin passé, date du dernier bilan, la dette hypothécaire excédait peu la somme de 18,000,000 \$ 000, tandis que sur le fond destiné à ces opérations, il y avait plus de 5,000,000 \$ 000 disponibles, dont 45,000,000 \$ 000 environ employés en apolices de la dette publique.

En présence de ces faits, le législateur de 1873 a fixé à 25,000,000 \$ 000 le capital minimum de la caisse hypothécaire de la Banque, déterminant que cette somme fut complétée au moyen d'apolices ou de monnaie courante du portefeuille commercial, en réintégrant de la même manière, chaque fois qu'elle souffrirait une diminution par suite de préjudices.

La même loi de 1866 décrète, quand les circonstances de la Banque étaient critiques et qu'il convenait surtout de pourvoir au rachat de sa circulation fiduciaire, cette loi ne fixa pas le maximum de l'intérêt ni celui de l'amortisation des prêts constitués hypothèques de biens ruraux.

Le décret du 22 juillet 1867, qui donna un règlement à la section hypothécaire, établit comme maximum de l'intérêt, celui de l'escompte des lettres commerciales, c'est-à-dire 9 pCt. en général et, comme limite de l'amortisation, 8 pCt.

La loi nouvelle, offrant à la Banque l'avantage de racheter

ses billets sur une plus petite échelle, restreignant à 6 pCt. l'intérêt des contrats faits avec les propriétaires agricoles, et à 5 pCt. le taux de ses paiements annuels.

L'annuité qui était, en général, de 17 pCt. sera de 11 pCt.

Jusqu'aujourd'hui, le recueillement des billets de la Banque a été fait annuellement dans la proportion de 5 pCt. quoique le Gouvernement pût élever ce taux jusqu'à 8 pCt. La proportion concédée actuellement est de  $2\frac{1}{2}$  pCt. calculée sur la même importance de l'émission retante en 1866, c'est-à-dire, sur 45,600,000 \$ 000.

Comme conséquence de cette nouvelle faveur de la Loi et de l'obligation de prêter à de longs délais, la durée de la Banque a été prolongée de 14 années, son existence se terminant sans cela en 1886.

D'un côté, comme il serait périlleux de forcer l'emploi de 25,000,000 \$ 000 dans un délai très court et fatal, ou les garanties dont les prêts hypothécaires doivent être revêtus et la lenteur inévitable qui en résulte, d'autre part, comme la loi doit assurer son exécution fidèle en ce qui touche la somme des avantages promis à l'industrie agricole, le législateur a adopté une décision raisonnable entre la rigueur excessive et la confiance absolue.

Cette résolution consiste en l'élévation du taux du rachat des billets de la Banque, en relation à la somme qui manquera, pour que les prêts hypothécaires faits à l'agriculture surpassent le minimum de 25,000,000 \$ 000 le rachat se fera, non dans la proportion de  $2\frac{1}{2}$  pCt., mais dans celle de 8 pCt. sur le chiffre égal à la différence entre ce capital et l'importance de ces contrats.

De cette manière il y aura une instigation à ce que la Banque, loin de restreindre ses secours à l'agriculture, les amplifie, au moins dans ces limites.

Si la Banque n'annuit pas à ces conditions, la quote de l'extinction annuelle de ses billets devrait être fixée à 8 pCt., maximum autorisé par la loi du 12 septembre 1866.

Les conditions de la Loi du 17 septembre ont été acceptées, et après avoir entendu la commission des Finances du Conseil d'Etat, sur le projet du nouveau contrat proposé par le président de cet établissement, ainsi que sur les amendements, qui me paraîtront nécessaires, et les observations que ceux-ci

susciteront de la part de la même Banque, il a été formulé enfin l'accord que j'ai maintenant l'honneur de soumettre à l'examen et à l'approbation de V. M. Impériale.

Toutes les dispositions de la Loi y sont scrupuleusement respectées.

Non seulement on a prêté une attention toute particulière au précepte spécial du législateur dans la fixation du capital destiné au prêts sur biens ruraux, mais l'on a aussi cherché à augmenter les ressources de la caisse hypothécaire par une dérogation à l'art. 8 des statuts de 1870.

La Loi et les statuts de 1866 ont marqué pour limite du fond de réserve de la Banque de 30 pCt. de tout son capital réalisé; mais la réforme de 1870 éleva cette garantie à 50 pCt.

Aujourd'hui l'on peut en revenir au maximum de la Loi du 12 septembre 1866 et renforcer avec les 20 pCt. restants le capital des opérations hypothécaires.

Il est vrai que le fonds de réserve étant obligé de couvrir les préjudices résultant des transactions annuelles de la Banque, il peut descendre de ce maximum après l'avoir atteint, et que, puisqu'il est nécessaire de le conserver intégralement, il n'y a pas, par conséquent, l'augmentation désirée du capital de la caisse hypothécaire; mais les effets de cette éventualité sont atténués par la restriction du quantum des dividendes, qui ne peut excéder de 10 pCt. selon le même art. 8 des statuts de 1870, restriction qui n'a pas cessé d'exister.

La sanction de la loi pour atteindre l'emploi effectif de 25,000,000 \$ 000 en faveur de l'agriculture a été appliquée de la manière la plus efficace, en conciliant la prudence requise par la Banque qui craignait de se compromettre par un délai inférieur à trois années, et l'intérêt public qui doit correspondre à la faveur importante concédée maintenant à cet établissement.

La Banque aura une année pour remplir cette indéclinable disposition de la loi, jouissant de la pleine faveur du rachat de ses billets, en raison de 2½ pCt., si cependant, à la fin de l'année, elle n'a pas réalisé les 25,000,000 \$ 000 de prêts hypothécaires, le taux du rachat sur la différence sera de 4 pCt. l'année suivante, de 6 pCt. pour la troisième année et de 8 pCt. à partir de la 4<sup>me</sup>.

La circonscription territoriale pour les opérations hypothécaires est considérablement élargie.

Aujourd'hui elle ne comprend que le municpe de la capitale de la province de Rio de Janeiro et les municpes limitrophes de S. Paulo, Minas Geraes et Espirito Santo; par l'accord elle s'étend à *tous* les municpes de ces provinces et à celles du Paraná et de Santa-Cathérina.

Le gouvernement ne refuserait pas une plus grande circonscription, mais l'administration de la Banque ne l'a pas jugé praticable en alléguant des considérations très sérieuses et elle a demandé à être dispensée d'une faculté qui pourrait lui amener des plaintes d'espérances trompées, en rendant peut-être difficile l'organisation d'autres sociétés locales.

La nouvelle Loi a étendu ses bienveillantes dispositions aux prêts réalisés antérieurement sur hypothèques d'établissements agricoles.

Cette mesure salutaire est consacrée dans le paraghe unique de l'article 7e du présent accord, permettant que, même les débiteurs qui se seraient mis en défaut de ponctualité pussent profiter des nouvelles conditions sous la forme qu'ils pourraient décider avec le créancier comme l'avait prévu la législation en vigueur, ou les conditions plus favorables.

La section hypothécaire de la Banque du Brésil étant constituée en parfaite institution de crédit réel, conformément aux principes de la loi du 24 septembre 1864, l'occasion était arrivée d'user de la faculté qui lui était garantie par l'article 7e des statuts de 1866, celle d'émettre des lettres hypothécaires.

En effet, la Banque se propose d'entrer dans cet ordre d'opérations de crédit, au moyen desquels elle pourra faire des prêts jusqu'au décuple du capital de la caisse hypothécaire, une fois qu'elle aura réussi à attirer une partie des capitaux disponibles pour ces titres de petite valeur, suffisamment garantis, qui donnent un intérêt et sont transférables comme ceux du trésor, pouvant avoir en outre la perspective d'un prix dans leur amortisation annuelle par voie du sort.

L'émission des lettres hypothécaires commence à peine à être essayé entre nous par la Banque Prédial de cette Capitale, et il n'y a pas une association brésilienne qui soit en des conditions aussi avantageuses que la Banque du Brésil

pour accréditer cet instrument économique en le nationalisant, pour ainsi dire, dans l'Empire, dont l'agriculture le sollicite et récompensera abondamment ses services.

La Loi du 24 septembre 1864 autorise l'emploi des fonds des sociétés de Crédit réel et même ses dépôts en apolices de la dette de l'Etat et en billets du trésor.

La section hypothécaire de la Banque, se plaçant sous le régime de cette loi, la permission qu'elle avait par ses statuts d'employer en apolices le fonds disponible de cette caisse, est extensive non seulement aux billets du trésor, mais aussi aux lettres hypothécaires elles-mêmes, qui selon la loi précitée de 1864, peuvent dispenser les emprunts en numéraire selon la volonté des emprunteurs.

Cet emploi des lettres hypothécaires sera un moyen de plus de profiter de leur crédit et d'animer leur circulation.

Suivant en cela l'exemple de la Société du Crédit Foncier de France, l'administration de la Banque a jugé que, pour motif d'ordre et de régularité dans les écritures, ses lettres hypothécaires ne doivent donner des intérêts qu'au semestre suivant celui de l'émission.

En outre qu'il était autorisé par la susdite association, ce système a paru sans inconvénient à la commission des Finances du Conseil d'Etat, sauf ce que notre propre expérience pourrait nous enseigner à ce sujet.

Il n'y a aucun préjudice pour l'une ou l'autre des parties intéressées dans la transaction, ni pour ceux qui reçoivent des titres de la section quand elle prête dans la même espèce.

Dans le premier cas, l'établissement paie à qui lui achète la lettre, l'intérêt du temps qui manque pour compléter le semestre de l'émission, et, ainsi, il n'y aura pas d'intérêt à payer avant le semestre suivant; dans le second cas, l'opération a lieu en sens invers: l'emprunteur qui reçoit la lettre comme prêt, paie à la section hypothécaire l'intérêt compté depuis ce jour jusqu'à la fin du semestre en lequel est fait le contrat.

Le décret et le règlement du 22 Juillet 1867 défendent des prêts inférieurs à 10,000 \$ 000 ou supérieurs à 120,000 \$ 000.

Ce minimum avait sa raison d'être dans la garantie précaire d'établissements agricoles de si petite importance.

Et cependant, puisque cette restriction a été censurée dans

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le Sénat comme excessivement rigoureuse pour la petite agriculture, on a jugé convenable de la supprimer, maintenant que l'on dote mieux la section hypothécaire et que la Banque inspire assez de confiance par sa solidité et par l'expérience de son administration.

Le maximum de 120,000 \$ 000 a été maintenu pour que l'aide de la Banque soit la plus étendue et la plus équitable possible, et ce maximum ne sera certainement pas considéré comme très restreint si l'on a égard à la règle légale qui défend des emprunts excédant la moitié ou les trois quarts de la valeur des biens hypothéqués, selon qu'ils sont ruraux ou urbains.

La nature et l'étendue des nouvelles opérations exigent non seulement la complète séparation des capitaux et des responsabilités des deux caisses, la commerciale et l'hypothécaire, mais aussi que les dispositions de l'article 13, §§ 14 et 15 de la loi de 1804, qui exceptent de la faillite commerciale les sociétés de crédit réel, s'appliquent aussi à la section des hypothèques.

Telles sont, Sire, les altérations faites par l'accord, auquel je me réfère, aux statuts actuels de la Banque du Brésil.

Elles recevront immédiatement leur développement naturel logique et ont été rédigées avec la connexion nécessaire avec les autres articles des mêmes statuts, en lesquels rien n'a été innové, et qui ont été à peine modifiés en leur forme.

J'ai l'honneur d'être, Sire, avec le plus profond respect, de V. M. Impériale, le très révérencieux serviteur,

*Rio de Janeiro,*  
24 décembre 1873

VICOMTE DE RIO BRANCO.

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DÉCRET n°. 5506 DU 26 DÉCEMBRE 1873.

*Approuve et confirme l'accord du 24 courant, intervenu entre le Ministre des Finances et la Banque du Brésil.*

Je daigne approuver et confirmer l'accord du 24 courant, intervenu entre le Ministre des Finances et le Président et les membres du conseil, directeurs de la Banque du Brésil, pour

l'exécution de la Loi No. 2400 du 17 septembre 1873, qui suit le présent décret.

Le Vicomte de Rio Branco, conseiller d'Etat, Sénateur de l'Empire, Président du Conseil des Ministres, Ministre et Secrétaire d'Etat au Département des Finances et Président du Tribunal du Trésor national le comprend ainsi et le fasse exécuter.

Palais de Rio de Janeiro, 26 décembre de l'année 1873, cinquante deuxième de l'Indépendance et de l'Empire. — Avec la signature de l'Empereur. — VICOMTE DE RIO BRANCO.

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Accord effectué entre le Gouvernement et la  
Banque du Brésil pour l'exécution de la loi  
N° 2400 du 17 septembre 1873.

Le vingt-quatrième jour du mois de décembre de l'année 1873, dans cette capitale et très loyale et héroïque ville de S. Sébastien de Rio de Janeiro, et dans la salle du Tribunal du Trésor national, entre l'ill<sup>me</sup> et Ex<sup>me</sup> Sieur Vicomte de Rio Branco, Ministre et Secrétaire d'Etat au Département des Finances et les Sieurs José Machado Coelho de Castro, Vicomte de Tocantins, Dr. José Fernandes Moreira, Conseiller João Manuel Pereira da Silva, Commandeurs Joã Baptista do Fonseca et Antonio José dos Santos, Président et Membres du Conseil directeur de la Banque du Brésil, pleinement et dûment autorisés, a été décidé que le contrat du 11 octobre 1866, conclu entre le Gouvernement et la Banque est renoué pour l'exécution de la Loi N°. 2400 du 17 septembre 1873, dans la forme exprimée par les articles qui suivent.

Art. 1<sup>er</sup>. La Banque du Brésil, dont la durée d'existence est prolongée jusqu'au 31 décembre 1900, continuera à être divisée en deux sections distinctes, quoique sous la même administration: la commerciale et l'hypothécaire (Lois N°. 1349, art. 1<sup>er</sup> § 1<sup>er</sup> et N° 2400 art. 2<sup>e</sup>).

Art. 2<sup>e</sup>. Le fonds de la caisse hypothécaire, destinée spécialement à des prêts sur biens ruraux, ne sera pas inférieure à 25,000,000 \$ 000 et devra être immédiatement complétée en monnaie courante ou en apolices de la dette publique, retirées du portefeuille commercial et ne comptant pas pour

cette computation les titres actuels en liquidation de la section hypothécaire (Loi N° 2400, art. 2<sup>e</sup> § 1<sup>er</sup>).

§ 1<sup>er</sup>. Le fonds de réserve dont il est question dans l'art. 8<sup>me</sup> des statuts approuvés par le décret N° 4556 du 10 août 1870 est limité à 30 pCt. du capital réalisé de la Banque, et le fonds spécial de la caisse hypothécaire s'augmente des 20 pCt. restants.

Chaque fois que, pour des motifs vérifiés dans le recouvrement de titres en liquidation, le fonds de réserve descendra de ce maximum, ou suspendra la dite augmentation du fonds spécial de la caisse hypothécaire jusqu'à réintégrer les 30 pCt., en observant en tous cas, ce que dispose le précité art. 8 des statuts de 1870 quant au dividende le plus élevé qui puisse être distribué annuellement aux actionnaires.

§ 2<sup>me</sup>. Aucune partie du fonds d'une des deux caisses, commerciale et hypothécaire, ne pourra être appliquée à des opérations de l'autre, excepté dans les cas où il s'agira de faire ce qui est prescrit dans le présent article (Lois N° 1349, art. 1<sup>er</sup> § 1<sup>er</sup> et N° 2400 art. 2<sup>e</sup>).

§ 3<sup>e</sup>. Après avoir converti en prêts le fonds destiné à la section hypothécaire, tout déficit, que souffrirait cette caisse, serait comblé de la manière déterminée dans la première partie de l'art. 2<sup>e</sup>.

§ 4<sup>e</sup>. Le fonds disponible de la caisse hypothécaire qui ne pourra être employé immédiatement en prêts à l'agriculture, pourra l'être provisoirement en apolices de la dette publique, en billets du Trésor national et en lettres hypothécaires de la Banque même ou d'un autre établissement de crédit foncier. (Lois N° 1349 art. 18 et N° 1237 de 1864 art. 13 § 16).

Art. 3<sup>e</sup>. La proportion marquée dans l'art. 1<sup>er</sup> § 6 de la loi N° 1349 du 12 septembre 1866 pour le rachat des billets de Banque qui sont encore en circulation est réduite à 2½ pCt. annuellement de son importance primitive; et ne pourra être altérée jusqu'à la fin du délai de la durée de l'établissement désigné dans l'art. 1<sup>er</sup>; la dite circulation devant être éteinte dans ce délai (Lois N° 2400 art. 1<sup>er</sup>).

Si cependant au bout de la première année à compter du 1<sup>er</sup> janvier 1874, la Banque n'avait pas employé effectivement en prêts à l'agriculture et sous les conditions de la loi N° 2400 du 17 septembre 1873, au moins la somme de

25,000,000 \$ 000, la proportion de  $2\frac{1}{2}$  pCt. pour le rachat de ses billets, elle sera élevée à 4 pCt. sur la différence entre cette somme et la proportion des dits prêts.

La seconde année terminée, la dite proportion sera de 6 pCt. et, à partir de la quatrième année, de 8 pCt. calculée sur la différence indiquée.

§ 1<sup>er</sup>. Dans le rachat de ses billets, la Banque du Brésil donnera préférence à ceux qui resteraient des caisses filiales de Bahia, Pernambuco, Maranhão et Pará. (Loi précitée, N<sup>o</sup>. 2400 art. 2<sup>e</sup> § 4<sup>e</sup>).

Art. 4<sup>e</sup>. Les opérations de la section hypothécaire consisteront :

1<sup>o</sup>. En prêts sur hypothèques d'immeubles ruraux ou urbains à long délai, de 10 à 25 ans, payables par annuités successives.

2<sup>o</sup>. En prêts sur hypothèques d'immeubles ruraux ou urbains à court délai, de moins de 10 ans, avec ou sans amortisation.

3<sup>o</sup>. En l'émission et la négociation de lettres hypothécaires fondées sur les prêts à long délai, dans la forme de l'art. 13 de la loi du 24 septembre 1864 (Décret du 10 août 1870, art. 59, et du 22 juillet 1867, art. 2<sup>e</sup>).

Art. 5<sup>e</sup>. Dans les emprunts, tant à long délai qu'à court délai, l'on observera les règles contenus dans les paragraphes suivants :

§ 1<sup>er</sup>. La circonscription territoriale de ces opérations comprendra le municipale de la Capitale et les provinces de Rio de Janeiro, Espirito Santo, Minas-Geraes, São Paulo, Pará et Santa Catherina, sauf la faculté d'admettre, par exception, des hypothèques sur des immeubles situés sur d'autres points de l'empire dans le but de renforcer des garanties des titres de dette existant dans les portefeuilles de la Banque. (Loi N<sup>o</sup>. 2400 de 1873 art. 2<sup>e</sup>. Décret du 22 juillet 1867, art. 1<sup>er</sup>; Décret du 3 juin 1865, art<sup>s</sup>. 2<sup>e</sup> et 3<sup>e</sup>).

§ 2<sup>e</sup>. Les prêts ne pourront être faits que sur première hypothèque, constituée, cédée ou subrogée, de conformité à la loi N<sup>o</sup>. 1236 de 1864 et les réglemens expédiés pour son exécution. (Décret N<sup>o</sup>. 3471 de 1865, art. 18).

§. 3<sup>e</sup>. Les emprunts destinés au paiement d'hypothèques inscrites antérieurement n'auront lieu que lorsque par ce paiement, l'hypothèque cédée prendra la première place et sans concurrence; et tant qu'il restera au pouvoir de la section hypothécaire la somme nécessaire au paiement du principal

de la dette, des intérêts échus et à échoir jusqu'à l'époque du paiement et la somme nécessaire aux dépenses de la subrogation (Décret de 1865, art. 19).

Ainsi restera également retenu au pouvoir de la-dite section, la somme nécessaire pour payer le principal et les intérêts des dettes, dont la garantie hypothécaire devra être distribuée entre les créanciers respectifs, ou que les mêmes immeubles resteront hypothéqués par elle.

§ 4<sup>e</sup>. Le délai des prêts ne pourra excéder, en aucun cas, celui de la durée assignée à la Banque par l'article premier de ce règlement.

§ 5<sup>e</sup>. Aucun prêt n'excédera la moitié de la valeur des immeubles ruraux, et les trois quarts de celle des immeubles urbains (Loi de 1865, art. 13<sup>e</sup>, § 5).

§ 6<sup>e</sup>. Aucun prêt ne pourra dépasser la somme de 120,000 \$ 000 (Décret de 1867, art. 3<sup>e</sup>).

§ 7<sup>e</sup>. Seront exclues de l'hypothèque pour les prêts hypothécaires, les propriétés de rendement précaire et celles de valeur vénale de réalisation difficile. (Décrets de 1865, art. 7, § 5 et de 1867, art. 4).

§ 8<sup>e</sup>. Les propositions ou demandes d'emprunt contiendront la désignation des immeubles et leurs rendements, avec une évaluation particulière de chaque article, et seront accompagnés de tous les documents et toutes les informations qui justifient le droit d'hypothèques dans la forme de la législation en vigueur.

Le contrat ne sera conclu qu'après que l'évaluation ait été vérifiée par le procédé désigné dans l'art. 58 des statuts, approuvés par le décret N<sup>o</sup>. 4566 de 1870 et qu'on ait rempli les formalités prescrites dans le règlement intérieur de la section hypothécaire. (Décret de 1867, art. 5<sup>e</sup>).

§ 9<sup>e</sup>. Toutes les dépenses effectuées par la section hypothécaire pour les examens et les évaluations des immeubles seront faites pour le compte de ceux qui auront requis l'emprunt et même au cas où celui-ci n'aurait pas lieu. (Décret et art. cité § 1<sup>er</sup>).

§ 10<sup>e</sup>. La faute du paiement, à l'époque déterminée de la prestation stipulée dans le contrat, que ce soit paiement d'intérêts ou d'amortisation du capital, donnera à la section hypothécaire le droit de recouvrer, pour le retard l'intérêt qui

sera conventionné et également celui de réclamer le remboursement de la totalité de la dette. (Loi du 24 septembre 1864, art. 4 § 9<sup>e</sup> et décret de 1867 art. 8<sup>e</sup>).

Art. 6. Dans les contrats qu'elle fera, la section hypothécaire pourra imposer les conditions suivantes :

1<sup>o</sup>. Devenir exigible toute la dette et l'emprunteur soumis à payer un indemnisation de 5 pCt. de son importance, si dans le délai d'un mois, il ne dénonce pas l'aliénation totale ou partielle qu'il aura fait de l'immeuble hypothéqué, les détériorations qui celui-ci aura souffertes, et les événements qui en diminuent les valeur et en perturbent la possession de même que si le dit emprunteur cache des faits à lui connus, qui produisent la dépréciation de l'immeuble et annullent ou rendent douteux son droit de propriété. (Décrets de 1865, art. 7<sup>e</sup> et de 1867 art. 3<sup>e</sup>.)

2<sup>o</sup>. L'emprunteur s'oblige à assurer la partie édifée de la propriété contre les risques d'incendie, chaque fois que ce sera possible, et l'assureur devant être indiqué par la section hypothécaire, l'assurance étant maintenue pendant tout le temps de l'existence de l'emprunt.

La section hypothécaire pourra aussi renouveler l'assurance en payant le prime, celle-ci étant portée au compte de l'emprunteur (Décret de 1867 art. 6<sup>e</sup>).

Art. 7<sup>o</sup>. Dans les prêts hypothécaires aux agriculteurs, il ne pourra être exigé un intérêt supérieur à 6 pCt. par an, ni d'amortisation annuelle qui dépasse 5 pCt. de l'importance primitive de la dette.

Les prestations d'intérêt et d'amortisation seront payées semestres échus.

§ Unique. Les prêts réalisés par la Banque jusqu'à la date du présent règlement sous garantie d'hypothèque d'établissements agricoles, sont sujets à la disposition de cet article, en augmentant le délai dans les conditions qui seront fixées d'accord avec les emprunteurs, et cela aussitôt que les dits emprunteurs se prêteront à l'accord nécessaire sur le mode de satisfaire l'obligation imposée par le paragraphe 10 de l'art. 5.

Art. 8<sup>o</sup>. Dans les opérations et contrats à longue échéance, on observera, en outre des préceptes consignés dans les articles antérieurs, les règles spéciales suivantes :

1°. Les prêts hypothécaires seront faits en argent ou en lettres hypothécaires au pair, au choix de l'emprunteur. (Loi de 1864, art. 13, § 11. Décret de 1865, arts. 21, 22 et 22).

2°. Les prêts hypothécaires seront payables par annuités successives ou par anticipations. (Loi de 1864, art. 13, §§ 7 et 9).

3°. Les annuités seront calculées de sorte que l'amortisation totale soit réalisée en 10 ans au moins, et en 25 au plus. (Loi de 1864 art. 13 § 7); elles comprendront l'intérêt stipulé, la quote d'amortisation et pour-cent de l'administration qui n'exédera pas 2 pCt. pour les prêts ruraux et 4 pCt. pour les urbains (Art. 13 précité §§ 8 et 9) et seront payées en argent par semestres échus.

4°. Les paiements par anticipation pourront être de toute la dette ou partielle, se réduisant dans le second cas, en proportion des annuités effectuées en argent ou en lettres hypothécaires le droit de recouvrer dans le même acte une indemnisation qui n'exédera jamais 1 pCt. de la somme remboursée effectivement. (Loi de 1864, art. 13, § 9. Décret de 1867 arts. 34 et 38).

5°. L'enchère ou l'adjudication des immeubles pour paiements de la section hypothécaire, dans les prêts à longs délais, sera exemptée de l'impôt de transmission. (Loi 1864, art. 13, § 12).

Art. 9°. L'émission des lettres hypothécaires ne pourra excéder la somme de la valeur nominale des emprunts à longs délais, ni le décuple du capital de la section hypothécaire; de même que le total de la valeur nominale de celles qui seraient en circulation n'excedera pas la somme dont l'établissement sera créancier pour ces prêts. (Loi de 1864, art. 13, § 6. Décret de 1865 art. 40 et 49.)

§ 1°. Des lettres hypothécaires auront leurs numérations d'ordre qui sera relative à l'année de leur émission; elles seront extraites d'un livre spécial à touche et signées par un membre du Conseil directeur et par le Président de la Banque. (Décret de 1865. art. 48).

§ 2. Elles seront nominatives et comme telles transférables par endos, mais seulement avec effet de cession civile, ou au porteur et transférables par simple remise (Loi de 1864, art. 12, §§ 2 et 3. Décret de 1865, art. 41 et 44).

§ 3. Les lettres hypothécaires et leur transfert seront exemptés du timbre proportionnel. (Art. 13, § 12, de la Loi de 1864).

§ 4. Elles devront spécifier le capital qui ne sera jamais inférieur à 100 \$ 000 (Loi de 1864, art. 13, § 4). et leur taux d'intérêts, leur temps et leur mode de paiement, qui aura lieu par semestres échus. (Décret 1855, art. 55 et 56).

§ 5. Si l'émission des lettres, en outre des conditions spécifiées ci-dessus offrent celle de prix par tirage au sort, leur importance et leur distribution seront marquées par le Conseil directeur et devront être mentionnées dans les lettres.

§ 6. La date du paiement de l'intérêt des lettres devra être combinée avec celle des paiements des annuités, de manière à ce qu'il existe une moyenne de trois mois au moins, pendant lesquels la section hypothécaire puisse recouvrer de ses débiteurs les annuités avec lesquelles elle doit payer les intérêts. (Loi de 1864, art. 13, § 2. Décret de 1865, art. 67).

§ 7. Les lettres hypothécaires n'auront pas d'époque fixe pour leur paiement, mais elles seront payées par voie du tirage au sort, qui aura lieu au jour désigné par le Conseil directeur, une fois par an et en présence d'un membre du dit conseil, par la manière et dans les buts désignés dans les articles 51, 52, 54 et 61 du règlement du 3 juin 1865.

§ 8. On lèvera un acte dans un livre spécial de toute la procédure du tirage au sort, et de l'annulation des lettres hypothécaires et une copie en sera envoyée au Ministre des Finances.

§ 9. Les lettres émises durant le semestre ne donneront droit qu'aux intérêts du semestre suivant; mais les porteurs ou souscripteurs payeront en moins la somme équivalente aux intérêts comptés du jour de l'émission jusqu'à l'échange du premier coupon semestriel, qui sera détaché de la lettre.

De conformité avec cette disposition, la section hypothécaire, dans ses prêts, recevra immédiatement de l'emprunteur ou déduira du capital que celui-ci devra recevoir, l'intérêt correspondant aux mois ou jours qui courront, depuis la date du contrat jusqu'à la fin du semestre en lequel le dit contrat se fera. (Art. 24 du Décret N<sup>o</sup>. 3471 du 4 juin 1865).

Les porteurs des lettres hypothécaires pourront les déposer à la Banque, recevant un certificat qui servira de titre pour le recouvrement des intérêts.

Pour ce service, la section hypothécaire percevra la commission de  $\frac{1}{2}$  pCt.

Art. 10°. Les porteurs des lettres hypothécaires ne pourront avoir d'action que contre la section hypothécaire. (Loi de 1864, art. 13, § 13).

Art. 11°. La Section hypothécaire pourra acquérir de ses débiteurs par des moyens conciliatoires, les biens, qui lui seront hypothéqués.

Paragraphe unique. De la même forme, elle pourra acquérir les dits moyens judiciaires, dans les cas suivants :

1°. Par la voie d'adjudication dans les exécutions d'actes hypothécaires qui sont de sa compétence en vertu de la loi du 24 septembre 1864 et du règlement N°. 3453 du 26 avril 1865.

2°. Par voie de licitation dans les cas de rémission requise par l'acquéreur de l'immeuble hypothéqué dans les termes des articles 299 et 300 du règlement N°. 3453 de 1865.

Art. 12. L'acquisition par moyens conciliatoires ou l'exécution judiciaire n'étant pas de la convenance de la section hypothécaire elle pourra requérir le séquestre des immeubles hypothéqués pour se payer par leurs revenus aux choix d'un des moyens suivants :

§ 1<sup>er</sup>. En convertissant le séquestre en dépôt au pouvoir du débiteur, celui-ci acceptant l'obligation comme dépositaire judiciaire, de remettre les fruits et rendements sauf déduction des dépenses convenues entre lui et la section hypothécaire.

§ 2°. En convertissant le séquestre en antichrèse, la section hypothécaire requérant l'émission dans la possession des biens pour les administrés jusqu'au paiement des annuités, des intérêts et des dépenses de l'administration. (Décret N°. 3417, de 1865 arts 70 et 71).

Art. 13°. La section hypothécaire de la Banque n'est pas sujette à la faillite commerciale lui étant applicables les dispositions de la loi n°. 1327 du 24 septembre 1864 art. 13, §§ 14 en 15.

En témoignage de quoi et pour qu'il soit constant a été dressé le présent accord en double, signé par les susdits etc. 1).

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1) Translated from the Portuguese by a legal translator at Rio.

SUPPLEMENT V.

TABLES OF WEIGHTS AND MEASURES.

No. 1. Reduction of Arrobas in Kilograms.

(1 a. = 14.688 kilos.)

1	14,688	35	514,080	69	1,013,472
2	29,376	36	528,768	70	1,028,160
3	44,064	37	543,456	71	1,042,848
4	58,752	38	558,144	72	1,057,536
5	73,440	39	572,832	73	1,072,224
6	88,128	40	587,520	74	1,086,912
7	102,816	41	602,208	75	1,101,600
8	117,504	42	616,896	76	1,116,288
9	132,192	43	631,584	77	1,130,976
10	146,880	44	646,272	78	1,145,664
11	161,568	45	660,960	79	1,160,352
12	176,256	46	675,648	80	1,175,040
13	190,944	47	690,336	81	1,189,728
14	205,632	48	705,024	82	1,204,416
15	220,320	49	719,712	83	1,219,104
16	235,008	50	734,400	84	1,233,792
17	249,696	51	749,088	85	1,248,480
18	264,384	52	763,776	86	1,263,168
19	279,072	53	778,464	87	1,277,856
20	293,760	54	793,152	88	1,292,544
21	308,448	55	807,840	89	1,307,232
22	323,136	56	822,528	90	1,321,920
23	337,824	57	837,216	91	1,336,608
24	352,512	58	851,904	92	1,351,296
25	367,200	59	866,592	93	1,365,984
26	381,888	60	881,280	94	1,380,672
27	396,576	61	895,968	95	1,395,360
28	411,264	62	910,656	96	1,410,048
29	425,952	63	925,344	97	1,424,736
30	440,640	64	940,032	98	1,439,424
31	455,328	65	954,720	99	1,454,112
32	470,016	66	969,408	100	1,468,800
33	484,704	67	984,096		
34	499,392	68	998,784		

No. 2. Reduction of **Arrobas** in **Bags** (60 kilos).

1	0.2448	41	10.0368	81	19.8288
2	0.4896	42	10.2816	82	20.0736
3	0.7344	43	10.5264	83	20.3184
4	0.9792	44	10.7712	84	20.5632
5	1.2240	45	11.0160	85	20.8080
6	1.4688	46	11.2608	86	21.0528
7	1.7136	47	11.5056	87	21.2976
8	1.9584	48	11.7504	88	21.5424
9	2.2032	49	11.9952	89	21.7872
10	2.4480	50	12.2400	90	22.0320
11	2.6928	51	12.4848	91	22.2768
12	2.9376	52	12.7296	92	22.5216
13	3.1824	53	12.9744	93	22.7664
14	3.4272	54	13.2192	94	23.0112
15	3.6720	55	13.4640	95	23.2560
16	3.9168	56	13.7088	96	23.5008
17	4.1616	57	13.9536	97	23.7456
18	4.4064	58	14.1984	98	23.9904
19	4.6512	59	14.4432	99	24.2352
20	4.8960	60	14.6880	100	24.4800
21	5.1408	61	14.9328		
22	5.3856	62	15.1776		
23	5.6304	63	15.4224		
24	5.8752	64	15.6672		
25	6.1200	65	15.9120		
26	6.3648	66	16.1568		
27	6.6096	67	16.4016		
28	6.8544	68	16.6464		
29	7.0992	69	16.8912		
30	7.3440	70	17.1360		
31	7.5888	71	17.3808		
32	7.8336	72	17.6256		
33	8.0784	73	17.8704		
34	8.3232	74	18.1152		
35	8.5680	75	18.3600		
36	8.8128	76	18.6048		
37	9.0576	77	18.8496		
38	9.3024	78	19.0944		
39	9.5472	79	19.3392		
40	9.7920	80	19.5840		

## No. 3. Reduction of engl. and american Pounds in Kilos.

1	0.453,592,65	41	18.597,298,65	81	36.741,004,65
2	0.907,185,30	42	19.050,891,30	82	37.194,597,30
3	1.360,777,95	43	19.504,483,95	83	37.648,189,95
4	1.814,370,60	44	19.958,076,60	84	38.101,782,60
5	2.267,963,25	45	20.411,669,25	85	38.555,375,25
6	2.721,555,90	46	20.865,261,90	86	39.008,967,90
7	3.175,148,55	47	21.318,854,55	87	39.462,560,55
8	3.628,741,20	48	21.772,447,20	88	39.916,153,20
9	4.082,333,85	49	22.226,039,85	89	40.369,745,85
10	4.535,926,50	50	22.679,632,50	90	40.823,338,50
11	4.989,519,15	51	23.133,225,15	91	41.276,931,15
12	5.443,111,80	52	23.586,817,80	92	41.730,523,80
13	5.896,704,45	53	24.040,410,45	93	42.184,116,45
14	6.350,297,10	54	24.494,003,10	94	42.637,709,10
15	6.803,889,75	55	24.947,595,75	95	43.091,301,75
16	7.257,482,40	56	25.401,188,40	96	43.544,894,40
17	7.711,075,05	57	25.854,781,05	97	43.998,487,05
18	8.164,667,70	58	26.308,373,70	98	44.452,079,70
19	8.618,260,35	59	26.761,966,35	99	44.905,672,35
20	9.071,853,00	60	27.215,559,00	100	45.359,265,00
21	9.525,445,65	61	27.669,151,65		
22	9.979,038,30	62	28.122,744,30		
23	10.432,630,95	63	28.576,336,95		
24	10.886,223,60	64	29.029,929,60		
25	11.339,816,25	65	29.483,522,25		
26	11.793,408,90	66	29.937,114,90		
27	12.247,001,55	67	30.390,707,55		
28	12.700,594,20	68	30.844,300,20		
29	13.154,186,85	69	31.297,892,85		
30	13.607,779,50	70	31.751,485,50		
31	14.061,372,15	71	32.205,078,15		
32	14.514,964,80	72	32.658,670,80		
33	14.968,557,45	73	33.112,263,45		
34	15.422,150,10	74	33.565,856,10		
35	15.875,742,75	75	34.019,448,75		
36	16.329,335,40	76	34.473,041,40		
37	16.782,928,05	77	34.926,634,05		
38	17.236,520,70	78	35.380,226,70		
39	17.690,113,35	79	35.833,819,35		
40	18.143,706,00	80	36.287,412,00		

No. 4. Reduction of **Pounds** in **Bags** (60 kilos).

1	0.007,559,8775	41	0.309,954,9775	81	0.612,350,0775
2	0.015,119,7550	42	0.317,514,8550	82	0.619,909,9550
3	0.022,679,6325	43	0.325,074,7325	83	0.627,469,8325
4	0.030,239,5100	44	0.332,634,6100	84	0.635,029,7100
5	0.037,799,3875	45	0.340,194,4875	85	0.642,589,5875
6	0.045,359,2650	46	0.347,754,3650	86	0.650,149,4650
7	0.052,919,1425	47	0.355,314,2425	87	0.657,709,3425
8	0.060,479,0200	48	0.362,874,1200	88	0.665,269,2200
9	0.068,038,8975	49	0.370,433,9975	89	0.672,829,0975
10	0.075,598,7750	50	0.377,993,8750	90	0.680,388,9750
11	0.083,158,6525	51	0.385,553,7525	91	0.687,948,8525
12	0.090,718,5300	52	0.393,113,6300	92	0.695,508,7300
13	0.098,278,4075	53	0.400,673,5075	93	0.703,068,6075
14	0.105,838,2850	54	0.408,233,3850	94	0.710,628,4850
15	0.113,398,1625	55	0.415,793,2625	95	0.718,188,3625
16	0.120,958,0400	56	0.423,353,1400	96	0.725,748,2400
17	0.128,517,9175	57	0.430,913,0175	97	0.733,308,1175
18	0.136,077,7950	58	0.438,472,8950	98	0.740,867,9950
19	0.143,637,6725	59	0.446,032,7725	99	0.748,427,8725
20	0.151,197,5500	60	0.453,592,6500	100	0.755,987,7500
21	0.158,757,4275	61	0.461,152,5275		
22	0.166,317,3050	62	0.468,712,4050		
23	0.173,877,1825	63	0.476,272,2825		
24	0.181,437,0600	64	0.483,832,1600		
25	0.188,996,9375	65	0.491,392,0375		
26	0.196,556,8150	66	0.498,951,9150		
27	0.204,116,6925	67	0.506,511,7925		
28	0.211,676,5700	68	0.514,071,6700		
29	0.219,236,4475	69	0.521,631,5475		
30	0.226,796,3250	70	0.529,191,4250		
31	0.234,356,2025	71	0.536,751,3025		
32	0.241,916,0800	72	0.544,311,1800		
33	0.249,475,9575	73	0.551,871,0575		
34	0.257,035,8350	74	0.559,430,9350		
35	0.264,595,7125	75	0.566,990,8125		
36	0.272,155,5900	76	0.574,550,6900		
37	0.279,715,4675	77	0.582,110,5675		
38	0.287,275,3450	78	0.589,670,4450		
39	0.294,835,2225	79	0.597,230,3225		
40	0.302,395,1000	80	0.604,790,2000		

## No. 5. Reduction of English Centners in Kilos.

(1 Cwt. = 50,802,377 kilos.)

1	50,802,377	41	2,082,897,457	81	4,114,992,537
2	101,604,754	42	2,133,699,834	82	4,165,794,914
3	152,407,131	43	2,184,502,211	83	4,216,597,291
4	203,209,508	44	2,235,304,588	84	4,267,399,668
5	254,011,885	45	2,286,106,965	85	4,318,202,045
6	304,814,262	46	2,336,909,342	86	4,369,004,422
7	355,616,639	47	2,387,711,719	87	4,419,806,799
8	406,419,016	48	2,438,514,096	88	4,470,609,176
9	457,221,393	49	2,489,316,473	89	4,521,411,553
10	508,023,770	50	2,540,118,850	90	4,572,213,930
11	558,826,147	51	2,590,921,227	91	4,623,016,307
12	609,628,524	52	2,641,723,604	92	4,673,818,684
13	660,430,901	53	2,692,525,981	93	4,724,621,061
14	711,233,278	54	2,743,328,358	94	4,775,423,438
15	762,035,655	55	2,794,130,735	95	4,826,225,815
16	812,838,032	56	2,844,933,112	96	4,877,028,192
17	863,640,409	57	2,895,735,489	97	4,927,830,569
18	914,442,786	58	2,946,537,866	98	4,978,632,946
19	965,245,163	59	2,997,340,243	99	5,029,435,323
20	1,016,047,540	60	3,048,142,620	100	5,080,237,700
21	1,066,849,917	61	3,098,944,997		
22	1,117,652,294	62	3,149,747,374		
23	1,168,454,671	63	3,200,549,751		
24	1,219,257,048	64	3,251,352,128		
25	1,270,059,425	65	3,302,154,505		
26	1,320,861,802	66	3,352,956,882		
27	1,371,664,179	67	3,403,759,259		
28	1,422,466,556	68	3,454,561,636		
29	1,473,268,933	69	3,505,364,013		
30	1,524,071,310	70	3,556,166,390		
31	1,574,873,687	71	3,606,968,767		
32	1,625,676,064	72	3,657,771,144		
33	1,676,478,441	73	3,708,573,521		
34	1,727,280,818	74	3,759,375,898		
35	1,778,083,195	75	3,810,178,275		
36	1,828,885,572	76	3,860,980,652		
37	1,879,687,949	77	3,911,783,029		
38	1,930,490,326	78	3,962,585,406		
39	1,981,292,703	79	4,013,387,783		
40	2,032,095,080	80	4,064,190,160		

## No. 6. Reduction of Centners in Bags (60 kilos.)

1 Cwt. = 50,802377 kilos.

1	0.846,706,2833	41	34.714,957,6153	81	68.583,208,9473
2	1.693,412,5666	42	35.561,663,8986	82	69.429,915,2306
3	2.540,118,8499	43	36.408,370,1819	83	70.276,621,5139
4	3.386,825,1332	44	37.255,076,4652	84	71.123,327,7972
5	4.233,531,4165	45	38.101,782,7485	85	71.970,034,0805
6	5.080,237,6998	46	38.948,489,0318	86	72.816,740,3638
7	5.926.943,9831	47	39.795,195,3151	87	73.663,446,6471
8	6.773,650,2664	48	40.641,901,5984	88	74.510,152,9304
9	7.620,356,5497	49	41.488,607,8817	89	75.356,859,2137
10	8.467,062,8330	50	42.335,314,1650	90	76.203,565,4970
11	9.313,769,1163	51	43.182,020,4483	91	77.050,271,7803
12	10.160,475,3996	52	44.028,726,7316	92	77.896,978,0636
13	11.007,181,6829	53	44.875,433,0149	93	78.743,684,3469
14	11.853,887,9662	54	45.722,139,2982	94	79.590,390,6302
15	12.700,594,2495	55	46.568,845,5815	95	80.437,096,9135
16	13.547,300,5328	56	47.415,551,8648	96	81.283,803,1968
17	14.394,006,8161	57	48.262,258,1481	97	82.130.509.4801
18	15.240,713,0994	58	49.108,964,4314	98	82.977,215,7634
19	16.087,419,3827	59	49.955,670,7147	99	83.823,922,0467
20	16.934,125,6660	60	50.802,376,9980	100	84.670,628,3300
21	17.780,831,9493	61	51.649,083,2813		
22	18.627,538,2326	62	52.495,789,5646		
23	19.474,244,5159	63	53.342,495,8479		
24	20.320,950,7992	64	54.189,202,1312		
25	21.167,657,0825	65	55.035,908,4145		
26	22.014,363,3658	66	55.882,614,6978		
27	22.861,069,6491	67	56.729,320,9811		
28	23.707,775,9324	68	57.576,027,2644		
29	24.554,482,2157	69	58.422,733,5477		
30	25.401,188,4990	70	59.269,439,8310		
31	26.247,894,7823	71	60.116,146,1143		
32	27.094,601,0656	72	60.962,852,3976		
33	27.941,307,3489	73	61.809,558,6809		
34	28.788,013,6322	74	62.656,264,9642		
35	29.634,719,9155	75	63.502,971,2475		
36	30.481,426,1988	76	64.349,677,5308		
37	31.328,132,4821	77	65.196,383,8141		
38	32.174,838,7654	78	66.043,090,0974		
39	33.021,545,0487	79	66.889,796,3807		
40	33.868,251,3320	80	67.736,502,6640		

No. 7. Reduction of **Zoll-Zentner** (50 Kilos) in **Bags**  
(60 Kilos).

1	0.833,333	41	34.166,666	81	67.500,000
2	1.666,666	42	35.000,000	82	68.333,333
3	2.500,000	43	35.833,333	83	69.166,666
4	3.333,333	44	36.666,666	84	70.000,000
5	4.166,666	45	37.500,000	85	70.833,333
6	5.000,000	46	38.333,333	86	71.666,666
7	5.833,333	47	39.166,666	87	72.500,000
8	6.666,666	48	40.000,000	88	73.333,333
9	7.500,000	49	40.833,333	89	74.166,666
10	8.333,333	50	41.666,666	90	75.000,000
11	9.166,666	51	42.500,000	91	75.833,333
12	10.000,000	52	43.333,333	92	76.666,666
13	10.833,333	53	44.166,666	93	77.500,000
14	11.666,666	54	45.000,000	94	78.333,333
15	12.500,000	55	45.833,333	95	79.166,666
16	13.333,333	56	46.666,666	96	80.000,000
17	14.166,666	57	47.500,000	97	80.833,333
18	15.000,000	58	48.333,333	98	81.666,666
19	15.833,333	59	49.166,666	99	82.500,000
20	16.666,666	60	50.000,000	100	83.333,333
21	17.500,000	61	50.833,333		
22	18.333,333	62	51.666,666		
23	19.166,666	63	52.500,000		
24	20.000,000	64	53.333,333		
25	20.833,333	65	54.166,666		
26	21.666,666	66	55.000,000		
27	22.500,000	67	55.833,333		
28	23.333,333	68	56.666,666		
29	24.166,666	69	57.500,000		
30	25.000,000	70	58.333,333		
31	25.833,333	71	59.166,666		
32	26.666,666	72	60.000,000		
33	27.500,000	73	60.833,333		
34	28.333,333	74	61.666,666		
35	29.166,666	75	62.500,000		
36	30.000,000	76	63.333,333		
37	30.833,333	77	64.166,666		
38	31.666,666	78	65.000,000		
39	32.500,000	79	65.833,333		
40	33.333,333	80	66.666,666		

## No. 8. Reduction of Kilos in Picols.

(1 picol = 61,76 kilos or 1 kilo = 0.01619171 picol.)

1	0.01619171	41	0.66386011	81	1.31152851
2	0.03238342	42	0.68005182	82	1.32772022
3	0.04857513	43	0.69624353	83	1.34391193
4	0.06476684	44	0.71243524	84	1.36010364
5	0.08095855	45	0.72862695	85	1.37629535
6	0.09715026	46	0.74481866	86	1.39248706
7	0.11334197	47	0.76101037	87	1.40867877
8	0.12953368	48	0.77720208	88	1.42487048
9	0.14572539	49	0.79339379	89	1.44106219
10	0.16191710	50	0.80958550	90	1.45725390
11	0.17810881	51	0.82577721	91	1.47344561
12	0.19430052	52	0.84196892	92	1.48963732
13	0.21049223	53	0.85816063	93	1.50582903
14	0.22668394	54	0.87435234	94	1.52202074
15	0.24287565	55	0.89054405	95	1.53821245
16	0.25906736	56	0.90673576	96	1.55440416
17	0.27525907	57	0.92292747	97	1.57059587
18	0.29145078	58	0.93911918	98	1.58678758
19	0.30764249	59	0.95531089	99	1.60297929
20	0.32383420	60	0.97150260	100	1.61917100
21	0.34002591	61	0.98769431		
22	0.35621762	62	1.00388602		
23	0.37240933	63	1.02007773		
24	0.38860104	64	1.03626944		
25	0.40479275	65	1.05246115		
26	0.42098446	66	1.06865286		
27	0.43717617	67	1.08484457		
28	0.45336788	68	1.10103628		
29	0.46955959	69	1.11722799		
30	0.48575130	70	1.13341970		
31	0.50194301	71	1.14961141		
32	0.51813472	72	1.16580312		
33	0.53432643	73	1.18199483		
34	0.55051814	74	1.19818654		
35	0.56670985	75	1.21437825		
36	0.58290156	76	1.23056996		
37	0.59909327	77	1.24676167		
38	0.61528498	78	1.26295338		
39	0.63147669	79	1.27914509		
40	0.64766840	80	1.29533680		

## No. 9. Reduction of Picols in Bags (60 kilos.)

(1 picol = 61,521 kilos.)

1	1.02535	41	42.03935	81	83.05335
2	2.05070	42	43.06470	82	84.07870
3	3.07605	43	44.09005	83	85.10405
4	4.10140	44	45.11540	84	86.12940
5	5.12675	45	46.14075	85	87.15475
6	6.15210	46	47.16610	86	88.18010
7	7.17745	47	48.19145	87	89.20545
8	8.20280	48	49.21680	88	90.23080
9	9.22815	49	50.24215	89	91.25615
10	10.25350	50	51.26750	90	92.28150
11	11.27885	51	52.29285	91	93.30685
12	12.30420	52	53.31820	92	94.33220
13	13.32955	53	54.34355	93	95.35755
14	14.35490	54	55.36890	94	96.38290
15	15.38025	55	56.39425	95	97.40825
16	16.40560	56	57.41960	96	98.43360
17	17.43095	57	58.44495	97	99.45895
18	18.45630	58	59.47030	98	100.48430
19	19.48165	59	60.49565	99	101.50965
20	20.50700	60	61.52100	100	102.53500
21	21.53235	61	62.54635		
22	22.55770	62	63.57170		
23	23.58305	63	64.59705		
24	24.60840	64	65.62240		
25	25.63375	65	66.64775		
26	26.65910	66	67.67310		
27	27.68445	67	68.69845		
28	28.70980	68	69.72380		
29	29.73515	69	70.74915		
30	30.76050	70	71.77450		
31	31.78585	71	72.79985		
32	32.81120	72	73.82520		
33	33.83655	73	74.85055		
34	34.86190	74	75.87590		
35	35.88725	75	76.90125		
36	36.91260	76	77.92660		
37	37.93795	77	78.95195		
38	38.96330	78	79.97730		
39	39.98865	79	81.00265		
40	41.01400	80	82.02800		

No. 10. Reduction of **Pico's** (1 picol of the Philippine-islands  
= 63,2685 kilos) in **Bags** (60 kilos.)

1	1.054,475	41	43.233,475	81	85.412,475
2	2.108,950	42	44.287,950	81	86.466,950
3	3.163,425	43	45.342,425	83	87.521,425
4	4.217,900	44	46.396,900	84	88.575,900
5	5.272,375	45	47.451,375	85	89.630,375
6	6.326,850	46	48.505,850	86	90.684,850
7	7.381,325	47	49.560,325	87	91.739,325
8	8.435,800	48	50.614,800	88	92.793,800
9	9.490,275	49	51.669,275	89	93.848,275
10	10.544,750	50	52.723,750	90	94.902,750
11	11.599,225	51	53.778,225	91	95.957,225
12	12.653,700	52	54.832,700	92	97.011,700
13	13.708,175	53	55.887,175	93	98.066,175
14	14.762,650	54	56.941,650	94	99.120,650
15	15.817,125	55	57.996,125	95	100.175,125
16	16.871,600	56	59.050,600	96	101.229,600
17	17.926,075	57	60.105,075	97	102.284,075
18	18.980,550	58	61.159,550	98	103.338,550
19	20.035,025	59	62.214,025	99	104.393,025
20	21.089,500	60	63.268,500	100	105.447,500
21	22.143,975	61	64.322,975		
22	23.198,450	62	65.377,450		
23	24.252,925	63	66.431,925		
24	25.307,400	64	67.486,400		
25	26.361,875	65	68.540,875		
26	27.416,350	66	69.595,350		
27	28.470,825	67	70.649,825		
28	29.525,300	68	71.704,300		
29	30.579,775	69	72.758,775		
30	31.634,250	70	73.813,250		
31	32.688,725	71	74.867,725		
32	33.743,200	72	75.922,200		
33	34.797,675	73	76.976,675		
34	35.852,150	74	78.031,150		
35	36.906,625	75	79.085,625		
36	37.961,100	76	80.140,100		
37	39.015,575	77	81.194,575		
38	40.070,050	78	82.249,050		
39	41.124,525	79	83.303,525		
40	42.179,000	80	84.358,000		

No. 11. Reduction of **Poods** (16.<sup>3805</sup> kilos) in **Bags**  
(60 kilos.)

1	0.273,008	41	11.193,328	81	22.113,648
2	0.546,016	42	11.466,336	82	22.386,656
3	0.819,024	43	11.739,344	83	22.659,664
4	1.092,032	44	12.012,352	84	22.932,672
5	1.365,040	45	12.285,360	85	23.205,680
6	1.638,048	46	12.558,368	86	23.478,688
7	1.911,056	47	12.831,376	87	23.751,696
8	2.184,064	48	13.104,384	88	24.024,704
9	2.457,072	49	13.377,392	89	24.297,712
10	2.730,080	50	13.650,400	90	24.570,720
11	3.003,088	51	13.923,408	91	24.843,728
12	3.276,096	52	14.196,416	92	25.116,736
13	3.549,104	53	14.469,424	93	25.389,744
14	3.822,112	54	14.742,432	94	25.662,752
15	4.095,120	55	15.015,440	95	25.935,760
16	4.368,128	56	15.288,448	96	26.208,768
17	4.641,136	57	15.561,456	97	26.481,776
18	4.914,144	58	15.834,464	98	26.754,784
19	5.187,152	59	16.107,472	99	27.027,792
20	5.460,160	60	16.380,480	100	27.300,800
21	5.733,168	61	16.653,488		
22	6.006,176	62	16.926,496		
23	6.279,184	63	17.199,504		
24	6.552,192	64	17.472,512		
25	6.825,200	65	17.745,520		
26	7.098,208	66	18.018,528		
27	7.371,216	67	18.291,536		
28	7.644,224	68	18.564,544		
29	7.917,232	69	18.837,552		
30	8.190,240	70	19.110,560		
31	8.463,248	71	19.383,568		
32	8.736,256	72	19.656,576		
33	9.009,264	73	19.929,584		
34	9.282,272	74	20.202,592		
35	9.555,280	75	20.475,600		
36	9.828,288	76	20.748,608		
37	10.101,296	77	21.021,616		
38	10.374,304	78	21.294,624		
39	10.647,312	79	21.567,632		
40	10.920,320	80	21.840,640		

## SUPPLEMENT VI.

## Analyses of 22 specimens of coffee-

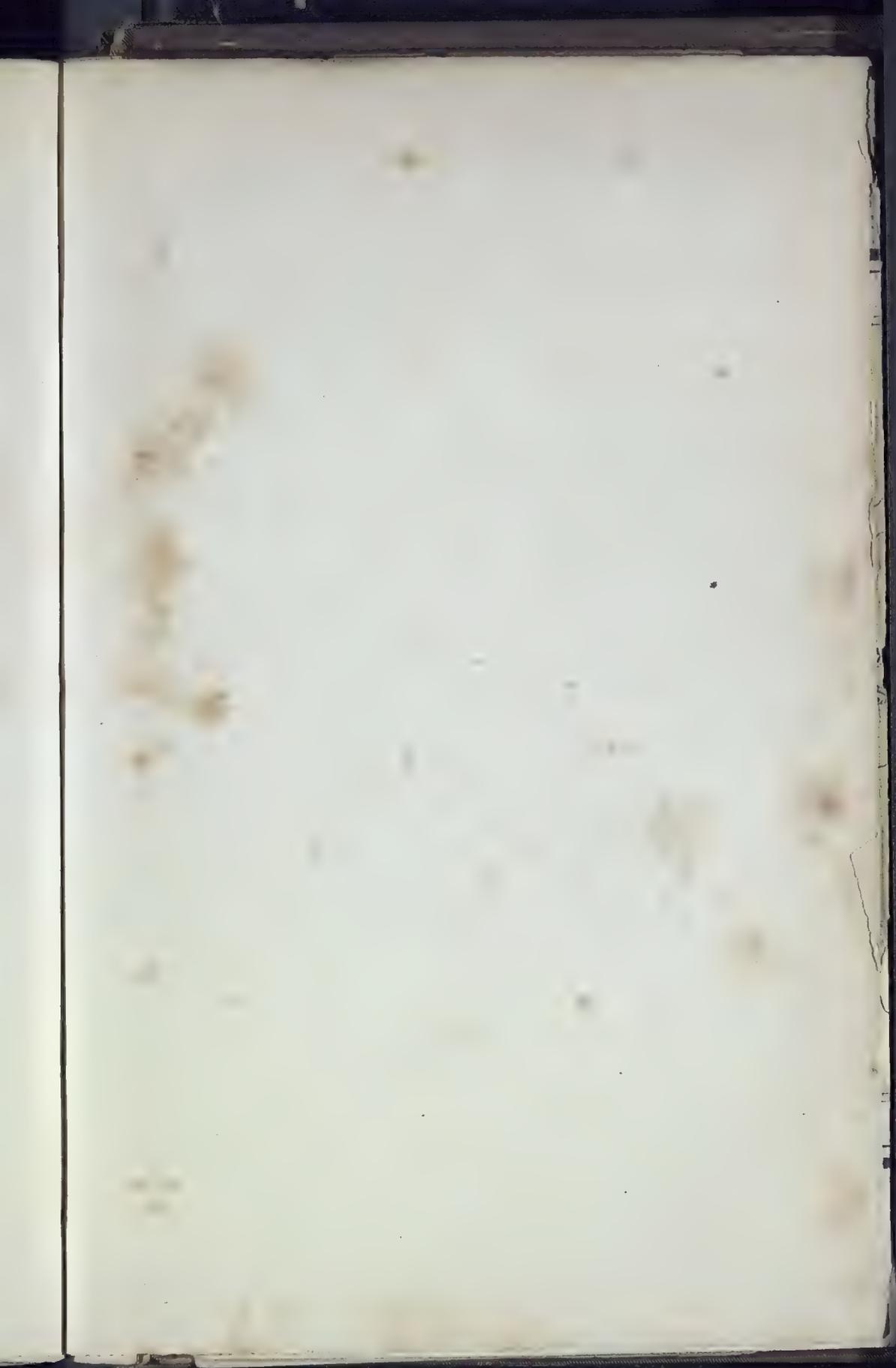
Nos.	NAME OF THE SOIL.	FROM THE GARDENS OF THE FAZENDA :	DISTRICT.	SHORT MINERALOGICAL DESCRIPTION.	Q carbon lime
1	Area preta	Carlsberg	Campinas	Gravel, very little vegetable soil	0
2	Massapé preta	Sete-Quedas (Campo-Grande)	"	Sand with gravel, a little vegetable soil	0
3	Terra de pedra de ferro	Sete-Quedas (Saltinho)	"	Decomposed rocks with large grains of granite.	0
4	Terra roxa	Ibicaba (cultivated during 40 years)	Limeira	Alluvial soil, ferriferous	0
5	Massapé	Fortaleza de Sant' Anna (from a new garden).	Juiz de Fora	Clay with plenty of vegetable soil	0
6	Massapé vermelha	Sete-Quedas (Pinheiros)	Campinas	Decomposed rocks with quartz	0
7	Terra boá	Trimonte	Leopoldina	Gravelly, & vegetable soil	0
8	Terra Matavirgem	Ibicaba	Limeira	Ferriferous, as No. 4.	0
9	Terra boá	Trimonte	Leopoldina	Clayish ferriferous soil	0
10	Massapé	Serra Vermelha (near Conceição)	S. Fidelis	Ferriferous.	0
11	Terra Area vermelha	?	Campinas	Sand ferriferous	0
12	Terra Boá	Boá-Sorte	Cantagallo	Ferriferous	0
13	idem	Uba	Vassouras	Ferriferous	0
14	Terra Aréa	Ibicaba (cultivated during 40 years)	Limeira	Sand	0
15	Catanduva (bad coffee soil)	Serrado.	Casa Branca	Gravel	0
16	Massapé	Bom Retiro	Amparo	Ferriferous	0
17	Massapé (?)	idem	idem	Micaceous schist	0
18	Terra Boá	S. Marcos	Leopoldina	Ferriferous clay	0
19	Soil from an ant-hill.	Salto d'Itú	Itú	Decomposed rocks, with vegetable soil	0
20	Terra Boá	Bom Retiro	Amparo	Decomposed rocks, without vegetable soil	0
21	idem	Boá Vista	Juiz de Fora	Sandy decomposed rocks	0
22	idem	da Cruz Alta	Leopoldina	Gravelly decomposed granite rocks	0

coffee-soils of CENTRAL-BRAZIL.

GICAL	QUALITATIVE ANALYSIS.			REMARKS.																																																												
	carbonic lime.	Contains coarse salt.	reaction.																																																													
vege-	0	0	acid	<p>I am indebted for these analyses to the kindness of Mr. C. J. M. Jongkindt Coninck, Director of the State-agricultural school at Wageningen and Dr. Adolf Mayer, director of the experiment-station of that institution.</p> <p>From a letter of Dr. Mayer of 4 Dec. 1883 I quote the following lines:</p> <p>From some typical species of soil, of which there was a sufficient quantity for that purpose — what could not be said of all — quantitative analyses were made with these results:</p> <p style="text-align: center;">MECHANICAL ANALYSIS OF THE SOIL.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">No. 3.</td> <td style="text-align: center;">No. 4</td> </tr> <tr> <td>Clay . . . . .</td> <td style="text-align: center;">0.0 %</td> <td style="text-align: center;">53.1 %</td> </tr> <tr> <td>Sand . . . . .</td> <td style="text-align: center;">100.0 %</td> <td style="text-align: center;">46.9 %</td> </tr> </table> <p style="text-align: center;">CHEMICAL ANALYSIS OF THE SOIL.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Vegetable soil</td> <td></td> <td></td> <td rowspan="2" style="vertical-align: middle;">(partly hydrate)</td> </tr> <tr> <td>(Loss by glowing)</td> <td style="text-align: center;">2.2 %</td> <td style="text-align: center;">7.60 %</td> </tr> <tr> <td>Silicic acid . . . . .</td> <td style="text-align: center;">0.16 »</td> <td style="text-align: center;">0.19 »</td> <td></td> </tr> <tr> <td>Phosphoric acid. . . . .</td> <td style="text-align: center;">0.03 »</td> <td style="text-align: center;">0.08 »</td> <td></td> </tr> <tr> <td>Sulphuric acid . . . . .</td> <td style="text-align: center;">traces</td> <td style="text-align: center;">0.01 »</td> <td></td> </tr> <tr> <td>Oxyd of iron . . . . .</td> <td style="text-align: center;">3.26 »</td> <td style="text-align: center;">4.18 »</td> <td></td> </tr> <tr> <td>Aluminous soil . . . . .</td> <td style="text-align: center;">1.00 »</td> <td style="text-align: center;">2.02 »</td> <td></td> </tr> <tr> <td>Lime . . . . .</td> <td style="text-align: center;">0.08 »</td> <td style="text-align: center;">0.24 »</td> <td></td> </tr> <tr> <td>Magnesia . . . . .</td> <td style="text-align: center;">0.04 »</td> <td style="text-align: center;">traces</td> <td></td> </tr> <tr> <td>Kali. . . . .</td> <td style="text-align: center;">0.05 »</td> <td style="text-align: center;">0.04 »</td> <td></td> </tr> <tr> <td>Natron. . . . .</td> <td style="text-align: center;">0.04 »</td> <td style="text-align: center;">0.02 »</td> <td></td> </tr> <tr> <td>Indissoluble. . . . .</td> <td style="text-align: center;">93.44 »</td> <td style="text-align: center;">85.62 »</td> <td></td> </tr> <tr> <td>Azote; easily to analyse . . . . .</td> <td style="text-align: center;">0.02 »</td> <td style="text-align: center;">0.03 »</td> <td></td> </tr> </table> <p>The character of these soils is not very rich, partly even poor in parts nutritive for plants, generally very poor in vegetable soil. All are acid and without carbonic lime.</p> <p>After this scientific decision one should think, that the coffeegrounds in Brazil are unfit for coffee-culture;— experience however has proved the contrary.</p> <p>I believe therefore, that, in judging the success of any culture, it is necessary and perhaps better to consider the local condition of soil and climate, and besides to consider that, what seems to be impossible in northern countries, can have full success in a luxurious tropical climate.</p> <p>See for further particulars page 259/60 and 271/72 of this Report.</p>		No. 3.	No. 4	Clay . . . . .	0.0 %	53.1 %	Sand . . . . .	100.0 %	46.9 %	Vegetable soil			(partly hydrate)	(Loss by glowing)	2.2 %	7.60 %	Silicic acid . . . . .	0.16 »	0.19 »		Phosphoric acid. . . . .	0.03 »	0.08 »		Sulphuric acid . . . . .	traces	0.01 »		Oxyd of iron . . . . .	3.26 »	4.18 »		Aluminous soil . . . . .	1.00 »	2.02 »		Lime . . . . .	0.08 »	0.24 »		Magnesia . . . . .	0.04 »	traces		Kali. . . . .	0.05 »	0.04 »		Natron. . . . .	0.04 »	0.02 »		Indissoluble. . . . .	93.44 »	85.62 »		Azote; easily to analyse . . . . .	0.02 »	0.03 »	
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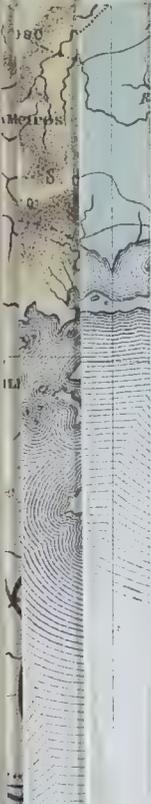




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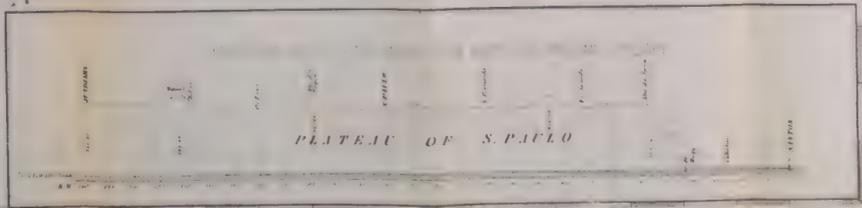
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MAP  
OF THE COFFEE-AREA  
OF  
**CENTRAL BRAZIL**

by  
**C. VAN DELDEN LAERNE**

Proportion scale 1:100,000.



- Elevation
- Rivers
- Railroads
- Telegraph lines
- Inland waters

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