

STATISTICAL ABSTRACT

RELATING TO

BRITISH INDIA,

FROM

1858 to 1867,

(as far as the Particulars can be stated.)

ED from OFFICIAL RECORDS and PAPERS presented to
PARLIAMENT.

THIRD NUMBER.

Presented to both Houses of Parliament by Command of Her Majesty.



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1869.

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STATISTICS RELATING TO INDIA

AREA AND POPULATION

No. 1.—AREA and POPULATION of each PRESIDENCY or PROVINCE of BRITISH INDIA and NATIVE STATES.

STATES.	Under the Administration of	PRESIDENCY OR PROVINCE.	AREA in Square Miles.		POPULATION.	
			Each Presidency or Province.	Total.	Each Presidency or Province.	Total.
British India	Governor-General of India in Council	Coorg	2,116		115,827	
		Hyderabad	17,334		2,231,546	
		Mysore	27,903		3,328,715	
				46,453		6,277,107
	Lieutenant-Governor	Bengal		240,462		37,505,599
	Ditto	North-West Provinces		83,690		30,016,137
	Ditto	Punjab		95,768		17,583,946
	Governor	Madras		141,748		26,059,952
	Ditto	Bombay	87,639		11,063,512	
		Sind	69,900		1,946,594	
			149,539		13,010,106	
	Chief Commissioner	Oude		22,458		6,502,884
	Ditto	Central Provinces		114,718		9,104,511
	Ditto	British Burmah		90,070		2,329,312
		Total under British Administration		665,002		149,497,864
Native States in India.		In Bengal	117,151		4,152,938	
		„ North-West Provinces	8,458		2,294,400	
		„ Punjab	197,349		7,151,358	
		„ Central India	183,610		14,622,687	
		„ Madras	116,135		12,680,228	
		„ Bombay	66,004		6,801,223	
		Total Native States		687,697		47,999,199
	Native or Indian States under French Government		148		269,887	
	Ditto ditto Portuguese do.		1,066	1,254	313,306	517,140
		GRAND TOTAL		1,675,853		177,817,203

N.B.—The total Area and Population of States under the Administration of the Governor-General does not include the Straits Settlements transferred to the Colonial Office.

POPULATION.

No. 2.—POPULATION of the PRESIDENCY TOWNS of BRITISH INDIA according to latest Returns.

TOWNS.	MALES.	FEMALES.	CHILDREN.	TOTAL.
Calcutta, Census taken on 31st January 1866	198,077	115,311	64,536	377,924
Madras, Administration Report for 1862-63	134,302	165,307	128,162	427,771
Bombay, Census taken on 1st February 1864	436,305	207,285	172,972	816,562
Total	768,684	487,903	365,670	1,622,257

No. 3.—POPULATION of the PRESIDENCY TOWNS of BRITISH INDIA, of all RACES, classified according to Sex and Age.

TOWNS.	MALES.			FEMALES.		TOTAL.	
	Under 10 Years.	Under 45 Years.	Upwards of 45 Years.	Under 10 Years.	Upwards of 10 Years.	Males.	Females.
Europeans	907	6,329	491	952	2,545	7,727	3,497
Natives and others not European	32,561	165,545	27,714	30,316	112,766	228,018	143,082
Total	33,268	171,872	28,205	31,268	115,311	231,545	146,579

TOWNS.	MALES.	FEMALES.	CHILDREN.	TOTAL.
	Europeans and East Indians	4,707	5,160	6,501	16,368
Natives and others not European	129,595	160,147	121,661	411,403
Total	134,302	165,307	128,162	427,771

TOWNS.	UNDER 14 YEARS.		UNDER 45 YEARS.		45 YEARS AND UPWARDS.		TOTAL.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Europeans	539	505	5,791	947	362	201	6,702	1,653
Natives and others not European	93,556	78,322	256,046	163,139	78,486	42,998	525,668	284,450
Total	94,145	78,827	362,437	164,086	79,268	43,199	530,450	286,113

**1.—POPULATION of the PRESIDENCY TOWNS of BRITISH INDIA,
Returns received, distinguishing COUNTRY, CASTE, or RELIGION.**

COUNTRY, CASTE, or RELIGION.	CALCUTTA.				MADRAS.				BOMBAY.			
	Males.	Females.	Children under 10 Years.	Total.	Males.	Females.	Children.	Total.	Males.	Females.	Children under 10 Years.	Total.
Europeans - -	6,830	2,545	1,859	11,234	4,707	5,160	6,561	16,368	6,173	1,148	1,094	8,415
Indo-Europeans -	4,682	4,218	2,798	11,698					730	523	609	1,862
Native Christians	-	-	-	-	6,904	8,490	6,545	21,939	10,641	4,736	4,534	19,911
Armenians - -	291	228	174	703	-	-	-	-	-	-	-	-
Jews - - - -	240	228	213	681	-	-	-	-	1,024	851	7,017	8,892
Greeks - - - -	17	7	6	30	-	-	-	-	-	-	-	-
Africans - - -	36	9	5	50	-	-	-	-	1,206	386	492	2,084
Asiatics - - -	786	412	213	1,411	-	-	-	-	-	-	-	-
Chinese - - - -	378	-	31	409	-	-	-	-	336	19	43	498
Parsies - - - -	78	18	10	106	-	-	-	-	21,332	24,556	13,313	49,201
Brahmins - - -	-	-	-	-	-	-	-	-	18,550	6,574	5,471	30,595
Buddhists - - -	-	-	-	-	-	-	-	-	4,812	1,540	1,600	7,952
Bhatias - - - -	-	-	-	-	-	-	-	-	10,680	6,410	4,072	21,162
Hindoes - - - -	119,539	78,901	40,750	239,190	163,793	127,643	94,340	385,776	226,172	181,364	107,416	514,952
Langsets - - -	-	-	-	-	-	-	-	-	899	997	313	1,209
Musulmans - -	65,813	23,736	18,509	108,058	18,968	24,914	20,674	64,556	74,754	28,737	32,539	136,030
Total - - - -	198,077	118,511	64,336	377,924	134,303	165,307	128,162	427,772	466,505	207,285	172,972	846,762

* As the Chinese are married Christian females the latter have been included among Indo-Europeans.

**No. 5.—TOTAL GROSS AMOUNT of the PUBLIC REVENUE and EXPENDITURE of BRITISH INDIA
showing SURPLUS OR DEFICIENCY of REVENUE, in each of the Years ended 30th April.**

YEARS ended 30th April.	GROSS REVENUE.	TOTAL EXPENDITURE.		GROSS EXPENDITURE.	Actual Surplus (+) or Deficiency (-) of Revenue.
		In India.	In England.		
1858	31,796,776	39,078,523	6,162,043	45,240,571	- 2,533,795
1859	36,060,788	43,600,791	7,466,136	51,066,927	- 14,996,139
1860	39,795,522	44,622,200	2,239,431	46,861,631	- 12,165,698
1861	43,003,234	47,403,239	7,745,846	55,149,085	- 12,556,651
1862	43,820,472	37,245,756	7,624,476	44,870,232	+ 1,040,760
1863	46,143,738	36,500,506	7,352,317	43,852,823	+ 1,006,830
1864	44,513,032	38,087,773	6,804,334	44,892,107	- 879,374
1865	45,652,897	39,432,230	6,936,770	46,368,999	- 708,002
1866	48,935,229	41,120,024	6,211,175	47,331,199	+ 1,004,030
1867	43,122,438	37,004,406	7,545,518	44,549,924	- 2,527,486

Note.—All the information contained in the above and following statements for the year 1867 embraces a period of eleven months only, in consequence of the change in the termination of the official year from 30th April to 31st March.

NO. 6.—GROSS AMOUNT OF THE PUBLIC REVENUE AND EXPENDITURE OF EACH PRESIDENCY OF BRITISH INDIA, exclusive of Receipts and Expenditure in England, for each of the Years ended 30th April.

Year ended 30th April.	BOMBAY		MADRAS		NORTH-WEST PROVINCES		BOMBAY including SINDH		PUNJAB		TOTAL	
	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.
1868	2,683,773	1,941,207	12,579,968	4,831,047	3,047,025	2,720,950	6,110,400	6,023,877	2,452,266	1,632,233	31,206,776	28,078,628
1869	2,750,337	1,888,448	12,512,281	4,313,812	5,163,226	2,930,713	6,320,524	6,163,869	2,367,437	1,523,577	30,000,758	28,000,758
1870	4,802,730	1,739,212	12,303,211	3,196,064	5,700,000	3,178,052	7,277,061	7,200,011	3,024,703	1,910,000	33,000,000	30,000,000
1881	4,820,712	1,527,132	11,608,104	4,230,734	5,220,711	3,453,013	8,402,107	8,476,380	3,476,380	2,110,000	30,000,000	28,000,000
1882	4,783,816	1,438,612	11,305,612	4,300,078	6,051,181	2,708,307	7,659,144	7,659,144	3,000,000	1,800,000	30,000,000	28,000,000
1883	5,255,216	1,130,520	11,305,220	4,037,761	7,220,552	2,003,206	9,604,330	9,604,330	3,606,756	1,637,236	30,000,000	28,000,000
1884	5,717,736	1,022,068	15,007,117	5,871,148	5,453,622	2,005,105	8,217,717	8,217,717	3,183,340	1,540,430	30,000,000	28,000,000
1885	5,085,084	1,322,820	14,897,084	6,030,870	5,407,050	2,205,421	8,308,100	8,308,100	3,183,340	1,505,300	30,000,000	28,000,000
1886	7,043,034	1,600,007	14,897,084	6,030,870	5,407,050	2,205,421	8,308,100	8,308,100	3,183,340	1,505,300	30,000,000	28,000,000
1887	6,468,368	1,415,123	15,007,117	6,030,870	5,407,050	2,205,421	8,308,100	8,308,100	3,183,340	1,505,300	30,000,000	28,000,000

No. 7.—Gross Amount of the Principal Sources of the Public Revenue in British India, for each Year ended 30th April.

Year ended 30th April.	Land.	Excise, Sarc, and Forest.	Houses, Trade, and Assessed Taxes and Municipalities.	Tributes, Subsidies, and Contributions from Native States.	Consoms.	Salt.	Opium.	Stamps.	Mint.	Post Office.	Electric Tole. and Graphl.	Judicial Expenses and Police.	Marine, Indian Navy, and Pilot Dues.	Public Works.
1868	16,317,911	1,319,366	107,826	581,273	2,118,834	2,131,346	6,842,200	4,522,683	300,316	389,403	—	298,732	175,304	476,910
1869	18,128,058	1,374,821	111,237	563,081	2,607,081	2,602,070	6,114,362	4,902,215	247,205	888,037	—	402,300	108,413	618,514
1870	18,757,400	1,704,222	219,425	704,320	3,372,053	3,327,421	6,887,778	737,527	392,892	601,605	—	441,468	245,080	725,304
1881	18,608,001	1,778,103	310,512	781,104	4,101,001	3,806,124	6,071,739	1,182,781	288,280	608,524	63,639	416,666	283,765	850,172
1882	13,073,638	2,200,886	2,061,000	780,102	2,876,178	4,503,082	6,508,270	1,693,217	389,734	402,135	73,462	511,312	166,722	498,585
1883	19,070,147	2,471,000	1,882,372	753,703	2,464,027	5,214,150	3,065,475	371,176	371,176	425,625	75,525	693,412	180,046	443,583
1884	20,303,325	2,364,713	3,468,622	713,000	2,384,003	6,331,003	1,733,216	369,768	369,768	462,882	91,682	691,788	307,715	461,780
1885	20,005,001	2,373,795	1,881,817	681,144	2,220,029	5,583,584	7,361,405	377,800	377,800	362,333	39,069	675,066	308,096	588,673
1886	20,473,807	2,612,568	462,541	700,082	2,479,857	6,342,140	8,515,248	400,354	400,354	460,460	100,463	780,520	106,880	917,444
1887	19,186,440	2,431,120	22,127	629,245	2,031,304	5,515,970	6,816,413	1,868,773	264,301	490,439	137,373	815,219	229,045	438,111

No. 8.—AMOUNT of the PUBLIC DEBT of BRITISH INDIA, disbursements
ENGLAND, with the AMOUNT of INTEREST PAID, on the 30th April 1867.

YEARS ended 30th April.	IN INDIA.		IN ENGLAND.		TOTAL.	
	Debt.	Interest.	Debt.	Interest.	Debt.	Interest.
1858	£ 60,704,084	£ 2,156,672	£ 8,769,400	£ 159,166	£ 69,473,484	£ 2,356,838
1859	66,082,031	2,756,023	15,089,277	372,739	81,171,308	3,111,362
1860	71,869,460	3,123,327	26,132,000	793,861	98,001,460	3,889,191
1861	71,001,061	3,232,104	29,976,000	1,061,243	101,977,061	4,293,347
1862	72,418,359	3,134,897	35,005,300	1,423,008	107,423,659	4,557,905
1863	72,656,135	3,351,680	51,539,100	1,496,916	124,195,235	4,848,596
1864	72,207,645	3,093,256	26,510,500	1,372,599	98,718,145	4,465,855
1865	72,352,455	3,261,261	26,125,100	1,321,124	98,477,555	4,582,385
1866	71,437,351	3,327,651	26,945,400	1,249,765	98,382,751	4,577,416
1867	72,526,815	2,953,038	29,535,000	1,306,293	102,061,815	4,259,331

No. 9.—NUMBER and TONNAGE of ALL VESSELS (including NATIVE CRAFT) ENTERED and CLEARED at PORTS in BRITISH INDIA, in each Year ended 30th of April.

YEARS.	ENTERED.		CLEARED.		TOTAL.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1858	21,812	2,892,603	21,600	2,863,793	43,412	5,756,396
1859	19,853	2,499,009	19,717	2,561,143	39,570	5,060,152
1860	21,190	2,374,969	20,455	2,323,053	41,645	4,698,022
1861	22,931	2,547,018	21,701	2,554,956	44,632	5,101,974
1862	22,034	2,582,057	21,990	2,955,291	44,024	5,537,348
1863	21,887	2,758,958	20,111	2,823,247	41,998	5,582,205
1864	25,748	3,509,079	24,126	3,344,273	49,874	6,853,352
1865	29,823	3,913,316	26,670	4,067,607	56,493	7,980,923
1866	24,870	3,606,364	23,531	3,926,020	48,401	7,532,384
1867	16,862	3,142,517	15,437	3,225,244	32,299	6,367,761

NUMBER AND TONNAGE OF ALL VESSELS (INCLUDING NATIVE CRAFT) ENTERED

FROM FOREIGN COUNTRIES.	ENTERED											
	1857.		1858.		1859.		1860.		1861.		1862.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
United Kingdom	708	626,319	715	584,994	708	540,391	738	636,276	827	733,434		
Aden	6	31,267	50	36,805	60	46,053	76	62,806	31	18,713		
African Coast (incl. S. Africa)	65	6,018	75	7,487	73	8,452	43	7,242	83	12,536		
America (North and South)	113	77,912	66	44,971	49	34,399	31	22,519	62	41,431		
Arabian (Arab. Persian Gulf and Red Sea)	631	165,605	356	69,354	605	75,556	718	84,293	653	83,569		
Australia	229	175,258	168	128,602	339	96,385	111	96,758	127	99,563		
British India and Sumatra	9	7,979	7	6,187	6	2,179	5	3,241	12	5,253		
Capo of Good Hope	53	49,085	40	37,662	25	17,274	16	6,378	95	81,472		
Canton	1,712	201,575	1,967	168,872	1,743	168,331	1,738	178,878	1,503	221,799		
China	190	69,069	163	71,155	86	58,347	157	136,297	84	67,367		
Denmark	—	—	—	—	1	75	—	—	2	682		
France	126	81,685	70	38,852	40	21,946	43	20,375	42	20,421		
Germany	79	4,593	5	2,507	3	1,282	4	1,562	6	2,650		
Holland	8	7,433	—	—	—	—	—	—	8	4,782		
Madagascar and Bourbon	211	169,222	266	100,472	297	113,133	176	93,515	256	141,461		
New Zealand	—	—	1	219	1	1,164	7	6,808	11	9,593		
Norway	5	1,984	1	569	—	—	—	—	—	—		
Spain	2	629	39	1,207	17	2,162	1	374	36	2,863		
Spain (Cuba)	6	3,600	1	678	—	—	—	—	1	678		
Swedish Settlements	211	122,517	173	142,721	220	72,510	330	129,391	271	98,382		
Siam	49	55,721	31	68,213	51	59,898	48	52,727	54	67,832		
West India	1	384	2	1,752	1	1,229	—	—	1	537		
Other Places	76	12,625	69	6,845	45	3,235	64	11,123	53	9,261		
Total	4,585	1,861,514	3,696	1,578,751	4,039	1,624,262	4,361	1,527,835	4,534	1,656,240		
Total (British Ports)	11,927	1,901,089	15,287	987,135	17,366	1,622,797	18,370	1,619,175	17,500	1,872,817		
Total (Foreign Ports)	3,558	2,882,297	4,883	2,699,699	21,199	2,671,669	22,931	2,547,618	22,034	2,082,657		

at PORTS in BRITISH INDIA from VARIOUS COUNTRIES in each of the Years ended 30th April.

ENTERED.										FROM FOREIGN COUNTRIES.
1863.		1864.		1865.		1866.		1867.		
Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	
724	851,066	906	823,238	819	771,196	731	714,056	751	765,733	United Kingdom.
46	23,912	73	64,623	39	32,741	43	43,634	35	39,663	Aden.
93	18,204	72	11,707	42	10,232	60	10,704	35	7,691	Africa, Coast of.
57	43,175	52	39,354	84	37,516	61	49,715	31	23,521	America, North and South
645	87,613	638	103,974	733	115,321	763	115,935	595	111,393	Arabian and Persian Gulfs and Red Sea.
105	87,393	157	130,080	132	117,733	83	72,194	37	32,294	Australia.
17	9,087	8	4,575	32	11,632	29	17,555	19	2,611	Batavia, Java, and Sumatra
37	16,565	32	14,766	27	16,843	16	8,243	4	1,419	Cape of Good Hope.
1,923	258,517	2,701	329,262	2,921	321,163	3,095	340,184	2,507	302,031	Ceylon.
93	51,295	136	102,339	*241	*150,539	202	148,598	76	62,963	China.
1	434	1	434	1	377	2	1,284	—	—	Denmark.
44	26,549	75	44,539	65	37,336	38	18,412	30	18,237	France.
14	6,916	22	16,133	23	14,612	5	2,720	2	1,590	Germany.
3	1,833	6	3,523	6	3,301	3	2,014	1	280	Holland.
134	94,300	266	129,450	179	113,839	151	99,940	102	61,313	Mauritius and Bourbon.
5	3,624	12	12,312	9	3,779	1	708	2	1,931	New Zealand.
—	—	—	—	1	1,192	—	—	—	—	Portugal.
11	1,976	49	2,412	62	4,880	38	2,394	33	3,921	Siam.
4	2,073	4	2,674	—	—	—	—	—	—	Spain.
336	117,340	493	173,970	646	226,811	547	215,714	219	96,170	Straits Settlements.
49	37,225	45	64,807	53	62,443	60	75,867	45	43,767	Suez.
1	1,437	—	—	2	2,738	3	2,714	—	—	West Indies.
53	13,133	93	23,643	92	30,173	60	14,939	503	215,923	Other Places.
4,435	1,611,530	5,820	2,091,290	6,157	2,117,371	5,305	1,938,166	4,384	1,789,584	Total.
10,932	1,177,372	19,928	1,418,689	20,660	1,795,939	19,605	1,737,196	11,874	1,332,533	Total between Indian Ports.
21,367	2,788,958	25,748	3,509,979	26,823	3,913,310	24,870	3,675,362	16,258	3,122,117	GRAND TOTAL.

* Including Japan.

SHIPPING.

No. 11.—NUMBER and TONNAGE of all VESSELS (including NATIVE CRAFT) CLEARED at

To FOREIGN COUNTRIES.	CLEARED									
	1858.		1859.		1860.		1861.		1862.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
United Kingdom	1,075	705,792	856	688,925	844	664,685	870	675,996	1,045	857,210
Aden	32	8,681	27	5,306	37	7,823	36	10,516	51	9,578
Africa, Coast of	58	4,897	46	5,078	46	3,553	39	5,019	51	5,646
America, North and South	90	73,945	118	105,589	162	91,207	94	83,566	56	44,108
Arabian and Persian Gulfs and Red Sea	673	120,729	710	104,992	573	83,197	695	90,167	450	74,040
Australia	26	18,133	53	30,904	44	25,266	25	13,229	20	10,313
Batasia, Java, and Sumatra	10	3,658	15	5,960	8	2,737	10	3,473	11	3,154
Cape of Good Hope	21	25,164	19	15,435	15	1,994	7	3,377	58	33,488
Canton	2,706	156,655	2,292	106,422	2,364	172,076	2,184	181,000	2,308	212,137
China	210	160,353	146	36,281	106	145,544	160	122,419	76	51,843
Denmark	1	543	1	314	—	—	—	—	—	—
France	998	126,461	134	87,118	110	—	209	98,800	140	63,669
Germany	23	14,007	8	2,248	16	7,047	9	5,210	11	7,695
Holland	13	8,048	2	1,366	4	2,367	7	3,535	7	3,086
Mauritius and Bourbon	240	126,729	291	172,087	285	157,620	281	140,906	286	157,124
New Zealand	—	—	—	—	—	—	6	5,629	—	—
Portugal	2	704	—	—	—	—	—	—	—	—
Russia	—	—	20	868	21	716	—	—	30	3,490
Siam	—	—	1	501	1	579	—	—	5	3,629
Scandinavian Settlements	562	12,894	361	122,650	243	61,740	232	53,233	263	73,018
Spain	51	19,353	35	51,857	43	43,641	50	52,601	52	58,681
West Indies	12	7,654	22	13,456	32	13,572	27	21,188	27	21,882
Other Ports	143	32,036	92	13,732	97	22,648	99	13,835	100	13,752
Total	8,025	1,848,315	5,316	1,650,142	5,927	1,787,387	5,047	1,573,752	5,096	1,742,644
Total with the Home Ports	15,751	2,013,245	14,461	881,991	13,381	1,365,599	16,651	978,204	16,864	1,212,650
GRAND TOTAL	21,776	2,863,723	19,717	2,532,133	20,108	3,152,986	21,701	2,551,956	21,960	2,955,294

PORTS IN BRITISH INDIA TO VARIOUS COUNTRIES, in each of the Years ended 30th April.

- - - - - C L E A R E D .										To FOREIGN COUNTRIES.
1863.		1864.		1865.		1866.		1867.		
Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	
934	806,270	1,082	928,306	1,088	921,241	1,175	1,051,492	835	680,076	United Kingdom.
50	8,054	49	9,818	41	14,365	45	19,586	27	6,143	Aden.
46	8,208	44	6,974	45	7,491	53	7,243	53	7,536	Africa, Coast of.
52	32,956	63	44,470	36	32,133	76	72,158	103	104,392	America, North and South
580	78,317	591	96,520	743	119,400	637	111,442	420	59,851	{ Arabian and Persian Gulfs and Red Sea.
26	11,736	32	14,870	27	9,973	23	10,727	16	8,204	Australia.
13	6,348	8	3,914	24	6,973	19	10,930	22	15,377	Batavia, Java, and Sumatra
9	3,121	6	2,201	4	1,195	5	1,701	6	2,126	Cape of Good Hope.
2,250	225,474	3,161	362,319	3,179	342,890	3,098	317,920	2,851	313,797	Ceylon.
117	95,455	185	139,063	343	229,636	186	131,437	71	60,907	China.
5	2,802	1	357	1	434	—	—	2	791	Denmark.
173	96,935	181	87,183	158	68,932	145	72,794	102	65,110	France.
8	4,544	4	2,484	5	4,432	4	1,939	2	703	Germany.
6	3,992	1	653	4	2,388	1	711	1	601	Holland.
204	136,003	231	154,986	202	118,851	221	135,455	159	95,307	Mauritius and Bourbon
—	—	3	2,737	—	—	—	—	—	—	New Zealand.
—	—	—	—	—	—	—	—	1	255	Portugal.
15	2,799	64	3,190	53	3,039	40	1,948	35	3,431	Siam.
8	5,788	2	1,443	2	2,250	—	—	3	2,008	Spain.
360	113,178	493	159,232	559	178,206	459	149,467	213	30,460	Straits Settlements.
40	50,706	48	53,032	50	57,066	71	75,200	53	49,987	Suez.
18	16,782	19	14,691	17	14,829	17	15,768	5	4,164	West Indies.
101	18,373	108	15,787	81	16,421	80	14,823	463	151,669	Other Places.
5,048	1,726,920	6,316	2,024,373	6,541	2,151,225	6,354	2,202,300	5,301	1,763,383	Total.
15,066	1,096,327	17,810	1,319,990	19,529	1,856,312	17,177	1,723,720	10,156	1,461,939	Total between India Ports.
20,114	2,823,247	24,126	3,344,273	25,670	4,007,607	23,531	3,926,020	15,457	3,225,324	GRAND TOTAL.

No. 12.—NUMBER and TONNAGE of VESSELS of Each NATION (including STEAMERS), ENTERED at PORTS in BRITISH INDIA in each Year ended 30th of April.

NATIONALITY OF VESSELS.	ENTERED.									
	1858.		1859.		1860.		1861.		1862.	
	Ves- sels.	Tons.	Ves- sels.	Tons.	Ves- sels.	Tons.	Ves- sels.	Tons.	Ves- sels.	Tons.
British	3,542	1,771,622	3,121	1,444,353	3,039	1,512,707	3,163	1,430,490	3,608	1,925,032
American	2,8	20,851	296	182,075	170	133,972	198	177,755	300	314,754
Arabian	23	60,932	24	11,710	26	13,334	34	15,053	41	17,495
Austrian	1	919	1	793	1	913	1	783	—	—
Belgian	11	5,616	3	1,660	3	1,473	11	6,203	5	2,527
Danish	13	5,161	9	2,979	14	7,399	9	5,760	20	10,358
Dutch	40	21,349	53	18,326	16	3,395	19	16,436	11	4,736
French	34	132,526	294	120,024	295	90,563	303	129,864	310	141,906
German and Prussian	122	39,147	100	33,168	56	27,773	66	37,706	71	47,713
Italian	7	2,923	15	3,160	13	6,108	5	1,878	3	2,063
Norwegian	18	8,330	8	3,582	2	291	4	1,998	5	2,770
Portuguese	6	1,680	5	1,459	7	825	13	3,363	6	1,260
Russian	3	1,445	3	1,786	13	3,331	17	10,040	18	19,671
Spanish	—	—	2	344	1	223	—	—	—	—
Siamese	—	—	—	—	—	—	—	—	—	—
Swedish	32	14,955	20	9,653	30	9,721	26	12,344	44	19,846
Other Countries	1	339	1	400	4	2,306	6	2,544	2	754
Total	4,261	2,250,505	3,549	1,864,708	3,606	1,742,542	3,891	1,818,063	4,340	2,204,302
Native Craft	17,551	796,098	16,054	635,201	17,584	682,427	19,040	706,965	17,404	727,165
TOTAL	21,812	2,892,596	19,603	2,439,909	21,190	2,374,969	22,931	2,547,018	22,034	2,932,057
	1863.		1864.		1865.		1866.		1867.	
British	3,743	1,954,844	3,796	2,240,506	3,325	2,030,637	5,130	2,568,397	4,533	1,617,760
American	225	192,385	243	132,426	137	123,704	104	83,006	117	113,247
Arabian	32	17,719	37	17,748	50	14,154	15	8,984	277	37,466
Austrian	6	3,099	1	763	11	5,267	8	2,038	3	1,467
Belgian	5	2,749	6	3,169	13	5,015	6	3,397	3	977
Danish	19	9,378	26	7,855	43	18,305	13	6,150	1	245
Dutch	28	19,399	31	14,920	14	7,155	36	19,609	10	5,133
French	234	113,970	357	113,361	299	143,107	255	137,978	142	73,320
German and Prussian	80	56,854	133	31,034	117	91,227	149	61,377	39	18,361
Italian	—	—	—	—	5	2,637	3	1,103	2	947
Norwegian	3	1,530	10	3,266	12	5,994	5	3,213	2	741
Portuguese	15	2,433	27	4,437	23	3,438	13	2,476	13	2,892
Russian	10	5,926	12	7,820	19	10,421	10	4,134	5	3,469
Spanish	—	—	—	—	—	—	1	435	1	1,173
Siamese	—	—	—	—	5	2,635	5	1,707	3	635
Swedish	31	18,363	33	17,101	30	16,125	12	5,801	5	3,616
Other Countries	4	1,740	4	3,134	1	1,365	6	2,546	12	3,532
Total	4,445	2,682,824	5,706	2,730,457	6,245	3,111,367	5,311	3,018,458	4,685	1,739,984
Native Craft	16,942	796,184	20,042	729,523	20,577	771,343	19,650	776,926	11,874	1,332,638
TOTAL	21,387	2,768,968	25,748	3,509,970	26,822	3,882,710	24,870	3,895,384	16,562	3,112,617

No. 13.—NUMBER and TONNAGE of VESSELS of Each NATION (including STEAMERS), CLEARED at PORTS in BRITISH INDIA in each Year ended 30th of April.

NATIONALITY OF VESSELS.	CLEARED.									
	1858.		1859.		1860.		1861.		1862.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
British	3,646	1,700,807	3,206	1,563,456	3,395	1,505,204	3,441	1,485,627	4,062	1,663,946
American	245	194,732	216	186,925	188	173,514	202	150,313	340	801,962
Arabian	22	10,718	27	12,385	28	10,517	21	9,446	30	13,510
Austrian	1	812	—	—	2	1,586	—	—	1	763
Belgian	7	3,176	6	3,000	2	947	8	4,520	6	3,097
Danish	10	3,067	8	3,485	10	4,945	9	5,760	31	10,997
Dutch	42	22,523	22	10,405	17	7,370	14	5,946	18	7,658
French	402	181,844	359	161,567	382	123,514	353	150,137	351	163,380
German and Prussian	129	61,188	161	49,916	74	40,350	68	32,013	60	34,984
Italian	1	373	—	—	2	2,152	—	—	4	2,345
Norwegian	18	7,898	9	3,850	2	748	1	485	4	1,959
Portuguese	5	1,197	6	1,907	8	971	13	1,847	4	911
Russian	5	2,530	7	4,223	12	6,101	16	9,159	16	11,334
Spanish	—	—	1	226	3	682	—	—	—	—
Siamese	—	—	—	—	—	—	—	—	—	—
Swedish	25	12,443	24	12,318	16	7,150	29	13,668	21	9,351
Other Countries	8	5,543	15	5,750	16	7,063	12	5,181	24	11,057
Total	4,566	2,217,020	4,031	1,900,619	4,022	1,893,023	4,173	1,854,300	5,061	2,337,446
Native Craft	17,094	645,973	15,626	600,524	16,436	630,969	17,628	700,156	16,969	717,845
TOTAL	21,660	2,863,793	19,717	2,501,143	20,458	2,523,992	21,701	2,554,456	21,960	2,955,291
NATIONALITY OF VESSELS.	CLEARED.									
	1863.		1864.		1865.		1866.		1867.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
British	3,753	1,737,636	4,756	2,130,622	5,326	2,726,834	5,401	2,780,443	4,634	1,523,771
American	237	207,886	214	108,167	142	119,709	136	110,286	58	54,097
Arabian	16	7,533	33	14,974	22	9,268	16	8,449	200	41,933
Austrian	5	3,027	—	1,157	12	5,318	7	3,166	8	3,023
Belgian	3	1,623	4	3,128	14	8,031	8	5,091	4	2,301
Danish	16	7,437	20	6,545	47	18,960	14	5,423	3	1,086
Dutch	32	16,690	27	12,890	14	6,576	23	10,030	11	5,430
French	289	139,663	333	175,465	337	158,848	292	141,383	190	85,201
German and Prussian	62	35,281	94	43,545	202	97,467	145	64,285	54	22,587
Italian	—	—	—	—	1	834	6	2,523	2	947
Norwegian	5	2,620	7	4,102	13	5,644	4	2,133	4	2,507
Portuguese	15	3,901	26	4,615	22	4,794	13	1,620	12	1,487
Russian	12	7,463	11	7,471	13	9,800	7	3,597	4	2,787
Spanish	—	—	—	—	—	—	1	485	—	—
Siamese	—	—	—	—	5	2,656	4	1,497	14	1,331
Swedish	35	15,069	29	13,927	42	20,113	20	9,508	3	2,191
Other Countries	3	1,131	5	1,356	3	1,344	2	676	15	3,611
Total	4,487	2,187,804	5,584	2,622,052	6,420	3,106,986	6,090	3,169,515	5,561	1,763,287
Native Craft	15,627	635,443	18,342	722,321	19,650	811,521	17,432	756,505	10,159	1,461,979
TOTAL	20,114	2,823,247	24,126	3,344,273	26,070	4,007,607	23,521	3,926,020	15,467	3,225,214

4.—TOTAL VALUE of IMPORTS and EXPORTS (including TREASURE) of BRITISH INDIA, by SEA, from and to FOREIGN COUNTRIES, in each of the Years ended 30th April.

(The Value of the Imports and Exports of India, in all the Returns, has been converted into Sterling Money at the Rate of 2s. the Company's Rupee.)

YEARS.	IMPORTS.	EXPORTS.
	£	£
1858	31,003,065	28,278,474
1859	34,845,650	30,552,298
1860	40,622,103	28,889,210
1861	34,170,793	31,066,154
1862	37,272,417	37,000,397
1863	43,141,351	48,970,785
1864	50,105,171	61,806,834
1865	49,514,275	69,471,791
1866	56,156,529	67,656,475
1867	42,275,619	44,135,197

6. 15.—TOTAL VALUE of MERCHANDISE and TREASURE respectively IMPORTED into BRITISH INDIA, by SEA, from FOREIGN COUNTRIES, in each of the Years ended 30th April.

YEARS.	MERCHANDISE.	TREASURE.	TOTAL.
	£	£	£
1858	15,277,629	15,813,436	31,091,065
1859	21,725,579	12,817,071	34,542,650
1860	24,235,140	16,386,963	40,622,103
1861	23,403,716	10,677,077	34,170,793
1862	22,320,132	14,951,285	37,272,417
1863	22,632,554	20,508,807	43,141,361
1864	27,145,580	22,959,591	50,105,171
1865	28,156,923	21,357,352	49,514,275
1866	29,506,228	26,650,301	56,156,529
1867	20,038,715	13,296,904	33,335,619

No. 16.—TOTAL VALUE of IMPORTS (including TREASURE) at Each PRESIDENCY or PROVINCE of BRITISH INDIA, by SEA, from FOREIGN COUNTRIES, in each of the Years ended 30th April.

YEARS.	BENGAL.	BRITISH BURMAH.	MADRAS.	BOMBAY.	TOTAL.
1858	£ 14,900,602	Included under Bengal for the earlier years.	£ 2,233,096	£ 13,600,467	£ 31,000,065
1859	16,156,427		2,928,469	15,750,823	34,845,650
1860	20,717,395		3,111,543	16,803,658	40,622,103
1861	15,560,277		3,965,997	15,415,419	34,970,785
1862	14,397,853		539,790	3,474,519	15,966,750	37,272,417
1863	11,079,450	672,056	3,408,640	24,180,299	43,141,351
1864	15,089,229	565,519	4,035,924	30,407,409	50,105,171
1865	17,729,207	612,015	4,262,659	26,650,968	49,514,275
1866	20,700,324	575,798	4,199,277	30,096,142	56,156,529
1867	18,900,856	781,984	3,144,739	19,572,953	42,275,619

No. 17.—TOTAL VALUE OF MERCHANDISE AND TREASURE RESPECTIVELY IMPORTED INTO EACH PRESIDENCY OR PROVINCE OF BRITISH INDIA, BY SEA, FROM FOREIGN COUNTRIES, IN EACH YEAR ENDED 30th APRIL.

YEAR.	BENGAL.		BRITISH BOMBAH.		MAHRAS.		BOMBAY.		TOTAL.			
	Merchandise.	Treasure.	Merchandise.	Treasure.	Merchandise.	Treasure.	Merchandise.	Treasure.	Merchandise.	Treasure.		
	£	£	£	£	£	£	£	£	£	£		
1858	7,771,291	7,186,271	14,460,502		1,353,522	1,157,264	2,523,086	6,147,500	7,461,981	13,609,487	15,925,433	31,493,985
1859	10,366,106	5,860,321	10,136,427		1,775,531	845,819	2,628,400	9,339,933	6,419,981	15,759,928	13,917,071	31,542,850
1860	12,047,719	7,770,479	20,717,508		1,938,082	1,022,164	3,000,846	9,376,339	7,521,329	10,693,669	16,356,933	40,682,108
1861	12,029,634	3,529,845	15,559,277		2,024,572	1,180,225	3,205,697	9,445,210	5,967,200	15,415,419	20,498,716	34,170,798
1862	10,230,334	4,676,944	14,907,238		2,720,028	1,355,501	3,475,519	9,468,905	9,187,785	18,656,700	22,329,432	37,272,417
1863	10,251,961	4,737,465	14,979,469		1,659,700	1,754,940	3,408,640	10,197,044	13,985,285	24,189,299	22,682,354	43,161,351
1864	10,233,680	4,804,330	15,089,279		2,151,181	1,327,848	4,056,924	14,279,050	16,186,459	30,467,409	27,145,500	50,108,171
1865	10,757,939	7,322,554	17,780,203		2,200,150	2,032,533	4,302,689	14,462,800	12,106,508	26,600,308	28,150,923	49,514,275
1866	12,277,677	3,222,847	20,700,224		2,613,089	1,081,176	4,491,205	13,969,723	10,116,390	24,086,142	29,649,228	56,166,089
1867	12,261,266	6,756,645	18,076,850		2,373,206	765,523	3,141,730	13,137,505	6,235,300	19,372,905	26,088,715	42,276,619

Included in Bengal for the earlier years.

No. 18.—**NET IMPORTS (INCLUDING TREASURE) INTO BRITISH INDIA, BY SEA, DISTINGUISHING THE COUNTRIES**
whence Received, in each Year ended 30th April.

COUNTRIES	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
India	17,821,549	19,730,169	26,503,809	21,679,025	20,055,818	19,576,157	23,218,680	23,512,017	22,763,531	
Aden	611,416	258,298	391,892	297,695	477,542	496,888	262,974	694,610	297,377	290,671
Africa, Coast of	267,858	502,648	212,669	181,822	229,866	254,540	285,285	192,597	292,850	188,471
America, North and South	129,794	215,454	217,400	195,414	128,833	118,862	90,827	107,631	352,737	9,136
Arabian and Persian Gulfs and Red Sea	7,298,290	1,228,504	1,155,043	961,169	924,946	1,069,832	1,536,854	1,731,190	2,439,211	1,700,811
Australia	288,877	306,041	808,631	1,091,195	1,239,408	2,301,144	4,521,190	3,796,323	7,782,794	1,022,786
Batavia, Java, and Sumatra	25,260	16,912	8,968	4,921	1,441	806	27,563	8,917	37,422	17,712
Ceylon	65,922	824,840	767,306	1,014,619	1,390,192	1,016,981	1,669,516	2,065,351	1,975,905	1,420,998
China	5,417,618	6,317,965	5,115,298	2,590,365	4,306,968	4,557,903	5,819,361	* 4,273,963	48,845,226	8,509,281
France	916,246	648,246	629,475	994,697	625,941	2,129,690	2,142,818	9,257,883	3,608,218	1,103,268
Mindiro Islands	19,581	11,088	18,500	22,180	21,139	18,622	31,553	29,601	29,406	19,853
Mauritius and Bourbon	531,897	553,930	594,376	317,779	347,980	969,192	500,479	281,291	583,712	487,720
Mediterranean Ports	45,266	14,301	36,294	24,000	80,588	83,411	15,856	9,784	6,756	9,698
Penang, Singapore, and Malacca	888,778	1,328,145	873,927	956,029	1,468,425	1,446,751	1,480,990	2,252,362	3,153,266	1,703,988
Siam	24,115	56,961	33,439	3,560	47,750	67,437	60,744	78,570	26,379	19,670
Suez and Alexandria	4,287,177	2,819,280	5,468,205	3,738,941	6,070,184	8,519,942	10,104,224	6,491,821	8,618,102	2,766,843
Other Countries	93,311	96,947	76,588	148,476	104,684	99,001	62,398	66,483	62,636	508,561
TOTAL	31,903,005	34,543,630	49,822,168	34,179,798	37,272,417	43,141,861	50,108,171	49,514,275	56,159,529	42,276,319

Note.—The Treasure imported into India from Suez has not been rendered separately from that received from United Kingdom in 1890; the item being for Merchandise alone, hence the difference as compared with previous years.
* Including Japan in 1885 and 1886.

IMPORTED into BRITISH INDIA, by SEA, from FOREIGN COUNTRIES, in each of the 30th April.

1863.	1864.	1865.	1866.	1867.	PRINCIPAL ARTICLES.
£	£	£	£	£	
64,243	64,594	68,434	81,505	16,091	{ Apothecaries' and Medical Stores, Medicines, &c.
416,884	452,694	534,595	510,352	337,441	Apparel.
481,132	386,036	354,749	430,057	82,918	{ Arms, Ammunition, and Military Stores.
364,612	410,762	352,318	373,331	233,140	Books and Stationery.
34,586	49,355	127,049	122,115	55,530	Carriages.
274,766	332,627	357,612	466,805	512,123	Coal and Coke.
1,270,301	1,529,001	2,191,440	1,961,144	2,372,700	Cotton Twist and Yarn.
8,300,229	10,416,662	11,035,535	11,949,214	12,524,106	Cotton Goods.
113,436	120,999	22,777	72,939	*143,025	Drugs.
93,904	132,817	55,633	64,271	107,171	Dyes of all Kinds.
518,170	333,942	306,576	392,416	223,276	Fruits and Nuts.
213,271	249,146	311,450	306,608	177,724	Glassware of all Kinds.
78,932	63,153	67,781	63,971	46,823	Gums.
33,392	42,971	33,019	37,071	51,669	Horses.
42,065	24,904	47,333	61,994	24,284	Ice.
365,623	443,591	482,292	962,993	333,364	Jewellery and Precious Stones.
506,519	586,516	534,156	586,182	601,740	Machinery of all Kinds.
646,782	712,363	471,917	529,485	552,024	Malt Liquors.
424,183	418,673	603,104	647,205	359,423	Metal Manufactures.
1,160,641	1,361,446	1,601,987	1,522,874	899,463	Copper
678,312	724,706	586,712	488,374	531,197	Iron
38,212	66,092	46,296	41,359	36,032	Lead
97,190	119,863	101,687	60,868	85,397	Spelter
80,120	40,960	60,943	24,862	63,880	Steel
104,384	151,924	255,662	93,231	224,562	Tin
411,351	484,938	434,341	394,433	392,583	Other Sorts
114,631	111,081	213,353	304,576	116,157	Naval Stores.
78,655	96,345	134,843	96,862	76,203	Paints and Colours.
39,510	49,083	40,273	32,117	26,230	Perfumery.
64,192	73,721	86,236	91,368	59,151	Porcelain and Earthenware.
202,366	248,877	238,760	238,567	236,142	Provisions and Oilman's Stores.
1,165,852	1,267,240	686,632	1,435,929	2,091,417	Railway Materials and Carriages.
359,626	315,632	341,867	285,289	356,114	Salt.
392,350	383,507	329,315	511,239	423,866	Silk, Raw.
343,111	456,781	443,949	397,380	415,070	Silk Goods.
131,260	195,954	197,183	187,189	273,433	Spices of all Kinds.
452,563	412,632	324,352	416,592	398,223	Spirits.
382,312	429,138	313,627	563,363	541,317	Sugar and Sugar Candy.
174,596	143,824	125,744	186,310	134,527	Tea.
1,830	2,703	6,325	7,820	19,525	Telegraph Stores.
70,722	54,463	73,676	132,641	53,223	Timber and Woods.
52,282	103,783	104,167	70,969	89,680	Tobacco.
65,590	63,081	60,714	65,895	64,165	Umbrellas.
839,329	429,339	402,593	474,344	433,647	Wines.
293,221	611,570	867,831	583,132	576,431	Woolen Goods.
22,692,334	27,146,530	28,150,923	23,539,238	29,033,713	Total of all Merchandise.
20,308,967	22,962,561	21,366,352	20,557,301	18,236,004	.. Treasure.
43,141,371	50,109,171	49,514,275	56,156,527	42,275,919	{ TOTAL MERCHANDISE AND TREASURE.

* Including medicines.

IN CURRENCY OF THE YEARS ENDED 30th APRIL.

YEAR.	MERCHANDISE.	TREASURE.	TOTAL.
	£	£	£
1858	27,456,656	822,438	28,279,094
1859	29,862,971	669,427	30,532,398
1860	27,960,202	929,007	28,889,210
1861	32,970,605	1,119,549	34,090,154
1862	36,317,042	683,365	37,000,397
1863	47,859,645	1,111,140	48,970,785
1864	65,625,449	1,276,435	66,901,884
1865	68,027,016	1,444,775	69,471,791
1866	65,451,123	2,165,352	67,616,475
1867	41,869,924	2,431,563	44,301,487

No. 21.—TOTAL VALUE of MERCHANDISE and TREASURE respectively EXPORTED from Each PRESIDENCY or PROVINCE of BRITISH INDIA, by SEA, to FOREIGN COUNTRIES, in each of the Years ended 30th April.

YEARS.	BENGAL.			BRITISH BURMAH.			MADRAS.			BOMBAY.			TOTAL.		
	Mer- chandise.	Treasure.	Total.	Mer- chandise.	Treasure.	Total.	Mer- chandise.	Treasure.	Total.	Mer- chandise.	Treasure.	Total.	Mer- chandise.	Treasure.	Total.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
1858	13,374,182	263,249	13,637,431				2,556,179	109,750	2,665,929	11,525,634	807,430	12,333,064	27,456,656	822,438	28,279,094
1859	14,480,046	85,898	14,565,944	Included in Bengal for the earlier years.			2,060,818	163,846	2,224,664	13,372,007	419,099	13,791,106	29,862,971	669,427	30,532,398
1860	12,508,400	395,890	12,904,290				2,312,735	179,421	2,492,156	13,188,978	384,306	13,573,284	27,960,202	929,007	28,889,210
1861	13,198,759	457,147	13,655,906				2,621,368	247,464	2,868,832	17,159,543	414,338	17,573,881	32,970,605	1,119,549	34,090,154
1862	13,655,901	165,358	13,821,259	1,422,375	3,696	1,426,071	3,317,304	96,330	3,413,634	18,022,462	427,571	18,450,033	36,317,042	683,365	37,000,397
1863	15,160,023	478,364	15,638,387	1,374,477	2,726	1,377,203	4,974,277	113,449	5,087,726	26,541,868	584,601	27,126,469	47,859,645	1,111,140	48,970,785
1864	16,640,231	698,544	17,338,775	1,624,364	3,869	1,628,233	7,278,103	94,637	7,372,740	38,083,739	434,665	38,518,404	65,625,449	1,276,435	66,901,884
1865	17,759,475	255,321	18,014,796	2,929,522	4,985	2,934,507	6,615,942	104,245	6,720,187	40,552,077	1,030,824	41,582,901	68,027,016	1,444,775	69,471,791
1866	19,321,338	375,093	19,696,431	2,810,227	6,305	2,816,532	7,607,332	161,683	7,769,015	33,743,170	1,132,281	34,875,451	65,451,123	2,165,352	67,616,475
1867	16,943,108	354,262	17,297,370	1,332,911	33,161	1,366,072	2,098,328	340,793	2,439,121	20,085,689	1,198,257	21,283,946	41,869,924	2,431,563	44,301,487

No. 22.—TOTAL VALUE of all EXPORTS (including TREASURE) from BRITISH INDIA, by SEA, in each Year ended 30th April, distinguishing the Countries whither sent.

COUNTRIES.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
	£	£	£	£	£	£	£	£	£	£
United Kingdom - - -	10,080,848	11,014,876	11,261,375	14,210,072	18,566,003	27,544,284	44,871,263	46,873,208	43,397,640	23,864,864
Aden - - - - -	166,368	111,216	110,786	124,354	152,310	163,090	199,295	227,583	276,039	268,451
Africa, Coast of - - -	137,167	142,243	135,034	80,362	88,443	143,817	147,114	176,871	276,017	127,988
America, North and South -	930,066	1,332,308	1,035,193	1,211,246	847,523	1,039,116	901,041	648,239	1,022,313	975,092
Arabian and Persian Gulfs -	1,216,508	1,301,364	1,094,281	1,192,953	1,181,411	963,740	1,449,581	1,871,114	2,016,933	1,230,457
Australia - - - - -	130,186	317,800	261,541	172,507	190,091	163,776	227,900	145,921	135,456	105,783
Batavia, Java, and Sumatra -	21,923	31,167	15,097	23,423	26,842	35,191	11,408	11,864	18,855	134
Cape of Good Hope - - -	37,460	45,928	54,402	30,840	42,854	30,900	40,956	21,109	20,875	41,857
Ceylon - - - - -	1,855,363	1,082,095	1,187,719	1,506,513	1,330,445	1,907,701	2,099,438	2,267,817	2,700,637	2,046,841
China - - - - -	9,500,808	11,812,960	10,128,446	11,489,968	10,467,229	12,127,627	10,595,325	*10,874,652	11,750,565	11,176,810
France - - - - -	1,513,286	1,215,424	866,213	1,210,530	1,337,046	1,841,763	2,070,843	2,002,506	2,384,902	1,796,115
Germany - - - - -	134,024	44,683	180,981	133,221	131,541	114,358	45,018	20,957	25,860	9,335
Maldivé Islands - - - -	12,176	8,991	20,164	26,217	17,564	19,507	27,686	23,051	26,568	38,864
Mauritius and Bourbon - -	746,433	940,114	834,548	1,061,408	944,987	832,073	926,236	867,753	1,067,422	951,821
Mediterranean Ports - -	193,353	27,039	21,580	3,696	40,228	4,133	640	6,502	12,459	1,474
Penang, Singapore, & Malacca -	1,472,226	743,040	1,232,994	1,268,613	1,239,106	1,650,149	1,902,128	1,983,317	2,082,652	998,176
Portugal - - - - -	4,175	—	—	—	—	—	—	—	17,551	1,847
Siam - - - - -	31,411	22,796	37,431	14,534	46,657	76,286	25,001	21,530	12,980	12,464
Spain - - - - -	—	—	—	—	—	3,691	336	—	—	5,247
Suez - - - - -	124,788	143,977	184,094	163,419	125,263	151,140	171,544	390,897	266,888	37,359
West Indies - - - - -	7,307	52,283	145,704	53,667	46,627	34,802	36,404	57,379	165,765	79,593
Other Countries - - - -	170,399	54,537	90,889	105,204	197,147	187,372	55,977	67,381	63,896	619,620
TOTAL - - - - -	23,276,471	26,532,396	25,389,210	34,690,154	37,000,337	43,970,783	66,895,864	69,471,791	67,658,475	44,391,407

EXPORTS.

No. 23.—VALUE of the PRINCIPAL ARTICLES of MERCHANDISE and of
in each of the Years

PRINCIPAL ARTICLES.	1858.	1859.	1860.	1861.	1862.
	£	£	£	£	£
Coffee	99,727	185,036	188,532	337,433	467,961
Cotton, Raw	4,301,768	4,094,100	5,637,624	7,342,168	10,263,470
Cotton Goods, (including Twist and Yarn)	809,133	813,604	768,586	730,537	746,985
Drugs	91,482	64,112	44,838	48,239	60,426
Dyes { Indigo	1,734,339	2,118,016	2,021,288	1,886,535	1,097,503
{ Other Kinds	123,123	121,279	114,435	203,042	112,911
Grain { Rice	3,140,172	2,438,145	2,276,296	2,962,407	3,635,075
{ Wheat	142,761	116,945	1,112,222	155,059	147,561
{ Other Kinds	158,441	251,781	200,044	253,321	227,363
Gums	27,014	31,871	17,114	29,785	22,760
Hides and Skins	630,702	544,680	444,637	661,725	794,137
Ivory and Ivory Ware	19,895	98,167	97,126	32,039	120,267
Jewellery and Precious Stones	118,164	137,351	149,440	164,578	95,532
Jute and Jute Manufactures	520,436	917,623	623,965	763,715	724,455
Lac	169,111	80,641	78,183	172,774	352,780
Oils	265,271	192,562	180,066	247,694	209,502
Opium	9,106,635	10,827,642	9,054,324	10,184,713	10,553,913
Saltpetre	390,387	523,696	481,226	601,772	825,924
Seeds, of all Sorts	1,386,061	2,059,445	1,548,721	1,785,626	1,266,331
Silk, Raw	766,673	725,655	817,353	1,038,728	696,683
Silk Goods	153,224	213,168	191,509	134,681	163,306
Spices, of all Sorts	166,054	123,231	101,866	86,633	162,434
Sugar and Sugar Candy	1,173,771	1,450,787	1,031,904	1,032,416	826,036
Tea	63,331	60,533	127,771	151,361	132,443
Timber and Woods	233,503	234,365	233,192	170,158	450,314
Tobacco	68,356	45,317	38,656	32,069	131,863
Wool, Raw	37,104	340,865	426,072	473,500	400,342
Woolen Manufactures	227,619	311,062	262,328	391,174	453,441
Total of all Merchandise	27,456,096	29,802,371	27,960,203	32,970,605	36,317,042
Treasure	822,438	669,427	923,007	1,119,540	633,365
TOTAL MERCHANDISE AND TREASURE	28,278,534	30,471,798	28,883,210	34,090,145	37,000,397

EXPORTS.

TREASURE EXPORTED FROM BRITISH INDIA, BY SEA, TO FOREIGN COUNTRIES
ended 30th April.

1863.	1864.	1865.	1866.	1867.	PRINCIPAL ARTICLES.	
£	£	£	£	£		
513,257	657,672	801,908	785,103	414,167	Coffee.	
18,779,040	35,364,795	37,573,687	35,537,339	16,458,277	Cotton, Raw	
735,437	1,167,577	1,043,960	1,732,133	1,157,531	Cotton Goods, including Twist and Yarn.	
89,814	104,505	101,043	90,998	31,132	Drugs.	
2,126,870	1,756,153	1,860,141	1,861,501	1,965,955	Dyes { Indigo.	
80,287	93,753	80,354	97,361		{ Other Kinds.	
3,378,496	3,975,605	5,575,537	4,909,562	3,295,094	Grain { Rice.	
112,056	78,676	119,265	84,512	76,896		{ Wheat.
237,368	271,130	272,806	254,844	279,642		{ Other Kinds
43,013	54,821	31,517	20,765	22,524	Gums.	
904,289	897,575	725,236	609,803	659,342	Hides and Skins.	
90,280	80,298	77,217	92,402	82,608	Ivory and Ivory Ware.	
199,539	113,596	49,164	81,383	78,550	Jewellery and Precious Stones.	
882,094	1,018,244	1,410,702	1,933,522	1,040,876	Jute and Jute Manufactures.	
235,090	242,021	297,394	305,575	157,996	Lac.	
372,107	422,175	217,730	133,859	97,925	Oils.	
13,494,123	10,758,093	9,911,804	11,122,746	10,431,703	Opium.	
397,223	722,204	542,339	605,359	297,713	Saltpetre.	
1,833,851	2,032,832	1,912,435	1,750,197	1,787,006	Seeds, of all Sorts	
622,892	354,649	1,165,901	745,352	811,798	Silk, Raw.	
163,136	115,465	106,612	83,829	95,147	Silk Goods.	
127,132	161,509	145,165	163,008	121,089	Spices, of all Sorts.	
296,234	716,857	765,110	361,362	162,773	Sugar and Sugar Candy.	
221,763	271,229	301,922	303,890	378,126	Tea.	
278,103	220,749	436,756	339,523	134,273	Timber and Woods.	
33,809	46,224	81,908	52,722	54,293	Tobacco.	
841,323	935,043	1,151,002	871,314	742,716	Wool, Raw.	
364,157	275,591	254,497	290,115	259,185	Woolen Manufactures.	
47,859,645	65,625,449	65,027,010	65,401,123	41,859,994	Total of all Merchandise	
1,111,140	1,270,455	1,444,775	2,165,339	2,431,303	Treasure.	
48,970,785	66,895,904	66,471,785	67,566,462	44,291,297	TOTAL MERCHANDISE AND TREASURE.	

IMPORTS AND EXPORTS.

No. 200. Value of Produce or Treasure Imported into and Exported from Each Possession of British India, by Sea,
for each Year ended 31st April, distinguishing Gold and Silver separately.

YEARS.	BENGAL.						MADRAS.						BOHRAT.						BENGAL.						MADRAS.						BOMBAY.					
	Gold.			Silver.			Gold.			Silver.			Gold.			Silver.			Gold.			Silver.			Gold.			Silver.			Gold.			Silver.		
	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.	£	l.	s.			
1858	158,067	6,228,714		356,611	8,665		1,515,376	5,946,375		40,720	16,523		3,000	95,611		5,000	16,523		40,720	16,523		3,000	95,611		5,000	16,523		40,720	16,523		3,000	95,611				
1859	2,217,250	3,347,653		552,971	3,92,558		1,967,060	4,442,742		1,210	37,765		5,730	1,2616		5,730	37,765		1,210	37,765		5,730	1,2616		5,730	37,765		1,210	37,765		5,730	1,2616				
1860	1,103,769	6,096,710		324,033	788,171		2,460,355	4,654,065		—	802,950		6	179,416		6	802,950		—	802,950		6	179,416		6	802,950		—	802,950		6	179,416				
1861	1,257,625	2,271,818		485,400	691,825		2,409,210	3,267,978		3,453	451,360		152	2,45,571		152	451,360		3,453	451,360		152	2,45,571		152	451,360		3,453	451,360		152	2,45,571				
1862	1,042,628	2,277,066		706,465	647,665		2,851,313	6,334,654		3,895	157,652		560	95,850		560	157,652		3,895	157,652		560	95,850		560	157,652		3,895	157,652		560	95,850				
1863	1,514,368	2,924,471		1,069,930	7,65,901		4,025,352	9,957,928		13,360	447,729		133	116,354		133	447,729		13,360	447,729		133	116,354		133	447,729		13,360	447,729		133	116,354				
1864	5,329,721	2,709,617		1,052,305	839,448		5,808,254	10,828,155		14,172	674,373		5,200	69,358		5,200	674,373		14,172	674,373		5,200	69,358		5,200	674,373		14,172	674,373		5,200	69,358				
1865	3,028,533	4,106,743		977,822	1,034,701		5,608,072	9,327,936		6,019	273,697		23,510	80,550		23,510	273,697		6,019	273,697		23,510	80,550		23,510	273,697		6,019	273,697		23,510	80,550				
1866	1,701,915	6,768,120		745,969	1,233,207		3,665,310	12,101,080		5,919	544,869		—	101,663		—	544,869		5,919	544,869		—	101,663		—	544,869		5,919	544,869		—	101,663				
1867	1,527,424	4,796,563		801,466	464,716		2,732,642	3,352,748		148,367	743,494		76,805	263,366		76,805	743,494		148,367	743,494		76,805	263,366		76,805	743,494		148,367	743,494		76,805	263,366				

Note.—British Burmah is included under Bengal.

RAILWAYS.

No. 27.—AMOUNT of CAPITAL PAID UP, of INTEREST PAID thereon, and the AMOUNT EXPENDED for RAILWAYS in INDIA, for each of the Years ended 31st December

PRESIDENCY OR PROVINCE.	RAILWAY COMPANIES.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
CAPITAL PAID UP to the 31st December in each Year.										
		£	£	£	£	£	£	£	£	£
Bengal and North-west Provinces	East Indian	13,611,857	15,610,450	18,703,212	19,756,959	21,437,123	22,507,554	23,135,965	26,577,279	27,873,016
	Oude and Rohilkhand	—	—	—	—	—	—	—	—	742,519
Bengal	Eastern Bengal	427,458	650,670	993,378	1,400,000	1,400,000	1,506,300	1,733,950	1,370,222	2,501,211
	Calcutta & South-Eastern	129,278	234,594	239,498	300,778	400,000	400,000	503,565	473,127	441,350
Madras	Madras	3,929,427	4,652,462	5,020,627	6,034,005	6,929,176	7,221,130	7,769,298	8,258,199	8,812,025
	Great Southern of India	196,221	431,220	554,720	649,999	788,000	884,500	900,700	938,100	1,271,509
Bombay	Great Indian Peninsula	5,641,634	6,238,136	8,230,063	10,521,055	10,783,595	12,349,377	13,003,171	15,105,216	17,896,146
	Bombay, Baroda, & Central India	1,503,965	2,089,006	2,294,538	3,739,865	4,435,725	5,194,239	5,662,564	6,170,598	7,338,589
Scinde	Scinde	914,787	1,322,926	1,420,897	1,451,628	1,801,880	1,978,009	1,909,315	1,909,650	1,999,850
	Indus Flotilla	249,149	249,505	283,855	332,905	332,905	332,905	332,905	331,405	331,405
Punjab	Punjab	5,08,945	578,293	1,230,638	2,249,633	3,018,085	3,021,330	3,084,310	3,707,348	5,138,613
	Total	27,970,712	32,367,020	39,031,346	47,165,827	51,416,408	55,439,103	60,039,943	64,482,834	74,346,634
TOTAL INTEREST PAID UP to the 31st December in each Year.										
Bengal and North-west Provinces	East Indian	2,069,189	3,470,506	3,285,588	4,213,143	5,238,095	6,347,619	7,419,371	8,622,037	9,011,479
	Oude and Rohilkhand	—	—	—	—	—	—	—	—	55,100
Bengal	Eastern Bengal	29,841	41,017	75,728	137,781	207,774	277,774	356,216	441,920	630,471
	Calcutta & South-Eastern	5,320	10,255	20,644	36,178	55,807	73,619	96,010	120,505	145,441
Madras	Madras	565,115	667,010	804,204	1,137,008	1,480,197	1,825,482	2,162,802	2,575,023	2,979,011
	Great Southern of India	5,190	11,005	30,528	58,771	91,047	130,676	173,965	213,160	267,116
Bombay	Great Indian Peninsula	909,471	1,040,357	1,363,264	1,783,218	2,285,771	2,852,262	3,470,165	4,149,576	4,912,657
	Bombay, Baroda, & Central India	137,979	181,623	2,85,944	404,304	538,239	612,000	1,064,052	1,341,378	1,648,342
Scinde	Scinde	105,450	134,127	194,904	264,958	338,336	430,739	532,951	632,120	730,810
	Indus Flotilla	11,171	17,193	35,572	51,440	68,060	84,725	98,000	115,702	134,332
Punjab	Punjab	40,223	54,192	100,300	162,246	229,448	323,482	502,515	713,150	892,876
	Total	3,877,217	4,627,004	6,286,896	8,269,190	10,592,794	13,160,528	15,065,856	18,929,576	22,212,506
TOTAL AMOUNT EXPENDED to the 31st December in each Year.										
Bengal and North-west Provinces	East Indian	11,945,380	14,887,512	17,016,372	19,448,222	21,281,076	22,300,541	23,569,077	25,568,839	27,630,810
	Oude and Rohilkhand	—	—	—	—	—	—	—	—	337,334
Bengal	Eastern Bengal	170,237	582,775	921,578	1,344,461	1,477,874	1,677,293	1,674,571	1,816,506	2,256,234
	Calcutta & South-Eastern	59,455	205,915	327,140	499,039	446,260	462,484	450,076	581,121	610,871
Madras	Madras	3,770,192	4,601,487	5,453,111	6,205,097	6,993,731	7,962,375	7,658,478	8,063,809	8,668,100
	Great Southern of India	156,281	455,955	582,166	653,634	684,639	762,111	790,073	1,191,143	1,331,100
Bombay	Great Indian Peninsula	4,677,438	5,862,374	7,614,541	9,450,664	10,642,950	11,707,935	13,297,466	14,967,992	17,031,100
	Bombay, Baroda, & Central India	1,443,160	2,362,440	2,949,292	3,740,720	4,583,394	5,205,582	5,572,639	6,733,560	7,711,100
Scinde	Scinde	843,329	1,262,311	1,489,600	1,651,623	1,848,474	1,935,554	1,965,309	2,046,339	2,091,100
	Indus Flotilla	187,421	247,188	262,900	360,000	321,577	319,557	394,836	548,484	548,484
Punjab	Punjab	249,192	717,517	1,019,200	1,354,762	1,764,039	2,158,545	2,368,324	4,206,674	5,138,613
	Total	23,639,632	31,186,404	38,394,279	44,350,341	49,653,704	53,044,797	58,670,999	65,876,712	73,441,100

* Up to 30th November, so far as expenditure in India could be ascertained for 1866.

† Up to 31st January 1867, so far as expenditure in India could be ascertained for 1866.

RAILWAYS.

No 28.—TABLE of RAILWAYS OPEN FOR TRAFFIC, and the VARIOUS INDIA, in each Year

	PRESIDENCY OR PROVINCE.	YEARS ENDED 30TH JUNE				
		1858.	1859.	1860.	1861.	1862.
Length of Line Open for Traffic.		Miles.	Miles.	Miles.	Miles.	Miles.
	Bengal	121	142	168	217	311
	North-west Provinces	—	—	123	133	245
	Madras	81	96	137	236	312
	Bombay	130	104	368	462	370
	Punjab	—	—	—	—	114
	Total	332	492	734	1,029	1,584
Passengers Conveyed.		No.	No.	No.	No.	No.
	Bengal	1,108,634	1,271,932	1,527,507	1,650,447	1,937,100
	North-west Provinces	—	—	266,756	226,811	342,995
	Madras	267,282	243,949	267,981	1,021,755	1,298,409
	Bombay	819,839	1,161,601	1,345,440	3,004,537	3,361,390
	Punjab	—	—	—	—	121,707
	Total	2,195,565	2,722,392	3,887,744	5,909,570	7,151,650
Receipts from Passenger Traffic.		£	£	£	£	£
	Bengal	56,356	73,947	80,899	116,371	148,107
	North-west Provinces	—	—	28,837	33,623	62,268
	Madras	17,051	25,903	37,039	46,750	68,067
	Bombay	33,274	60,735	75,366	121,319	157,485
	Punjab	—	—	—	—	No information.
	Total	111,181	160,685	231,671	322,063	446,872
Receipts from Goods Traffic.		£	£	£	£	£
	Bengal	91,376	118,880	142,767	181,169	245,339
	North-west Provinces	—	—	—	73,348	97,461
	Madras	16,450	20,277	30,578	37,923	68,007
	Bombay	39,309	80,270	105,030	126,411	168,708
	Punjab	—	—	—	—	80,000
	Total	186,615	229,777	383,463	417,814	669,371
Total Receipts.		£	£	£	£	£
	Bengal	156,232	192,827	223,666	297,540	393,446
	North-west Provinces	—	—	28,837	110,941	159,729
	Madras	33,501	46,180	67,617	84,673	136,074
	Bombay	72,573	141,005	180,402	247,730	326,193
	Punjab	—	—	—	—	46,073
	Total	262,306	339,012	572,512	739,884	1,066,443
Working Expenses.		£	£	£	£	£
	Bengal	62,507	96,134	106,265	145,994	196,069
	North-west Provinces	—	—	40,371	40,501	73,546
	Madras	16,465	36,136	41,535	63,952	97,565
	Bombay	82,472	63,491	103,795	170,690	218,845
	Punjab	—	—	—	—	34,031
	Total	111,444	135,831	296,666	427,517	623,246
Net Receipts.		£	£	£	£	£
	Bengal	87,725	96,693	117,401	151,546	197,377
	North-west Provinces	—	—	—	70,440	86,183
	Madras	17,036	10,043	26,082	22,723	30,512
	Bombay	42,561	77,514	76,607	77,040	107,348
	Punjab	—	—	—	—	46,031
	Total	146,662	183,279	270,090	321,749	467,997

Exclusive of the working expenses of Bombay, Baroda, and Central
Notes.—Receipts from Goods Traffic include Telegraphs and Sundry, and the

RAILWAYS.

TRAFFIC OPERATIONS, in Each PRESIDENCY or PROVINCE of BRITISH INDIA, ended 30th June.

YEARS ENDED 30TH JUNE.					PRESIDENCY OR PROVINCE.	
1863.	1864.	1865.	1866.	1867.		
Miles. 811 292 522 632 114 43	Miles. 818 346 527 738 114 43	Miles. 1,264 659 686 194 127	Miles. 1,267 699 1,123 114 253	Miles. 1,311 772 1,159 109 246	Bengal North-west Provinces Madras Bombay Scinde Punjab	Length of Line Open for Traffic.
2,394	2,384	3,747	3,452	3,597	Total.	
No. 2,996,485 477,164 1,531,253 8,756,121 125,069 356,826	No. 4,454,571 639,548 1,653,107 4,461,433 Not reud ^d 423,919	No. 5,592,707 1,962,689 4,731,984 112,047 436,091	No. 5,011,391 1,456,451 3,065,794 298,662 354,239	No. 6,012,869 2,331,596 4,624,674 146,942 616,909	Bengal North-west Provinces Madras Bombay Scinde Punjab	Passengers Conveyed.
9,202,944	11,001,653	12,826,512	10,120,910	13,752,591	Total.	
£ 256,429 82,081 111,523 211,786 13,196 12,193	£ 375,817 107,911 128,632 258,328 84,538 16,484	£ 974,509 166,467 427,201 16,296 17,869	£ 593,538 159,025 461,437 6,631 27,839	£ 712,001 191,021 511,015 15,995 84,869	Bengal North-west Provinces Madras Bombay Scinde Punjab	Receipts from Passenger Traffic.
686,568	974,370	1,502,433	1,278,569	1,485,403	Total.	
£ 370,802 125,998 108,744 278,759 76,717 622	£ 552,518 177,329 163,874 413,718 14,223 622	£ 589,419 213,807 439,529 66,197 7,981	£ 1,462,823 287,844 1,469,286 46,475 62,430	£ 1,901,039 330,125 1,393,359 95,289 56,877	Bengal North-west Provinces Madras Bombay Scinde Punjab	Receipts from Goods Traffic.
961,532	1,323,874	1,815,246	3,325,656	3,386,789	Total.	
£ 636,271 298,069 280,567 480,546 89,913 17,166	£ 921,333 252,240 295,036 674,656 96,811 17,166	£ 1,502,923 580,274 1,069,739 82,493 225,259	£ 2,936,411 476,067 1,930,733 63,166 96,269	£ 2,313,530 821,144 1,814,567 111,233 91,346	Bengal North-west Provinces Madras Bombay Scinde Punjab	Total Receipts.
1,649,040	2,508,244	3,117,773	4,607,236	4,862,192	Total.	
£ 328,354 111,491 154,747 235,176 76,919 8,343	£ 517,293 157,490 163,261 378,680 92,134 12,465	£ 735,511 195,990 679,935 79,986 13,241	£ 919,037 207,143 1,091,508 45,083 54,574	£ 1,078,496 204,401 1,119,094 89,133 71,314	Bengal North-west Provinces Madras Bombay Scinde Punjab	Working Expenses.
854,055	1,322,693	1,798,949	2,225,295	2,562,311	Total.	
£ 362,347 96,583 65,829 205,369 18,994 4,372	£ 412,637 127,780 132,775 236,796 4,387 4,763	£ 627,417 135,004 387,695 3,597 6,099	£ 1,137,334 239,224 929,215 16,083 35,395	£ 1,235,052 516,745 695,363 23,157 29,332	Bengal North-west Provinces Madras Bombay Scinde Punjab	Net Receipts.
688,985	986,608	1,409,652	2,381,241	2,300,151	Total.	

India Railway, the returns for which had not been received in 1864.
charges for maintenance are included under Working Expenses in 1864.

POST OFFICE.

No. 29.—STATISTICS of the POST OFFICE of BRITISH INDIA, for each of the Years ended 30th April.

YEARS.	Number of Post Offices and Revenue Houses.	Total Strength of Establishment.	Number of Miles over which the Mails were conveyed.	Number of Letters and Newspapers transmitted through the Post Office.	Revenue.	Expenditure.
	Number.	Number.	Miles.	Number of Covers.	£	£
1858 - - -	565	25,431	32,933	42,307,980	389,403	430,881
1859 - - -	1,003	29,158	39,531	50,978,035	588,637	487,042
1860 - - -	556	27,671	39,388	47,788,165	661,506	480,637
1861 - - -	914	24,572	43,571	47,077,410	609,524	519,805
1862 - - -	984	22,710	46,554	46,566,888	492,135	481,328
1863 - - -	1,112	24,633	49,921	48,804,654	425,528	461,196
1864 - - -	1,263	22,856	46,619	51,559,502	459,882	502,671
1865 - - -	1,421	23,527	46,875	55,988,046	562,333	426,436
1866 - - -	2,070	24,197	46,937	59,931,004	496,466	433,304
1867 - - -	2,538	20,875	47,929	58,882,416	495,439	466,042

Note.—Exclusive of Books and Parcels.

No. 30.—TOTAL NUMBER of LETTERS and NEWSPAPERS sent through the Post OFFICES of EACH PRESIDENCY or PROVINCE of BRITISH INDIA, during each of the Years ended 30th April.

PRESIDENCY OR PROVINCE.	YEARS ENDED 30TH APRIL.									
	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.	Number of Covers.
Bengal	8,423,448	9,300,504	9,177,132	9,954,810	9,367,519	9,729,618	9,754,709	11,167,741	12,614,433	11,950,96
Madras	7,773,720	8,108,101	8,264,857	8,937,428	8,732,297	8,680,378	8,836,592	9,172,173	9,732,145	9,508,59
Bombay	11,667,168	15,145,272	12,978,684	12,375,436	10,845,100	11,442,461	12,982,259	14,188,763	14,896,059	12,516,43
North-west Provinces	34,338,644	18,424,068	17,967,972	16,709,721	12,094,291	12,390,673	13,065,877	14,148,861	15,333,524	14,227,48
Punjab and Scinde	*	*	*	*	5,348,357	6,126,964	6,136,594	6,892,907	7,363,105	8,406,23
Central Provinces	†	†	†	†	†	†	†	†	†	1,632,35
British India	†	†	†	†	588,935	434,360	480,771	476,702	488,653	460,81
Total	44,307,990	50,978,035	47,788,165	47,077,410	46,566,888	48,804,654	51,559,502	55,988,046	59,931,904	58,882,81

* Exclusive of Books and Parcels.

† Included under North-west Provinces for these years.

‡ Included partly under Bengal and partly under North-west Provinces for the earlier years.

§ Included under Bengal for these years.

POST OFFICE.

No. 31.—TOTAL NUMBER of MILES over which the MAILS were conveyed in Each PRESIDENCY or PROVINCE of BRITISH INDIA, distinguishing the MODES of CONVEYANCE, in each of the Years ended 30th April.

PRESIDENCY OR PROVINCE.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
RAILWAYS.										
Bengal	121	121	175	248	358	710	710	731	781	781
Madras	65	81	128	224	483	525	525	649	686	771
Bombay	87	205	289	448	576	686	740	903	1,000	1,151
North-west Provinces	—	126	126	126	276	324	381	505	505	505
Punjab	*	*	*	*	105	137	187	187	248	248
Central Provinces	—	—	—	—	No Railways					
British Burmah	—	—	—	—	No Railways					
Total	273	533	712	1,047	1,793	2,382	2,473	2,904	3,275	3,658
MAIL CART AND HORSEBACK.										
Bengal	312	411	411	411	800	298	124	124	232	232
Madras	654	639	777	798	772	756	810	689	670	538
Bombay	2,036	2,542	2,474	2,256	1,507	1,415	1,374	1,375	1,193	771
North-west Provinces	2,506	2,173	2,139	2,277	1,380	1,500	1,619	1,513	1,458	1,111
Punjab	*	*	*	*	255	1,223	1,223	1,603	1,476	1,728
Central Provinces	—	—	—	—	See note in previous page					
British Burmah	—	—	—	—	—	—	—	—	—	—
Total	5,508	5,765	5,831	5,740	5,304	5,217	5,158	5,519	4,967	4,681
RUNNERS, BOATS, AND SEA.										
Bengal	9,100	9,586	9,585	11,582	11,468	13,538	10,468	10,413	10,463	10,628
Madras	7,159	7,113	6,667	8,588	7,889	7,371	6,747	6,740	6,894	6,528
Bombay	4,855	6,605	6,715	6,681	7,228	9,439	9,987	10,515	10,733	8,631
North-west Provinces	10,033	9,069	9,796	9,926	6,586	7,415	7,543	7,121	7,250	6,728
Punjab	*	*	*	*	934	4,938	2,023	2,541	2,560	2,560
Central Provinces	—	—	—	—	See note in previous page					
British Burmah	†	†	†	†	2,313	1,671	1,689	1,682	1,333	1,333
Total	31,162	33,233	32,765	30,785	33,452	42,293	38,090	35,652	33,755	30,928
TOTAL.										
Bengal	9,533	10,068	10,171	12,251	12,140	14,531	11,293	11,247	11,298	11,298
Madras	7,878	7,833	7,567	9,900	9,144	8,558	8,062	8,098	7,738	7,299
Bombay	6,978	9,362	9,477	9,385	9,401	11,540	12,161	12,503	12,927	10,156
North-west Provinces	12,544	12,288	12,123	12,329	8,242	9,299	9,233	9,130	8,311	8,311
Punjab	*	*	*	*	4,314	4,296	4,298	4,296	4,296	4,296
Central Provinces	—	—	—	—	See note in previous page					
British Burmah	†	†	†	†	2,313	1,671	1,689	1,682	1,333	1,333
Total	36,983	39,581	39,338	43,371	45,554	49,921	46,619	46,875	44,998	42,921

* Included in North-west Provinces, and cannot be shown separate.
† Included in Bengal Province, and cannot be shown separate.

MILITARY

No. 32.—TOTAL NUMBER OF TROOPS EMPLOYED IN BRITISH INDIA IN EACH UNDER-MENTIONED YEAR.

YEARS.	TROOPS EMPLOYED.					GRAND TOTAL.	
	ROYAL TROOPS EUROPEANS.	INDIAN FORCES.		TOTAL.			
		Europeans.	Natives.	Europeans.	Natives.		
1855	-	Records destroyed during the Mutiny.					
1859	36,783	26,104	106,245	106,260	136,213	302,533	
1860	72,118	26,708	213,002	92,866	213,002	305,868	
1861	61,120	22,174	134,672	84,204	184,672	266,066	
1862	37,565	19,629	123,913	78,174	126,913	204,067	
1863	73,074	5,911	121,775	76,085	21,775	197,860	
1864	19,674	4,287	121,060	74,961	121,060	166,021	
1865	65,901	5,979	118,315	71,380	118,315	190,195	
1866	62,451	4,363	117,065	66,814	117,065	183,966	
1867	61,498	3,969	117,681	65,467	117,681	183,148	

No. 33.—TOTAL NUMBER OF TROOPS EMPLOYED IN EACH PRESIDENCY OF BRITISH INDIA IN EACH UNDER-MENTIONED YEAR, DISTINGUISHING EUROPEANS AND NATIVES.

YEARS.	BENGAL.			MADRAS.			BOMBAY.		
	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.
1858	Records destroyed during the Mutiny.								
1859	62,167	82,697	144,864	17,991	67,141	84,232	37,052	40,415	73,467
1860	57,778	91,898	149,676	17,821	78,416	96,237	17,237	42,664	59,901
1861	54,721	80,620	135,341	18,257	63,727	81,984	14,246	34,925	49,171
1862	47,919	39,210	87,129	16,921	55,557	72,478	13,841	31,013	44,854
1863	46,614	56,045	102,659	15,113	50,964	66,077	14,358	28,866	43,224
1864	45,293	42,338	87,631	15,583	59,181	74,764	14,093	27,991	42,084
1865	44,128	43,706	87,834	16,062	46,635	62,697	13,750	27,526	41,276
1866	38,992	43,394	82,386	14,184	46,133	60,317	13,633	27,266	40,899
1867	39,229	44,428	83,657	13,511	46,046	59,557	12,927	27,207	40,134

NOTE.—Column of Europeans include Royal Troops and those of the Indian Force for each Presidency.

MILITARY.

ARM OF SERVICE.	BENGAL.		MADRAS.		BOMBAY.		TOTAL.	
	Euro- peans.	Natives.	Euro- peans.	Natives.	Euro- peans.	Natives.	Euro- peans.	Natives.
1857.								
Staff and Staff Corps, Engineers, Sappers, and Miners	208	1,282	81	1,159	72	685	303	3,043
Artillery, Horse and Foot	3,166	1,021	2,278	1,021	1,054	6,905	8,905	12,800
Cavalry	1,501	3,055	766	8,355	3,136	30,472	6,043	26,606
Infantry	18,537	110,468	6,895	41,258	7,661	33,301	52,251	105,228
Forces and Veterans	271	—	940	2,518	17	628	3,613	161,431
Warrior Officers	153	—	125	—	86	—	365	—
Medical Establishment	370	326	240	416	294	343	814	1,052
Total Strength	24,366	135,757	15,726	51,214	10,430	45,213	45,222	232,254
1859.								
Constituted by Royal Warrant dated 16th January 1861. No returns till 1862.								
* Included among Infantry for this year.								
Staff and Staff Corps, Engineers, Sappers, and Miners	6,924	31,222	2,651	2,401	3,534	2,598	12,800	8,208
Artillery, Horse and Foot	20,031	17,236	1,260	3,297	3,058	6,043	10,528	26,606
Cavalry	12,580	62,339	12,580	61,403	20,342	37,753	85,453	161,431
Infantry	—	—	—	—	—	—	—	—
Forces and Veterans	—	—	—	—	—	—	—	—
Warrior Officers	—	—	—	—	—	—	—	—
Medical Establishment	—	—	—	—	—	—	—	—
Total Strength	62,107	82,687	17,491	67,141	27,022	40,415	106,280	196,245
Note.—The European commissioned officers for all arms, not being								
* Included among Infantry for this year.								
* 8,365 are not included in the above figures.								
1860.								
Constituted by Royal Warrant dated 16th January 1861. No returns till 1862.								
Staff and Staff Corps, Engineers, Sappers, and Miners	382	671	103	2,417	192	570	577	3,894
Artillery, Horse and Foot	5,807	2,310	2,370	2,777	2,268	1,775	10,335	6,871
Cavalry	4,024	22,010	1,580	8,517	9,220	6,123	8,736	35,684
Infantry	48,320	96,659	13,508	62,796	12,210	95,153	71,807	162,908
Forces and Veterans	—	—	—	—	—	—	—	—
Warrior Officers	255	—	427	1,993	29	1,032	711	2,968
Medical Establishment	—	—	—	—	—	—	—	—
Total Strength	57,788	91,498	17,861	78,340	17,237	45,064	92,809	219,962
1861.								
Constituted by Royal Warrant dated 16th January 1861. No returns till 1862.								
Staff and Staff Corps, Engineers, Sappers, and Miners	691	134	224	2,419	100	566	538	3,981
Artillery, Horse and Foot	208	691	2,240	2,351	2,731	1,904	12,805	6,100
Cavalry	4,854	20,058	1,694	7,916	1,820	4,372	7,807	31,728
Infantry	30,068	61,632	12,796	61,741	9,550	27,463	62,340	142,570
Forces and Veterans	—	—	—	—	—	—	—	—
Warrior Officers	—	—	—	—	—	—	—	—
Medical Establishment	—	—	—	—	—	—	—	—
Total Strength	31,791	82,629	18,257	63,727	14,316	34,315	84,294	184,072
1862.								
Constituted by Royal Warrant dated 16th January 1861. No returns till 1862.								
Staff and Staff Corps, Engineers, Sappers, and Miners	691	660	201	1,244	279	568	1,288	2,463
Artillery, Horse and Foot	7,131	79	3,759	1,734	3,129	1,971	14,010	2,884
Cavalry	4,202	9,091	1,373	6,446	1,541	3,937	6,521	19,424
Infantry	84,315	31,175	9,146	41,640	9,146	25,389	59,200	67,004
Forces and Veterans	—	—	—	—	—	—	—	—
Warrior Officers	—	—	—	—	—	—	—	—
Medical Establishment	—	—	—	—	—	—	—	—
Total Strength	94,619	40,946	15,113	50,984	14,365	28,805	76,065	121,776

The return for 1859 cannot be given, as the military, which broke out in 1857, destroyed all records.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

* Included in strength of each arm of service.

STATEMENT OF THE ACTUAL STRENGTH OF EACH ARM OF SERVICE OF THE TROOPS EMPLOYED IN EACH PRESIDENCY OF BRITISH INDIA, during each of the under-mentioned Years.

ARM OF SERVICE.	BENGAL.		MADRAS.		BOMBAY.		TOTAL.		BENGAL.		MADRAS.		BOMBAY.		TOTAL.	
	Euro-peans.	Natives.	Euro-peans.	Natives.	Euro-peans.	Natives.	Euro-peans.	Natives.	Euro-peans.	Natives.	Euro-peans.	Natives.	Euro-peans.	Natives.	Euro-peans.	Natives.
	1864.								1865.							
Staff and Staff Corps -	684	—	—	—	271	—	1,268	—	700	—	525	—	361	—	1,466	—
Engineers, Sappers, and Miners -	162	805	261	1,263	197	573	700	2,611	152	962	181	1,288	125	573	448	2,456
Artillery, Horse and Foot -	7,014	95	3,691	1,537	2,936	624	15,071	2,456	7,357	108	3,719	818	2,796	539	16,677	3,455
Cavalry -	4,226	8,910	1,205	6,526	1,128	4,262	6,647	19,195	4,018	8,503	1,172	1,522	1,934	4,279	6,274	14,574
Infantry -	35,036	33,128	9,800	40,805	9,224	22,532	32,079	96,463	30,013	33,928	9,222	42,965	9,910	22,435	48,945	99,363
Invalids and Veterans } Warrant Officers - }	111	—	285	—	*269	—	825	—	168	—	668	—	*374	—	1,145	—
Medical Establishment -	- Included in strength of each arm of service. -															
Total Strength -	46,233	42,933	15,533	59,131	14,085	27,991	74,961	121,660	42,128	43,796	16,092	46,983	13,750	27,526	71,860	118,915
	1866.								1867.							
Staff and Staff Corps -	708	—	291	—	367	—	1,366	—	902	—	420	—	400	—	1,722	—
Engineers, Sappers, and Miners -	112	93	153	1,285	168	566	873	2,794	238	1,120	144	1,273	80	577	462	2,970
Artillery, Horse and Foot -	6,415	102	3,323	1,263	2,561	523	12,290	1,891	6,110	72	3,336	1,030	2,540	509	12,105	7,611
Cavalry -	3,735	8,714	1,253	6,176	1,662	3,885	6,950	18,779	3,317	8,719	1,139	6,130	938	3,889	5,424	18,738
Infantry -	27,919	32,630	8,820	37,711	9,177	22,390	45,916	93,031	28,031	34,517	8,193	37,563	8,591	22,232	44,815	94,312
Invalids and Veterans } Warrant Officers - }	103	—	344	—	*363	—	810	—	92	—	379	—	*378	—	849	—
Medical Establishment -	- Included in strength of each arm of service. -															
Total Strength -	38,992	43,394	14,184	46,435	13,638	27,206	66,814	117,045	39,029	44,428	13,511	46,943	12,927	27,297	65,467	117,081

Note.—Bombay includes North-west Provinces and Punjab.

* Including unattached list.

REPORT OF THE MILITARY MEDICAL DEPARTMENT FOR THE YEARS ended 31st December.

Years ended 31st December.	Troops employed.	MADRAS.										BOMBAY.				
		Average Strength.	Admissions into Hospital during each Year.	Deaths from ordinary Causes.	Deaths by Cholera.	In-validated.	Average Strength.	Admissions into Hospital during each Year.	Deaths from ordinary Causes.	Deaths by Cholera.	In-validated.	Average Strength.	Admissions into Hospital during each Year.	Deaths from ordinary Causes.	Deaths by Cholera.	In-validated.
1858	Europeans	45,700	100,763	2,885	222	1,642	8,661	15,440	290	118	180	20,400	48,119	767	4	Europeans 697 Natives 1,789
	Natives	80,368	65,299	1,306	290	164	17,900	56,703	897	178	960	40,062	40,571	517	82	
1859	Europeans	58,515	116,992	1,811	341	1,524	15,543	29,304	651	40	464	27,745	46,245	559	112	
	Natives	95,338	96,638	1,024	148	258	57,682	62,421	781	227	1,285	40,818	51,981	373	111	
1860	Europeans	68,438	95,260	1,205	493	1,820	16,925	24,792	406	60	687	15,719	32,582	854	110	
	Natives	62,508	71,144	897	330	592	66,684	67,625	787	260	3,229	37,642	41,371	282	88	
1861	Europeans	43,774	80,795	917	397	1,248	15,067	20,622	173	43	674	13,950	24,023	254	39	
	Natives	42,544	48,782	627	177	1,897	40,315	28,198	960	08	2,033	31,631	26,875	297	44	
1862	Europeans	45,178	84,368	852	405	1,798	13,929	17,989	189	40	468	11,971	27,906	195	54	
	Natives	35,519	51,507	527	115	1,298	85,551	33,674	238	83	4,362	28,961	29,033	200	00	
1863	Europeans	40,947	69,588	776	185	1,455	13,276	18,511	189	39	506	12,269	29,340	141	7	
	Natives	39,310	55,589	622	57	543	52,882	25,794	260	87	1,026	20,413	27,140	293	37	
1864	Europeans	37,959	66,847	627	93	1,360	13,286	20,290	189	81	} not stated {	12,015	17,954	164	21	
	Natives	40,351	51,177	406	73	734	29,768	22,766	265	116		24,912	24,918	250	189	
1865	Europeans	38,967	65,561	739	114	1,523	13,628	19,433	231	38	508	11,815	17,625	216	189	
	Natives	29,801	68,990	905	353	696	29,766	21,367	262	136	413	24,729	26,339	245	126	
1866	Europeans	35,841	48,264	643	47	1,573	12,127	17,937	212	26	} not stated {	11,973	16,927	140	0	
	Natives	44,147	51,060	503	00	818	30,418	24,638	274	101		24,481	28,968	158	11	
1867	Europeans	52,645	42,349	539	382	1,541	16,743	14,968	181	7	590	11,159	15,861	165	58	
	Natives	47,638	61,410	622	189	824	31,642	23,346	261	34	571	24,896	27,502	189	1	

NOTE.—The first three years for Madras Presidency are from 1st March, the remaining years from 1st December.

MILITARY.

MILITARY.

No. 35.—AGGREGATE OF SICKNESS AND MORTALITY among EUROPEAN and NATIVE Troops employed in all BRITISH INDIA in each of the under-mentioned Years.

YEARS ended 31st Dec.	EUROPEAN TROOPS.					NATIVE TROOPS.				
	Average Strength.	Admissions into Hospital in each Year.	Deaths from ordinary Causes.	Deaths by Cholera.	In-validated.	Average Strength.	Admissions into Hospital in each Year.	Deaths from ordinary Causes.	Deaths by Cholera.	In-validated.
1858	77,559	179,328	3,951	344	* 2,053	168,230	201,603	2,714	466	* 2,241
1859	95,423	189,390	3,921	502	* 2,051	203,836	211,019	2,178	483	* 2,241
1860	97,982	154,574	1,965	672	† 2,567	161,224	183,149	1,917	678	† 3,321
1861	72,791	125,442	1,829	1,079	2,306	113,890	160,355	1,200	299	6,561
1862	71,689	121,360	1,236	508	2,629	101,031	164,194	968	238	6,964
1863	64,902	105,139	1,085	231	2,367	97,612	106,323	1,035	181	2,948
1864	63,281	98,561	980	145	† 1,773	93,151	98,961	924	323	† 1,710
1865	61,495	102,619	1,246	839	2,804	94,386	116,663	1,412	454	2,107
1866	59,941	89,128	965	79	‡ 2,128	99,036	104,668	935	211	† 1,100
1867	55,947	79,378	885	447	2,653	101,000	112,258	672	174	2,291

* These are averages in consequence of the Bombay returns not being complete.

† Exclusive of Bombay, the returns not affording the information.

‡ Exclusive of Madras ditto ditto ditto.

EDUCATION.

No. 37.—EDUCATIONAL STATISTICS.—NUMBER of SCHOOLS and COLLEGES belonging to, aided, or maintained by GOVERNMENT in BRITISH INDIA, with the AVERAGE NUMBER of PUPILS attending them, the AMOUNT expended by GOVERNMENT, and the GROSS EXPENDITURE on account of INSTRUCTION.

	Years ended 30th April.	Number of Educational Institutions.	Average Attendance of Pupils.	Amount expended by Government.	Total Expenditure from all Sources.
	1858	8,070	151,188	£ 231,479	£ —
	1859	12,479	259,053	259,877	—
	1860	13,550	306,506	233,444	315,372
	1861	14,322	353,073	235,329	363,983
	1862	13,219	356,762	248,330	384,076
	1863	15,139	395,974	274,470	402,643
	1864	16,640	471,275	519,888	437,760
	1865	17,391	447,983	463,667	644,615
	1866	13,788	592,840	445,635	746,163
	1867	19,940	663,484	461,373	755,518

Note.—The figures for 1861 and subsequent years have been revised according to the latest information, which will account for their differing from last year's Abstract.

No. 38.—STATEMENT exhibiting the RESULTS of the UNIVERSITY EXAMINATIONS for MATRICULATION or ENTRANCE.

	CALCUTTA.		MADRAS.		BOMBAY.	
Colleges:						
Government	19		6		5	
Independent	22		13		1	
Total	41		19		6	
Years ended 30th April.	Candidates.	Passed.	Candidates.	Passed.	Candidates.	Passed.
1858	464	111	79	18		—
1859	1,411	583	87	30		13
1860	898	415	62	23		11
1861	1,658	477	89	48		19
1862	1,114	477	106	62		15
1863	1,507	690	252	165		21
1864	1,392	702	300	143		37
1865	1,596	510	561	223		35
1866	1,350	625	555	229		111
1867 (Eleven months to 31st May.)	1,597	814	695	366		63
DEGREES.						
1858 to 1867	977	235	179	564	85	62

Note.—The universities of Calcutta, Madras, and Bombay were incorporated in 1867 by Acts of Imperial Legislature, Nos. II, XXIII, and XXVII. All are based on the model of the University of London, without rigorous uniformity of details being insisted on.

EDUCATION.

No. 40.—EDUCATIONAL STATISTICS, showing AMOUNT EXPENDED by GOVERNMENT, and the GROSS EXPENDITURE for INSTRUCTION in Each PRESIDENCY or PROVINCE of BRITISH INDIA, as far as can be ascertained.

YEARS ended 30th April.	BENGAL.		NORTH-WEST PROVINCES.		PUNJAB.		CENTRAL PROVINCES.		OUDE.		BRITISH BURMAH.	
	Amount expended by Government.	Gross Expenditure.	Amount expended by Government.	Gross Expenditure.	Amount expended by Government.	Gross Expenditure.	Amount expended by Government.	Gross Expenditure.	Amount expended by Government.	Gross Expenditure.	Amount expended by Government.	Gross Expenditure.
	£	£	£	£	£	£	£	£	£	£	£	£
1858	103,839	*104,605	33,000	—	11,487	22,713	—	—	—	—	—	—
1859	102,435	*103,202	46,044	—	16,910	24,579	—	—	—	—	—	—
1860	79,761	104,329	49,681	63,961	16,262	34,247	—	—	—	—	—	—
1861	80,017	110,173	50,200	94,766	14,885	41,851	—	—	—	—	—	—
1862	88,078	110,147	48,574	—	17,470	51,128	—	—	—	—	—	—
1863	99,366	123,262	49,472	75,238	26,060	73,268	10,000	—	1,418	—	†1,619	—
1864	112,976	173,166	53,628	75,726	27,869	63,237	11,100	22,049	1,905	6,012	†1,690	—
1865	125,561	203,517	72,919	111,571	41,476	78,998	13,511	28,155	12,436	17,894	†3,250	—
1866	138,047	227,702	78,409	119,230	48,407	86,676	13,546	33,776	14,244	21,424	†3,848	—
1867	138,576	229,009	77,400	123,179	50,265	99,900	15,646	39,073	15,468	24,280	†4,748	—
	MADRAS.		BOMBAY.		HYDERABAD ASSIGNED DISTRICTS.		MYSORE.		COORG.			
	£	£	£	£	£	£	£	£	£	£		
1858	49,745	49,745	39,348	—	—	—	—	—	—	—	—	—
1859	50,815	50,815	43,173	—	—	—	—	—	—	—	—	—
1860	49,351	49,351	38,089	58,487	—	—	—	—	—	—	—	—
1861	52,000	56,000	37,061	60,700	—	—	—	—	—	—	—	—
1862	50,995	54,467	43,107	68,334	—	—	—	—	—	—	—	—
1863	55,698	55,698	43,984	74,560	—	1,517	—	—	—	—	—	—
1864	60,667	65,332	52,323	96,228	—	Not stated.	—	—	—	—	—	—
1865	66,836	71,271	70,974	120,402	—	2,282	—	9,329	—	1,816	—	—
1866	62,067	71,639	87,097	171,430	—	3,444	—	9,865	—	978	—	—
1867	61,667	73,216	91,668	151,831	—	8,424	—	10,874	—	1,216	—	—

* Gross charges.

† Grants in aid.

PUBLIC WORKS.

No. 41.—Account of Public Works in Betterment, according to the following Classification, for each of the years 1868-1897.

Year.	MILITARY.			CIVIL BUILDINGS.			PUBLIC IMPROVEMENTS.			TOTAL.			Grants Total.	Actual expenditure from 1st May 1857 to 31st December 1858.	Estimated, 1st January to 31st April 1859.	Authorized expenditure.	Variance. The annual grants in these years do not include allotments for state expenditure on Landreaves and added enterprise, less by exchange, grant to the Corporation of London, and the appropriation of grant at the disposal of the Government.	
	Original Works.	Repairs.	Total.	Original Works.	Repairs.	Total.	Original Works.	Repairs.	Total.	Original Works.	Repairs.	Total.						
1868	88,630	83,600	172,230	—	—	—	65,430	46,430	111,860	3,000	3,000	114,860	1,500,000	Actual expenditure from 1st May 1857 to 31st December 1858.	400,000	Authorized expenditure.	—	
1869	225,133	325,103	550,236	—	—	—	7,388	7,388	14,776	—	—	14,776	—	—	—	—	—	—
1870	149,330	123,407	272,737	3,000	2,500	5,500	33,000	27,000	60,000	1,000	1,000	61,000	—	—	—	—	—	—
1871	73,114	98,555	171,669	304,185	86,632	390,817	733,653	344,223	1,077,876	1,145,641	1,827,797	2,925,623	—	—	—	—	—	—
1872	1,007,714	1,007,714	2,015,428	1,007,714	1,007,714	2,015,428	1,007,714	1,007,714	2,015,428	1,007,714	1,007,714	3,023,142	—	—	—	—	—	—
1873	400,000	400,000	800,000	800,000	800,000	1,600,000	1,600,000	1,600,000	3,200,000	3,200,000	3,200,000	6,400,000	—	—	—	—	—	—
1874	614,805	622,071	1,236,876	1,040,048	1,040,048	2,080,096	1,188,289	1,188,289	3,268,385	3,268,385	3,268,385	6,536,770	—	—	—	—	—	—
1875	672,275	176,180	848,455	466,147	118,151	584,298	1,370,052	605,232	2,039,330	2,039,330	2,039,330	4,078,660	—	—	—	—	—	—
1876	1,274,006	211,248	1,485,254	748,145	152,733	900,878	1,571,027	672,677	2,243,704	2,243,704	2,243,704	4,487,408	—	—	—	—	—	—
1877	1,323,830	208,278	1,532,108	641,856	105,557	747,413	1,314,297	346,028	1,660,325	1,660,325	1,660,325	3,320,650	—	—	—	—	—	—

A. N. It is to be observed that the foregoing figures relate rather to grants and amounts sanctioned for expenditure than to actual expenditure incurred, and which differences so dealt with in each year may not be very considerable, but as such differences tend to compensate each other, when collected together in an aggregate form, it may therefore fairly be presumed that the grants represent the actual outlay.

PUBLIC WORKS

No. 42.—EXPENDITURE ON ACCOUNT OF PUBLIC WORKS IN EACH PRESIDENCY OR PROVINCE OF BRITISH INDIA, FOR EACH YEAR.

Year.	BENGAL.	NORTH-WEST PROVINCES.	ODISHA.	PUNJAB.	CENTRAL PROVINCES.	NEPAL.	BOMBAY.	DELHI.	SARAWAK & STRAITS SETTLEMENTS.	HYDRABAD.	RAJPUTANA.	CENTRAL INDIA.	COORG.	MYSORE.	MADRAS.	BOMBAY.	TOTAL.	Amounts expended, not shown separately for each Province.
1855	255,491	495,779	49,515	41,115	—	11,494	—	—	—	422	—	—	—	—	15,752	122,580	1,319,086	—
1856	74,380	147,564	149,235	8,889	—	902	—	—	—	284	—	—	—	—	4,475	25,063	410,661	—
1857	393,324	651,127	329,273	339,593	—	36,277	146,143	83,398	83,398	63,447	—	1,911	78,876	651,243	620,000	472,735	3,222,167	—
1858	514,917	910,690	252,000	719,000	—	55,000	149,210	97,595	40,000	92,119	—	1,809	—	—	620,000	593,000	3,871,954	—
1859	570,095	690,000	796,000	546,000	—	85,000	145,000	40,000	40,000	54,000	—	17,500	—	—	900,000	825,000	3,806,000	23,940*
1860	518,500	690,000	1,212,775	310,000	181,429	—	172,500	40,000	40,000	66,000	—	25,075	—	—	694,000	575,375	3,664,911	90,234†
1861	640,564	617,645	220,000	652,037	278,045	—	195,500	40,000	40,000	92,479	—	87,511	—	—	829,445	1,104,539	1,467,463	165,276†
1862	617,000	658,835	507,255	645,360	259,970	—	242,500	10,000	10,000	39,099	11,307	12,075	6,000	—	670,000	1,000,480	4,438,519	19,844‡
1863	720,300	753,308	1,63,751	670,024	249,380	—	275,000	31,689	31,689	113,662	55,599	75,978	9,800	—	601,063	1,540,703	5,260,415	104,723‡
1864	745,647	701,131	179,972	704,010	255,070	—	213,700	30,068	30,068	107,215	67,258	71,588	12,699	—	651,637	1,424,497	5,137,921	§

* Unappropriated Grant at Disposal of Government.

† Debt and Public Works and Public.

‡ Roads and Public Works.

§ Included under each Province in this year.

TELEGRAPHS.

No. 43.—NUMBER of MILES of GOVERNMENT TELEGRAPH LINES and STATIONS open in BRITISH INDIA, the EXPENSES incurred on account of CONSTRUCTION, WORKING, and MAINTENANCE of the same in each under-mentioned year.

Years ended 30th April.	Number of Miles.	Number of Offices.	EXPENDITURE.				RECEIPTS FROM		
			Cost of Construction.	On account of working and Maintenance.	In England for Stores, Freight, &c.	Total Expenditure.	Private Messages and other Sources.	Service Messages Government and Departmental.	Total Receipts.
			£	£	£	£	£	£	£
1858	5,725	82	50,050	55,901	114,317	220,307	17,661	20,236*	37,897
1859	9,093	122	91,729	95,934	23,971	210,723	27,921	26,478*	54,399
1860	16,195	131	51,198	105,629	2,014	159,751	41,721	11,596	53,319
1861	21,060	215†	53,397	140,533	25,509	199,529	51,358	12,024	63,382
1862	11,930	144‡	72,889‡	170,345‡	95,870	338,607	55,637	13,508	69,653
1863	21,350	165	93,110	131,697	100,470	270,753	61,568	10,837	75,705
1864	11,783	156§	67,451	136,556	196,888	400,845	78,119	13,415	91,533
1865	13,200	171	113,411	133,430	44,384	311,245	80,688	12,887	92,725
1866	16,320	172	58,967	103,892	41,762	203,101	101,906	11,638	112,944
1867	13,571	159	16,848	136,275	34,286	187,409	83,367	69,621	142,978

NOTE.—Some of the figures in this statement will differ from last year's volume from their having been revised by later information received.

* Exclusive of service messages sent from offices in North-west Provinces and Punjab.

† Including 9 offices occasionally opened.

‡ Including inefficient stores of the previous year and stores supplied.

§ Including 8 offices occasionally opened.

|| Including 10 offices occasionally opened.

JUDICIAL.

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No. 44.—STATEMENT exhibiting the OPERATIONS of the HIGH COURT of CALCUTTA since its ESTABLISHMENT in 1862, under LETTERS PATENT, for each of the Calendar Years as under.

ORIGINAL JURISDICTION.		1863.	1864.	1865.	1866.	1867.			
Suits instituted, including Admiralty, Equity, Ecclesiastical, and Insolvency		1,198	1,656	1,551	1,420	1,524			
Appeals from Division Courts		—	59	50	47	50			
References from Special Cause Courts Act, XIX of 1859		—	—	—	—	1			
Total Suits disposed of		800	1,325	1,192	1,023	1,163			
Miscellaneous Orders passed		—	2,100	2,250	1,880	1,427			
APPELLATE JURISDICTION.		Regular.	Special.	Regular.	Special.	Regular.	Special.	Regular.	Special.
Number of Appeals instituted		505	3,659	479	3,639	411	3,672	430	3,449
Ditto disposed of		1,250	4,823	627	4,482	529	4,451	574	3,207
Miscellaneous Appeals instituted		983	1,368	715	795	795	609		
Ditto disposed of		977	1,265	674	774	774	632		
Criminal	*Trials, referred, revised, and appealed under Code of Procedure	—	762	803	1,181	1,320			
	*Miscellaneous Cases	—	70	765	98	104			

* From Regulation Districts only.

No. 45.—STATEMENT exhibiting the OPERATIONS of the HIGH COURT of MADRAS since its ESTABLISHMENT in 1862, under LETTERS PATENT, for each of the Calendar Years as under.

ORIGINAL JURISDICTION.		1863.	1864.	1865.	1866.	1867.			
Number of Suits for Hearing		337	444	459	532	651			
Ditto disposed of		367	346	356	449	407			
APPELLATE JURISDICTION.		Regular.	Special.	Regular.	Special.	Regular.	Special.	Regular.	Special.
Number of Appeals for Hearing		152	1,078	146	739	135	617	142	839
Ditto disposed of		80	826	98	583	87	514	171	690
Civil Petitions				355	321	326	294		
Ditto disposed of				291	262	271	236		
Cases referred				26	32	25	51		
Ditto disposed of				36	30	21	45		
Criminal Petitions				168	203	215	—		
Ditto disposed of				139	185	196	207		
Sentences of Death	Confirmed				76	71	68		
	Modified				2	10	10		
	Reversed				—	3	—		
	Released				4	—	2		
	Remanded				1	—	—		
References under Code of Criminal Procedure	Confirmed				—	12	—		
	Reversed				40	31	41		
	Modified				7	5	9		
	Otherwise dealt with				21	6	17		

No information received.

No information received.

No. 46.—STATEMENT exhibiting the OPERATIONS of the HIGH COURT of BOMBAY since its ESTABLISHMENT in 1862, under LETTERS PATENT, for each of the Years ended 30th April.

ORIGINAL JURISDICTION.	1864.	1865.	1866.	1867.					
Total Number of Civil Suits instituted		726	1,732	1,917					
Ditto Appeals from Division Courts		—	48	38					
Original Suits disposed of		699	1,379	1,552					
Motions in Chambers		395	369	1,219					
Appeals disposed of		433	1,206	2,081					
Motions		—	25	38					
Applications for Probate and Administration		228	221	403					
Cases Ecclesiastical, Equity, and Insolvency		481	687	667					
Special Cases from Small Cause Courts disposed of		254	337	605					
Original Trials		2	2	2					
Motions		4	9	3					
Cases		147	175	131					
	No Returns.								
APPELLATE JURISDICTION.		Regular.	Special.	Regular.	Special.	Regular.	Special.	Regular.	Special.
Number of Appeals received		32	1,426	28	1,444	36	1,009	31	1,950
Ditto disposed of		19	904	15	1,094	18	777	27	766
Applications for Admission of Special Appeals		—	1,016	—	1,016	—	923	—	923
Ditto disposed of		—	1,001	—	999	—	891	—	891
Miscellaneous Applications		—	1,638	—	1,640	—	1,046	—	1,046
Cases received for execution of Capital Sentences		25	55	—	51	—	47	—	47
Ditto disposed of on Appeals after taking for Records and Proceedings		159	132	—	133	—	130	—	130
Ditto ditto on Review of Criminal Returns		278	223	—	184	—	75	—	75
Ditto received for Orders of Court		44	65	—	70	—	142	—	142
Petitions presented and received with Register of same		144	230	—	20	—	238	—	238
Miscellaneous		167	337	—	404	—	460	—	460

No. 47.—STATEMENT exhibiting the OPERATIONS of the HIGH COURT of the NORTH-WEST PROVINCES, which commenced its SITTINGS on 16th June 1866, for each of the Calendar Years as under.

ORIGINAL JURISDICTION.		1866.		1867.	
Number of Suits instituted		—		12	
Ditto disposed of		—		6	
Number of Appeals from Division Courts		—		2	
Ditto disposed of		—		1	
Criminal Trials		11		14	
Ditto Cases requiring confirmation		962		523	
APPELLATE JURISDICTION.		Regular.	Special.	Regular.	Special.
Number of Appeals		250	2,332	314	2,343
Ditto disposed of		176	2,361	264	1,983
Disposed of	References from Small Cause Courts	—	—	—	25
	Miscellaneous Orders in Court	879	—	—	2,252
	Criminal Cases appealed to the Court	315	—	—	232

No. 48.—RETURN showing the AMOUNT of BUSINESS TRANSACTED in the HIGH COURTS of INDIA, together with the NUMBER of JUDGES in each COURT, in the Year 1867 (New Form).

ORIGINAL.	Civil Suits.	Criminal Suits.	Insolvent Cases.	Miscellaneous.	Aggregate Number of Sitting Days.	
CALCUTTA:—						
5 Barrister Judges	1,014	219	103	45	439	
7 Civilian do.						
1 Native do.						
MADRAS:—						
2 Barrister Judges	613	172	142	37	282	
3 Civilian do.						
BOMBAY:—						
3 Barrister Judges	1,301	180	513	51	634	
4 Civilian do.						
NORTH-WEST PROVINCES:—						
2 Barrister Judges	7	14	—	1	17	
4 Civilian do.						
N.B.—The Chief Justice of each Court has been included among the number of Barrister Judges shown above.						
APPELLATE.	APPEALS.		References.	Criminal Cases.	Miscellaneous.	Aggregate Number of Sitting Days.
	Regular.	Special.				
CALCUTTA	712	2,913	31	1,391	1,713	266
MADRAS	77	505	45	2,099	6,173	127
BOMBAY	51	1,009	13	745	4,953	292
NORTH-WEST PROVINCES	264	1,965	25	323	2,252	233
N.B.—The Miscellaneous Column includes Orders in Court as well as those circulated to the Judges at their houses and disposed of in Chambers.						

LONDON:
Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
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No. 19.

VALUE of the PRINCIPAL ARTICLES of MERCHANDISE and of TREASURE
IMPORTED into BRITISH INDIA, by SEA, from FOREIGN COUNTRIES, in
each of the Years ended 30th April.

-(See following page.)

IMPORTS

No. 19.—VALUE of the PRINCIPAL ARTICLES of MERCHANDISE and of TREASURE Years ended

PRINCIPAL ARTICLES.	1858.	1859.	1860.	1861.	1862.
	£	£	£	£	£
Apothecaries' and Medicines Stores, Members, &c.	31,710	43,606	39,391	39,715	39,213
Apparel	492,333	556,128	451,980	374,699	463,337
Arms, Ammunition, and Military Stores	1,632,578	710,156	1,118,180	753,453	1,116,752
Books and Stationery	206,093	241,595	269,804	299,508	274,968
Carriages	13,688	15,511	11,535	27,210	25,885
Coal and Coke	170,684	151,588	154,287	361,053	345,981
Cotton Twist and Yarn	943,920	1,714,216	2,047,115	1,744,183	1,472,484
Cotton Goods	4,782,698	8,068,927	9,651,513	9,309,935	8,772,916
Dresses	57,052	67,928	80,586	107,315	60,222
Eyes of all Kinds	74,365	46,885	67,125	99,119	62,569
Fruits and Nuts	525,440	232,115	189,495	248,906	399,373
Glass-ware of all Kinds	155,736	163,379	252,220	250,676	206,973
Guano	57,467	66,958	87,198	58,594	64,368
Horses	189,581	436,623	285,858	89,916	43,750
Ice	25,650	26,316	23,989	23,110	25,721
Jewellery and Precious Stones	170,411	227,812	316,117	393,529	230,484
Machinery of all Kinds	465,453	587,666	571,531	570,251	553,883
Milk Imports	239,905	921,228	539,497	448,475	429,441
Metal Manufactures	375,959	447,611	454,457	386,748	588,694
Copper	299,946	651,947	326,135	1,082,312	991,008
Iron	494,654	1,167,222	571,839	454,458	603,222
Lead	45,306	19,332	19,470	19,684	29,516
Metals, Raw	43,933	58,315	226,635	129,527	110,418
Spelter	51,089	78,110	53,967	45,617	96,773
Steel	88,255	61,885	95,852	121,763	136,065
Tin	131,713	98,084	210,560	271,955	297,643
Other Sorts	769,732	217,252	278,703	213,744	183,576
Naval Stores	66,896	85,999	76,591	72,775	73,710
Paints and Colours	31,850	33,128	38,592	39,913	39,930
Perfumery	55,165	71,787	59,693	57,596	60,301
Porcelain and Earthenware	221,777	213,481	224,323	269,980	193,819
Provisions and Officers' Stores	989,552	1,233,573	1,706,092	1,863,804	1,509,589
Railway Materials and Stores	271,665	197,728	158,414	304,759	256,693
Silk, Raw	377,990	391,963	307,586	404,876	413,099
Silk Goods	308,692	137,740	224,116	259,596	198,442
Spices of all Kinds	147,079	368,918	85,540	194,690	266,662
Spirits	166,255	309,790	241,440	181,377	251,360
Sugar and Sugar Candy	269,374	279,313	158,577	229,270	232,765
Tin	192,709	272,688	164,282	164,161	96,918
Telegraph Stores	—	100	4,000	10,981	5,467
Tanned and Woods	48,256	79,329	60,687	83,156	72,915
Tanned	161,614	111,856	80,715	89,781	33,626
Tanned	53,910	79,395	52,152	63,065	38,234
Waxes	216,685	364,816	485,629	316,149	236,398
Woolen Goods	261,589	294,358	353,537	222,013	245,650
Wool of all Merchandise	15,277,629	21,728,559	21,265,140	29,493,736	22,320,422
Treasure	45,815,439	72,817,971	16,566,963	16,677,977	74,551,085
TOTAL MERCHANDISE AND TREASURE	31,923,063	34,845,660	39,622,103	34,170,793	37,272,417

MEMORANDUM

OF THE

IMPROVEMENTS IN THE ADMINISTRATION

OF INDIA

DURING THE LAST THIRTY YEARS,

AND THE

PETITION OF THE EAST-INDIA COMPANY

TO PARLIAMENT.

LONDON:

PRINTED BY ORDER OF THE COURT OF PROPRIETORS OF
THE EAST-INDIA COMPANY.

BY COX & WYMAN, 71-75, GREAT QUEEN STREET.

1858.

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MEMORANDUM,

&c., &c.

At this time, when a calamity unexampled in the history of British India has excited an unusual amount of interest in Indian affairs, while the statements publicly made, and the opinions expressed, concerning the administration of the Indian Government, strikingly manifest the deficiency of correct information on the subject; a brief survey of the principal measures which have been of late adopted for improving the internal government of the country, and the physical and mental condition of its inhabitants, may be serviceable in removing false impressions, and in supplying materials for a deliberate judgment.

It may be thought that this survey would most fitly commence from the last renewal of the powers of the East-India Company, with some modifications, in 1853; and it must be said that the years which have since elapsed have been marked by a degree of activity in every description of public improvement, not only greater than that exhibited previously, but unsurpassed, it is believed, in any country and in any

age. An interval, however, of only four years is evidently too short to afford an intelligible view of a course of progressive improvement. The foundation of all the great measures which were in active progress during that interval, was laid at an earlier period; and the new measures which have been initiated during that brief term have not yet had time to exhibit tangible results. It is therefore necessary to trace the stream of Indian improvement from a point much higher up in its course; beginning at the origin of the measures which have contributed most, in each department, to give to the administration of India its present enlightened character.

REVENUE ADMINISTRATION, & RIGHTS OF THE RURAL POPULATION.

Connection
of the
Revenue
System with
the Rights
and Condi-
tion of
the People.

In a country like India, the departments of public business on which the good government of the country, and the security and contentment of the people, principally depend, are the revenue administration and the judicial administration. The importance of a good and easily accessible administration of justice is the same in India as elsewhere; but the manner in which the entire economical condition of nearly the whole population is determined by the management of the revenue department, cannot, by persons unacquainted with India, be understood without special explanations.

Everywhere, indeed, it is of first-rate importance to a people that the taxes should be of moderate amount; that they should be certain, not arbitrary;

and that they should be so assessed and levied as neither to favour one person or class at the expense of another, nor to interfere injuriously with industry. These requisites, too, are obviously of more than their ordinary importance, where the bulk of the tax-paying population consists of persons depending for subsistence on their own exertions in tilling the soil. But these general considerations afford only an imperfect conception of the relation of the tax-paying cultivator in India to the revenue system. Throughout the greater part of India, there is no intermediate landlord between the immediate cultivator and the State. The cultivator does not pay rent to one person and taxes to another: his taxes *are* his rent (or a part of his rent); and his condition is affected by the good or bad quality of the fiscal administration, in every way in which the condition of a European tenantry can be affected by a good or a bad landlord. And there is an additional fact, of greater importance than all the rest. The titles to land, and to all rights issuing out of land, (that is, to all the property of the country, except a small percentage), are in India a branch of the revenue administration. The revenue records, which show who were the persons held responsible for the revenue by the officers of former governments, are the general register of title. They always constitute the principal, and in many cases the sole, reliable evidence of right to the land. While the British Government confined itself, as it necessarily did on the first acquisition of any district, to annual or short settlements, it had no need to look beyond the fact of actual possession; but when it began to grant leases or settlements for long terms of years, it was bound to ascertain that the persons whom it admitted to these engagements were those really entitled to the land.

This could only be done by minute local inquiries; and justice required that these should be judicially made, and a full hearing given to all parties on the spot. The revenue officers of Government being thus under the necessity, for revenue purposes, of investigating and ascertaining all titles to land, it has been deemed proper that the adjudication so performed should have the force of a judicial decision; though, if any of the persons interested considers himself aggrieved by the decision, he can seek redress by a suit in the regular courts. It is hence apparent, that in India every revenue officer is also, in the most important sense of the word, a judicial officer. The security of the most important and extensive class of proprietary rights throughout the country, depends upon the manner in which the revenue branch of the Government performs its judicial functions; and the history of the revenue administration of India is the history of its landed property, and of the economical condition of the whole agricultural population.

Permanent
Settlement
of the Lower
Provinces
of Bengal.

An important mistake, committed with the most generous intentions by the administration of Lord Cornwallis towards the end of the last century, has divested the Government, in the oldest and most fertile of its Indian possessions, of this great power of influencing beneficially the condition of the cultivators of the soil. In the provinces of Bengal and Behar, to which were subsequently added Benares, and some districts of the Madras Presidency, the Government gave away its rights over the soil to private landlords, reserving only from each estate an annual payment, which it solemnly bound itself never to increase. It is not necessary here to enter into the disputed questions respecting the original character and rights of these landlords or zemindars.

There is no doubt that many of them were persons of hereditary influence and station in the country, and that their connection with the lands, of which they were now recognized as the proprietors, had in general been of a permanent character. But their position was nevertheless essentially that of middlemen; collecting the revenue, not for themselves, but for the Mogul Government; accounting to that Government for their receipts, and remunerated by a percentage (generally ten per cent) of the collections. It is now universally admitted that they never had the power of disposing arbitrarily of the land. There were, everywhere, at least large classes of tenants, whom they could not lawfully eject, except for non-payment of revenue, and from whom they could not lawfully exact more than the customary payments.

These rights of the occupying tenants it was the full intention of Lord Cornwallis to preserve. But the Government demand being now fixed in perpetuity, and claimable from the landlord only, the revenue officers had no longer any power of interposing in favour of the tenantry; and their rights were henceforth left for protection solely to the courts of justice. But the courts of justice could proceed only by regular suit, on the complaint of the injured party. The poverty of the people, their passive character, and the extreme difficulty of proving by legal evidence, before a distant tribunal, what were the customary rates, have rendered this protection illusory; the rights of the Bengal ryots have (as has been said) passed away *sub silentio*, and they have become, to all intents and purposes, tenants at will. These facts are not adverted to for the purpose of casting blame on a generation long gone by, whose mistakes are sufficiently explained and

excused by the short experience they had then had of India, and the extreme difficulty which persons nurtured only in English ideas and institutions, have in correctly apprehending a state of facts so entirely unlike anything which ever existed in England, as the whole framework of Indian society presents. But justice to the subsequent Governments of India requires it to be understood, that in the most fertile and valuable portion of the Indian territory, they inherited from their predecessors an agrarian system, consisting of great landlords and cottier tenants, forming as close a parallel as the difference between Europe and Asia will admit, to the condition of Munster and Connaught; and that the Government has had, during the last sixty years, no more power of correcting the evils of this system, than the Government of the mother country had, during the same period, of remedying the evils of a similar system in Ireland. The tenacity, however, of old impressions, which characterizes the Hindoos, has kept alive the idea of a right still existing in the actual cultivator to hold his land at a rent fixed by custom, not by arbitrary will; and this traditional feeling, from which the landlords themselves are not exempt, must form the basis of anything that can be hereafter done to improve the tenure of the Bengal ryot.

Present
Improvements in
Bengal.

What the Government had it in its power to do, for alleviating the operation of the existing system, it has done. It takes systematic measures for the education of zemindars who are wards of Government. It has made imperative on the landlords to give to every tenant a written engagement, specifying the amount of rent and the conditions of tenure; and it has made these engagements legally binding. It has done more. Owing to the hasty and careless mode

in which the permanent settlement was in the first instance conducted, the boundaries both of estates and of villages or townships were undefined, and not only the litigation but the affrays, occasioned by boundary disputes, had grown into a public evil. The revenue officers were so ill informed on the subject, that in some cases estates advertised for sale on account of arrears of revenue, were purchased, and possession was demanded, when it was found that the estate existed only in the collector's books, having been swept away by the changes in the bed of the river, or absorbed by the encroachments of the neighbouring landholders. To remedy these evils, a survey was determined on, and has been for several years in progress, for the purpose of ascertaining what estates are in existence, and determining their boundaries. This survey has already produced very appreciable benefit, and holds out the promise of much more.*

The Governments which have administered Indian affairs in the present generation, have abstained from imitating elsewhere the errors which were committed in the permanent settlement of Bengal. Their object has been, as new provinces were successively brought under British rule, to ascertain accurately the persons, and classes of persons, who by law or usage had a beneficial interest in the land, and the nature and extent of the beneficial interest of each; and having thus determined who were the persons with whom the settlement of the revenue should be concluded, to define the demand of Government on each, and limit it to the smallest amount consistent with the public necessities.

The subsequent revenue administration of India

* See Appendix (A).

is a succession of conscientious endeavours to fulfil these duties; endeavours which, in a large portion of India, have been rewarded by signal success, and in the remainder are in rapid progress towards it.

Ryotwar
System in
Madras.

Nearly the whole territory of the Madras Presidency became part of the British possessions at a period subsequent to Lord Cornwallis's permanent settlement; and its revenue system was principally founded by two of the ablest men who have ever taken part in the government of India—Colonel Reade and Sir Thomas Munro. Under this system, the land is not made over to great landlords, but the actual cultivator, the peasant himself, is regarded as the proprietor of the soil, subject to the payment of the Government demand. He has the option annually of increasing or diminishing his holding; and, in the words of the Madras Government in their last general report, “has all the benefits of a perpetual lease, without its responsibilities, inasmuch as he can, at any time, throw up his lands, but cannot be ejected as long as he pays his dues.” He also receives assistance, by remission of assessment in unfavourable seasons. The practical operation of this, which is known as the ryotwar system, evidently depends on the certainty and moderation of the Government demand. For many years these two conditions were very insufficiently realized. The extreme difficulty, to a European revenue officer, of ascertaining the real capabilities of each petty holding, and his unavoidable dependence, for much of his information, upon native subordinates, made it inevitable that great errors should be committed in the first assessments. Some were unnecessarily low, but a much greater number were too high; and if not so at first, many afterwards became so, when the security which our rule had

given from the ravages of war and internal depreciation, had produced its natural effect in the extension of cultivation, and consequent lowering of the price of agricultural produce; whereby, notwithstanding the increased well-being of the ryots, the same money rent became a burthensome exaction, which was comparatively little felt when the produce bore a higher price. These circumstances were, as justice required, allowed for, and reductions made, but not always sufficiently early, nor to a sufficient amount. And so long as the Government demand was too heavy, it was also uncertain, owing to the necessity of an annual inquiry to test the justice of claims to remission.

Up to this time, it could not be said that the British Government in India had anywhere succeeded in establishing the revenue administration on a sound basis. But inquiries and discussions of the utmost importance were going on, and knowledge was being acquired, the want of which at former periods had led to all the mistakes. It was in the settlement of the North-western Provinces that the fruits of this increased knowledge were first gathered in.

The greater part of what are called the North-western Provinces became part of the British dominions through the consequences of Lord Wellesley's Mahratta wars, in the first years of the present century. For a considerable number of years after the conquest, the revenue arrangements were of necessity provisional. Such serious consequences having been experienced in Bengal from hastening to establish a permanent system, when the knowledge acquired was not sufficient for framing it rightly, there need be no wonder if, in a new field, considerable time was in the first instance devoted to becoming

Settlement of
the North-
western
Provinces.

acquainted with the capabilities of the country, and the prescriptive rights of the different classes of its inhabitants. The delay was amply justified by its results. The settlement of the North-western Provinces, commenced and completed between 1834 and 1844, by some of the most distinguished of the Company's servants, among whom the most conspicuous in merit was Mr. Robert Mertens Bird, is the first great monument which the British rule in India has exhibited, of wise, deliberate, but thorough reform, grounded on complete knowledge of the subject, and equally efficacious in removing present evils and in providing for future improvement.

It is now known that in the greater part of India, and without doubt originally throughout the whole, the property in the land (so far as that term is applicable at all in India) resides neither in the individual ryot, nor in the great officers who collected revenue for the former native governments, but in the village communities. The village community is not co-extensive with the cultivating inhabitants of the village: it consists of the descendants or representatives of those by whom the village was, at some remote period, conquered, or reclaimed from waste. In most cases these proprietors are a part, and in some the whole, of the agricultural population of the village. When they are only a part, the remainder consists of persons, or the descendants of persons, who have taken up their residence in the village at later periods, and had no other original right than the permission of the proprietors; but some of whom have, by grant or prescription, acquired a fixity of tenure, while others have remained tenants at will. The village proprietors formed prescriptively the municipal government of the village; a fact of great importance,

village government being the only institution, properly so called, which the Hindoos possessed.

It was with the village communities, as thus defined, that the settlement of the North-western Provinces was made; with a reservation and definition of all rights which had been acquired by any of the ryots under them. The time occupied in the operation was about ten years, and the expense incurred in it was upwards of £500,000. It comprehended a detailed survey of a country about 72,000 square miles in extent, containing a population of more than twenty-three millions. The difficulty and complication of the process will appear from the appended note.*

The proprietary rights, as ascertained and recorded at the survey, were confirmed in perpetuity; but the Government assessment was fixed, in some cases for twenty, generally for thirty, years. In a few of the districts, the term of settlement has expired, or is on the point of expiring. On resettlement, the assessment is liable to revision, and may be increased if the net produce of the land has augmented, but not proportionally to the increase of the net produce; and a pledge has besides been given, that a liberal consideration will be allowed for "improvements attributable only to the efforts of the tenant himself, and especially with regard to such as are of a comparatively recent date."

The effect of the settlement upon the general pressure of the Government demand was to remove irregularities, and in general to lighten the aggregate burthen; the only exceptions being Goruckpore and Azingurh, in which districts, though they are known to be still lightly taxed, a considerable increase was effected. The beneficial results may be traced in the

* See Appendix (B)

improved condition of the population, and the ease and punctuality with which a revenue of more than £4,000,000 is collected, as evidenced by the small amount of outstanding balances, and the great diminution in the number of coercive processes for the enforcement of payment.

Settlement
of
the Punjab.

After this great economical and social reform had been for some years in operation, the important territory of the Punjab became, by the event of the Sikh war, a part of British India. This took place in 1849. And now was seen the full value of the superior knowledge of native rights and institutions, which had been acquired since the period of Lord Cornwallis's settlement. The task of bringing the Punjab under British rule was confided to men wisely selected from the body of public servants who had effected and administered the settlement of the North-western Provinces. The principles of the settlement, being grounded on a correct knowledge of the prescriptive rights of all classes, were found equally applicable to the adjacent territory of the Punjab. In India, as in other countries, great reforms have usually been of slow introduction. Our revenue improvements, so long as they were merely tentative, were necessarily slow. But their authors were now able to proceed with the ease and decision of men who thoroughly understood their work. There is something striking in the rapidity with which the latest and best principles of Indian policy, both in revenue and judicial administration, were at once applied to the Punjab by the consummate administrators to whom the discernment of the Marquis of Dalhousie had committed the government of the province. Before a year had elapsed from the first acquisition of the country, great progress had already been made in the

introduction of the system of the North-western Provinces, with its most recent improvements. The greater part of the Punjab in extent, and by far the greatest in point of importance, has been brought under the system for terms of years. The leases were generally shorter than in the North-western Provinces; but the assessment was lowered, as compared with that of the British Government, by Rs. 72,37,244, or £723,724; being not less than twenty-five per cent. It has been ascertained that the Government demand does not exceed one-fifth of the gross value of the produce in rich tracts, and one-sixth, or one-eighth, or even less, in poor tracts. The result has been a peace and security never before known in the province; a rapid increase of cultivation and production; and a contentment with our rule, which has enabled this newly-conquered territory, inhabited by the most warlike population of India, to become the base of our operations for the recovery of our older territories, and has made the Sikhs, so lately in arms against us, an important part of our strength for subduing the general revolt of the Bengal army.

While these great improvements were taking place in the north of India, a reform of equal magnitude was being inaugurated in the west and south. The reformed revenue administration of those territories is based on the village, but on the ryotwar principle, or that which recognizes the individual cultivator of the soil as its proprietor, and collects the Government revenue directly from him. This is the general system of the South of India. Circumstances already mentioned had, during many years, prevented the introduction of this system, even under the able management of Thomas Munro, from operating beneficially to the prosperity of the people. As, in Northern

Bombay
Ryotwar
Reform.

India, the territories latest acquired were those which first had the benefit of our improved knowledge and experience; so, the earliest example of a successful ryotwar system was in the districts (forming the greater part of the Bombay territories) which came under British government at the close of Lord Hastings's Mahratta war, in 1818.

The village communities still existed in those territories; and if the village system had been as well understood in 1818 as it was in 1838, the settlement of the Deccan would probably have been made on the same principles as that of the North-western Provinces. Such, however, was not the case: Sir Thomas Munro's principles were then in the ascendant; the settlement was, for the most part, ryotwar; and until about twenty years ago, little had been done to improve the fiscal administration of these territories, beyond the removal occasionally, as they were brought to notice, of vexatious and oppressive taxes, which had been added to, or incorporated with, the land revenue, during the declining period of the Mahratta power. The assessments which we found in force were generally, even after these reductions, excessive; and large remissions were annually required, which necessitated every year an inquisitorial investigation into the affairs of each ryot who claimed a share in the remissions. The agricultural population, being always liable to be called on for an amount of rent which could only be paid in the most prosperous seasons, were constantly in arrear, and were therefore without any incentive to improve their condition.

To remedy these evils, a survey of the country and general revision of the assessment, were undertaken. The operation commenced in the Deccan and Southern Mahratta country, where it is now nearly, if

not quite, completed; and it is gradually being extended to the northern districts of the Presidency, as the experienced officers, European and native, who have been trained to this difficult duty, can be spared for the purpose. In the northern districts, however, the progress of the survey has been retarded by the greater complication of the landed tenures there prevalent, and by the existence of various classes of middlemen, who, like the talookdars of Oude, are hostile to our improvements, because, though preserving to them their pecuniary rights, they interfere with their power.

Where any ancient proprietors, either middlemen or village communities, were found in existence, and in possession of their proprietary rights, at the time of the survey, those rights have been respected; but in general, the principle of the reformed Bombay system is ryotwar. The land, cultivate and waste together, is divided into portions called fields, the extent of a field being for the most part fixed at the quantity of land which can be cultivated with one yoke of bullocks. On each field the Government demand is fixed, for a period of thirty years, at a very moderate rate. While the contract is binding on the Government, the ryot, on his side, can throw up the land at pleasure; and he is not required to pay the assessment for any year, on any field which he has not cultivated, or undertaken to cultivate, in that year. The appended note* explains the details of the process.

The fixation of the Government demand for thirty years would have been of little service to the ryot, if the demand had remained so high as to require, almost every year, remissions of uncertain amount.

* See Appendix (C).

But it has been fixed on a very low scale, the reduction of the assessment generally exceeding considerably the average amount of remissions and balances under the former system. The effect of this reform is visible in the large increase of cultivation which has always taken place after the completion of the survey of a district; in the realization of the revenue, with scarcely any balance remaining in arrear (in some years with absolutely none); and in the fact, that in all the surveyed districts lands are frequently underlet. These important results have been purchased by an immediate sacrifice of revenue; but the encouragement which a fixed and moderate assessment gives to the occupation of waste land, is gradually making up to Government for the loss; and in some of the surveyed districts, the revenue under the new settlement already exceeds that under the old.

The eminent success of the reformed ryotwar system of Bombay has established the fact, which many Indian authorities trained in a different system had doubted, that the ryotwar, or peasant-proprietary system, may be so organized, and so worked, as to be neither oppressive nor arbitrary; and that, when so organized and worked, it brings the motives to exertion, and to the exercise of intelligence, which property gives, to bear upon those on whom the prosperity of agriculture most depends—the actual cultivators of the soil. In all those parts of India, therefore, in which the village communities have been broken up by the distracted state of the country for generations, or in which the exclusive title of the representatives of the old proprietors has been superseded by the prescriptive rights acquired by the actual cultivators, ryotwar is now the recognized system of revenue management.

In the Madras Presidency, considerable improvements in the detail of the revenue system preceded the steps recently taken for a general revision. The most important of these are the two following. In 1837, it was adopted as an universal rule, that no land should be more heavily taxed, in consequence of its being applied to the cultivation of a more valuable description of produce. The demand was thenceforth fixed on a general estimate of the productive power of the land, with reference to the staple productions of the country; and the ryot was left perfectly free to cultivate whatever he pleased, without being in any case liable, on that account, to an increased demand. From this time, therefore, there has not been even the semblance of foundation for the statement often made, that the land assessment is a discouragement to the growth of the more valuable products, and, in particular, of cotton. To go any further would be to demand a lower rent from lands on which cotton is grown, than from land devoted to other cultivation; which would be to give a bounty on the production of cotton.

Madras Improvements.

The other great improvement was the establishment of the rule, that no ryot should be required to pay an additional tax (or rent) for his land, in consideration of increased value derived from improvements made by himself. If, therefore, a proprietor, by labour or outlay of his own, sinks wells, constructs tanks, or plants valuable trees, he enjoys, not for the duration of any settlement, but in perpetuity, the full benefit of the increased value which he has given to the land; an assurance which no private tenant in any country, even of Europe, has obtained.*

Large reductions of the assessment have also

* See Appendix (D).

been made in the most heavily-taxed districts, which have in general produced so great an extension of cultivation, that the revenue has scarcely suffered.

Ryotwar
Reform in
progress
at Madras.

In 1855, the present enlightened Governor of Madras submitted a plan for a survey and revised assessment of the whole of the Madras territory, on the Bombay principle, to the consideration of the Governor-General in Council. Having obtained the approval of that authority, it was laid before the Court of Directors, and received their formal sanction in a despatch dated the 17th of December, 1856; in which also several improvements were indicated, of which the scheme appeared to be susceptible. A commencement has thus been made in removing the last remaining blot in the administration of the land revenue of British India; for the social and economical condition of the Lower Provinces of Bengal is, for reasons already explained, no longer dependent upon the revenue system.

Under both the reformed modes of revenue administration, the village system of the North-west Provinces and the Punjab (the introduction of which into the more recent acquisitions of Nagpore and Oude has been sanctioned) and the ryotwar system of the Bombay and Madras presidencies, the agricultural population either have, or will shortly have, the benefits of tenures and rights perfectly defined and secured, and moderate rents fixed for a sufficient term to afford, in full strength, the natural incentives to improvement. It should be remembered also, that on the expiration of the thirty years settlements, the holders will not be liable to be ejected. They will only be liable to a revision of the amount of the rent paid to Government; and it is the declared intention of the authorities, that not merely the same, but a

still greater degree of moderation, shall be observed in the future, than in the past, settlements.

A further exemplification of the manner in which the Indian authorities now take advantage of the latest experience for purposes of improvement, is afforded by recent proceedings in two limited portions of the territory of India. Cuttack is a portion of the Lower Bengal Provinces, to which the permanent settlements of Lord Cornwallis were never extended. The revenue system of Cuttack is ryotwar; but the attempt has latterly been made to combine the advantages of the ryotwar principle, with a portion of those of the system of the North-west Provinces. The assessment is made on each holding, and the payment to be made by each ryot is fixed, by the Government officers; but the collection of it from the individual ryots by native revenue officers, with the opportunities it affords for vexation and corruption, is done away with: the ryots elect a few of their number to represent the rest; these become responsible to Government for the whole revenue of the village, and take on themselves the recovery from the other ryots of their portion of the payment, according to the terms of the settlement; having recourse to the tribunals, if (which is not a common occurrence) such aid is required. This mixed system of ryotwar and village management, having been successful in Cuttack, is in course of introduction into one of our latest acquisitions, the districts made over to our permanent administration by the Nizam; and the plan has been recommended by the home authorities to the attention of the Madras Government, with a view to eventual application to that presidency.

After this review of the present revenue administration of India in its bearing on the social rela-

Fiscal
System of
India.

tions, proprietary rights, and economical condition of the mass of the people, it remains to speak of it as a merely fiscal system.

Land
Revenue.

Nearly two-thirds of the revenue of India consist of the rent of land. So far as this resource extends in any country, the public necessities of the country may be said to be provided for, at no expense to the people at large. Where the original right of the State to the land of the country has been reserved, and its natural, but no more than its natural, rents made available to meet the public expenditure, the people may be said to be so far untaxed; because the Government only takes from them as a tax, what they would otherwise have paid as rent to a private landlord. This proposition undoubtedly requires modification in the case of a ryot or peasant cultivating his own land; but even in his case, if the Government demand does not exceed the amount which the land could pay as rent if let to a solvent tenant (that is, the price of its peculiar advantages of fertility or situation), the Government only reserves to itself, instead of conceding to the cultivator, the profit of a kind of natural monopoly, leaving to him the same reward of his labour and capital which is obtained by the remainder of the industrious population.

Any amount whatever of revenue, therefore, derived from the rent of land, cannot be regarded, generally speaking, as a burthen on the tax-paying community. But to this it is of course essential that the demand of revenue should be kept within the limits of a fair rent. Under the native Governments, and in the earlier periods of our own, this limit was often exceeded. But under the British rule, in every instance in which the fact of excessive assessment was proved by large outstanding balances and increased

difficulty of realization, the Government has, when the fact was ascertained, taken measures for reducing the assessment. The history of our government in India has been a continued series of reductions of taxation; and in all the improved systems of revenue administration, of which an account has been given in the preceding part of this paper, the object has been not merely to keep the Government demand within the limits of a fair rent, but to leave a large portion of the rent to the proprietors. In the settlement of the North-west Provinces, the demand was limited to two-thirds of the amount which it appeared, from the best attainable information, that the land could afford to pay as rent. The principle which has been laid down for the next settlement, and acted on wherever resettlement has commenced, is still more liberal: the Government demand is fixed at one-half, instead of two-thirds, of the average net produce; that is, of a fair rent. The same general standard has been adopted for guidance in the new assessment of the Madras territory. In Bombay no fixed proportion has been kept in view; but the object has been, that land should possess a saleable value. That this object has been attained throughout the surveyed districts of Bombay, there is full evidence: and as the ryots have been secured from increase of revenue for the space of thirty years, the value of land may be expected, from the progress of improvement, to be constantly on the increase.

It has been shown above, that by far the largest item in the public revenue of India is obtained virtually without taxation, because obtained by the mere interception of a payment, which, if not made to the State for public uses, would generally be made to individuals for their private use. A similar remark

Opium.

though for a different reason, is applicable to the second in amount of the sources of Indian revenue,—that of opium. The opium revenue is not derived from the taxation of any class of her Majesty's subjects, but is (as far as this can be truly said of any impost) paid wholly by foreigners. It cannot reasonably be contended that this is an improper source of revenue, or that the burthening of an article considered to be noxious, with an amount of taxation which has sometimes caused it to be sold for its weight in silver, can be liable to objection as encouraging the consumption of the article. Whether this revenue, of between four and five millions sterling, should be levied as it is at present in Bengal (though not in Bombay) by a Government monopoly, or in the more usual form of an excise duty, is a question of detail on which opinions differ, and which is open to consideration. The former mode has hitherto been retained, under the belief that the unrestricted production and sale of the article would give such facilities to smuggling, as would render the realization of anything like the present amount of revenue impossible. It might, however, be practicable—though this is doubtful—to maintain the price in the foreign market by restrictions on exportation; but it is matter for serious consideration whether any system involving the free cultivation of the poppy, would not expose India itself, which has hitherto been comparatively free from this kind of hurtful indulgence, to be flooded with the article at a low price.

Salt.

The third item, in point of amount, of the revenue of India, is that from salt. This is the only considerable tax existing in India which can be regarded as objectionable in principle, and the entire abandonment of which, if financially practicable, would be a benefit to the people at large. It is impossible,

however, to look upon this impost in the same light in which it would deserve to be considered if it were levied in addition to other heavy burthens. We must bear in mind, in extenuation of the objections to a tax on salt, that it is, speaking generally, the only tax which the labouring ryot of India pays.

The revenue from salt is commonly said to be obtained by means of a monopoly. This, however (as will be seen by the appended note*), is strictly true only of the Madras Presidency; and even there the monopoly is of a very qualified description, since the importation of the commodity is free, subject to a duty considered equivalent to the profit charged by Government on the salt produced by it. In the Bombay territory there never has been a monopoly, or even a Government manufacture. There is an excise duty, imposed to compensate for other more objectionable taxes, yielding a far greater amount of revenue, which have been abolished. The Government of India, in 1844, fixed this excise duty at one rupee per maund of 82½ lbs.; but before this rate had come into operation, it was reduced by the Court of Directors to twelve annas (three-fourths of a rupee). In the same year, and for a similar reason—namely, to compensate for other taxes then abolished—the Government of India fixed the selling price of the monopoly salt in the Madras Presidency, at one and a half rupees per maund; but the Court of Directors immediately reduced it to one rupee.

In Bengal, up to 1836, there was a real monopoly. In that year, in anticipation of the subsequent recommendation of a Committee of the House of Commons, the Bengal system was fundamentally modified. The present system is, to ascertain the actual cost to Government of all descriptions of salt

* See Appendix (E).

manufactured at the Government works, and to issue it to dealers in any quantity applied for, at a price equal to the cost with the addition of a fixed duty. Importation is free, subject to the payment of the same duty. The duty has been gradually lowered from three sicca rupees per maund (equivalent to $3\frac{1}{4}$ Company's rupees) to $2\frac{1}{2}$ Company's rupees (about three farthings per pound); while the Madras duty is only $\frac{7}{8}$ of a rupee, and the Bombay only $\frac{3}{4}$ (less than a farthing per pound). The reduction in Bengal, not having been attended with the hoped-for increase of consumption, has not been carried further. Even if the revenue derived from salt were not required for the necessary purposes of government, it is still conceived that more good would be done to the people by retaining the tax, and expending its proceeds in roads and works of irrigation, than could possibly be done by its remission.

Within the last three years, the manufacture of salt in the districts round Calcutta has been laid open to all who are willing to engage in it, subject to excise regulations. Very little use, however, has been made of this liberty, the quantity of salt manufactured under license having only amounted to from 20,000 to 25,000 maunds. It is hoped that the quantity will increase, and that private enterprise may in time supersede Government agency. But the small amount of response made to the encouragement held out, is a presumption that the Government arrangements for the manufacture and sale afford as marketable an article, at as low a cost, as could be produced by private manufacturers.

Tobacco
Monopoly
abolished.

The tobacco monopoly which formerly existed in the Malabar provinces of the Madras Presidency, and which yielded an annual revenue of about six lacs

of rupees (£60,000), was abolished in 1852, without equivalent: and this article is now wholly untaxed.

The customs, in India, are not a very productive source of revenue, the classes who consume any considerable amount of foreign productions being comparatively limited. There is no branch of taxation in which the burthens of the people have been more conspicuously lightened by the British Government. The most important taxes levied on commodities by the native Governments of India, were the inland customs, or transit duties. Every petty chief whose territory was situated on any of the great lines of commerce, made use of his position to extort from traders the largest sums which they could be induced to pay. In the British territories, these duties have been entirely abolished: in the Lower Bengal Provinces as early as the administration of Lord Cornwallis (reimposed in a modified form in 1801, and finally abolished in 1836); in the North-western Provinces from 1834 to 1836; in the Bombay Presidency in 1837; in Madras in 1844; and in our other possessions immediately after their acquisition. This was not a small sacrifice of revenue. The transit duties in Madras alone yielded a net revenue of about thirty-one lacs of rupees, or £310,000 sterling. Several of the native princes have, with praiseworthy liberality, followed the example of the British Government, by abolishing, or greatly lowering, their transit duties; and the diplomatic influence of our Government is freely used to encourage this policy. In cases in which the duties levied by some particular chief have been an obstruction to important lines of mercantile communication, and in which it was not probable that the chief would be indemnified for their loss by the increase of his other sources of revenue, our Government has even purchased his assent by pecuniary compensation.

Customs.

Besides these duties, the sale of goods was, under the native Governments, hampered by innumerable exactions, laid on under various pretences, most of which we have, on every occasion of coming into possession of a new territory, abolished or commuted. But some taxes on internal trade still remained even in the British territories. The last of these has been swept away less than two years ago, by an order from the home authorities, bearing date the 5th November 1856, for the abolition of the *Mohturfa*, or tax on houses, trades, and professions, in the Madras Presidency. There are now no internal customs in British India, except, in some cases, town duties; and these, not for general, but for local purposes, and as far as possible under local management; though the exertions of the Indian Governments to foster a municipal spirit, and induce the inhabitants of towns to take an active part in the management of town affairs, are only beginning, and very slowly, to be successful.

There has been similar activity in reducing the duties on the external commerce of India, and extending the principles of free trade. In the recent acquisitions of Sind and the Punjab, the frontier duties have been entirely abolished, and those territories are outside our customs line. On the frontier line between the Punjab and the North-western Provinces, customs are paid on salt and sugar only. In Southern India the land tariff is the same as that on imports by sea. The discriminating duties on goods carried in foreign vessels were abolished in 1848; and in 1850 the coasting trade was thrown open to the ships of all nations. In thus abolishing the navigation laws, the Government of India preceded the Imperial Government. The three presidencies

were formerly, in regard to commerce, treated as distinct settlements, and the trade between them subjected to the same duties as that between India and Great Britain. In 1848 this trade was completely thrown open, and the whole of British India treated, for customs purposes, as one empire; and great success has attended the efforts of the Company to obtain for the produce of native states in dependent alliance with us, the privilege of admission into the ports of the United Kingdom at the rates of duty chargeable on goods of British origin. The duty levied on British goods imported into India is five per cent *ad valorem*. There is still a distinctive double duty on many articles imported from foreign countries; and a general export duty of three per cent (from which however cotton is exempt) on the produce and manufactures of India. These are admitted defects; and the export duties were marked out by the home authorities, in a despatch of 1846 dispensed with at the earliest period which financial considerations may permit.

The post-office in India, as in England, is maintained more for public convenience than as a source of revenue. Its improvement in India has fully kept pace with that in England. Reductions of postage, and the removal of practical impediments and imperfections, may be said to have been constantly in progress; and the great change recently made in the post-office system of this country has been imitated, with equal success, in India. The principle of uniform postage, without reference to distance, has been adopted, and letters and newspapers are conveyed from Cape Comorin to Peshawur at the same charge as for the shortest distance. The lowest charge is half an anna, or three farthings, for a quarter of a

Post-office.

tola in weight (equivalent to about one-tenth of an ounce); it having been found by experiment that the average weight of native letters is considerably below this limit. There is an ascending scale of charges up to twelve tolas, above which weight letters are not conveyed by the ordinary post; but a parcel post is also maintained by Government, which they are prepared to abandon whenever the duty shall be undertaken by private enterprise. Newspapers are conveyed at a charge of one anna, or three halfpence each. The postage on letters and newspapers must be prepaid by stamps, under penalty of double postage on delivery. There is also a book post, at a minimum rate of one anna per twenty tolas (about half a pound), and an ascending scale up to 120 tolas, or three pounds. Arrangements have been made with her Majesty's Government for the conveyance of letters, newspapers, and books, from any part of England to any part of India, at low rates of postage, payable in one sum, either on despatch or receipt. The Post-office department for all India is under the control of a Director-General at Calcutta, immediately under the Government of India. The progress of improvements in every branch of the details has been very striking, and it is believed that the department will not suffer by a comparison with that of any other country.

The pecuniary results of the change to a low uniform postage have been as satisfactory as in England. It had been doubted whether such a population as that of India would take advantage of the facilities afforded for correspondence, to the extent necessary to make up, in any considerable degree, to the revenue, for the diminution of the rate. At the close, however, of 1855-56 (the first complete year of the new system), the number of chargeable

letters had increased 101 per cent as compared with the preceding year, and 142 per cent as compared with 1849-50. The loss of revenue, which, if there had been no increase of correspondence, would have been Rs. 9,12,000, is only Rs. 3,01,800, and may be expected yearly to diminish.

The general result of all these improvements in administration, combined with the security which our rule has for the first time given to property against the ravages of war and fiscal rapacity, has been a great and rapid growth of general prosperity. Besides the remarkable increase of cultivation and population, the cheapening of agricultural produce, and the recovery of the revenue after great reductions, which have been already commemorated, there has been an enormous increase in the external commerce of India. The exports have risen from £7,993,420 in 1834-5, to £23,039,268 in 1855-6, being 188 per cent. The export of cotton amounted in the former year to 98,320,050 lbs., and in the latter to 237,179,949 lbs., being an increase of 141 per cent; but the quantity exported to England has increased in a much greater ratio, namely from 38,268,402 lbs. to 170,771,510 lbs., or 346 per cent. The export of rice, chiefly from the east coast of the Bay of Bengal, has so vastly increased that labour can scarcely be found to transport it to the coast; the wages of labourers have risen to an unexampled height, and the agricultural population of large districts are, for the first time in memory, out of debt to money-lenders and to their landlords. During the same period of twenty-one years, the imports into India have risen from £4,261,106 to £13,447,027, or upwards of 227 per cent; the great excess of exports above imports being regularly liquidated in silver.

General
Prosperity.

JUDICATURE AND LEGISLATION.

Judicial ar-
rangements
of Lord
Cornwallis.

The history of the judicial administration of British India bears a striking analogy to that of the revenue administration. It began with well-intended, but premature and ill-considered measures, which produced many evils, and but a small part of the good which their authors expected from them. When experience had disclosed the faults of the system at first adopted, similar errors were avoided, and a better system introduced into our later acquisitions; while palliatives of great value, though falling short of the full exigencies of the case, were adopted in the older provinces. Last came the plans, now in an advanced stage of their progress, for effecting a complete reform.

At the period at which the judicial arrangements of Lord Cornwallis were made, the ideas of civil judicature entertained in England still partook of an almost barbarous character. The English courts of law were still encumbered with all the technicalities, and disgraced by all the delay and expense, which had descended from the middle ages, or grown up in the attempt to make the institutions of the middle ages suffice for the wants of modern society; and unfortunately these courts, far from being considered defective, were looked upon as the models to be imitated in every other place, departure from which was regarded as an imperfection, in all cases to be regretted, though not always to be avoided. The Legislature, however, had recognized that forms of procedure more simple and expeditious might possibly be necessary in India; and power had been given to

the judges of Her Majesty's Supreme Court to modify the procedure of that court, so as to meet the exigency: but the power was never acted on. It is, therefore, not surprising that Lord Cornwallis's courts were greatly infected (though in a far less degree than the courts in England then were) with technicalities of procedure, calculated both to defeat justice, and to obstruct the access to it by needless delay and expense. But the arrangements had a still more fatal defect: the judicial establishment was totally inadequate to the wants of the country. The attempt to administer justice (except in the most trifling cases) wholly by European agency, made it impossible to defray the expense of the number of courts necessary to render justice accessible: and if the benefits of judicature were to be afforded at all to the mass of the people, the intrusting, under proper securities, of the greatest portion of it to native functionaries, was not a question of expediency, but of necessity.

The creation of native courts of justice, and (as the experiment succeeded) the progressive extension of their powers, has been the greatest practical improvement made in the administration of justice in our older provinces during the last and present generation. The foundation for the present extensive employment of uncovenanted and native agency in the judicial department, was laid by the administration of Lord William Bentinck in 1831. At present, in the Bengal and Bombay presidencies, the entire original jurisdiction in civil suits is in the hands of the native judges, the covenanted Europeans being only judges of appeal; and the same thing is true of the Madras Presidency, in regard to all suits below the value of 10,000 rupees. The employment of uncovenanted agency has also been greatly extended in the adminis-

Subsequent
Improvements.

tration of criminal justice, and in the revenue department. Deputy magistrates (in some instances exercising judicial powers equal to those of the district magistrate) and deputy collectors, discharge important functions, and afford material assistance to the head authorities of the district. Most of these are natives, and some of them natives of high rank and influence.

The movement towards reform in legal affairs generally, also dates from the administration of Lord William Bentinck. At Bombay, indeed, the Regulations of Government, comprising the penal law and the law of procedure actually in force, and as much of the civil law as had been introduced by our own Government, had already, under Mr. Elphinstone's administration, been consolidated into what is called the Bombay Code. But it was on the recommendation of Lord William Bentinck's Government that, by the Act of 1833, the present ample legislative powers for all India were conferred on the Governor-General in Council; a barrister appointed from England being added to the Council, for the express purpose of aiding the Government in its legislative functions. By the Act of 1853, the Legislative Council was further enlarged by the addition of the Chief Justice and one puisne judge of her Majesty's Supreme Court, two members representing Madras and Bombay, and selected by those Governments, and two representing Bengal and the North-western Provinces, and appointed by the Lieutenant-Governors; to whom the Governor-General has the power of adding two other civil servants of Government, selected at his discretion. The Legislative Council now holds its sittings in public, and its debates are regularly reported and published.

Since the first institution of the Legislative Council, few years have passed in which there have not been one or two legislative measures for the improvement of the procedure of the civil courts. The object of some has been to facilitate the progress of suits through their various stages; of others, to secure the correct recording of the judgment, by prescribing that it shall be made by the judge himself; of others, to insure a more speedy and certain execution of judgments; of others, to render more efficient the systems of regular and special appeals. Legislative measures have also been taken for reforming the law of evidence; for the abolition of Persian as the language of record; and for putting the office of native pleader on a more efficient and respectable footing. The defects of the criminal courts have likewise largely engaged the attention of the Legislature, and much has been done for their improvement. But notwithstanding these partial amendments, it cannot be said that the courts, in what are called the Regulation Provinces, have yet been freed from their radical defects. The principal impediments to a good administration of justice, are the complicated and technical system of pleading in the civil courts, and in the criminal courts the character of the police.

By the Act of 1833, a Law Commission was appointed to sit in Calcutta, and inquire into the jurisdiction and procedure of the courts of justice and police establishments, and into the operation of the laws, civil and criminal. The declared purpose of Parliament in creating the Law Commission, as well as in the new constitution given at the same time to the Legislative Council, was to facilitate measures for bringing Europeans and natives under the same courts of justice, civil and criminal. The machinery constructed

The
New Codes.

for this purpose has been employed to lay the foundation for correcting all the principal defects of the laws and of the tribunals. The Commission prepared a penal code of great merit, and made many reports full of valuable suggestions on other branches of legal administration, some of which have been acted on. But it was important that any new system, before being brought into practical effect, should be well understood by those who would have to apply it, and should be approved by those whose authority would carry the greatest weight. Opinion could not be expected to ripen all at once on so great a subject as the reconstruction of the legal and judicial system of a vast country; and the suggestions of the Law Commissioners, being referred to various authorities, elicited great varieties of judgment. By the Act of 1853, a Commission was appointed to sit in London, for considering and reporting on the recommendations of the Indian Law Commissioners. The wants of India as to codes, both of substantive law and of procedure, civil and criminal, have been fully considered by the Commissioners so appointed. They have recorded a strong recommendation in favour of the preparation of a code of civil law for India; and they have prepared complete codes of civil and criminal procedure, grounded on a rare combination of appropriate local knowledge with the matured views of enlightened jurists. These codes, together with the penal code passed by the earlier commission, are in progress through the Legislative Council of India, and would probably by this time have been law, but for the calamitous events by which the attention of all Indian authorities has of late been engrossed.

. These codes, when enacted, will constitute the

most thorough reform probably ever yet made in the judicial administration of a country. The code of civil procedure entirely sweeps away the present cumbersome and complicated system of pleading, and substitutes the *vivâ voce* examination of the parties; and in all other respects, as compared with the previous practice, it is of great simplicity, and eminently free from delay and expense. As Mr. Colvin, the Lieutenant-Governor of the North-western Provinces, observed in his last general report, "It is not alone, as the Lieutenant-Governor apprehends, that by the new code of procedure, the practice of the courts will be made more simple and rapid, and the costs of a suit be diminished; it is because, as he hopes, the judges will be brought much more frequently into direct communication with the parties in suits and their witnesses, without any intervention of agents or pleaders, that he looks to the public becoming satisfied that the courts are to be trusted as a means for obtaining substantial justice, and not dreaded as an engine capable of being readily perverted to the working of fraud and wrong under the forms of law. It is not, he fears, to be denied that low classes of practitioners and unscrupulous habits of chicanery have grown up about our courts, with their old complex and artificial pleadings and rules; and this being the case, it cannot be matter of surprise that among a population so generally ignorant and helpless, discredit and dislike should have extensively attached to our judicial institutions." Under the new code, if not materially altered by the Legislative Council, India is likely to possess, so far as judicial institutions can secure that blessing, as good and as accessible an administration of civil justice, as the lights of the age are capable of conferring on it.

Judicial
System of
the Non-
regulation
Provinces.

It was only the Regulation Provinces which stood in need of such a reform; for the Non-regulation Provinces have had (generally from their first acquisition) the benefit of a cheap, accessible, and expeditious administration of justice, free from all such formalities and technicalities as either defeat justice, or add needlessly to the difficulty and expense of obtaining it. The following are the terms in which the eminent Sir John Lawrence, in his last general report, describes the judicial system of the Punjab, which has been the model of those introduced into all the other recently-acquired territories, as well as into our older possessions of Saugor and Bundelcund:—

“ In former reports it has been shown how the
“ system of civil judicature in the Punjab has been
“ founded and erected; how that no effort has been
“ spared to render justice cheap, quick, sure, simple,
“ and substantial; how every other consideration has
“ been rendered subordinate to these cardinal points.
“ We are, indeed, without elaborate laws, but we have
“ brief rules, explaining, in an accessible form, the
“ main provisions of the several systems of native law
“ on such matters as inheritance, marriage, adoption,
“ testamentary or other disposition of property; and
“ setting forth the chief principles to be observed in
“ other branches of law; such as contracts, sale, mort-
“ gage, debt, commercial usage. We have the most
“ open and liberal provisions for the admission of
“ evidence. We have complete arrangements for
“ reference to arbitration, and for the ascertainment
“ of local custom. We have a procedure, without any
“ pretension to technical exactitude; but a procedure
“ which provides for the litigants and their respective
“ witnesses being confronted in open court, for a
“ decision being arrived at immediately after this brief

“ forensic controversy, and for judgment being deli-
“ vered to the parties then and there. We have a
“ method of executing decrees, which, while it allows
“ no door to be opened for evasion or delay on the
“ part of defendant, and thus renders a decree really
“ valuable to plaintiff, as being capable of ready
“ enforcement, and gives him his right free from lien,
“ encumbrance, or doubt; yet, on the other hand,
“ prevents the defendant from being hastily dealt with,
“ or from being placed at the mercy of his creditor.
“ We have Small-cause Courts scattered all over the
“ country, and several regular courts at every central
“ station; so that everywhere justice is near. Our
“ civil system may appear rough and ready; whether
“ it would be suited to other provinces, in a dif-
“ ferent stage of civilization and with a different
“ machinery at command, may be a question; but in
“ the Punjab it attains the broad and plain object
“ aimed at, and without doubt gives satisfaction to
“ the people.

“ But in order to regulate the administration of
“ justice, a complete system of reporting has been
“ established. Month by month, the reports of every
“ court are transmitted to the judicial department at
“ head-quarters, and are there criticised. At the close
“ of each year, these reports, and the figures embodied
“ in them, are collated, averages are struck, division is
“ compared with division, and district with district,
“ and the general result, with a brief critique by supe-
“ rior authority, indicating the defects to be avoided
“ and the reforms to be emulated, is published for the
“ information of all officers concerned. It is believed
“ that many improvements in the working of the
“ courts are traceable to this system. Every court
“ works under a constant sense of supervision, and

“ with the great objects to be aimed at perpetually in
“ view, and standing out in strong relief.

“ In respect of speed, the average duration of a suit
“ in 1854 was twenty-eight days, and in 1855 twenty-
“ three days. This average has been becoming laud-
“ ably lower year after year; it is now nearly as low
“ as it can be, consistently with due inquiry and deli-
“ beration; and as the above average includes all
“ those cases which for any special cause may be pro-
“ tracted, it is evident that the trial of most suits can
“ only extend over a very few days. In respect to
“ cheapness, the cost averages only 5r. 0a. 1p. per cent
“ on value of suits during 1854, and 4r. 13a. 3p. per
“ cent during 1855. As a proof of the entire
“ absence of technicalities, it is to be observed that
“ only 5·19 per cent of the suits were nonsuited
“ during 1854, and 5·42 per cent during 1855. The
“ small number of nonsuits which are ordered are
“ probably real and honest ones.”

Prison
Discipline.

In the course of the last few years the system of
prison discipline in India has undergone a complete and
most salutary revolution. The origin of this reform
may be dated from the report of a committee ap-
pointed in Calcutta in 1838, composed chiefly of the
principal members and secretary of the Indian Law
Commission.

Up to this time, those inmates of jails who
were under sentence of labour, were employed almost
exclusively (in fetters) on the roads: which rendered
prison discipline almost impossible, as the prisoners
could nearly always, by the connivance of their guards,
command intercourse with friends and relations; and
the engineer officers, in their anxiety to obtain efficient
work, fed them highly, and treated them in other
respects with an indulgence entirely inconsistent with

the purposes of punishment. At the same time, the mortality from exposure and unhealthy localities was great. The committee showed that the State were absolute losers by employing convict labour on the roads; that it would be a positive saving to keep them in idleness in the jails, as the cost of extra superintendence and guards considerably exceeded the expense at which the work they did could be executed by hired labour. Since this time out-door convict labour has been abandoned, and the prisoners are employed within the jails in various manufactures; and this employment, which commenced in 1843, has every year become more profitable, until, in 1855-56, the profit in the fifty-five jails of the Lower Provinces of Bengal reached the large sum of Rs. 1,11,582 (£11,000). This profit now forms a fund for the execution of the public works formerly performed by the convicts themselves. The jail manufactures, too, are of such improved quality, that some of them have acquired a high character in foreign markets; and public exhibitions of them are now held in the Town Hall of Calcutta.

Prisoners sentenced for long terms of years are now removed to large central jails; and the change has been attended with great improvement in general management and discipline. There is an inspector of jails for each presidency and sub-presidency. These officers are most active in discovering and correcting defects, and increasing the effectiveness of the jails, both as reformatories and as places of punishment.

The reform of the police of India is not yet in so advanced a state; but the present disturbances found the authorities in the very crisis of their deliberations on the subject. The police has hitherto remained the most faulty part of our system in India, and it is the part which it is by far the most difficult

to reform effectually. The peculiar difficulty of administering criminal justice in India arises from the character and habits of the people. In most countries, the voluntary and active co-operation of the people may be looked for in bringing criminals to justice. In India, rather than incur the trouble and annoyance of appearing as a prosecutor or as a witness, a man will even forswear himself to screen the man who has robbed him. The injury he has suffered is looked upon as the decree of destiny, and he has no disposition to add to the inconvenience by incurring exertion and expense, and perhaps exposing himself to the further vengeance of the criminal. Among such a people there is only the police who can be looked to for bringing criminals to justice. The great powers which must be intrusted to the police of such a country, and that police necessarily composed principally of natives, give rise, when combined with the passive and slavish character of the people of many parts of India (especially of Bengal), to evils with which the Government has hitherto struggled with very imperfect success.

Police.

The police of India, up to a very recent date, consisted of native establishments, under the control and orders of the European magistrate. Each zillah, or judicial district, is formed into subdivisions (more or fewer, according to the size of the district) each of which is under the charge of a local stipendiary police, consisting of a head native officer and his subordinate clerks sergeants, and constables. The native police in the Bengal Presidency is (with the partial exception of the tehsildars in the North-western Provinces) separate from the body of revenue officers. In the Presidency of Madras, the same officers discharge both revenue and police functions; and, until recently, this was also the case at Bombay.

The recognized defects of the system are, the low rate of pay, and the consequent inferiority of the class of men who enter the police, and also the disproportion of the strength of the force to the density of the population, and to the extent of country committed to their charge. With a view to the correction of these evils in Bengal, higher grades of subdivisional police officers have of late years been created, and their pay has been increased. Deputy magistrates have also been appointed, and invested with the judicial and police charge of subdivisions. The former measure has been productive of some good, by inducing a more trustworthy class to enter the service ; the latter has not yet been carried to a sufficient extent to effect any practical improvement of a general character.

The state of the police of the North-western Provinces had deeply engaged the attention of the late Lieutenant-Governor, the lamented Mr. Colvin. That distinguished functionary conducted, through the district commissioners, a general revision of the local police establishments ; reducing the number of officers in some of the districts, but increasing the salaries, and holding out the sure prospect of promotion as the reward of good conduct and efficient service. These measures were the best that could be adopted with the then available materials ; but they did not at all touch the essential constitution of the police. With regard to the village police, the ancient and indigenous police of the country ; in the North-western Provinces, its proper maintenance by the villages themselves is provided for by the conditions of the settlement. In the Lower Provinces, the terms of the permanent settlement have unfortunately deprived the Government of the power of enforcing this obligation. An Act has, however, been passed for the maintenance

of an improved city police, by an assessment on the occupiers of houses; and this plan has been introduced into several large cities and towns.

It is in the Bombay Presidency that the greatest improvements have been actually effected in police administration. The measures for this purpose were commenced under Sir George Clerk's administration, in 1848. Under the new system, revenue and police functions have ceased to be combined in the same native officers. The powers of punishment previously exercised by police officers have been taken away. To each district has been appointed a European superintendent of police (either a military or an uncovenanted officer), under whose command the police force of the district, both village and stipendiary, is placed, and who exercises the functions of an assistant to the magistrate in his police duties. This functionary, again, has the aid, in each subdivision under his orders, of an officer called joint police amildar, who has the more immediate charge of the preservation of the public peace, and the preliminary investigation into crimes of a serious nature. Active measures have been set on foot for reorganizing the village police, by ascertaining the assignments formerly made in lands and money for the purpose, and requiring that the duties for which these assignments were the remuneration, be really performed. The general control and direction of the police of the whole presidency, except the island of Bombay, is concentrated in one chief officer, under the title of Commissioner of Police. These measures are believed to be already effecting a great improvement in the police of the presidency.

In the Punjab, a police system had to be, not reformed, but created; and this task has been fulfilled

with the same efficiency with which every other part of the administration of that territory has been organized. As the Punjab police may not improbably form a model for other parts of India, it is well to note the general features of its constitution.

The police establishments consist of two parts; the preventive police with a military organization, and the detective with a civil organization.

The preventive police consists of foot and horse; each regiment has its own native commandant, and the whole force is superintended by four European officers. Both arms of the service are regularly armed and equipped, and are ready at a moment's notice to reinforce the civil police.

The civil police consists, first, of a regular establishment, paid by the State; secondly, of the city watchmen, paid from a fund raised by the levy of town duties; and, thirdly, of the village police, nominated by the landholders, confirmed in their offices by the magistrate, and paid by the villagers.

The infantry of the military preventive police furnish guards for jails, treasuries, frontier posts, and city gates, and escorts for treasure. The cavalry are posted in detachments at the civil stations; and smaller parties, stationed at convenient intervals along the grand lines of road, serve as mounted patrols. The general duties of the civil police consist in reporting crimes, tracking and arresting criminals, and procuring evidence against them.

The police of the Punjab have been eminently successful in repressing crimes of a violent nature, in breaking up gangs of murderers and robbers, and in bringing criminals to justice; and in no part of India is the authority of the Government more thoroughly respected than in the Punjab.

In 1856, the Court of Directors, in a despatch which has been laid before Parliament, discussed at some length the defects of the police of India, and the means available for their correction, and proposed for the consideration of the Government of India a plan of thorough reform, grounded on the three principles, of European command, unity of action throughout the country, and complete separation between revenue and police duties.

This plan has undergone careful deliberation from the Government of India. The various members of that Government, and the Lieutenant-Governor of Bengal, have individually recorded their sentiments, in minutes characterized by a frank recognition of existing defects, an earnest desire of improvement, a remarkable amount of knowledge and understanding of the subject, and great ability in the statement and discussion of the merits and defects of the various plans advocated. For the present, so far as regards the Bengal Presidency (including the North-western Provinces), the recommendations of the Government of India are limited to a better choice and ampler remuneration of the native police, and to the aiding and strengthening them, in certain localities, by police corps of a semi-military character. These measures have been sanctioned; and until their effect has been tried, the Court of Directors have consented to put in abeyance the more fundamental changes which they had recommended. But authority has at the same time been given to the Government of India, should the present state of the country in their opinion render it expedient, to organize the police of Bengal on the model of that of the Punjab.

In the Madras Presidency, the opinion of the local Government was favourable to the Court's original

views; and in September last authority was finally given to that Government for the thorough reorganization of the police system. The leading features of the scheme which has been sanctioned are as follows:—

The appointment of a chief commissioner of police for the whole presidency, in whom will be vested, in direct communication with the Chief Secretary to Government, the direction, discipline, and internal economy of the police force;

The appointment in each district of a European deputy commissioner of police, with a sufficient number of subordinate officers and peons or constables;

The entire separation of the police from all connection with the revenue branch of administration, and of the magistrate (who will now be a purely judicial officer) from the proper police duty of the prevention and detection of crime;

And, finally, measures for reorganizing, and, it may almost be said, reviving, the village police, which, from its close connection with the localities, must necessarily constitute the last (and a most important) link in any police system really efficient, or willingly supported by the people.

The imperfections of the general police of India have not prevented some results from being attained in the way of suppression of crime, sufficiently remarkable to have attracted an amount of European notice seldom accorded to Indian affairs. The most memorable of these is the suppression of the Thugs. This singular association, which, though recruited from all castes, and even from Mussulmans, was held together by a religious tie, and a common worship of the Hindoo goddess of destruction, infested all the roads in India; and from their universal practice of murder-

Thuggee
and
Dacoitee
Suppression.

ing all they robbed, it was not only almost impossible to obtain evidence for their conviction, but the extent of their crimes was greatly underrated, and their very existence in many parts of India, disbelieved in. A separate police was organized specially against them. The gangs were broken up in the only manner in which this could possibly have been effected—by encouraging some of them to denounce the rest. From the narratives of these approvers, taken separately from one another and with the utmost precautions against the possibility of concert, lists of all the Thugs in India were obtained, and the particulars of the crimes committed by each. These were then traced to their haunts, identified, tried, and convicted, on the evidence of their accomplices, confirmed by the finding of bodies, the identification of property, or other corroborative evidence. Many suffered death, a much greater number transportation for life, and, in a few years from the commencement of the operations, all India was cleared of these criminals. The pardoned accomplices remain under surveillance at Jubbulpore, in Central India, where they and the children of the captured Thugs have been taught several useful branches of manufacture. The Jubbulpore School of Industry now supplies to Government and the public many valuable carpets and linen cloths, and a great proportion of all the tents used in India.

When the work of the Thuggee Suppression Department was nearly completed as far as regarded the Thugs, its operations were extended to the still more prevalent crime of dacoity, or robbery and burglary on a large scale by organized gangs of professional banditti. The mode of breaking up the gangs by means of approvers, which had been so successful against the Thugs, has been put in practice with equal

success against dacoits; and this crime, so far as it was perpetrated by large associations ranging over a wide extent of country, has now been almost as completely rooted out as Thuggee. Dacoitee had been almost entirely suppressed in the North-western Provinces and in Bombay, before the occurrence of the recent disasters. In the Lower Provinces of Bengal the crime has been greatly reduced within the last three or four years. In seven large districts surrounding Calcutta, where it was lamentably prevalent, the number of dacoitees has been progressively reduced from 524 in 1851, to 111 in 1855. In some of the districts of the Madras Presidency, dacoitees of a local character, by small gangs, to which the approver system is not equally applicable, are still frequent; but the improvement in the police, and other measures in contemplation, will, it is hoped, speedily reduce their number.

The piracies which formerly made the navigation of the Arabian seas unsafe for commerce, have been so effectually suppressed by the East-India Company's cruisers, that there is now hardly any part of the world in which trading vessels are more secure against depredation. The formerly piratical tribes have been bound by engagements to abstain not only from piracy, but from maritime war, which affords opportunities and pretexts for piracy: and, for the first time probably in history, a perpetual peace, guaranteed by treaties and enforced by superior naval strength, reigns in the Persian Gulf.

Suppression
of Piracy.

Equal vigour has been displayed against many barbarous usages of the natives. Special measures have been carried on during a long series of years for the suppression of female infanticide, a crime which had become a positive custom among several of the

Infanticide.

higher castes in various parts of India, from motives, not of religion, but of family pride. The co-operation of the native princes has been urgently invited, and to a great extent obtained, for the suppression of this practice. In the places, and among the castes, in which the practice was ascertained to exist, means were taken to obtain an annual census of female children. A report of all births, of all deaths of infants, and of the causes of deaths, was required, under stringent regulations and penalties. Engagements were taken from the influential persons of the castes to preserve their own children, and to aid in enforcing the same conduct on others. Honorary rewards and marks of distinction have been conferred on chiefs and others who have exerted themselves for the promotion of the object. By great efforts of persuasion and address, the heads of castes and tribes have been prevailed on to agree to a limitation of that favourite subject of vanity, marriage expenses; and grants of money are regularly made to poor persons of the castes, in aid of the marriages of their daughters. These efforts have been rewarded by a continual diminution of the number of infanticides, evidenced by a constant increase in the number of females in existence, of the formerly delinquent castes.

Suttee.

Suttee, or the voluntary burning of widows on the funeral piles of their husbands, after having been long discouraged by every means short of positive prohibition, was finally made a criminal offence in all who abetted it, by a legislative Act of Lord W. Bentinck's administration, and has now entirely ceased in the provinces subject to British administration. Unremitting efforts have been used to induce the native princes to follow the example, and have been at last successful with all of them except one, the Maharana

of Odeypore, the representative of the oldest and proudest dynasty in India: and this prince professes himself willing to abolish the rite, when the cessation of existing differences between himself and his feudatory chiefs shall enable him to obtain their concurrence in the measure. Various other modes of self-immolation practised in India,—by drowning, burying alive, or starvation,—have been, with equal success, prohibited and suppressed.

The pretence of supernatural powers was a source of great evil in India, not only as a means of extortion and intimidation, but also by the numerous murders perpetrated on persons suspected of practising on the lives or health of others by magical arts. These acts of fancied retaliation have been, with a gentle but powerful hand, repressed, and great progress has been made towards their extinction. The fraudulent pretence is now punished as a substantive crime. Witchcraft.

The insecurity of rights, and the imperfection of the tribunals, under the native Governments, had introduced, on the part of those who were, or believed themselves to be, injured, a singular mode of extorting redress. They hired a person of one of the religious classes to threaten that unless the demand, whatever it might be, was complied with, he would kill or wound himself or some one else; thereby, it was supposed, entailing the guilt of murder or of wounding on the person whose alleged injustice was the original cause of the act. If the threat proved ineffectual, the honour of the threatener was engaged to carry it into practical effect; and many suicides or murders were committed from this cause. This barbarous practice, known by the name of *Tragga*, has been almost entirely suppressed, partly by penal laws, and partly Tragga.

by affording more legitimate means of enforcing just claims.

Meriah
Sacrifices.

Among the barbarous tribes who occupy the hill tracts of Orissa, on the south-west frontier of Bengal, *human sacrifices prevailed until a very recent period*. By a well-devised and judicious series of conciliatory measures, worthy of a more lengthened record than can be given to them in this place, the extinction of this enormity has been effected.

Abolition of
Slavery.

After a full consideration of the subject of slavery in India, by the Indian Law Commissioners and by the Government of India, an Act was passed in 1843, which entirely abolished slavery as a legal status. The courts of justice are forbidden to recognize it; no fugitive, claimed as a slave, can be forcibly restored; and every act which would be an offence if done to a free person, is now equally an offence when done to the persons formerly considered slaves.

Vet Begaree,
or Forced
Labour.

One of the most oppressive of the burthens on the agricultural and labouring classes under the native Governments, was compulsory labour, not only for the repair of roads where any existed, but for the purpose of carrying the abundant baggage of Government officers or powerful individuals when journeying from one place to another. This practice has been abolished. The last vestige of it, in a licensed form, is believed to have been in the construction of the Thibet road through the Himalaya Mountains, and orders have recently been issued for its discontinuance there.

Civil Rights
of Religious
Converts.

By an Act passed in 1850, the principle already laid down in a Bengal Regulation of 1832, that change of religion should not involve loss of property or civil rights, was extended to the whole of the territories subject to the British Government of India. The *religious and civil laws of the Hindoos have in*

this point been completely set aside; and converts to Christianity have been shielded, as far as law can shield them, against temporal ill consequences from their change of faith.

By an Act passed in 1856, another great inroad has been made on Hindoo prejudices, by legalizing the re-marriage of widows.

Re-marriage
of
Widows.

An Act passed in 1840 gave effect to instructions issued by the home authorities in 1833, on the subject of pilgrim taxes, and the superintendence of native festivals. The instructions directed that the interference of British functionaries in the interior management of native temples, in the customs, habits, and religious proceedings of their priests and attendants, in the arrangement of their ceremonies, rites, and festivals, and generally in the conduct of their interior economy, should cease; that the pilgrim tax should everywhere be abolished; and that in all matters relating to their temples, their worship, their festivals, their religious practices, and their ceremonial observances, our native subjects be left entirely to themselves. Property held in trust for religious uses of course cannot be diverted from them by any act of the Government; but if such trusts are infringed, redress must be sought, as in all other cases, from the tribunals. In 1841 the home authorities sent out further instructions, that no troops or military bands of music be called out, and no salutes fired, in honour of native festivals; and all such acts have since been regarded as strictly prohibited. When any case of infringement of these principles is found to have been overlooked, it is, on being brought to notice, immediately corrected.

Discon-
tinuance of
Connection
with the
Religious
Ceremonies
of the
Natives.

IMPROVEMENT OF THE COUNTRY BY
PUBLIC WORKS.

The measures which have now been briefly described, for fixing and moderating the demands of Government on the tax-paying population, and securing to every one the full enjoyment of the fruits of his industry, are in themselves the most effectual means which could have been adopted for improving the productive resources of the country. In a country like India, however, the direct aid of Government to industry is required, for a variety of purposes which, in more advanced countries, are sufficiently, and even better, provided for by private enterprise. The principal of these are, irrigation, and the means of communication by roads and canals.

Irrigation
Works.

The British Government in India has frequently been charged with niggardliness in incurring expense for these purposes. There was some, at least apparent, ground for the charge, in former generations; though even then, the truth fell far short of the current representations. It is often asserted that the country is covered with the remains of tanks and other works of irrigation, which the native rulers constructed, and which the British Government has allowed to decay. The fact is overlooked, that most of these were already in a state of decay before the country came into our possession; long periods of disorder and military devastation having destroyed the funds which should have repaired them, and the security which would have admitted of their repair. Many works which are supposed to have fallen into decay, never were completed:

many were allowed to decay by the native sovereigns; for it was only occasionally that a prince, of unusual talents and vigilant economy, had funds to spare for such purposes; and the same prince who would commence new works with which his own name was to be connected, would often neglect to keep up those of his predecessors. Whether it is a just subject of censure, that the restoration of these old works was not commenced earlier, is a question depending on many and various considerations; but the activity in this department for many years past has been exemplary.

The Western and Eastern Jumna canals were of ancient construction, but had fallen into disrepair and become useless to the country, until again brought into activity by the labours of the Company's officers at a sufficiently early date to admit of a full estimation of the benefits which the country has reaped from their restoration. The main line of the Western Jumna Canal is in length 445 miles. In the famine year, 1837-38, the gross value of the crops saved by the water of this canal was estimated at £1,462,800; of which about one-tenth was paid to Government as land and water rent; while the remainder supported, during a year of devastating famine in other districts, the inhabitants of nearly 500 villages.

The works originally projected for the restoration of the Eastern Jumna Canal were completed in 1830; but considerable improvements have been effected since that date at a large expense. In 1853, the Court of Directors sanctioned an expenditure of £15,276 for improving this canal, so as to economize the water, facilitate its distribution, and correct the malarious state of the country on its banks. It is stated, that on the 1st of May, 1852, the clear profit to Government on this canal had been £9,759.

Jumna
Canals.

Up to 1847-48, the expenditure incurred on these and some minor works in the North-western Provinces had amounted to about £557,000, while the amount received in direct canal revenue was in all £546,000. The quantity of land brought under the influence of irrigation was 1,300,000 acres, yielding produce of the annual value of £2,500,000, and supporting a population of 600,000 souls.

Ganges
Canal.

The history of the Ganges Canal, the greatest work of irrigation ever constructed, belongs to a more recent period. The employment of the water of the Ganges for irrigation purposes appears to have been first contemplated by Colonel Colvin, who, on delivering charge of his office of superintendent of canals to his successor, the present Sir Proby Cautley, recommended the project to his consideration. Colonel Cautley carefully examined the country through which the canal would pass, and the scheme was, in 1841, brought under the consideration of the home authorities, who gave it their cordial support, subject to a further examination of the project by a committee of engineer officers. The committee's report was favourable; but various difficulties intervened, and the work cannot be said to have been fairly commenced, on a scale commensurate with its importance, till the year 1848.

The total length of the Ganges Canal and its branches, when completed, will be 898½ miles, and it will furnish abundant irrigation for an area of 4,500,000 acres. The canal, in the words of the Lieutenant-Governor of the North-western Provinces, "presents
" a system of irrigation unequalled in vastness through-
" out the world; while the dimensions of the main
" channel, and the stupendous works of masonry which
" occur in its course, more particularly in the section

“ between Roorkee and Hurdwar, render the work “ eminently one of national distinction and honour.” The amount expended on it up to the 1st of May 1856, had reached the sum of £1,560,000; and when completed, the total cost will fall little short of £2,000,000. The canal has but just begun to be brought into operation; but it is estimated by Colonel Baird Smith, the director, that the annual produce of the land already watered by it is of the value of from £150,000 to £200,000; and that when the canal is in full operation, the value will ultimately reach the enormous sum of £7,000,000.

On the 30th April, 1856, the canal had been carried so far that the water flowed continuously through 449½ miles of the main trunk and terminal branches. The extent of main channels of distribution (rajubhas) completed, was 435½ miles, and 817 miles more were in active progress.

The canal is fitted also for purposes of navigation, but it has not yet been made available to the public for this purpose, although extensively used by the Government for the transport of materials. Colonel Baird Smith states that the canal closes its first year of work (1855-56) with an aggregate revenue, from all sources, of rather more than Rs. 60,000, having watered during the year about 55,000 acres of land, and having placed beyond the risk of serious damage from drought, an area of cultivation extending over about 166,000 acres, distributed among 1,134 villages.

In the Punjab, the canals are of two kinds, inundation canals and permanent canals. The inundation canals are cuts from the rivers, which are empty during the winter, because the water is not then high enough to enter them; but as the water rises in the spring, from the melting of the snows, these channels

Punjab
Canals.

fill, and remain full until late in autumn. The fertility of the South-western Punjab mainly depends on these canals, and in a former age they appear to have been conducted from all the rivers; their course being traceable by the ruins not only of villages but of cities and public buildings, which depended for existence on their fertilizing influence. Such of these canals as were found in working order at the annexation, have been maintained, improved, and enlarged; and plans and estimates have been formed for the restoration of others. As yet, however, the greater part of the funds which could be spared for the purpose, have been devoted to the construction and improvement of permanent canals. In 1849, the enlargement and extension of the Huslee Canal, stated to be capable of irrigating 70,000 begahs of land, was sanctioned, and it is now in good working order. But this will ultimately be superseded by the Baree Doab Canal for irrigation and navigation. The length of this new work is about 450 miles; the original estimate of the cost was £530,000; but more extensive works than were at first expected having been found necessary, and the rates of labour having proved much dearer than those calculated, the ultimate cost will fall little short of a million sterling. In May 1856, more than 325 miles had been excavated; and it was hoped that the canal would be opened in 1859. The expected return is 12 lacs of rupees, or £120,000 per annum.

Sind Canals. The cultivation of the province of Sind is dependent on the rise of the river Indus, whose waters are distributed over the face of the country by a network of canals of greater or smaller dimensions. About two and a half lacs (£25,000) are annually expended in clearing these canals from the

deposits of silt left in them by the receding waters. The principal works which have received special sanction, are the widening and deepening of the Begaree Canal in Upper Sind, at a cost of £13,000 (expected return £11,900 per annum), and the improvement and extension of the Foolalie Canal, at a cost of £15,083.

In the Madras Presidency, the means of artificial irrigation are chiefly obtained by the construction of tanks or reservoirs for preserving the monsoon rains, and storing them up for use in the dry season, and of "anicutts," or dams across the beds of rivers, by which the waters are maintained at a level higher than that of the country, in order to be from thence conducted over its surface. Of the latter class of works, the most worthy of notice are those which have been constructed on the Coleroon, the Godavery, and the Kistna.

The commencement of the Coleroon works is said to be traceable to the second century of our era. Imperfectly executed in the first instance, they were found, when the country came into our possession in 1801, to be very defective; and notwithstanding the remedial measures adopted, the bed of the river continued to rise, from the deposit of silt; the extent of land which the means of irrigation could reach, diminished; the revenue fell off, and the condition of the people was gradually deteriorating. This state of things appears to have reached its acme about 1829-30. Plans and estimates were then framed, and from 1836 the work was regularly and vigorously prosecuted. The total expenditure on the Upper and Lower Coleroon anicuts, up to their completion, amounted, as far as can be ascertained, to upwards of £80,000. In addition to this sum, subsidiary works for conveying

Coleroon
Works.

irrigation over the districts of Tanjore, and portions of Trichinopoly and South Arcot, were constructed, at a cost of about £100,000.

The average quantity of land watered annually from the Coleroon and Cauvery prior to 1836, is given at 630,613 acres. Since the improvements, the average (up to 1850) was 716,524 acres; being an increase of 85,911. The annual increase of revenue has been about £44,000; and it may be assumed that the agricultural community have benefited to the extent of at least £66,000 per annum, from the extension of the area of irrigation. It is further calculated that at least an equal amount is added to the value of the annual produce, by the better irrigation of the lands which the waters already reached.

Godavery
Anicut.

An expenditure of £47,575 for the construction of the Godavery anicut was sanctioned in 1846. It was then anticipated that the total cost, with compound interest at 5 per cent, would be recovered in ten years, and that thenceforward a clear profit would be returned of at least £9,000 per annum. The work has, however, proved much more costly than was expected. Up to 1852, the amount expended was £130,000, and a further outlay of £110,000 was expected to be required, which, with £24,000 allowed for annual repairs during its completion, would raise the total expenditure on the works (including a system of roads and an important line of inland navigation) to £264,000. The amount expended has, it is stated, been already repaid by the increased receipts; and the Madras Public Works Commissioners of 1852 (to one of whom, Colonel Cotton, the merit of this important work is in a great measure due) estimate that when the works shall be in full operation, the total increase of revenue will not be less than £300,000 per annum,

while the gain to the people, by enabling them to cultivate the more valuable products, such as sugar-cane, rice, &c., instead of the ordinary dry crops, will exceed £3,000,000 per annua.

The anicut across the Kistna river was commenced in 1853. The original estimate of the cost was £155,000; but it is probable that this amount will be to some extent exceeded. It is intended, by 290 miles of irrigation channels distributed on both sides of the river, to supply water sufficient for 280,000 acres of rice cultivation, or 350,000 of rice, sugar, and possibly cotton, combined. The results anticipated are, an increase of £60,000 in the revenue of Government, and a gain of £90,000 per annum to the agricultural community.

Kistna
Anicut.

In 1854, sanction was given to an expenditure of £86,611 for the construction of an anicut across the Palar river, in North Arcot, and of the works subsidiary to it. The expected increase of revenue was stated at £18,470 per annum, or, deducting ten per cent for repairs, £16,623.

Palar
Anicut.

Very large sums have in the aggregate been spent in the construction of new, and still more in the repair and restoration of old, tanks and wells, both in the Madras Presidency and in the other parts of India which depend on works of that description for water supply. In some hill districts, ravines have been dammed up, and a head of water obtained for the irrigation of the adjacent valleys or plains. This was the plan of Colonel Dixon's irrigation works in Mhairwarra; and a system of such works had begun to be executed in Bundelcund, when the disturbances broke out.

A disposition has been of late shown to form companies for the execution of profitable works of

irrigation, on certain conditions to be granted by the State. In September last, the Indian Governments were directed to take this subject into deliberate consideration, and to frame rules under which the aid of private companies in the construction of such works might most beneficially be employed; and readiness was expressed to give to such companies a guarantee of interest, on the same footing as railway companies.

Roads and
Navigable
Canals.

Next in importance to irrigation works, are the means of internal communication. Whatever may have been the degree of care bestowed by the Hindoo and Mahomedan Governments on the former object, it has not been pretended that they did anything for the latter. It was never their practice to lay out money in the construction of permanent roads, or in the formation of canals for navigation. The plains of India are traversable by carts, and even by armies, without made roads, throughout the dry season; and neither (in general) military movements, nor commercial transport, were carried on during the rains. Roads, therefore, in India, were not, as in some countries, a matter of absolute necessity; and in this respect, whatever has been done at all, has been done by the British Government.

Grand Trunk
Road.

The most important line of road in India is the Grand Trunk Road from Calcutta to Delhi, through Hooghly, Burdwan, and Benares, and including either in the main line, or by means of branches, all the principal cities of the North-west Provinces. This road, 837 miles in extent, has been gradually brought to its present state of a thoroughly well-formed road, metalled and bridged, except a few of the larger rivers, which are still crossed by ferries; but over all these (it is believed), except the Ganges

and the Soane, bridges are in course of construction. This road, with its continuation to Kurnal (and now to Lahore, which is in course of completion), has been divided into different portions, each under the charge of a separate engineer officer, with an establishment for the purposes of construction, or of maintenance and protection, as the case may be. The cost of the Grand Trunk Road as far as Delhi had been, up to the year 1848, £489,100, and the annual expense of maintaining it was then estimated at £33,000.

Since the annexation of the Punjab, a continuation of the Grand Trunk Road from Lahore to Peshawur, a distance of 275 miles, has been in progress. This road also is to be completely metalled and bridged throughout. The cost was estimated, when the work was sanctioned in 1852, at £154,848. By means of this road a direct line of communication will have been established between Calcutta and the extreme boundary of the British territory to the north-west, a distance of 1,500 miles. Besides this, many other roads in the Punjab, and among them roads from Jullundur to Lahore, and from Lahore to Mooltan, have been undertaken.

The sea has been mainly relied on for communication with Madras; but roads are now in course of formation, which will provide a line of continuous communication by land.

The land communication with Western India is carried on by way of the Grand Trunk Road to Benares, onward by Mirzapore and Jubbulpore to Nagpore, and thence to Bombay. The road beyond Mirzapore, under the name of the Great Deccan Road, was commenced thirty years ago, but was kept up only as a fair-weather road till within the last few years, when arrangements were made for its being

Great
Deccan
Road.

thoroughly raised, metalled, and bridged. The distance from Mirzapore to Nagpore or Kamptee, is nearly four hundred miles. Estimates amounting to £11,659 were sanctioned by the Court of Directors in 1856, for bridging the portion of road between Mirzapore and Jubbulpore, which had been already metalled; £25,084 were also sanctioned for raising and metalling the portion between Jubbulpore and Kamptee, and measures were further authorized to bridge this portion of the road.

Agra and
Bombay
Road.

Another great and important line, the Agra and Bombay road, 735 miles in length, was commenced in 1840. In 1854, the Court sanctioned an annual expenditure of £9,880 for the maintenance and improvement of the portion of this road between Agra and the frontier of the Bombay Presidency.

Dacca and
Chittagong
Road.

After the annexation of Pegu, roads were projected by way of Dacca to Arracan, from which province a road was to be carried over the mountains to Prome. Great difficulty was experienced in laying out a road from Calcutta to Dacca, and it is probable that this part of the project will not be carried into effect; the traffic of this district, so intersected by tidal channels, being left to be carried on by water, unless it shall be found practicable to form a railway. A road to Jessore (the line of communication with Assam and Burmah) was however sanctioned, at a cost of £41,720 on a rough estimate. From Dacca to Chittagong, considerable progress has been made in the formation of a road, or rather in the completion, as a first-class road, of the road which, though in a most inefficient state, previously existed. From Arracan into Pegu, the task of forming a road across the mountains by the Toungoop Pass has been most successfully accomplished by Lieutenant Forlong.

In Pegu itself, no time was lost after the acquisition of the province, in commencing improved means of communication. The sanction of the home authorities was sought and given to roads from Rangoon to Prome, a distance of nearly two hundred miles, at an estimated cost of £160,000, and from Martaban to Toungoo *via* Sitang. Pegu Roads.

Besides the great lines of communication above enumerated, a multitude of shorter lines have been constructed, at the entire cost of Government, in Bengal, the North-western Provinces, and the Punjab, while considerable sums have annually been expended in the two former divisions of territory from local funds. Among the roads either completed or under construction at the expense of Government, is one from a point on the East-India Railway to Darjeeling (roughly estimated at about £200,000); another from Doobee, on the Grand Trunk Road, to Patna (cost £115,000); numerous roads in the Saugor and Nerbudda territories; and a road from the plains to Simla and the other hill stations, continued through the mountains to Chini in Thibet. The district roads were, until within the last few years, maintained from the profits of the ferries kept up by Government; but there are now also appropriated to this purpose, in Bengal, the surplus tolls on the Nuddea rivers and the Calcutta canals, amounting altogether to £50,000, and the surplus proceeds of various local funds established for other purposes. In the North-western Provinces, one per cent on the land revenue is contributed in equal portions by the Government and by the landowners, for the purpose of district roads; the landowners being thus freed from the obligation which previously lay on them, of keeping in repair the public roads. Miscellaneous Roads.

which passed through their lands. In these provinces, as in Bengal, the ferry funds are appropriated to district roads, and they amount to about £20,000.

Madras
Roads.

The first step to the systematic prosecution of road-making in the Madras Presidency was taken in 1845, by the appointment of an officer to the charge of the main or trunk lines of road, and the appropriation to the maintenance and improvement of the roads, of the annual sum of £40,000. The roads under the charge of the superintendent were, the Western Road, to the Mysore frontier towards Bangalore (200 miles); the Southern Road, to Trichinopoly (205 miles); the Northern Road, to the Bengal frontier, with a branch to Cuddapah (785 miles); and the Sumpajee Ghaut Road, from the western frontier of Mysore to Mangalore (105 miles). Up to May 1851, £37,121 had been expended on the Western Road, exclusive of the cost of superintendence; and the road had been made passable for travelling-carriages at the rate of six miles an hour. Besides the road department under the charge of the superintendent, the Civil Engineers of districts were charged with the improvement of the district roads, under the orders of the Collectors; and the care of roads in some districts was under the officers of the Military Board. The expenditure on roads, bridges, and ghauts, under the Madras Presidency, increased in the five years from 1846 to 1850, from an average of £16,179 to one of £42,076. The expenditure in 1849, 1850, and 1851, was respectively £45,149, £58,197, and £59,680. In the succeeding year the department came under an improved organization; and the outlay in 1855-56, the last year for which it can be ascertained, was £193,930; to which may be added £30,957 for navigable canals,—in all, £224,887.

Among the works in progress in the Madras Presidency for the improvement of the means of communication, is the formation of the East Coast Canal, to be effected by the junction of the various back-waters, and of the local canals which in several places already exist, completed by entirely new channels to be excavated. The expenditure on this work, up to 1855-56, amounted to £14,171.

The made roads in the Bombay Presidency, twenty-five years ago, were almost entirely limited to the presidency town and its immediate neighbourhood; the road from Bombay (or rather Panwell, on the other side of the harbour) to Poonah, being the only road to a distant place on which any considerable expenditure had taken place. This road has since been greatly improved, and supplied with bridges. The Bhoze Ghaut, or pass, on this road, formerly accessible only to bullocks, and coolies (or porters), had in 1830, at an expense of about £13,000, been made easy for carriages; the Thull Ghaut, on the Bombay and Agra road, has since been similarly improved; and roads over the Khoonda Ghaut, the Tulkut Ghaut, and the Koonutudee Ghaut, to the southward, have since been put under construction, to facilitate the communications between the coast and the interior of the country.

Bombay
Roads.

The portion of the Agra and Bombay road within the jurisdiction of the Bombay Government is 270 miles in length: the expenditure on it had amounted, in 1848, to £75,390; and since that time a considerable outlay has taken place, especially on the improvement of the Thull Ghaut and the road below it.

A system of roads for Sind, at an estimated cost of from £20,000 to £30,000, received the sanc-

Sind
Roads

tion of the home authorities in 1854, and is in progress.

New
Organization
of Public
Works.

From the preceding details it will be seen that very considerable sums had been expended on the construction and improvement of roads in India at a much earlier period than is frequently represented. But the extraordinary activity with which these operations have been carried on dates from 1850. In January of that year, the home authorities, being dissatisfied with the progress made in the prosecution of public works throughout India, deliberately reviewed, in a despatch to the Government of India, the system under which such works had, up to that time, been carried on, and found, in the division of responsibility and the absence of unity of action, ground for the opinion that a great change was required. In consequence of the orders contained in that despatch, a Commission was appointed in each presidency, to consider and report on the subject. Their investigations have led to the formation of a separate department of Public Works in each presidency, based on one uniform plan, and to the addition of a secretary in the department of Public Works to the secretariat of the Government of India. From this period to the commencement of the present unhappy disturbances, the activity of the department has been incessant; the engineer officers of the three Indian armies supplying the higher order of professional skill, and the subordinate European superintendence being afforded by numerous non-commissioned officers possessing the requisite qualifications, and latterly by a considerable number of civil engineers, engaged in England, who have proved in many cases of the greatest value to the department.

Colleges of
Civil
Engineering.

As a means of supplying well-qualified subordinates for the purpose of public works, a college for instruc-

tion in civil engineering was established in 1847. It was fixed at Roorkee, near the head of the Ganges Canal, the works and establishments at that place affording peculiar facilities for combining practical with theoretical instruction. The plan of the college was greatly enlarged in 1852; and its annual charge is about £7,000. The establishment of colleges of civil engineering at Calcutta, Madras, and Bombay, has subsequently been sanctioned.

The preceding statements relate only to works constructed by public money. The construction of railways is carried on by private capital, with a guarantee of interest by the Government. It is proper to give a brief summary of the railway-works which have been sanctioned and commenced. Railways:

Four thousand one hundred and fifty-eight miles of railway have been sanctioned, and measures are being taken for their construction under a guarantee of interest, viz.:—

By the *East-Indian* Railway Company, from Calcutta to Delhi, with branches from Burdwan to Raneegunge, and from Mirzapore to Jubbulpore, 1,400 miles.

By the *Eastern Bengal* Railway Company, from Calcutta to the Ganges at Koostree, near Pubnah (130 miles), being the first section of a line to Dacca, with a branch to Jessore; which, when completed, will form the basis of a system of railways for Eastern Bengal.

By the *Madras* Company, from Madras to the western coast at Beypore, 430 miles; and

From Madras, *via* Cuddapah and Bellary, to meet a line from Bombay at or near the river Kistna, 310 miles.

By the *Great Indian Peninsula* Company, from

Bombay to Callian, thirty-three miles, with extensions,

North-east to Jubbulpore, to meet the line from Mirzapore, with a branch to Oomrawuttee and Nagpore, 818 miles; and south-east, *vid* Poonah and Sholapore, to the Kistna river, to meet the line from Madras, 357 miles.

By the *Sind and Punjab* Company, from Kurrachee to a point on the Indus, at or near to Kotree, 120 miles; and from Moultan to Lahore and Amritsir in the Punjab, 230 miles.

By the *Bombay, Baroda, and Central India* Company, from Bombay to Surat, Baroda, and Ahmedabad, 330 miles.

The following statement shows the amount of capital which, it is estimated, will be required for the above extent of lines, and the amount of capital already issued:—

RAILWAY COMPANY.	Estimated outlay required to complete the several Lines sanctioned.	Total amount of Capital at present issued with the sanction of the East-India Company.
East Indian	£12,731,000	£8,731,000
Eastern Bengal	1,000,000	1,000,000
Madras	6,000,000	4,000,000
Great Indian Peninsula ...	10,000,000	6,333,300
Sind and Punjab	2,500,000	1,000,000
Bombay, Baroda, & Central India	2,000,000	1,750,000
	34,231,000	22,814,000

In addition to this assistance by way of

guarantee, the land for the railways (including compensation for all buildings thereon), and for their termini, has been given by Government. The value of this may be estimated at more than £1,000,000 for the above extent of line.

The lines in course of construction have been chosen for commercial, quite as much as for military and political, objects. In every case the existing channels of trade have been followed. The chief cotton-producing districts are provided with railway accommodation; and in one or two instances, such as the railway which connects the great cotton-field of Berar with Bombay, and the railway through Surat and Guzerat, the principal object is to develop the agricultural resources of those districts, and to bring their produce into communication with the sea.

At present only a small section is open in each Presidency, making about 400 miles in all; but 3,600 more are being constructed almost simultaneously. The following statement will show the sections now open, the periods at which other sections are to be opened, and at which the whole will be completed:—

RAILWAY COMPANY.	Total length of Lines.	Experimental Line.	Periods at which it is estimated that the remaining Works on the Lines will be completed.						
EAST INDIAN :— Calcutta to Delhi..... say Mirzapore to Jubbulpore (a). (a) Note.—No period yet specified for the completion of the line.	Miles. 1,100 300 1,400	Calcutta to Burdwan, and branch to Raueegunge, 121 miles; commenced 1850, completed 1855.	Burdwan to Rajmahal (130 miles), 210 from Calcutta; December, 1859.*	Between Rajmahal and Allahabad, 440 miles; 1860.	Between Allahabad and Cawnpore (1st section N. W. P. division), 126 miles; nearly ready for opening.†	Cawnpore to Delhi, 260 miles; October, 1858 (excepting the bridge over the Jumna).			
GREAT INDIAN PENINSULA :— Bombay to Callian Callian to Jubbulpore, with branch to Nagpore, via Oomramuttee Callian to the Krishtna, via Poonah and Sholapore	33 818 357 1,208	Bombay to Callian, 33 miles; commenced 1850, completed 1854. Sections N.E. to Wassind (16 miles) and S.E. to Campoolie (38 miles) have subsequently been opened. Now open, 87 miles.	Callian to Bhosawul, 241 miles; October, 1859.	Callian to Poonah, 91 miles; February, 1858.	N. E. LINE. Bhosawul to Oomrawuttee, 125 miles; December, 1860.	S. E. LINE. Poonah to Sholapore, 165 miles; 1860.	Oomrawuttee to Nagpore, 133 miles; March, 1861.	Sholapore to Krishtna; not estimated, probably the end of 1861.	Bhosawul to Jubbulpore; not yet estimated, probably the end of 1861.

MADRAS :—				
Madras to Beypore	430	Madras to Vellore, 81 miles; commenced 1853, completed to Arcot 1856, and to Vellore in 1857.	Vellore to Vaniembaddy, 125 miles from Madras, January, 1858. To Beypore on the Western coast, March, 1859.	The line to the Krishna not yet estimated, probably to Bellary in 1861, and to the Krishna in 1862.
Madras, <i>via</i> Cuddapah and Bellary, to the Krishna, about	310			
	740			
SIND :—				
Kurrachee to the Indus, at or near to Kotree	120	Estimated to be completed by October, 1859.		
BOMBAY, BARODA, and CENTRAL INDIA :—				
Bombay to Surat, Baroda, and Ahmedabad	330	Estimated to be completed from Surat to Baroda in 1858, and to Ahmedabad in 1859. The section between Bombay and Surat not yet estimated.		

* Delays have occurred in this district, in consequence of the Sonthal insurrection and the subsequent disturbances in Bengal.

† Would have been opened by December, 1857, but for delays occasioned by the mutiny.

The works for the trunk lines above described have been made suitable for locomotive engines, and are of a solid and permanent character, so that an uninterrupted communication will be maintained throughout the year.

The mileage cost of the lines which have been completed has been :—

East Indian.—Calcutta to Raneegunge, 121 miles (including double line to Burdwan, and terminal stations), about £12,000 per mile.

Madras.—Madras to Arcot, sixty-five miles, about £5,500 per mile.

The data in respect to the line now open in the Bombay Presidency, constructed by the Great Indian Peninsula Railway Company, are not sufficiently complete to enable the actual mileage cost to be ascertained.

It is, perhaps, premature to judge of the success of Indian railways as commercial undertakings; but the line from Calcutta to Raneegunge is already earning a profit of nearly seven per cent, being two per cent beyond the guaranteed rate of interest. The following table will show the extent of traffic on the East-Indian Railway for the year ending 31st December, 1856 :—

PERIOD

PERIOD.	Number of Passengers conveyed.			
	1st Class.	2nd Class.	3rd Class.	Total.
Six Months ending } 30th June, 1856 ... }	6,466	23,256	402,599	432,321
Six Months ending } 31st December, 1856 }	6,639	-	42,000	463,121
	13,105	49,133	835,204	895,442

PERIOD.	Goods.	Receipts.		
	Tons.	£.	s.	d.
Six Months ending } 30th June, 1856 ... }	33,010	95,188	16	4
Six Months ending } 31st December, 1856 }	44,675			
	77,685	95,188	16	4

It may be observed that these are the results of the traffic on a line where the amount of merchandise conveyed is very small, compared with what it will become when the railway is continued to the Ganges at Rajmahal.

The numbers stated under the head of "Third Class," in the above table, will in some degree indicate the extent to which the natives use the railway. The receipts from this class are nearly four times as great as from the two higher classes combined; the receipts from passenger traffic in the half-year ending 30th June 1856, having been :—

1st Class	...	...	...	Rs. 27,986
2nd „	...	...	...	29,589
3rd „	...	...	...	1,99,883

In addition to the lines specified above, the Court have sanctioned the construction of one by the Calcutta and South-eastern Railway Company, from Calcutta to the Mutlah river, upon the same terms as to the provision of land, but without any guarantee of interest.

Electric
Telegraph.

Even more important as a means of communication than railways, is the electric telegraph; the use of which, at the commencement of the late disturbances, may be said with scarcely any exaggeration to have saved our empire. Having already, in a wonderfully short space of time, connected the seats of the different Governments by lines of telegraph upwards of three thousand miles in length, the Government of India is now engaged in establishing additional lines of about the same extent, through which the most important places will be brought into communication with each other by alternative routes.

The lines established, and in course of construction, are :—

1st. From Calcutta, *vid* Benares, Cawnpore, Agra, Meerut, Delhi, Umritsir, and Lahore, to Peshawur; with a branch to Lucknow.

2nd. From Bombay to Agra, *vid* Indore and Gwalior.

3rd. From Bombay to Madras, *vid* Sattara, Bellary, and Bangalore.

4th. From Bombay along the coast, by Vingorla and Mangalore, to Cananore.

5th. From Bangalore to Ootacamund and Mahableshwar.

6th. From Benares, through the centre of the Peninsula, by Mirzapore, Jubbulpore, Nagpore, and Hyderabad, to Bellary.

7th. From Bombay, by Surat and Baroda, to Kurrachee.

8th. From Kurrachee, by Hyderabad (Sind) and Moultan, to Lahore.

9th. From Calcutta, by Dacca, Akyab, and Prome, to Pegu and Rangoon.

10th. From Calcutta to Madras, by the coast ; and—

11th. From Madras, along the coast, by Pondicherry, Tranquebar, and Ramnad, to Ceylon.

The lines already established have cost, upon an average, about £50 per mile. Besides their inappreciable value to the Government for political and military purposes, they are freely used by the mercantile community. Though the charges are very moderate, the revenue, in the first year of working the lines, exceeded the expenses, and since then the receipts have been steadily increasing.

EDUCATION.

The first measures of the English Government for aiding education in India were directed to the preservation of Oriental learning from decay ; and several institutions, supported or endowed by Government, were maintained for that special purpose. A secondary object was the training for the service of Government, of men acquainted with the systems of law followed by the various religious communities,

Early
Educational
Proceedings.

and constituting on certain subjects the rule binding on our tribunals.

The views of the Government, however, gradually underwent a great change; and, partly from the spontaneous action of the Government and its officers, partly by directions from home, the basis of the Government measures for promoting education was greatly widened, on the one hand by introducing the study of English into all the higher places of instruction under Government influence, and on the other by giving a much wider range and greater practical utility to the studies carried on in the vernacular or other Oriental languages.

Government
Colleges.

All the Government educational institutions in Bengal have been either gradually brought within the scope of these principles, or were originally founded on them. Those institutions consisted, previously to 1854, of the Hooghly, Dacca, and Kishnaghur provincial colleges, with the schools attached to them: to these has since been added a college at Berhampore. At Calcutta itself, the Government contributed to the funds for the support of the Hindoo College and of the Mahomedan Madrissa, but there was no institution at the presidency town open to all classes and creeds, at which an education of a high order was imparted. This deficiency was supplied in 1854, an arrangement being made by which the Hindoo College, as an exclusive institution, was abolished, and a Presidency College established, calculated to afford an education of the highest order, and open without restriction to all sections of the community. The cost of this institution will amount to above £10,000, when all the arrangements shall be complete. It amounted in 1855-56 to between £7,000 and £8,000. In addition to general education, provision is made in this

institution for instruction in law and jurisprudence : medicine and civil engineering are otherwise provided for.

The Government colleges in the North-western Provinces consisted, in 1854, of those at Benares, Agra, Delhi, and Bareilly. In these, as at the Bengal colleges, education was imparted through the medium both of English and of the vernacular. The education given was of a very efficient character, and the students generally obtained employment in the service of Government, in which many of them fill situations of responsibility.

For a considerable period, the direct aid of Government to education, both in Bengal and in the North-western Provinces, was principally confined to the Government colleges, and to the schools which were attached or affiliated to them for the purpose of supplying them with students. In 1846, however, Mr. Thomason, the Lieutenant-Governor of the North-western Provinces, proposed a plan for the establishment throughout those provinces of a system of village schools, by means of an assignment of land by Government for the support of a schoolmaster in each village. In 1848 Mr. Thomason submitted amended proposals, confined to the establishment by Government of one school in each tehsel, as a model for the village schools, and the institution of a visiting agency, which, with a visitor-general at its head, should not only superintend the Government schools, but visit the village schools generally, for the purpose of assisting and aiding the masters, and rewarding the most deserving. The cost of this scheme, for all the districts of the North-western Provinces, was estimated at upwards of £20,000 ; but it was considered best to introduce the plan experimentally in eight districts,

Village
Schools.

at a cost of £3,600 per annum (exclusive of the salary of the visitor-general): and this measure proved so successful in the selected districts, that its extension to all the thirty-one districts of the North-western Provinces was subsequently sanctioned, at a total cost of £17,207.

Hulkabundee
or Circle
Schools.

But valuable as were the general results of this scheme, and useful as were the teluseel schools to the inhabitants of the towns, the village schools (though the numbers attending them had considerably increased) did not improve as had been hoped; and a new plan was accordingly devised, with the best prospects of success, to meet the wants of the agricultural population. This is the establishment of hulkabundee or circle schools. Several villages conveniently situated for the purpose are grouped together, and in a central situation a school is established, at the joint cost of all the villages, none of which is more than two miles from the central school. For the support of these schools, the consent of landowners was sought to the appropriation of a small percentage on the amount of the Government revenue (one per cent being the amount fixed), of which half is contributed by Government and half by the landowners. The assent of the landowners to this plan has been obtained in many districts; and it will be made a condition of all future settlements, and has been so made as resettlements have taken place. It is estimated that when all the districts shall have been resettled (which will not be till 1874), £40,000 per annum will be thus available; of which £20,000 will be at the expense of Government, and £20,000 at that of the landowners.

In Bengal, the establishment of 101 vernacular schools had been authorized by the Government in 1844, shortly before the first proposals of Mr. Thoma-

son. The schools were established at the places where they were thought most likely to succeed; but, except in a very few cases, they failed to attract scholars, the old indigenous schools, where nothing worthy of the name of education was afforded, proving more popular. In 1853 and 1854, accordingly, this system was superseded, in favour of the plan already adopted in the North-western Provinces, of a visitorial staff, model schools, and aid and encouragement to indigenous schools. The estimate for the plan, on the experimental scale proposed, amounted to about £7,000 per annum.

There was a normal school for the masters of vernacular schools at this time at Agra, which was working very well. At Calcutta, the Sanscrit College furnished a considerable number of masters suited for village schools. Schools
for Teachers.

Thus stood the arrangements of the Government for native education in India, when a new impulse was given to the subject by the orders from home in 1854. Before adverting to these, something must be said of what had previously been done in the two subordinate presidencies.

The history of education at Madras, up to a recent period, presents little beyond a record of failures. A plan was proposed by Sir Thomas Munro in 1822, and approved by the home authorities, for the establishment of provincial, district, and tehsel schools, throughout the Presidency, at an estimated cost of £5,000 per annum. Schools were established, but they proved failures, and were abolished. The University of Madras was nominally established by Lord Elphinstone's Government; but in the only department of it which was really proceeded with—the lower department, or “High School”—the suc-

cess was by no means great, and the number of pupils was quite disproportionate to the expense. The whole subject of education came under reconsideration in 1852, when a plan was laid down by the Government, which provided for the education of all classes in a way very much in accordance with that which has since been laid down for adoption throughout India; comprising a central institution at the Presidency, provincial colleges or high schools, zillah and tehslee schools, with a system of inspection or visitation, and grants in aid. The University at Madras was at once remodelled; but little progress had been made, up to 1854, in carrying out the other parts of the plan, beyond the establishment of provincial schools at Cuddalore and Rajahmundry.

Colleges and
Schools in
Western
India.

The principal places of education in the Bombay Presidency are the Elphinstone Institution at Bombay, and the College at Poonah. These institutions, partly founded by native subscriptions and partly by the Government, were designed to afford a collegiate education of a high class, through the medium of the English language, a staff of professors being maintained for giving instruction in mathematics, English literature, natural philosophy, logic, mental and moral philosophy, political economy, &c. A high school was attached to the Elphinstone Institution, and a Sanscrit department to the Poonah College. In 1854-55 there was only one district of the Presidency in which there was not a Government English school. Vernacular schools had been established in many places at the expense of Government, but as the plan had not long been adopted of requiring any part of the cost to be defrayed from local resources, operations in this direction had been much limited by want of funds. Under a plan brought into operation shortly before

1854, the establishment of a school by Government was made conditional on a portion of the expense being defrayed by the inhabitants; and under this rule vernacular education was in course of steady extension up to 1854. A normal class for masters of Mahrattee schools existed at Poonah, and one for masters of Guzerattee schools at Surat.

It is now time to advert to the despatch from the home authorities of the 19th of July 1854 which was designed to give as great an additional impulse to the operations of Government in the promotion of education, as had already been given to the department of Public Works. This despatch directed that the previous Boards of Education, which consisted of private persons and of Government officers in their private capacity, should be abolished, and that a Department of Education, under a director, should be appointed in each Presidency and sub-Presidency. The limits which had previously been placed upon the total expenditure of each Government for educational purposes, were removed. The establishment of universities at the Presidency towns was directed, and minute instructions were given respecting the mode of their constitution. A great extension of vernacular education was contemplated, and orders were given for introducing the system of grants in aid to private institutions, dependent on the quality of the secular instruction given, as ascertained by a Government inspection.

Education
Despatch of
1854.

Effect was immediately given to these instructions, so far as regards the formation of the controlling establishments. Directors of Public Instruction were appointed in Bengal, the North-western Provinces, Madras, Bombay, and the Punjab, and under them inspectors and sub-inspectors of different grades, and

Directors of
Public
Instruction.

in numbers proportioned to the territories to be superintended. Rules for regulating grants in aid have been laid down, and considerable grants have been made under all the Governments. The amount of these grants was at first limited by the authorities in India to a certain percentage on the expenditure on Government institutions; but this limit has been taken off by instructions from home. Universities have been constituted, under acts of the Legislature of India, at Calcutta, Madras, and Bombay. Measures are also in progress for carrying out the objects of the despatch of 1854, as regards vernacular education in Bengal, Madras, and Bombay. In the North-western Provinces it has only been necessary to give greater extension, as had been previously intended, to the measures already introduced.

Medical Schools and Colleges. In addition to the institutions for giving a general education to the different classes of the community, either through English or the vernacular, colleges or schools for several branches of professional education are maintained at the different presidencies. Of the engineering colleges mention has already been made. Medical schools had from an early period been maintained at all the presidencies, to train persons for employment in the subordinate branches of the medical service, as compounders, dressers, native doctors, &c. These institutions were gradually raised in character, and for many years past have held the rank of colleges, in which medical education of a first-class character is afforded. They have, in consequence, received the "recognition" of the College of Surgeons in London; and the graduates of these colleges are entitled to all privileges which are conferred by the College of Surgeons on the members of the colonial medical institutions recognized by them.

The graduates almost invariably enter the service of Government, though some few, especially at Bombay, prefer private practice. To afford encouragement to the graduates of the colleges, and meet the want of well-qualified medical officers for the service of Government, a special native medical service has been created, under the title of Sub-Assistant Surgeons, for which a degree in one of the medical colleges of India is a necessary qualification. These officers are divided into three grades, promotion being regulated by the joint consideration of length of service and professional qualification, as ascertained by special examination. The principal use which has been made of this class, has been in connection with the Government dispensaries; but some few have been appointed to the charge of the smaller stations. Their professional qualifications are, in many cases, of a high order; and the triumph which has been effected over the religious prejudices of the natives, in popularizing the dissection of dead bodies, is a proof that this indirect mode of correcting their superstitions, by the influence of useful knowledge, is a highly effectual one.

Native
Medical
Service.

The important subject of school books has been for many years attended to. In the North-western Provinces a very large number of vernacular books, either originals or translations, have been prepared under the auspices of the Director of Education; and a highly efficient system is in force for their sale and distribution among the schools of all classes. At Calcutta and Bombay, much has also been done; and arrangements have more recently been made for the supply of school books in the difficult vernacular languages of the Madras Presidency.

School
Books.

As a powerful stimulus to the general popula-

Educational Test for Public Employment. tion to avail themselves of the means of education now placed so generally within their reach, rules have been laid down absolutely requiring a certain amount of education in all persons employed in the public service, except in situations of the lowest class. Even for those lower employments, the officers intrusted with the appointments are expected to select persons capable of reading and writing, provided they are qualified in other respects; and returns are required, under most of the Governments, of appointments made, with special reference to this point.

Female Education. An inroad has begun to be made upon native prejudices even in the department of female education. The late Mr. Drinkwater Bethune benevolently established a school for Hindoo girls at Calcutta, which, after his death, was adopted by the Marchioness of Dalhousie, supported by the Marquis of Dalhousie until he left India, and is now maintained as a Government institution under the special orders of the home authorities.

A highly satisfactory commencement of female education in the North-western Provinces was made in 1856, by the exertions of a meritorious native functionary, the sub-inspector of schools, Pundit Gopal Sing. By his influence ninety-seven female schools were established in the city and district of Agra, and each school was attended on an average by twenty pupils. The good example has been followed by the formation of female schools in the zillahs of Muttra and Mynpooree. In the Bombay Presidency, schools for females have been established by natives at Poopah, which are stated to be in satisfactory operation; and some native ladies of wealth and influence at Ahmedabad have lately endowed a female school at that city.

Female education is included within the operations of the enlarged Government scheme of education, and it is hoped that progress will be gradually made in its diffusion.

MISCELLANEOUS IMPROVEMENTS.

Various important measures have been adopted within the last twenty years, both for the improvement of the productions of India and for the introduction of new products.

In 1840, ten experienced cotton-planters from the United States were engaged, and proceeded to India to conduct, on account of Government, the experimental cultivation of superior kinds of cotton. In the majority of the districts the experiment failed from unsuitability of climate, but in parts of South-western India it was successful, and a large cultivation of American cotton in those districts now takes place. It is to be remarked that these districts are near the coast, and united with it by improved roads; and, indeed, with the exception of Berar (into the heart of which a line of railway will shortly be carried), all the principal cotton districts of India have ready access to water-carriage, and are not materially impeded by the remaining imperfections of the internal communications.

Cotton
Experiments.

A most complete body of information on the cotton cultivation of India, and on the suitability of the various local soils and climates to the cultivation both of the native and the foreign varieties of the plant, has been obtained through the exertions of the

American planters and of the servants of Government, and has been condensed and made public in the two works entitled, "On the Culture and Commerce of Cotton in India," and "Review of the Measures which have been adopted in India for the improved Culture of Cotton," by an eminent officer of the East-India Company, the late lamented Dr. Royle; so distinguished as a man of science, and whose thorough knowledge and understanding both of the Indian climates, and of general climatology in its relation to vegetable productions, has never been excelled, if equalled.

Indian
Fibrous Pro-
ductions.

The same eminent authority, in his work entitled, "The Fibrous Productions of India," has made known an amount of internal resources, of the greatest value to this country (especially in the contingency of a Russian war), of which no one, even of those who had the strongest private interest in the subject, had a suspicion. The collection of raw products, brought together from all parts of India for the Paris Exhibition of 1855, has vastly extended the knowledge accessible to manufacturers and merchants, of the numerous articles suited to the European market, and capable of being imported in any quantity, which only await the necessary attention and the necessary funds on the part of enterprising individuals. An Industrial Museum has recently been formed at the India House for the reception of these and other choice specimens of Indian produce and manufactures.

Tea
Cultivation.

The Assam tea has been brought into regular cultivation; and the teas of China have been introduced as a staple product of agriculture, at the expense of Government, into the parts of the Himalayas which are suitable in point of climate. Mr. Fortune was employed in China to obtain a large quantity of the best seeds, and to engage Chinese experienced in the

growth and preparation of the article. There is already a considerable production of the higher qualities of tea in these mountains; large tracts of waste land suited to the cultivation are now placed at the disposal of persons desirous of engaging in it, and seeds and plants are given largely and gratuitously from the Government experimental establishments, to all who apply for them with a view to cultivation.

The Indian Governments have long been active in placing the means of medical relief within reach of the population. The rules in force provide for the establishment of a civil hospital or a dispensary, in every town the inhabitants of which have shown their appreciation of the benefit by either providing funds for the erection of a building, or contributing towards the support of the necessary establishments, or by having for some time actually supported a dispensary on a limited scale from their own resources. These institutions are mostly managed by natives trained at the medical colleges; a general superintendence resting with the civil surgeons of the different stations. Their success has been very great. The number of hospitals and dispensaries, and of the patients treated in them, during the last year for which returns have been received, was as follows:—

Hospitals
and
Dispensaries.

	Number of Institutions.	Number of Patients.
Bengal	43	153,161
North-west Provinces	47	245,171
Madras	35	184,069
Bombay	17	88,793
	<hr/> 142	<hr/> 671,194

Measures have also been taken for many years, and with much success, for the diffusion of vaccination,

Vaccination.

not only in the British territories, but also in the native states.

Libraries.

Of late years, the establishment of public libraries in the provincial towns has been commenced. The assistance of Government is usually given in the form of a donation of books, and a regular supply of the publications issued by Government, which now include all the most interesting and important papers on the public records, relating to the condition and administration of the country.

Improvement
of Native
States.

Independently of what has been done for the benefit of our own subjects, much has also been effected, through the influence of the British Government and its diplomatic officers, to improve the administration of native states. It is hardly possible to exaggerate the disorder and confusion in which most of these were plunged at the time when they first became connected with the British Government. Those among the Mahratta states which had any considerable military strength, made annual expeditions, called Mooluckgheery circuits, for the purpose of conquering or devastating the possessions of their weaker neighbours; and hordes of undisciplined adventurers, known by the name of Pindarries, ranged with fire and sword from one end to the other of the part of India which was under native rule, occasionally invading and ravaging even the British possessions. All this is at an end. The native states are as safe from one another, and from invaders and plunderers from without, as the British dominions. The princes and chiefs are bound by treaties to refer to our arbitration all their differences; and experience has given them the fullest reliance on our impartiality and justice. Boundary disputes between villages of different states, and complaints from the subjects of

one against those of another for robberies or other injuries, are adjudicated either by a British officer, or by Courts of Vakeels, composed of representatives of the neighbouring chiefs, presided over by a British functionary. In some parts of India, and particularly of Guzerat, which are divided among a great number of petty chiefs, too weak or too little civilized to control effectually their turbulent subjects, Criminal Courts have been established, consisting of a British diplomatic officer and assessors selected from among the native chiefs or nobles, for the trial of offences against the general peace of the country. These courts are a powerful agent of civilization. They are gradually weaning a very backward portion of the natives of India from their barbarous usages. They have nearly suppressed all the classes of crimes which arose out of a generally disturbed state of society; and in dealing with offences which originate in real or supposed grievances, they make due allowance for provocation, and redress the wrongs even of those whom they are obliged to punish for seeking justice by unlawful means. In the more considerable native states, our influence is exerted on the side of good, in every mode permitted by positive engagement. Not only have the British representatives incessantly, and to a great degree successfully, incited native princes to prohibit and suppress the barbarous usages which we have ceased to tolerate in our own territories; but defects have been pointed out, and improvements suggested, in their revenue and judicial administrations. Financial disorder and general misgovernment have been the subject of grave remonstrance, followed up by such positive marks of displeasure as were consistent with the respective treaties. The minorities, which so often occur in native states, have been made use of

to appoint capable ministers, to reform abuses, and restore the country in an improved condition to the young chiefs; who, having been in the mean time for the most part educated in European knowledge, and initiated into public business under the eye of a British officer, are often grateful for the care taken of their interest, and continue, after their accession to power, the improved systems commenced during their minority. The present Scindia and Holkar, and the Rao of Kutch, as well as many others, may be cited as instances. One native ruler, the late Nuwab of Rampore, had actually been a deputy-collector in the service of the British Government. Another, the Rao of Ulwur, on his accession, invited some of our native functionaries to conduct his administration, and reform it after the English model. The Rajpoot states, formerly almost in a state of chronic anarchy, have been rendered peaceful and prosperous, by judicious mediation between the princes and their feudatories, and judicious guidance of both, through advice and influence.

Protection
and
Improvement
of the
Oppressed
Races.

There still remain to be commemorated a set of proceedings, among the most interesting and the most honourable to our Government, which have distinguished the present century—the measures for raising and civilizing the oppressed races.

There are numerous hill tribes in various parts of India, known under the names of Bheels, Coolies, Goands, Mhairs, Meenas, Mhangs, Ramoosces, and others, who are believed to have been the aboriginal population of the country, driven from the plains by the invasion of the Hindoos. These people had been treated like wild beasts by the native Governments, and, by a natural consequence, had become the scourge of the country. Whenever the Government

was weak, they destroyed all security in the neighbouring plains by their depredations, and had universally acquired the character of irreclaimable robbers.

The first person who is known to have tried the effect of justice and conciliation on any of these tribes, was Mr. Cleveland, an officer high in the civil service of the Company, in the latter part of the last century. The scene of his benevolent exertions was the Bhaugulpore Hills, in the north-east of Bengal; and the feelings which he left behind him among the rude people of the district were such, that they long continued to pay religious honours to his tomb. The example thus set has been largely followed in the present generation. One of the first signal instances of success was in the case of the Mhairs, who inhabit a hill district near Ajmere. Colonel Hall, now on the Company's retired list, originated the movement, and it was worthily carried on by Colonel Dixon, recently deceased. In Western India, the honour of the initiative belongs to Mr. J. P. Willoughby, then a very young officer, who by similar means established peace and order among the Bheels of Rajpeepla, a wild district of Guzerat. The next instance was that of the Bheels of the Adjunttee range, in Southern Candeish, through the agency chiefly of Colonel Ovans, and of the present Sir James Outram; and the measures which proved successful with these Bheels, were successively extended to many similar tribes in different parts of Central India. Another example is that of the Khoonds in Orissa, among whom a policy of the same general character was carried into practice by Major Macpherson. This was the tribe who, as mentioned in a previous part of the present paper, have been induced to abolish human sacrifices.

The mode in which these objects were accom-

plished was in all cases fundamentally the same. They were effected by the admirable power of individual character. Into fastnesses, through which bodies even of disciplined troops had vainly endeavoured to force their way, these officers penetrated, in some cases almost unattended. They trusted themselves to the people. By their courage and frankness they gained their confidence. They made them understand that they were not considered as wild animals to be hunted down; that nothing but their good was intended; and the object which had for years been vainly sought by force, was accomplished by explanation and persuasion. The robber tribes were induced to settle as peaceful cultivators. Lands were assigned to them, tools supplied, and money advanced, for cultivation. In Mhairwarra the Government also constructed important works of irrigation. The more daring spirits were formed into irregular corps, under British officers, and employed to preserve the peace of the districts of which they had once been the principal disturbers. In no single instance has this policy failed. The agricultural colonies composed of these people have all prospered, and the districts which they formerly devastated have become, and remained, among the most free from crime to be found in India. In the late disturbances, not one of the corps composed of these people is known to have mutinied. The Mhairwarra battalion has not only remained faithful, but is, in the present crisis, a valuable part of our local military strength; and there has been no disturbance whatever in that district. Among the Bheels of Candeish there has been a rising, which, by showing that the predatory spirit is not yet thoroughly extinct, enhances the merit of the system of measures by which, for nearly a quarter of a century, it has been

kept dormant. But the corps formed from among these very people by Sir James Outram has done useful service to Government in the present emergency.

The last great example of the success of this policy was given by Colonel John Jacob in Sind, and only differs from the others because the tribes with whom he had to do were not oppressed aborigines, but the proud and warlike mountaineers of the Afghan and Beloochee frontier. The success has been among the most striking yet experienced. For some time after the conquest of Sind, the frontier forays of these tribes kept the country in a perpetual state of disturbance. The attempts to retaliate on them in their hills had been failures, sometimes almost disasters, but had laid the foundation of that knowledge of our power, which enabled subsequent conciliatory measures to have their full effect. Colonel Jacob applied to these people the principles of Mhairwarra and Candeish. He settled on land those who were willing to cultivate, and organized from among the remainder a local military police. The effect is, that in the frontier districts, what was lately a desert waste, is now in great part a thriving agricultural country, yielding a rapidly increasing revenue. For some years there has been scarcely a crime of magnitude on the entire Sind frontier; and the corps which was raised partly from the former devastators of the country, is the celebrated Jacob's Horse.

The preceding review of the improvements in Indian administration, completed or commenced during the present generation, cannot more properly terminate than with this interesting piece of history. It is not pretended that the enumeration approaches to completeness. The instances given are merely some of

the most important achievements of a Government, of which perpetual striving towards improvement is the vital principle. But it is believed that even so imperfect a summary is sufficient to justify the assertion, that few governments, even under far more favourable circumstances, have attempted so much for the good of their subjects, or carried so many of their attempts to a successful and beneficial issue. A Government of foreigners, over a people most difficult to be understood, and still more difficult to be improved,—a Government which has had all its knowledge to acquire, by a slow process of study and experience, and often by a succession of failures (generally, however, leading to ultimate success)—has a right to take pride to itself for having accomplished so much; and most certainly cannot be justly reproached, by any existing Government or people, with not having effected more.

APPENDIX (A).

BENGAL SURVEY.

IN answer to inquiries made by the Court of Directors in 1854 respecting the effects hitherto produced by the survey on litigation, crime, and the value of landed property, the Sudder Court say, in regard to "those classes of offences which would be likely to be influenced by the completion of the survey," that "it is satisfactory to observe" the "current testimony" of the criminal judges "to the diminution which has taken place in this description of crime." This result is partly attributed to the successful operation of Act IV. of 1840, which enables the magistrate to give an effectual remedy in cases of dispossession or ejection; but, they add, "the evidence of the survey papers must have greatly facilitated the proceedings of the magistrate, whose proceedings under the Act in question are determined solely by possession."

In regard to the effect on litigation, the judges say, "The ordinary result of the survey has been to elicit many local differences and disputes which were lying dormant, until the survey award presented an opportunity to gain an advantage over his adversary;" "but as, under Act XIII. of 1848, such suits must be instituted within three years from the final award of the revenue authorities, the litigation thus incidentally raised is afterwards almost entirely brought to an end."

On the question as to the "result of the survey in giving further security to the titles of estates, and generally increasing the value of landed property, the opinions of the local officers are, on the whole, satisfactory. The testimony of all is strongly in favour of the additional security now given to title; and the judge of Shahabad observes, that "on the whole the survey is felt to be a blessing to the community."

The Board of Revenue, Lower Provinces, state that "it is quite clear that the value of the survey records as a basis for butwarrah and settlement proceedings is generally acknowledged. In some districts, butwarrah is applied for without any new measurement, solely on the data furnished by the survey. Their utility in the decision of boundary disputes, also, is universally admitted." In regard to the effect of the survey on the repression of affrays, the Board quote the opinion of Mr. Elliott, Commissioner of Burdwan, that, "by removing the cause of affrays, the survey cannot fail to produce an effect greater even than the most stringent legislation."

In the province of Cuttack (not permanently settled) the survey and settlement operations were combined, and there "the improvement is very perceptible. In Cuttack* the value of landed property is said to have increased twenty-five per cent., and fifty per cent. in Balasore;* but Pooree,* owing to frequent droughts and inundations, is an exception." "The survey," the Commissioner (of Cuttack) remarks, "is worth much more to Government and the people than it has cost."

APPENDIX (B).

SURVEY AND ASSESSMENT OF THE NORTH-WESTERN PROVINCES.

The objects of the survey were, first, to fix on each mehal or estate an assessment "calculated so as to leave a fair surplus profit;" and "for the punctual payment of that sum, the land is held to be perpetually hypothecated to the Government;" secondly, to determine who are the "person or persons entitled to receive this surplus profit. The right thus determined is declared to be heritable and transferable, and the persons entitled to it are considered the proprietors of the land, from whom the engagements for the annual payment of the sum assessed by Government on the mehal

* The three collectorates of the province of Cuttack proper.

“ are taken. The proprietors, when there are more than one, being jointly and severally responsible for the sum assessed on each mehal, it also became necessary to determine the rule according to which they should share the profits, or make good the losses on the estate. When the proprietors were numerous, as was generally the case, engagements were taken only from a few of the body (lumberdars) who, for themselves and their co-proprietors, undertook to manage the mehal, and pay the sum assessed on it.

The first step in the process was to adjust the boundaries of each mouzah, or village, and to prepare a map, showing each field comprised in the mouzah. This being completed, the settlement officer proceeded to determine the assessment to be fixed on the land, by estimating, with as near an approach to accuracy as the means at his disposal would permit, what might be expected to be the net produce* to the proprietor during the period of settlement; and of this amount about two-thirds was fixed as the demand of Government. The village was then offered on these terms to the proprietors, and if they considered them too high, and declined to engage, the Government either leased the estate to a farmer, or collected the rents direct from the cultivators; the excluded proprietors being entitled to a percentage (called malikana) at not less than five per cent on the revenue, and also having the right, at the expiration of twelve years, of claiming to be readmitted to the management.

The fiscal operation of fixing the amount of revenue to be paid by the village being completed, the next process was to ascertain and record the rights possessed by all parties, whether called proprietors or not. When discordant claims were put forward, the question at issue was determined judicially on the spot. Provision is also made for maintaining the “Record of Rights” in a correct condition, by causing registers of all changes in the village to be kept by the putwarree, or village accountant, copies of which are annually forwarded to the collector’s office.

* “ By net produce is meant the surplus which the estate may yield after deducting the expenses of cultivation, including the profits of stock and wages of labour.”

APPENDIX (C).

SURVEY AND ASSESSMENT OF THE BOMBAY TERRITORY.

The first step in the process is to determine the boundaries of the village. The area is then measured and mapped off into survey-fields. If the land is unoccupied, no division of a field is afterwards permitted. When a survey-field actually occupied is owned by several proprietors or sharers, no joint responsibility is admitted, but the sharers of each are separately shown in the map, and the separate proprietorship continues until one of the sharers dies without heirs, or otherwise vacates his share; on which event the vacated share must be taken up by the remaining sharers, or, on their refusal, the whole field must be relinquished. The object of these rules is to consolidate the small holdings, and set limits to the minute subdivision of landed property naturally arising from the Hindoo law of inheritance. But it is believed that, in practice, no difficulty has in such cases been found in inducing the remaining sharers to undertake the responsibility.

The fields of the village being thus measured and mapped, the next process is that of classification, for the purpose of determining the relative values of the fields into which the land is divided. After a minute examination of the physical characters of the soil, its depth, composition, &c., the following considerations are taken into account as regards the fields of the same village; viz. "their natural productive capabilities; their position with respect to the village, as affording facilities or otherwise for agricultural operations; and, in the case of garden or rice lands, the supply of water for irrigation."

The measurement of the fields having been completed, and their classification determined, the amount of the assessment is next to be fixed. This operation is not performed by inquiring into the actual produce of the fields, but rather by an examination into the previous fiscal history of such groups of villages as are distinguished by similar physical characteristics. The statements of former collections, remissions, and

balances, are collated, and compared with the existing rates of assessment. The "climate, position with respect to markets, agricultural skill, and the actual condition of the cultivators," are taken into account; and from a consideration of these combined circumstances, rates are determined for each class of land; the object being to keep those rates within the limit of the natural rent.

The rates, being thus fixed, have only to be applied to the surveyed fields. Thus a field of eight acres, in a class rated at twelve annas an acre, is assessed at six rupees. The assessment thus fixed is declared to be not liable to increase for "thirty years, during which period the full benefit of every improvement, such as the conversion of dry into irrigated land by the digging of wells and tanks, the planting of fruit-trees, &c., will be secured to the incumbent of the land, and no extra assessment levied on that account."

The registered occupiers of fields are held to be the proprietors, so long as they pay the fixed assessment. They have full liberty annually to resign any portion of their holdings, or to increase them by the occupation of waste fields, on giving due notice, and are thus enabled to extend or contract their cultivation according to their means of tillage. In either case, they are responsible only for the assessment of the fields which they actually hold, those relinquished by them being at the disposal of Government, to assign to any one willing to engage for them.

The annual settlement, as it is called, which still takes place in the surveyed districts of the Bombay Presidency, is now limited to an inspection of the fields by the village officers, to ascertain how many are cultivated and how many not. All those that are engaged for, whether cultivated or not, are liable to the payment of the assessment, and those not engaged for, if cultivated, are also liable. The plan of giving remissions for failure of crops, for lands taken but unsown, &c., is abolished; and it is now expressly made known that remissions are not claimable in individual cases, and will never be allowed unless under circumstances of calamity affecting whole districts.

APPENDIX (D).

EXEMPTION OF LANDS IMPROVED BY THE RYOTS FROM
EXTRA ASSESSMENT.

The general rule in force for many years in the Madras Presidency, was to make, in each case of a ryot improving his lands by digging a well or otherwise, an arrangement under which no increase of assessment was imposed until the expiration of a term sufficiently long, not only amply to compensate, but liberally to reward him for the labour and expenditure he might have applied.

After considerable correspondence, however, the Court of Directors determined (2nd June 1852) “to allow to the ryots the full benefit of their own improvements; the land so improved being subjected to no additional assessment on that account, so long as the general rates of the district remain unaltered.”

The Circular Order of the Madras Government, publishing this rule, and announcing that in any general revision of the rates, “any modification in the assessment of lands so improved will be irrespective of the increased value conferred upon them by their holders,” was approved by the Court on the 20th April 1854.

A rule proposed by the Board of Revenue, requiring ryots proposing to sink wells, to give notice to the collector, was disallowed, as tending “to cause delay and obstruction, and to give an opening for exaction to the native servants.”

APPENDIX (E).

SALT REVENUE.

The system actually in operation throughout India is as follows, viz. :—

Lower Provinces of Bengal.—Rate of duty $2\frac{1}{2}$ rupees

per maund of 82½ lbs. avoirdupois; Government salt sold to the people at cost price added to the duty; importation unrestricted, and facilities given to persons willing to manufacture salt under excise regulations.

North-western Provinces.—Manufacture (from saliferous earths) prohibited. Duty on passing the frontier line, Rs. 2 per maund, and 8 annas additional on crossing the Allahabad special line of chokeys.

Punjab.—Salt-mines worked by the Government, and the salt sold at the mines at Rs. 2 per maund.

Fort St. George.—The manufacture of salt a Government monopoly, the price charged to purchasers being one rupee per maund. Importation permitted, on payment of a duty of 14 annas (seven-eighths of a rupee) per maund, supposed to be equivalent to the profit obtained on the monopoly of salt.

Bombay.—No manufacture on the part of Government. An excise duty of 12 annas per maund levied on home-made salt, and a customs duty of equal amount on imported salt.

CORRESPONDENCE

BETWEEN THE

Court of Directors of the East-India Company

AND

HER MAJESTY'S GOVERNMENT,

AND

THE PETITION OF THE EAST-INDIA COMPANY

TO PARLIAMENT

CORRESPONDENCE.

LETTER *from the* CHAIRMAN *and* DEPUTY CHAIRMAN *of the* EAST-INDIA COMPANY *to the Right Honourable* LORD PALMERSTON, K.G.

*East-India House,
December 31, 1857.*

MY LORD,—

It has been our duty to communicate to the Court of Directors and to the Court of Proprietors the intimation which your Lordship has made to us, of the intention of her Majesty's Government to propose to Parliament a Bill for the purpose of placing the Government of Her Majesty's East-India dominions under the direct authority of the Crown.

The contemplated change involves of necessity the abolition, as an instrument of Government, of the East-India Company, the body, by whom, and at whose sole expense, without any demand on the national exchequer, the British empire in India has been acquired, and is maintained; and although the Court of Directors have not been furnished with information as to the grounds on which Her Majesty's Ministers have arrived at their determination, or as to the details of the scheme by which it is proposed to supersede the existing Home Government of India, they, nevertheless, feel it due to themselves, and to the constituent body which they represent, to lose no time in offering a few observa-

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ions which immediately suggest themselves; and they are persuaded that a frank expression of their sentiments cannot be otherwise than acceptable to Her Majesty's Ministers, in their further consideration of this important subject.

The Court were prepared to expect that a searching inquiry would be instituted into the causes, remote as well as immediate, of the mutiny of the Bengal native army. They have themselves issued instructions to the Government of India to appoint a commission in view to such an inquiry; and it would have been satisfactory to them, if it had been proposed to Parliament not only to do the same, but to extend the scope of inquiry to the conduct of the Home Government, for the purpose of ascertaining whether the mutiny could, wholly or partially, be ascribed to mismanagement on the part of the Court, acting under the control of the Board of Commissioners. But it has surprised the Court to hear, that Her Majesty's Government, not imputing, so far as the Court are informed, any blame to the home authorities in connection with the mutiny, and without intending any inquiry by Parliament, or awaiting the result of inquiry by the Local Government, should, even before the mutiny was quelled, and whilst considerable excitement prevailed throughout India, determine to propose the immediate supersession of the authority of the East-India Company, who are entitled at least to the credit of having so administered the Government of India, that the heads of all the native States, and the mass of the population, amidst the excitement of a mutinous soldiery, inflamed by unfounded apprehensions of danger to their religion, have remained true to the Company's rule.

The Court would fail in their duty to your Lordship and to the country, if they did not express their serious apprehension that so important a change will

be misunderstood by the people of India. The Court are by no means insensible to the value attached to the name of the Crown. But the Company are already trustees for the Crown, and the announcement of a great change in the system of government which has existed from the first moment of our possession of India is calculated to excite alarm, the more especially if inaugurated at a time when the Government on the spot finds it difficult to give free action to the retributive justice so eminently due to the guilty, without endangering the innocent, and also when public opinion in this country has been so excited as to press for the abandonment of the policy which the Company have strictly observed, of abstaining from all authoritative interference with such of the religious customs and prejudices of the natives as are not abhorrent to humanity.

The Court submit that, if any such change as that which your Lordship has indicated be thought desirable, it should be introduced in a time of tranquillity, when the circumstances of India and its population could be regarded without prejudice and with calm and deliberate consideration, and when it would not, in the minds of the natives, be directly connected with the recent calamitous events.

In approaching the question of the necessity for making a change, we are requested to state, that the Court would most gladly co-operate with Her Majesty's Government in introducing any reforms into the existing system which might tend to greater simplification and promptitude, with equal security. The Court have always shown themselves ready to acquiesce in any changes which were deemed likely to prove conducive to the general welfare, although such changes may have involved important sacrifices to themselves. They need only refer to their partial relinquishment of trade in 1813; to its total abandonment, and the placing of

the Company's Commercial Charter in abeyance, in 1833; to the transfer then to India of all their large commercial assets, and of their undoubted territorial claims and possessions; and, more lately, to their concurrence in the measure by which their body was reconstituted, and reduced to its present number. Although four years have not yet elapsed since the last change, yet the Court, animated by the same anxiety for the welfare of India, would be prepared without a murmur to relinquish their trust altogether, if satisfied that a system could be devised better calculated than the present to advance the interests of the British Empire there. They would, however, remark, that, in the inquiry which took place in 1852 and 1853, before the legislation of the latter year, the question of the constitution and working of the Home Government was thoroughly sifted, and completely exhausted, and that, therefore, it was not unreasonable to expect that the arrangement of 1853 would have been subjected to the test of a more lengthened experience. The details of the measure which Her Majesty's Government have in contemplation have not yet been made known to the Court. They trust that it will not be attempted to administer the government by means of a single functionary. Such a proposal would, in their judgment, involve a practical impossibility. The mass of business perpetually arising requires much knowledge, long experience, and a division of labour; and, so far as the Court can form an opinion, the duties would not be safely discharged if subject only to the check of Parliament.

The Court are aware that the double government of the Company and the Board of Control is deemed to be objectionable, but whatever may be its defects, and although its working may be clogged by a control of all the details so minute as hardly to have been contemplated by the Legislature, yet in

its results they sincerely believe that the system, possessing as it does a moral check, works on the whole advantageously for India. The Court do not deny that the system is susceptible of improvement, but they think it important to bear in mind that there can be no effective check without a second authority of some kind; and further, that the objection which is taken to the principle of double government, is more nominal than real in the case of the Company, whose duties are rather those of a deliberative than of an executive body.

It is the opinion of the Court that an intermediate, non-political, and perfectly independent body, in concurrence with Her Majesty's Government, is an indispensable necessity, without which there can be no adequate security for good government; and as at present advised, the Court do not see that it will be possible to form such a body, if its members are to be wholly nominated by the Crown. They abstain, however, from offering any further observations to your Lordship, until they are placed in possession of the details of the proposed measure, which they trust may be communicated to them at the earliest possible period.

We have the honour to be,

MY LORD,

Your Lordship's most obedient, humble
Servants,

(Signed) ROSS D. MANGLES.

F. CURRIE.

The Rt. Hon. VISCOUNT PALMERSTON, K.G.,
&c. &c.

LETTER *from the Right Hon.* LORD PALMERSTON
to the CHAIRMAN and DEPUTY-CHAIRMAN of the
EAST-INDIA COMPANY.

*94, Piccadilly,
18th January, 1858.*

GENTLEMEN :—

I have had the honour of receiving your joint letter of the 31st of December upon the subject of the measure which it is the intention of Her Majesty's Government to propose to Parliament with reference to the future system to be established for the government of India; and I beg to assure you that the observations and opinions which you have therein expressed will be duly considered by Her Majesty's Government.

I forbear from entering at present into any examination of those observations and opinions; first, because any correspondence with you on such matters would be most conveniently carried on through the usual official channel of the President of the India Board; and secondly, because the grounds on which the intentions of Her Majesty's Government have been formed, and the detailed arrangements of the measure which they mean to propose, will best be explained when that measure shall be submitted to the consideration of Parliament.

I have the honour to be,

GENTLEMEN,

Your obedient servant,

(Signed) PALMERSTON.

R. D. MANOLES, Esq.
Sir FREDERICK CURRIE.
&c. &c.

THE PETITION OF THE EAST-INDIA
COMPANY.

*To the Right Honourable the Lords Spiritual and
Temporal, and the Honourable the Commons of
the United Kingdom of Great Britain and Ire-
land, in Parliament assembled,*

HUMBLY SHEWETH,

That your Petitioners, at their own expense, and by the agency of their own civil and military servants, originally acquired for this country its magnificent empire in the East.

That the foundations of this empire were laid by your Petitioners, at that time neither aided nor controlled by Parliament, at the same period at which a succession of administrations under the control of Parliament were losing to the Crown of Great Britain another great empire on the opposite side of the Atlantic.

That during the period of about a century which has since elapsed, the Indian possessions of this country have been governed and defended from the resources of those possessions, without the smallest cost to the British Exchequer, which, to the best of your Petitioners' knowledge and belief, cannot be said of any other of the numerous foreign dependencies of the Crown.

That it being manifestly improper that the admi-

nistration of any British possession should be independent of the general Government of the empire, Parliament provided, in 1783, that a department of the Imperial Government should have full cognizance of, and power of control over, the acts of your Petitioners in the administration of India; since which time the home branch of the Indian Government has been conducted by the joint counsels, and on the joint responsibility of your Petitioners and of a Minister of the Crown.

That this arrangement has at subsequent periods undergone reconsideration from the Legislature, and various comprehensive and careful Parliamentary inquiries have been made into its practical operation; the result of which has been, on each occasion, a renewed grant to your Petitioners of the powers exercised by them in the administration of India.

That the last of these occasions was so recent as 1853, in which year the arrangements which had existed for nearly three-quarters of a century, were, with certain modifications, re-enacted, and still subsist.

That, notwithstanding, your Petitioners have received an intimation from Her Majesty's Ministers of their intention to propose to Parliament a Bill for the purpose of placing the government of Her Majesty's East-Indian dominions under the direct authority of the Crown,—a change necessarily involving the abolition of the East-India Company as an instrument of government.

That your Petitioners have not been informed of the reasons which have induced Her Majesty's Ministers, without any previous inquiry, to come to the resolution of putting an end to a system of administration, which Parliament, after inquiry, deliberately confirmed and sanctioned less than five

years ago, and which, in its modified form, has not been in operation quite four years, and cannot be considered to have undergone a sufficient trial during that short period.

That your Petitioners do not understand that Her Majesty's Ministers impute any failure to those arrangements, or bring any charge, either great or small, against your Petitioners. But the time at which the proposal is made, compels your Petitioners to regard it as arising from the calamitous events which have recently occurred in India.

That your Petitioners challenge the most searching investigation into the mutiny of the Bengal army, and the causes, whether remote or immediate, which produced that mutiny. They have instructed the Government of India to appoint a commission for conducting such an inquiry on the spot. And it is their most anxious wish that a similar inquiry may be instituted in this country by your [Lordships] Honourable House; in order that it may be ascertained whether anything either in the constitution of the Home Government of India, or in the conduct of those by whom it has been administered, has had any share in producing the mutiny, or has in any way impeded the measures for its suppression; and whether the mutiny itself, or any circumstance connected with it, affords any evidence of the failure of the arrangements under which India is at present administered.

That, were it even true that these arrangements had failed, the failure could constitute no reason for divesting the East-India Company of its functions, and transferring them to Her Majesty's Government. For, under the existing system, her Majesty's Government have the deciding voice. The duty imposed upon the Court of Directors is to originate measures and frame drafts of instructions. Even

had they been remiss in this duty, their remissness, however discreditable to themselves, could in no way absolve the responsibility of Her Majesty's Government, since the Minister for India possesses, and has frequently exercised, the power of requiring that the Court of Directors should take any subject into consideration, and prepare a draft despatch for his approval. Her Majesty's Government are thus in the fullest sense accountable for all that has been done, and for all that has been forborne or omitted to be done. Your Petitioners, on the other hand, are accountable only in so far as the act or omission has been promoted by themselves.

That, under these circumstances, if the administration of India had been a failure, it would, your Petitioners submit, have been somewhat unreasonable to expect that a remedy would be found in annihilating the branch of the ruling authority which could not be the one principally in fault, and might be altogether blameless, in order to concentrate all powers in the branch which had necessarily the decisive share in every error, real or supposed. To believe that the administration of India would have been more free from error had it been conducted by a Minister of the Crown without the aid of the Court of Directors, would be to believe that the Minister, with full power to govern India as he pleased, has governed ill because he has had the assistance of experienced and responsible advisers.

That your Petitioners, however, do not seek to vindicate themselves at the expense of any other authority. They claim their full share of the responsibility of the manner in which India has practically been governed. That responsibility is to them not a subject of humiliation, but of pride. They are conscious that their advice and initiative have been, and have deserved to be, a great and potent element

in the conduct of affairs in India. And they feel complete assurance that the more attention is bestowed and the more light thrown upon India and its administration, the more evident it will become that the government in which they have borne a part has been not only one of the purest in intention, but one of the most beneficent in act, ever known among mankind; that, during the last and present generation in particular, it has been, in all departments, one of the most rapidly improving governments in the world; and that, at the time when this change is proposed, a greater number of important improvements are in a state of more rapid progress than at any former period. And they are satisfied that whatever further improvements may be hereafter effected in India can only consist in the development of germs already planted, and in building on foundations already laid, under their authority, and in a great measure by their express instructions.

That such, however, is not the impression likely to be made on the public mind, either in England or in India, by the ejection of your Petitioners from the place they fill in the Indian administration. It is not usual with statesmen to propose the complete abolition of a system of government, of which the practical operation is not condemned, and it might be generally inferred from the proposed measures, if carried into effect at the present time, that the East-India Company, having been intrusted with an important portion of the administration of India, have so abused their trust as to have produced a sanguinary insurrection, and nearly lost India to the British empire; and that having thus crowned a long career of misgovernment, they have, in deference to public indignation, been deservedly cashiered for their misconduct.

That if the character of the East-India Company

were alone concerned, your Petitioners might be willing to await the verdict of history. They are satisfied that posterity will do them justice. And they are confident that even now justice is done to them in the minds, not only of Her Majesty's Ministers, but of all who have any claim to be competent judges of the subject. But though your Petitioners could afford to wait for the reversal of the verdict of condemnation which will be believed throughout the world to have been passed on them and their government by the British nation, your Petitioners cannot look without the deepest uneasiness at the effect likely to be produced on the minds of the people of India. To them, however incorrectly the name may express the fact, the British Government in India is the Government of the East-India Company. To their minds the abolition of the Company will, for some time to come, mean the abolition of the whole system of administration with which the Company is identified. The measure, introduced simultaneously with the influx of an overwhelming British force, will be coincident with a general outcry, in itself most alarming to their fears, from most of the organs of opinion in this country as well as of English opinion in India, denouncing the past policy of the Government on the express ground that it has been too forbearing and too considerate towards the natives. The people of India will at first feel no certainty that the new Government, or the Government under a new name, which it is proposed to introduce, will hold itself bound by the pledges of its predecessors. They will be slow to believe that a Government has been destroyed only to be followed by another which will act on the same principles and adhere to the same measures. They cannot suppose that the existing organ of administration would be swept away without the intention of reversing any part of its policy. They will see the authorities, both at home and in India, surrounded by persons vehe-

mently urging radical changes in many parts of that policy. And interpreting, as they must do, the changes in the instrument of government, as a concession to these opinions and feelings, they can hardly fail to believe that, whatever else may be intended, the Government will no longer be permitted to observe that strict impartiality between those who profess its own creed and those who hold the creeds of its native subjects which hitherto characterized it; that their strongest and most deeply-rooted feelings will henceforth be treated with much less regard than heretofore; and that a directly aggressive policy towards everything in their habits, or in their usages and customs, which Englishmen deem objectionable, will be no longer confined to individuals and private associations, but will be backed by all the power of Government.

And here your Petitioners think it important to observe, that in abstaining as they have done from all interference with any of the religious practices of the people of India, except such as are abhorrent to humanity, they have acted not only from their own conviction of what is just and expedient, but in accordance with the avowed intentions and express enactments of the Legislature, framed "in order that regard should be had to the civil and religious usages of the natives," and also "that suits, civil or criminal, against the natives," should be conducted according to such rules "as may accommodate the same to the religion and manners of the natives." That their policy in this respect has been successful, is evidenced by the fact, that during a military mutiny, said to have been caused by unfounded apprehensions of danger to religion, the heads of the native states, and the masses of the population, have remained faithful to the British Government. Your Petitioners need hardly observe how very different would probably have been the issue of the late events, if the native princes, instead

of aiding in the suppression of the rebellion, had put themselves at its head, or if the general population had joined in the revolt; and how probable it is that both these contingencies would have occurred, if any real ground had been given for the persuasion that the British Government intended to identify itself with proselytism. And it is the honest conviction of your Petitioners that any serious apprehension of a change of policy in this respect would be likely to be followed, at no distant period, by a general rising throughout India.

That your Petitioners have seen with the greatest pain the demonstrations of indiscriminate animosity towards the natives of India, on the part of our countrymen in India and at home, which have grown up since the late unhappy events. They believe these sentiments to be fundamentally unjust; they know them to be fatal to the possibility of good government in India. They feel that if such demonstrations should continue, and especially if weight be added to them by legislating under their supposed influence, no amount of wisdom and forbearance on the part of the Government will avail to restore that confidence of the governed in the intentions of their rulers without which it is vain even to attempt the improvement of the people.

That your Petitioners cannot contemplate without dismay the doctrine now widely promulgated that India should be administered with an especial view to the benefit of the English who reside there; or that in its administration any advantage should be sought for Her Majesty's subjects of European birth, except that which they will necessarily derive from their superiority of intelligence, and from the increased prosperity of the people, the improvement of the productive resources of the country, and the extension of commercial intercourse. Your Petitioners regard it as the most honourable charac-

teristic of the government of India by England, that it has acknowledged no such distinction as that of a dominant and a subject race; but has held that its first duty was to the people of India. Your Petitioners feel that a great portion of the hostility with which they are assailed, is caused by the belief that they are peculiarly the guardians of this principle, and that so long as they have any voice in the administration of India, it cannot easily be infringed. And your Petitioners will not conceal their belief that their exclusion from any part in the Government is likely at the present time to be regarded in India as a first successful attack on that principle.

That your Petitioners, therefore, most earnestly represent to your [Lordships] Honourable House, that even if the contemplated change could be proved to be in itself advisable, the present is a most unsuitable time for entertaining it; and they most strongly and respectfully urge on your [Lordships] Honourable House the expediency of at least deferring any such change until it can be effected at a period when it would not be, in the minds of the people of India, directly connected with the recent calamitous events, and with the feelings to which those events have either given rise or have afforded an opportunity of manifestation. Such postponement, your Petitioners submit, would allow time for a more mature consideration than has yet been given, or can be given in the present excited state of the public mind, to the various questions connected with the organization of a government for India; and would enable the most competent minds in the nation calmly to examine whether any new arrangement can be devised for the home government of India uniting a greater number of the conditions of good administration than the present; and, if so, which among the numerous schemes which have been, or may be, proposed, possesses those requisites in the greatest degree.

That your Petitioners have always willingly acquiesced in any changes which, after discussion by Parliament, were deemed conducive to the general welfare, although such changes may have involved important sacrifices to themselves. They would refer to their partial relinquishment of trade in 1813; to its total abandonment, and the placing of their Commercial Charter in abeyance, in 1833; to the transfer to India of their commercial assets, amounting to £15,858,000, a sum greatly exceeding that ultimately repayable to them in respect of their capital; independent of territorial rights and claims; and to their concurrence, in 1853, in the measure by which the Court of Directors was reconstructed, and reduced to its present number. In the same spirit, your Petitioners would most gladly co-operate with Her Majesty's Government in correcting any defects which may be considered to exist in the details of the present system; and they would be prepared, without a murmur, to relinquish their trust altogether, if a better system for the control of the Government of India can be devised. But, as they believe that in the construction of such a system there are conditions which cannot, without the most dangerous consequences be departed from, your Petitioners respectfully and deferentially submit to the judgment of your [Lordships] Honourable House their view of those conditions; in the hope that if your [Lordships] Honourable House should see reason to agree in that view, you will withhold your legislative sanction from any arrangement for the government of India which does not fulfil the conditions in question in at least an equal degree with the present.

That your Petitioners may venture to assume that it will not be proposed to vest the home portion of the administration of India in a Minister of the Crown, without the adjunct of a council composed of statesmen experienced in Indian affairs. Her

Majesty's Ministers cannot but be aware that the knowledge necessary for governing a foreign country, and in particular a country like India, requires as much special study as any other profession, and cannot possibly be possessed by any one who has not devoted a considerable portion of his life to the acquisition of it.

That in constituting a body of experienced advisers to be associated with the Indian Minister, your Petitioners consider it indispensable to bear in mind that this body should not only be qualified to advise the minister, but also, by its advice, to exercise, to a certain degree, a moral check. It cannot be expected that the minister, as a general rule, should himself know India; while he will be exposed to perpetual solicitations from individuals and bodies, either entirely ignorant of that country, or knowing only enough of it to impose on those who know still less than themselves, and having very frequently objects in view other than the interests or good government of India. The influences likely to be brought to bear on him through the organs of popular opinion will, in the majority of cases, be equally misleading. The public opinion of England, itself necessarily unacquainted with Indian affairs, can only follow the promptings of those who take most pains to influence it, and these will generally be such as have some private interest to serve. It is, therefore, your Petitioners submit, of the utmost importance that any council which may form a part of the Home Government of India should derive sufficient weight from its constitution, and from the relation it occupies to the minister, to be a substantial barrier against those inroads of self-interest and ignorance in this country from which the Government of India has hitherto been comparatively free, but against which it would be too much to expect that Parliament should of itself afford a sufficient protection.

That your Petitioners cannot well conceive a worse form of government for India than a minister with a council whom he should be at liberty to consult or not at his pleasure, or whose advice he should be able to disregard, without giving his reasons in writing, and in a manner likely to carry conviction. Such an arrangement, your Petitioners submit, would be really liable to the objections, in their opinion, erroneously urged against the present system. Your Petitioners respectfully represent that any body of persons associated with the minister, which is not a check, will be a screen. Unless the council is so constituted as to be personally independent of the minister, unless it feels itself responsible for recording an opinion on every Indian subject, and pressing that opinion on the minister, whether it is agreeable to him or not; and unless the minister, when he overrules their opinion, is bound to record his reasons, their existence will only serve to weaken his responsibility, and to give the colourable sanction of prudence and experience to measures in the framing of which those qualities have had no share.

That it would be vain to expect that a new council could have as much moral influence, and power of asserting its opinion with effect, as the Court of Directors. A new body can no more succeed to the feelings and authority which their antiquity and their historical antecedents give to the East-India Company, than a legislature under a new name, sitting in Westminster, would have the moral ascendancy of the Houses of Lords and Commons. One of the most important elements of usefulness will thus be necessarily wanting in any newly constituted Indian council, as compared with the present.

That your Petitioners find it difficult to conceive that the same independence in judgment and act,

which characterizes the Court of Directors, will be found in any council all of whose members are nominated by the Crown. Owing their nomination to the same authority, many of them probably to the same individual minister, whom they are appointed to check, and looking to him alone for their re-appointment, their desire of recommending themselves to him, and their unwillingness to risk his displeasure by any serious resistance to his wishes, will be motives too strong not to be in danger of exercising a powerful and injurious influence over their conduct. Nor are your Petitioners aware of any mode in which that injurious influence could be guarded against, except by conferring the appointments, like those of the Judges, during good behaviour; which, by rendering it impossible to correct an error once committed, would be seriously objectionable.

That your Petitioners are equally unable to perceive how, if the controlling body is entirely nominated by the Minister, that happy independence of Parliamentary and party influence, which has hitherto distinguished the administration of India and the appointment to situations of trust and importance in that country, can be expected to continue. Your Petitioners believe that in no government known to history have appointments to offices, and especially to high offices, been so rarely bestowed on any other considerations than those of personal fitness. This characteristic, but for which in all probability India would long since have been lost to this country, is, your Petitioners conceive, entirely owing to the circumstance that the dispensers of patronage have been persons unconnected with party, and under no necessity of conciliating parliamentary support; that, consequently, the appointments to offices in India have been, as a rule, left to the unbiassed judgment of the local authorities; while the nominations to the civil and

military services have been generally bestowed on the middle classes, irrespective of political considerations, and, in a large proportion, on the relatives of persons who had distinguished themselves by their services in India.

That your Petitioners, therefore, think it essential that at least a majority of the Council which assists the minister for India with its advice, should hold their seats independently of his appointment.

That it is, in the opinion of your Petitioners, no less necessary that the order of the transaction of business should be such as to make the participation of the Council in the administration of India a substantial one. That to this end, it is, in the opinion of your Petitioners, indispensable that the despatches to India should not be prepared by the Minister and laid before the Council, but should be prepared by the Council and submitted to the Minister. This would be in accordance with the natural and obvious principle that persons chosen for their knowledge of a subject should suggest the mode of dealing with it, instead of merely giving their opinion on suggestions coming from elsewhere. This is also the only mode in which the members of the Council can feel themselves sufficiently important or sufficiently responsible to secure their applying their minds to the subjects before them. It is almost unnecessary for your Petitioners to observe, that the mind is called into far more vigorous action by being required to propose than by merely being called on to assent. The Minister has necessarily the ultimate decision. If he has also the initiative, he has all the powers which are of any practical moment. A body whose only recognized function was to find fault, would speedily let that function fall into desuetude. They would feel that their co-operation in conducting the government of India was not really desired; that they were only felt as a clog on the

wheels of business. Their criticism on what had been decided without their being collectively consulted would be felt as importunate, as a mere delay and impediment ; and their office would probably be seldom sought but by those who were willing to allow its most important duties to become nominal.

That with the duty of preparing the despatches to India, would naturally be combined the nomination and control of the home establishments. This your Petitioners consider absolutely essential to the utility of the Council. If the officers through whom they work are in direct dependence upon an authority higher than theirs, all matters of importance will in reality be settled between the Minister and the subordinates, passing over the Council altogether.

That a third consideration, to which your Petitioners attach great importance, is, that the number of the Council should not be too restricted. India is so wide a field, that a practical acquaintance with every part of its affairs cannot be found combined in any small number of individuals. The Council ought to contain men of general experience and knowledge of the world ; also men specially qualified by financial and revenue experience, by judicial experience, diplomatic experience, military experience. It ought to contain persons conversant with the varied social relations and varied institutions of Bengal, Madras, Bombay, the North-Western Provinces, the Punjab, and the native states. Even the present Court of Directors, reduced as it is in numbers by the Act of 1853, does not contain all the varieties of knowledge and experience desirable in such a body. Neither, your Petitioners submit, would it be safe to limit the number to that which would be strictly sufficient, supposing all the appointments to be the best possible. A certain margin should be allowed for failures, which, even with the most conscientious

selection, will sometimes occur. Your Petitioners, moreover, cannot overlook the possibility that, if the nomination takes place by Ministers at the head of a political party, it will not always be made with exclusive reference to personal qualifications; and it is indispensable to provide that such errors or faults in the nominating authority, so long as they are only occasional, shall not seriously impair the efficiency of the body.

That while these considerations plead strongly for a body not less numerous than the present, even if only regarded as advisers of the Minister, their other office, as a check on the Minister, forms, your Petitioners submit, a no less forcible objection to any considerable reduction of the present number. A body of six or eight will not be equal to one of eighteen, in that feeling of independent self-reliance which is necessary to induce a public body to press its opinion on a minister to whom that opinion is unacceptable. However unobjectionably in other respects so small a body may be constituted, reluctance to give offence will be likely, unless in extreme cases, to be a stronger habitual inducement in their minds than the desire to stand up for their convictions.

That if, in the opinion of your [Lordships] Honourable House, a body can be constituted which unites the above enumerated requisites of good government in a greater degree than the Court of Directors, your Petitioners have only to express their humble hope that your endeavours for that purpose may be successful. But if, in enumerating the conditions of a good system of Home Government for India, your Petitioners have in fact enumerated the qualities possessed by the present system, then your Petitioners pray that your [Lordships] Honourable House will continue the existing powers of the Court of Directors.

That your Petitioners are aware that the present Home Government of India is reproached with being a double Government; and that any arrangement by which an independent check is provided to the discretion of the Minister will be liable to a similar reproach. But they conceive that this accusation originates in an entire misconception of the functions devolving on the Home Government of India, and in the application to it of the principles applicable to purely executive departments. The Executive Government of India is, and must be, seated in India itself. The Court of Directors is not so much an executive, as a deliberative body. Its principal function, and that of the Home Government generally, is not to direct the details of administration, but to scrutinize and revise the past acts of the Indian Governments; to lay down principles, and issue general instructions for their future guidance, and to give or refuse sanction to great political measures, which are referred home for approval. These duties are more analogous to the functions of Parliament, than to those of an Executive Board: and it might almost as well be said that Parliament, as that the Government of India, should be constituted on the principles applicable to Executive Boards. It is considered an excellence, not a defect, in the constitution of Parliament, to be not merely a double but a triple Government. An executive authority, your Petitioners submit, may often with advantage be single, because promptitude is its first requisite. But the function of passing a deliberate opinion on past measures, and laying down principles of future policy, is a business which, in the estimation of your Petitioners, admits of, and requires the concurrence of more judgments than one. It is no defect in such a body to be double, and no excellence to be single; especially when it can only be made so by cutting off that branch of it which by previous training is always the best prepared, and often the only one which is prepared at all, for its peculiar duty.

That your Petitioners have heard it asserted that, in consequence of what is called the double Government, the Indian authorities are less responsible to Parliament and the nation, than other departments of the government of the Empire, since it is impossible to know on which of the two branches of home government the responsibility ought to rest. Your Petitioners fearlessly affirm, that this impression is not only groundless, but the very reverse of the truth. The home Government of India is not less, but more responsible, than any other branch of the administration of the State; inasmuch as the President of the Board of Commissioners, who is the minister for India, is as completely responsible as any other of Her Majesty's ministers, and in addition, his advisers also are responsible. It is always certain, in the case of India, that the President of the Board of Commissioners must have either commanded or sanctioned all that has been done. No more than this, your Petitioners submit, can be known in the case of the head of any department of Her Majesty's Government. For it is not, nor can it rationally be supposed, that any minister of the Crown is without trusted advisers; and the minister for India must, for obvious reasons, be more dependent than any other of Her Majesty's ministers, upon the advice of persons whose lives have been devoted to the subject on which their advice has been given. But in the case of India, such advisers are assigned to him by the constitution of the Government, and they are as much responsible for what they advise as he for what he ordains: while in other departments the Minister's only official advisers are the subordinates in his office—men often of great skill and experience, but not in the public eye; often unknown to the public even by name; official reserve precludes the possibility of ascertaining what advice they give, and they are responsible only to the Minister himself. By what application of terms this can be

called responsible government, and the joint government of your Petitioners and the India Board an irresponsible government, your Petitioners think it unnecessary to ask.

That without knowing the plan on which Her Majesty's Ministers contemplate the transfer to the Crown of the servants of the Company, your Petitioners find themselves unable to approach the delicate question of the Indian Army, further than to point out that the high military qualities of the officers of that army have unquestionably sprung in a great degree from its being a principal and substantive army, holding Her Majesty's commissions and enjoying equal rank with Her Majesty's officers, and your Petitioners would earnestly deprecate any change in that position.

That your Petitioners, having regard to all these considerations, humbly pray your [Lordships] Honourable House, that you will not give your sanction to any change in the constitution of the Indian Government during the continuance of the present unhappy disturbances, nor without a full previous inquiry into the operation of the present system. And your Petitioners further pray that this inquiry may extend to every department of Indian administration. Such an inquiry your Petitioners respectfully claim, not only as a matter of justice to themselves, but because, when, for the first time in this century, the thoughts of every public man in the country are fixed on India, an inquiry would be more thorough, and its results would carry much more instruction to the mind of Parliament, and of the country, than at any preceding period.

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LONG AND WYMAN, PRINTERS, GREAT QUEEN STREET,
LINCOLN'S-INN FIELDS.

MARCH 24TH, 1867.

COUNCIL OF THE GOVERNOR GENERAL OF INDIA

ASSEMBLED AT CALCUTTA,

FOR THE PURPOSE OF MAKING LAWS AND REGULATIONS.

FINANCIAL STATEMENT,

1866-67.

BY THE RIGHT HONORABLE W. N. MASSEY.

[Corrected and Revised.]

CALCUTTA:
MILITARY ORPHAN ASYLUM
1866.

FINANCIAL STATEMENT

THE RIGHT HON'BLE MASSEY,

24th March 1866.

[Corrected and Revised.]

It is now my duty to lay before the Council the financial result of the year which expired on the 30th of April last; the results, so far as they have been ascertained, of the current year, and also the Estimate for the ensuing year, 1866-67.

According to the Estimates of 1864-65, we should have had a Revenue in excess of Expenditure of £923,288.

Unfortunately those anticipations have not been realized, and instead of a surplus of over £800,000, the actual result is a deficit of £193,520, the difference being upwards of a million sterling. Now this difference is caused by the over-estimate of a great head of Revenue, and under-estimate of a great head of Charge. The Military Expenditure had been under-estimated by more than £500,000. This under-estimate was caused by circumstances not in contemplation when the estimate was framed. There was a demand for increased expenditure on account of increased price of provisions. There was the substitution of full for half batta. And lastly, there were the expenses arising out of the Bhután War.

Financial
results of the A.
ccounts of
1864-65.

On the Revenue side of the account, with one exception, the calculation had been so moderate that the Revenue has yielded £327,622 more than was estimated. But unfor-

unfortunately Opium, that great disturbing element of Indian Finance, did not sustain the estimate. There was a falling off in the returns from the sale of that drug, as compared with the Estimate, of upwards of £800,000, so that, putting together the failure of Opium and the under-calculation of Military Expenditure, the result is a deficit of £193,520. For the present I will say no more upon the financial transactions of 1864-65. I shall have occasion to refer to them again; but I will now proceed to the current year, which will expire on the 30th April next.

Result of the
variations of
1865-66 accord-
ing to the Re-
gular Estimate.

This year has been marked by great vicissitudes. It was the misfortune of my predecessor to meet the Council at this time last year with his Expenditure in excess of his Revenue. Sir Charles Trevelyan had estimated the Expenditure at £47,204,450. The Revenue derived from ordinary and existing sources was estimated at £46,488,760. The result was a deficit of £715,690, and it was deemed necessary to balance Revenue and Expenditure by resorting to other means. The means adopted by Sir Charles Trevelyan are in the recollection of the Council. He proposed by additional Customs Duties to raise £330,000. He also proposed, in consideration of the increasing Charge of Public Works and of Military demands, to recruit the Revenues of the year by a loan of £1,200,000. It was, therefore, Sir Charles Trevelyan's opinion that the normal state of the finances required only a permanent addition of about £300,000, and that occasional demands were to be met by a loan which would be a simple charge for that particular year. The result of these operations would have been to convert the deficit of £715,690 into a surplus of £874,310. The extraordinary ways and means by which my predecessor proposed to recruit his Revenue were however disallowed by Her Majesty's Government, and the Revenue consequently fell back upon the ordinary resources, the result being that the deficit of £715,690 was reduced by only £60,000

and remained at £655,690. In the progress of the year, that unfortunate state of things was aggravated. The estimated Expenditure was increased (speaking in round numbers) by a sum of £173,000, and if the Council will allow me for one moment, for the purpose of these calculations, to eliminate both from the Budget Estimate and the Regular Estimate at which we have now arrived, a single head of Revenue, the Receipts exhibit a decrease of £422,420. Therefore, if you add the increased expenditure of the Army, and also the decreased returns from the Revenue, to the original deficit of £715,690, you will arrive at the formidable figure of £1,250,000.

Such was the state of our affairs at the commencement of this year; and had it not been for the fluctuations of that great source of Revenue to which I have adverted, and which the Council will readily understand to be Opium, I should have had this day to meet the Council with a deficit of one million and a quarter. I have shown you the effect of this disturbing element of Indian finance on the Estimates of last year. I shall now show you that, oscillating with equal violence, though fortunately this time in the right direction, it has produced a nearly equal effect on the current year. In 1864-65, Opium yielded £338,000 less than the Estimate. In the present year it will yield £915,000 more than the Estimate. Thus the effect of restoring Opium to its place in the Balance-Sheet will be the reduction of the deficit of £1,250,000 to £335,000.

I now pass to the Estimates of the year which will commence on the 1st of May. Budget Estimate of 1866-

I will at once show the Council the sum total of the Balance-Sheet. We estimate our Expenditure at £46,825,600. We estimate our Revenue at £16,752,800. The result is that we have a deficit of £72,800. Considering the growing increase of almost every head of Charge, and that in Revenue

the ensuing year we shall be deprived of one great source of Income which has succoured our Revenue during the last three or four years—the Income Tax—considering also that the allotment for Public Works is swollen by the sum of nearly two millions, the first instalment of an expenditure of ten millions for new Barracks—I do not think that we have much reason to despair of our finances. It would have sounded better if we could have placed the small difference between Income and Expenditure on the other side of the account. But it is really immaterial whether so small a sum as £72,800 stands on the one side of the account or the other. The only question is, whether it is prudent to suffer our Revenue and Expenditure to remain nearly in a state of equilibrium. That question of course depends on a variety of considerations, and is not to be determined by the mere result of casting up the figures.

The different heads of Revenue according to our Estimate for the coming year are for the most part in an improving condition. I cannot state that there is any great advance in any particular branch of Revenue. But I find a result which, to my mind, is more satisfactory, a gradual progression. If you look at the figures of your Balance-Sheet and find an increasing Revenue, you consider whether that increase is caused by a natural development of the ordinary sources of Revenue, or whether it is attributable to accidental causes, the recurrence of which cannot be calculated on. I can confidently tell the Council, after careful examination of these accounts, that, so far as the Revenue shows progress, I believe that progress to be sound; I believe that it represents a principle of progression, and that we may fairly expect that succeeding years will show a regular increase.

Our Revenue is in that balanced state that we have had to scrutinize every figure, because if we put down under

any head more than was likely to be realized, we should be likely to disconcert the whole of our calculations. If, as in England, you have an annual surplus of millions, you may be allowed some latitude in your Estimates. It is true that our ordinary Revenue has made satisfactory progress, but it is equally true that we cannot safely look to this expansion beyond certain limits.

The Land Revenue in 1864-65 was £20,095,061. Our Land Revenue Estimate for the ensuing year is £20,254,300, an increase of £160,000. Connected with Land Revenue is one small item—Forests. It is of very recent origin. At present it can hardly be said to have emerged from obscurity. But still it shows a figure which exhibits a large proportionate augmentation. We received from Forests in the year 1864-65 £351,000; we calculate on receiving in the next year £462,000.

The next head is Abkari, which returned 2½ mil- Abkari. lions in 1864-65. We expect to receive in the present year something like the same amount. We have estimated only a small increase, £80,000.

Then we come to the Income Tax, which in 1864-65 Income Tax yielded a sum of £1,281,817, but in the Estimate of the present year dwindles down to £10,000, which we have set down against the small residue of arrears still outstanding. Thus under a single head, the permanent Revenue sustains a loss of £1,200,000, or, deducting the one per cent. appropriated to Local Works, about £900,000.

Customs in the year 1864-65 yielded £2,296,929. Our Customs. Estimate for the next year is £2,414,100. This is not a very satisfactory figure, for it shows that, however the country may have made progress in other respects, commerce has not improved to the extent which might have fairly been anticipated, and which I hope it may attain to in future

Opium.

I now come to the great head of Revenue which is the source of distraction to our finances, and to those who have to administer them. I refer of course to Opium. The returns from Opium in 1864-65 were £7,361,405. The amount which we expect to receive in the current year is £8,638,000. The Estimate of Sir Charles Trevelyan was framed upon the very moderate returns for three or four preceding months. Those low figures were maintained for the first three or four months of the present financial year. There was an unusually large quantity of Opium for sale during the present year, and, upon the advice of the Lieutenant-Governor of Bengal, we limited the number of chests for next year. The result of this announcement was that the price immediately rose from Rs. 850 to Rs. 1,000 a chest, and every month has shown an increase upon its predecessors, the last sale having averaged Rs. 1,487. Considering the price which has been steadily ruling since the month of August, the Government of Bengal is of opinion that we may safely set the gross Revenue for Bengal and Behar Opium at 6½ millions, that is, about £140,000 less than the estimated returns of the preceding year. Accordingly our Estimate for 1866-67 is Rs. 1,300 per chest, which will yield £6,240,000.

Bombay
Opium.

The Opium returns would have shown a still more satisfactory figure if it had not been for the minor market of Bombay. Bombay Opium, as the Council is aware, is sold on a different principle from that of Bengal. Here we have a monopoly of the drug. There we levy a pass duty. That duty is at present Rs. 600 per chest. It was calculated that £2,500,000 would have been derived from the sales this year, and the high prices quoted in China fully justified the expectation that every available chest of Opium would have been brought down to Bombay for shipment. But unfortunately the drug has come into competition with an article of more immediate attraction, and Bombay Opium has been par-

ually sacrificed to Cotton, from the export of which we derive no Revenue whatever. The result is that, instead of getting 2½ millions, we shall not realize more than two millions. If Bombay Opium had done its duty as Bengal has done, instead of our having a deficit of £300,000 in the current year, we should have had a surplus to nearly the same amount.

Stamps in 1864-65 yielded £1,972,098. This year we put the figure at £2,000,660.

The other items are not of sufficient importance to warrant me in detaining the Council. They vary in small sums, but they vary in such a manner as not to illustrate the progress of our finances. The variations which must happen from year to year would be idle to speculate upon the causes which produce any marked difference between one minor article and another.

The total estimated Revenue for the year 1866-67 being £16,752,800, I now turn to the other side of the account. In the same way as the Revenue shows a gradual advance, so, I am sorry to say, the other side of the account exhibits at least an equal progress in Expenditure. The country has become more prosperous, the necessaries of life more expensive, and the attractions which India presents have certainly not increased. The result has been, that we have had to raise salaries, to make allowances for an increased price of living, and to provide for the enhanced cost of maintaining the Army, both European and Native. The charge for the Army in 1864-65 was £13,181,957. The Estimate for the present year is nearly the same. The difference is £757,000. But the Estimate of 1866-67 is a considerable diminution on the Charge of the current year. That diminution has been caused in part by the cessation of the Bhután War, a peace having been concluded to the circumstances of the case and to the necessities of the people with whom we had to

Other items
of Revenue.

Total Estimated Revenue
for 1866-67.

deal. Besides dispensing with a Native regiment at Madras, certain reductions have been made in the rank and file of the Army on the representation of His Excellency the Commander-in-Chief. Probably my Hon'ble and gallant friend will take the opportunity, before the Council rises, of explaining the grounds on which he has thought fit to recommend these reductions. Anxious as I am that the finances should be relieved as far as possible from pressure, I should be the last person to urge any reduction in our Military Force not justified by the circumstances of the country. My Hon'ble and gallant friend has, however, satisfied his colleagues and convinced Her Majesty's Government that the retrenchments which he has proposed can be safely effected. The saving will amount to more than £300,000, the greater part of which will be available in the ensuing year.

Remarks on the results of preceding years, and anticipated expenditure in 1866-67.

Now, Sir, the result, so far as we have gone, suggests some serious considerations. I have shown that the year 1864-65 has been ascertained to be a year of deficit. I have shown that the current year will probably also be a year of deficit; and I have laid before you an Estimate which shows a deficit for the ensuing year. In fact, the year 1862-63 was substantially the last year of surplus. The year 1863-64 certainly resulted in a nominal surplus of £78,000, but so small a sum as that is hardly appreciable. A surplus ought to be an absolute and substantial sum, representing a positive and manifest increase of Income over Expenditure, and you cannot give such a name to the trifling figure I have mentioned. I am justified therefore in saying that the year 1862-63 was the last year of surplus Revenue. But the year 1862-63 was an exceptional year. It was the first year that showed any results of the great financial operations commenced in 1859-60, when the finances of this country were in a most disordered state,—a state bordering on bankruptcy. It became necessary in that year, therefore, to deal with our financial system in an extraordinary manner, and the operations which

went on in 1859-60 and the three succeeding years, are rather to be considered a re-construction of our financial system than ordinary adjustments between Revenue and Expenditure. In 1859-60 the Army Expenditure was reduced from 21 millions to 12½ millions. The Civil Service had also to undergo the rigid discipline of finance. It was reduced by a million and a half. The Salt and Stamp duties were greatly increased. The Income Tax was imposed for the first time; and the year 1862-63 was the first year that exhibited the result of these enormous changes. It so happened also that in 1862-63, by one of those vagaries to which the Opium Revenue is subject, the returns from that source were 1½ million in excess of the Estimate. The result was that the Balance-Sheet of 1862-63, which had been prepared so as to leave a fair working margin, exhibited a surplus of £1,800,000, and although this figure was afterwards reduced by the Secretary of State, according to a mode of stating the account different to that which had been adopted here, there was still a large balance on the right side; inasmuch that my predecessor announced in the following year that the reign of deficit had ceased, and that of surplus had commenced. Unfortunately that expectation has not been realized, and I have to-day to ask whether you are satisfied with a statement showing a deficit in three succeeding years. This brings us to the question—Shall Expenditure be reduced, or taxation be increased? Before answering that question, let us take a general review of our finances for the last few years. Our Expenditure in 1863-64 was 44½ millions. In 1864-65 it was 45½ millions. In 1865-66 it is estimated at 47½ millions; and in 1866-67 at 46½ millions; so that, compared with the year 1863-64, there has been an increase of upwards of two millions. If that ratio of Expenditure is to go on, it is quite manifest that our existing resources cannot keep pace with it. What is the nature of this formidable increase of Charge? A part of it, and a considerable part, I find, is attributable to augmented

Increase of charges 1866-67

establishments consequent on the increase of Income under the different heads of Revenue. Thus there are £200,000 due to Land Revenue, Forest and Abkâri. We have for some years been engaged in a revision of the whole of the country not already in settlement. The Expenditure thus incurred has been considerable, but the Charge is finite, while the result will be a large permanent addition to the Revenue. I may mention that, as regards Oude alone, the result will be an increase of the Land Revenue to the extent of £340,000 a year. Therefore, so far as the additional Expenditure is represented by an outlay of that kind, it is an outlay to produce large returns. A Charge has also been incurred in improving the Income derived from Forests, resulting in an increase of one-fourth, or about £100,000 a year. The growing Charge for Telegraphs will likewise be productive of Income. The large advance in the vote for Public Works on account of new Military Buildings, represents, for the most part, undertakings necessary for the public service, but which, when completed, will entail no other charge than the cost of repairs.

Land Revenue,
Forest, Abkâri.

Telegraph
Department.

Public Works.

Law and Jus-
tice.

Education.

Medical Ser-
vices.

Then there is a second class of increased Charge, which, although unprofitable in a financial sense, yet in a larger view is gratifying, inasmuch as it represents the progress of the country in wealth, prosperity, and civilization. Thus we find that Law and Justice have increased by £200,000. Then Education will require an advance of £100,000 upon the vote of the previous year. Medical Services have been increased by £26,000; and even such items as Stationery and Printing show a considerable increase.

There is one item of increase not likely to recur. The charge for stores which has doubled in the last year owing to the necessity of replacing stock, and partly to the Bhutân war, which, if it has not been marked by glitter and glory, has been unfortunately attended by the usual financial con-

sequences of military operations. Many heads of Expenditure show increase. But the necessity for this increase I have already explained by the augmented price of the necessaries of life, which are not likely to undergo any diminution for some time to come, and therefore we must look upon the increase as permanent.

Army

Passing now to the other side of the account, since the year 1863-64, there has been a steady progress under the principal heads of Revenue, with the exception of Customs, the Revenue from which has been diminished in consequence of the derangement of trade in Lancashire owing to the American War. Land, Stamps, Abkari, and Salt show an increase which, if not quite commensurate with the progress of Expenditure, is not very far from being so. But not to detain the Council by dwelling on minor particulars, I proceed now to give the totals. The actual Revenue of 1863-64 was £14,600,000. In 1864-65, which was the last year of the Income Tax, our Revenue was £15,600,000. The Revenue of the current year is expected to result in a round sum of 47 millions, more by 1½ millions than the former year; and if we make allowance for the loss of Income Tax, the Revenue will show improvement to the extent of two millions.

Remarks on
the Revenue

The result at which we arrive then is this. So far as ordinary Income is concerned, on the whole, it keeps pace with Expenditure. But to make both ends meet, we have to rely on a head of Revenue of the unstable and capricious character to which I have so frequently adverted. In order to maintain our financial system on its present footing, we must depend upon Opium. But the whole blame must not attach to Opium. There was on the other side of the account a disturbing element of Charge. I mean the great grant for Public Works. But there is this difference between Opium and Public Works, that although they are

Necessity of
regulating Ex-
penditure on
Public Works.

both disturbing elements of finance, you have little or no control over the one, whilst you have an almost absolute power over the other; and if you wish to maintain any thing like equilibrium between your Receipts and Expenditure for the next three or four years, you must not allow this vote (so to speak) to have its own way. I know it will be said that the vote is practically uncontrollable. The promoters of Expenditure of this kind invariably say that it is necessary and urgent; but whether it be a Barrack, a Church, a Dock or Road, any one of these Charges can be postponed to a more favourable season, if brought forward at a time when our finances are not in a condition to meet it. The Estimate under this head comprises *not only Charges for Public Works*, the sanction of which is optional, but also items which are debitable rather to Capital than to Income. If we had a flourishing and redundant Revenue, it might not be worth while to discriminate between these items; but if taxation is to be kept within the limits prescribed by the ordinary demands of the public service, this vote must be subjected to a rigid scrutiny. It has grown from £4,400,000 in 1862-63, to £5,350,000 in 1865-66, with an Estimate for more than a million in advance of this sum in the ensuing year.

Cash Balances.
And their use in
emergencies.

I am afraid I am wearying the Council. But our Revenue is in such a state that a close examination is necessary in order to understand it rightly. If the finances of India were wholly dependent from year to year on the Balance-Sheet, they could not be safely left in a condition which provides no resource against emergencies, to which every Government, and perhaps this Government especially, is liable. But we have such a resource in our Cash Balances. Owing to the peculiarity of our administration, the public monies, instead of being collected in two or three depositaries, are diffused through a great number of Treasuries and Collectorates scattered through the country; and the con-

sequence is that a far greater amount of money is required to be kept in reserve for the public service than would be necessary under a concentrated system. As the country is opened up by railroads, we shall be able to dispense with many of the minor treasuries, and in proportion as they disappear, we shall be able to work the Government with diminished balances. At present we require about ten millions; all that we have beyond that amount is available for other purposes. The Cash Balances for the year 1864-65 were estimated at £11,417,000; but the closing balance actually ascertained on 30th April was £12,638,897. The Cash Balance, which was estimated by Sir Charles Trevelyan for the year about to expire, was £10,860,000. It is ^{Cash Balance on 30th April 1866.} now estimated at £12,859,000. This difference has been brought about partly by the increase of £915,000 in Opium Revenue beyond Sir C. E. Trevelyan's Estimate, and the increase of Railway Traffic Receipts. These may be held to have compensated for the Loan of 1½ million on which Sir Charles Trevelyan relied and for the additional Customs Duties.

The excess of £1,999,000 of the closing Cash Balance of 1865-66 over Sir C. E. Trevelyan's Estimate, arises practically from an under-estimate of 1,221,897 of the opening Cash Balance of 1865-66 and from another cause. In the original Estimate from Home for the current year, the Secretary of State proposed to draw upon India to the extent of £800,000 more than his drafts actually reached. The drafts were thus diminished in consideration of the disallowance of the additional revenue which the Government of India had included in their ways and means for the service of the year. But unfortunately the expenses of the Home Government did not admit of retrenchment to a corresponding amount, and the money was obtained by the sale of stock, the proceeds of which were credited in the Home Accounts. The transaction, though it does not appear in our Balance-Sheet, has in fact added £800,000 to

the Indian Balances. We have estimated the Cash Balance on the 1st of May 1867 at £10,506,000.

Considering then that, on the whole, our Revenue keeps pace with our Expenditure ; that though we have, it is true, one great irregular source of income, yet that it is one capable of being calculated upon data which yield an average Income in a series of years ; considering also that there are large items in our Expenditure not likely to recur ; considering the state of our Cash Balances, more than two millions in excess, we have come to the conclusion that there is no necessity this year to impose fresh burdens on the people. I will only answer for this year, because if a coincidence so improbable should happen as a great failure of ordinary Revenue and a great sinking of Cash Balances you must be prepared promptly and vigorously to meet such a state of things by additional taxation.

I have not the least doubt that, if the necessity arises, there will be no difficulty in raising funds. There is one great source of Revenue which we have abandoned, to which we shall recur if necessary ; an Income Tax, so assessed as to reach those who are best able to pay, would be far more productive than that which has recently expired. There are many Charges debited to Imperial Revenue, which might be transferred to Local Funds. I hold in my hand a paper showing that the actual sum received from Local Funds in 1864-65 was £2,451,000. So far from our being enabled to calculate on any advance on that moderate figure this year, we are obliged to estimate for a smaller sum, only £2,329,000. It is impossible to believe that the capacity of this country to contribute to local objects is measured by such a sum as 2½ millions. I do not want to quote the precedent of England. But I may just remark that England, besides a Revenue of £70,000,000, pays £17,000,000 by voluntary assessment for local objects.

Remarks on
the means avail-
able for raising
funds if neces-
sary.

Income Tax.

Transfer of
charges debited
Imperial Re-
venue to Local
Funds.

I do not say that it is practicable to raise such a sum as that for local purposes in this country. But surely the disproportion between these two figures might be reduced, and we might fairly expect that, on a re-distribution of our burdens, we may look to the Local Governments to raise, by local taxation, a sum which will relieve us to a certain extent from Charges which properly belong to Local Revenue and unfairly find their place in the Imperial Accounts.

There are certain great Public Works in which the people of India are especially interested. I mean Irrigation Works. I hope that in the course of the ensuing year the contemplated plan of the Ganges Canal will be proceeded with. Certain works on the Godavery will be proceeded with, and that the Baree Doab Canal will be proceeded with. With regard to the Ganges Canal, the plans have been prepared by Captain Crofton, and have been submitted to a Committee of Engineer Officers, whose report will probably be received in time to enable the works to be commenced this year. The works on the Godavery are under the direction of Major Haig, and I understand that that Officer, who is now in England, in communication with Her Majesty's Government, has devised a plan by which those works will be brought to a successful termination. And as to the Baree Doab Canal, I am not aware of any material obstacles to its progress. But it is impossible to say with certainty whether any of these works will be undertaken at all this year. We have roughly estimated the cost of these works to which I have referred at about $1\frac{1}{2}$ millions, of which something less than £300,000 will come into Charge during the ensuing year. No provision has been made for this Expenditure in the Estimates; and for this reason, that it relates to works of a totally different nature from Ordinary Public Works. They belong to a class called Reproductive Works, that is to say, works the Expenditure upon which is likely to prove a profitable investment of capital, and it is the desire

of the Secretary of State that works of this sort shall be provided for out of surplus Revenue, or available surplus balances; and failing these, by loan. Of course we have this year no surplus Revenue. There will however be available balances adequate to the moderate demands which may be expected in respect to these limited undertakings, so that there is no probability that it will be necessary, during the course of the year, for the Government to propose a loan.

General remarks on the agencies to be employed in the construction of Irrigation Works, and the means for their construction.

The vigorous prosecution of Irrigation Works has been delayed by various causes. There have been in the first place very considerable discussion and doubt as to the agency by which these works shall be performed. The Government of India has expressed an opinion in which Her Majesty's Government concurred, that works of this character, so likely to be productive of Revenue, should be retained in the hands of the Government, conducted by Officers acting under its orders, and defrayed entirely from Revenue raised on its credit. On the other hand, there have not been wanting many advocates of private enterprise. I may say at once that the field is ample for both. I concur, however, generally, in the opinions which were expressed by the Government of former years that, all other conditions being favourable, the construction and management of works of this description should be undertaken mainly by the State. It is of paramount importance, however, that the works should be done, and if they are to be undertaken and vigorously prosecuted, I do not see how it is possible to dispense with the co-operation of private enterprise.

There has been another reason assigned why the Government should retain Irrigation projects in their own hands. It has been said that it is not right to abandon the Natives to the mercies of Joint Stock Companies. For my part I am not pressed by the force of that objection. This country had for a century, until indeed the other day,

been governed by a trading corporation, and I am not aware that the rule of the great Company which has passed away contrasted unfavourably either in generosity or humanity with the Government of the Crown. But whatever force may be attributed to an objection of this kind, I still recur to the obligation incumbent upon the Government carrying out plans for the irrigation of many parts of India without unnecessary delay. It is not a question merely as to who shall derive the profits of these undertakings—whether they shall go into the treasury of the State or the pockets of Joint Stock shareholders. It is a question of far greater magnitude, involving the public health, and the lives of the people. If that is so—and no man denies it—is it becoming that we should permit unnecessary delay in the prosecution of those undertakings for the sake of any financial reasons whatever? I am the last man to relinquish any available source of Revenue, and I am very sure that works of this class are capable of furnishing in future years ways and means which would greatly tend to diminish the anxieties of a future minister of finance. But there is an over-ruling necessity which demands that these undertakings should not be neglected or delayed. We must not, therefore discourage the co-operation of private Companies which can satisfy us that they can command the means and mechanical ability to construct such works. Even if it were possible for the Government to undertake an enterprize so vast as the construction of the whole of the Irrigation Works which India requires, I say we might still yield a very large portion to private enterprise, and retain what would be amply sufficient to occupy our time and our resources.

Such being the case with regard to the question of agency, we have had another difficulty to encounter. We have had differences of opinion—differences very likely to arise between eminent Engineers—as to the mode in which these works should be carried out. I should rather say that

there has been a conflict of opinion between two schools of Engineers on the subject. While that conflict was raging, it was difficult for an unskilled Government to take upon itself to pronounce an opinion. But steps have been taken to reconcile these conflicting opinions, and I am sure that the ability and zeal which characterize the professional men who have given their time and talents to projects of this magnitude may be relied on to remove minor causes of difference and to reach some practical conclusions, advantageous to the country, conducive to their own fame, and satisfactory to the Government.

There is a third hindrance which has also obstructed the progress in Irrigation Works, and that is a financial one. It is manifestly impossible to meet demands of this sort out of Ordinary Revenue, and therefore you must either fall back on your Cash Balances, which you cannot safely depend upon to yield enormous sums, or resort to a loan. The state of the money market in England, overwhelmed as it is by projects of every description, is not very favourable to Indian loans. But I am not without hope that well considered plans of Irrigation Works may prove attractive to Indian capital when I consider the vast results which have already been accomplished in this field of enterprise. At all events the experiment should be tried; and in no case can it be maintained that an Expenditure of some thirty millions presents an insuperable difficulty, or indeed a formidable obstacle, to the execution of designs more conducive to the prosperity of the country and the welfare of the people than any which the well-wishers of both have yet been able to realize.

I must not omit to mention a fourth difficulty which has hitherto stood in the way of these operations, and that is the condition of the labour market. Alarm has been felt in high quarters lest works of this magnitude should overtask the swarming multitudes of India, and that the ordinary

demands for labour would be left unsatisfied by the competition to which they would be exposed. Such apprehensions were felt in England when the Railway system was introduced. I need hardly say that they were found to be futile; and though the conditions of the labour market in England are in some important particulars different from the conditions of the labour market in India, there are elements enough common to both to justify us in believing that, here, as in England, there is no cause for such alarm, and that the fear of overtaxing labour has been greatly exaggerated.

I have thought it my duty to state the reasons which have satisfied the Government that the mere fact of a small deficit is not sufficient to warrant new taxation. I hope those reasons will be found satisfactory. But I must not omit to mention that there is one very small tax—not indeed so much a tax as a fiscal arrangement—which I must ask you to sanction. There is at present a difference in price between Bombay and Madras Salt. The Salt Revenue in Bombay is raised by an ordinary excise duty. But in Madras the Government itself buys the Salt, and adds an amount of Revenue equivalent to the duty raised in Bombay. Now the cost price of the manufacture in Madras has increased by about three annas, while the price charged by Government remains the same, viz., Re. 1-8-0. The consequence is a difference of about three annas in favour of Bombay. We have thought fit, therefore, with the assent of the Madras Government, to make a small addition to the price of the Madras Salt, which will make the duty equivalent to that which is obtained in Bombay.

The financial result will be an additional Revenue of about £135,000, and that is the only tax which we propose.

Of course we are not in a position to propose any remission of taxation. But there is one article with which it is

Reduction of duty on Salt-
necessary to deal. Some years ago, Mr. Wilson expressed a hope that the Customs Duty from Saltpetre, which then only paid a three per cent. *ad valorem* duty, might be made to present a respectable figure in the Revenue. That expectation has been wholly disappointed. The augmented duty was first fixed at two Rupees, and afterwards reduced to one Rupee a maund. Notwithstanding that reduction, the Indian article was found unable to compete with the new manufacture in Europe, and the trade in Saltpetre became, and still continues in, a very languishing state. Its condition, however, is not desperate; and there is reason to hope that the manufactured commodity will not, in the long run, supplant the Indian article when relieved from the weight of taxation with which it is now oppressed. We propose therefore to repeal the duty of one Rupee per maund, and to restore the former duty of three per cent. *ad valorem*.

Classification re-adjustment of Tariff. These are the only changes which we propose to make. But the whole of the Customs Duties will undergo revision, with a view to the classification and re-adjustment of the Tariff. This, however, we shall reserve for a future year.

Indian Treasuries, on the 30th April 1867.

DISBURSEMENTS IN INDIA IN 1866-67.	BUDGET ESTIMATE.
	£
Expenditure in India	41,270,070
<i>Deduct—</i>	
Stores from England, &c., included in above	868,751
	<hr/>
	40,401,319
Debt (Payments on account of)	10,512,303
<i>Payments in India on account of England:—</i>	
Railways	5,131,042
Irrigation and Canal Company... ..	32,000
Other Payments	199,360
<i>Remittances in England on account of payments for India:—</i>	
Guaranteed Railway Interest	3,100,000
Other Payments	1,839,639
Unadjusted amount between Presidency and Presidency	100,000
Estimated Cash Balance on the 30th April 1867	10,506,659
	<hr/>
	£ 74,822,322
	<hr/>

E. E.

E. H. LUSHINGTON,

Secretary to the Government of India

Home Charges in 1866-67.

DEBT.	£	£
Dividends to Proprietors of East India Stock ...	629,970	
Interest on Loans contracted in England ...	1,271,730	
TOTAL DIVIDENDS AND INTEREST ...	...	1,901,700
CIVIL.		
Charges General, Home Establishments, &c. ...	176,700	
Amount payable under the Postal arrangement ...	46,000	
Red Sea and India Telegraph—Charge to India ...	18,000	
Indo-European Telegraph ...	5,000	
Mission to the Court of Persia—Charge to India ...	12,000	
Her Majesty's Establishments in China—Charge to India ...	18,800	
Pensions and Retired Allowances ...	234,000	
Furlough and Absentee Allowances ...	82,000	
Miscellaneous, including India Office, site and building ...	236,200	
TOTAL CIVIL CHARGES ...	...	828,700
MILITARY.		
EFFECTIVE CHARGES.		
Imperial Government for Troops serving in India ...	650,000	
Ditto on account of cost of education of Officers and Cadets ...	10,100	
Passage of Troops ...	116,300	
Passage and Outfit of Officers ...	52,000	
Allowances and passage to India of Assistant Surgeons on appointment ...	7,600	
Furlough Allowances ...	188,000	
Construction of Vessels for conveyance of Troops between this Country and India ...	222,700	
TOTAL EFFECTIVE CHARGES ...	1,246,700	
NON-EFFECTIVE CHARGES.		
Imperial Government for Troops serving in India ...	227,500	
Retired Pay, including Colonels' Allowances ...	760,000	
Pensions, Lord Clive's Fund ...	124,000	
TOTAL NON-EFFECTIVE CHARGES ...	1,111,500	
TOTAL MILITARY CHARGES ...	...	2,358,200
MARINE.		
Pensions and Retired Allowances, Indian Navy and Bengal Pilot Service ...	57,000	
Furlough Absentee Allowances ...	1,600	
TOTAL MARINE CHARGES ...	...	58,600
TOTAL CHARGES IN ENGLAND ...	...	5,147,200
<i>Deduct—</i>		
Miscellaneous Home Receipts ...	...	125,000
NET EXPENDITURE IN ENGLAND ...	.	5,022,200

LOCAL FUNDS.

	Balance on 1st May 1864.		RECEIPTS.			CHARGES.			BALANCE ON		
	£	Actuals.	1864-65	1865-66	1866-67	1864-65	1865-66	1866-67	30th April 1865.	30th April 1866.	30th April 1867.
			Actuals.	Esti- mated.	Esti- mated.	Actuals.	Esti- mated.	Esti- mated.	£	£	£
Govt. of India	12,493	13,504	15,273	15,557	15,834	15,401	12,606	15,401	10,163	9,830	9,986
Oude	104,212	119,054	102,700	102,700	130,852	100,300	100,300	100,300	92,414	94,814	97,214
Central Provinces	57,027	144,435	94,618	140,200	142,993	133,700	99,774	133,700	58,469	53,345	59,843
British Burmah	63,461	85,538	84,540	78,493	74,888	92,840	41,060	92,840	111	117,591	103,744
East and West Bengal	72,691	99,082	84,614	108,056	117,001	97,604	97,604	121,425	41,772	41,782	28,413
Bengal	331,472	504,524	480,586	505,999	706,451	603,072	603,072	524,398	129,545	7,059	Deficit 11,340
N. W. Provinces	278,227	524,447	498,595	559,665	502,291	521,607	521,607	557,200	300,383	277,370	249,836
Punjab	184,219	257,481	240,171	225,793	260,055	239,322	239,322	292,658	1,145	132,494	65,629
Madras	96,776	172,699	158,133	175,592	146,218	185,472	185,472	198,236	123,267	95,915	73,274
Bombay	426,037	530,305	378,107	416,974	235,744	350,396	350,396	306,320	720,688	748,400	859,053
Total	1,626,615	2,451,159	2,134,367	2,329,029	2,332,327	2,301,213	2,301,213	2,371,978	1,745,447	1,578,601	1,535,652

A
SUCCINCT HISTORY
OF THE
LOCAL FUNDS
OF THE
BOMBAY PRESIDENCY.

COMPILED BY

W. W. BURN.

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INTRODUCTION.

The *Local Funds* of the Bombay Presidency are divided into six classes, viz. :-

Public Works.

General.

Police.

Marine.

Charitable.

Educational.

The first class of Funds are devoted to local improvements generally and derive their revenue from Local rates and Taxes, private contributions, &c. The receipts of the *General Funds* are collected from a variety of sources and expended on the special objects for which the Funds are established. *Police Funds* are instituted for the maintenance of Local Police, towards which object contributions are received from Native Chiefs, and the Funds are augmented by fees, fines, and forfeitures. *Marine Funds* are established for the improvement of the several Ports and the maintenance of Port, Pilotage and Conservancy Establishments. Port dues, Pilotage and other Miscellaneous Fees levied under Act form the revenue of these Funds. Under *Charitable Funds* come the receipts from the endowments of Charitable Dispensaries and the payments made therefrom. The revenue of the *Educational Funds* consists of one-third of the Anna

Cess, School Fees, Government and private contributions, and the interest on endowments for Educational purposes. The Funds are devoted to the advancement of Education.

A brief history of each Fund is contained in the following pages.

LOCAL FUNDS—PUBLIC WORK

The history of the principal portion of these Funds is contained in the following Extract from the Proceedings of the Government of Bombay.

Extract from the Proceedings of the Government of Bombay in the Revenue Department No. 3115, dated 16th September 1863.

* * * * *

RESOLUTION.—In 1852, Major Wingate, to whom the country is indebted for so many excellent suggestions, for improvements in every branch of the administration, and for the wise execution of so large a proportion of them, whenever it rested with him to carry them out, submitted to Government a scheme founded on suggestions made by Captain Davidson in 1839, and by Mr. J. D. Inverarity in 1849, for providing the means of education and internal communication in all rural districts of the Presidency as they came under survey.

2. His scheme, or some modification of it, has since then been a constant subject of discussion by Government, and by almost every Government servant of any standing in the Survey, Revenue, and Educational Department. Divers views have been expressed as to details, but there has been a wonderful unanimity in approval of its general features; there has been little opposition from any quarter in a stronger form than doubts as to some collateral points, yet little or nothing has been done.

3. In many parts of the other Presidencies, and notably throughout the North-West Provinces and Punjab, the objects of Major Wingate's propositions have been more or less perfectly secured for many years past by rules which have been approved by the Government of India in this country and in England.

4. In his despatch of the 25th May 1861, No. 22, the Secretary of State directed this Government to reconsider the vague and contradictory orders of Government on this subject by the light of the practice in other parts of India, and to communicate the result to him. This His Excellency the Governor in Council has now to do on some valuable papers by the Revenue Commissioner.

5. It may be assumed that there is a general agreement of all authorities on the following points:—

I. That there should be Local Funds for the promotion of Education in the rural districts, and for the formation and repair of local Roads.

II. That these Funds should be, in part at least, provided by a local cess, imposed in addition to the local assessments where no pledge, expressed or implied, to the contrary has been given, and where such a pledge has been given, deducted, if Government will permit, from the land assessment, or levied by a voluntary rate from the payers of land tax.

III. That the tax payer should have an influential voice in the disposal of the Funds.

6. It remains for Government to consider and decide on the following points:—

I. Of what shall the local Funds consist besides the local Educational and Road cess on the land assessment?

II. What shall be the rate of that local cess, and the mode of its levy?

III. How shall it be divided between Education and Roads?

IV. How shall the Funds be managed and applied?

I. His Excellency the Governor in Council would include in the Local Funds, besides the local percentage upon the land assessment, all Toll and Ferry Funds not specially excepted, the surplus Cattle Pound Fund, and such other items as Government may from time to time direct to be added to the local Funds, whether especially for

Education or Roads, or to be at the discretionary
managing Committee for either purpose.

II. As to the rate of the percentage at which the Educational and Roads cess is to be levied, opinions seem to have varied from one per cent. to one anna on the rupee (6½ per cent.), which latter seems the rate generally approved.

It is observable that since the opinions delivered in the summaries were recorded there has been such a great fall in the value of money, and such a rise in prices of agricultural produce, that the higher rate is little more than one-third of what it would have been ten years ago if estimated by its pressure on the cultivator, and in consequence the Governor in Council has therefore no hesitation in proposing one anna on the rupee as the ordinary maximum rate.

As to the mode of levying this cess, it is proposed that the land revenue would have to pay one rupee and one anna.

There is nothing to prevent the cess being at once imposed in the surveyed districts wherever Government has given no express or implied pledge which would prevent its imposition. This may be done without further legislative enactment in all districts where the new Survey rates have been imposed, with an intimation that such a cess would be levied in addition. In unsurveyed districts it will be necessary to have legislative sanction for the impost, and the Revenue Commissioners should be requested to draw up a draft of a Bill for the purpose.

Where leases have been given, or a revised assessment introduced for a specific term, the expiration of such lease or term must be awaited before the cess can be imposed.

But it is open to the Revenue Commissioners and Collectors to consider other means of raising funds for the same purpose to which the same objection does not apply, such for instance as a Cess on the same as an alternative for Tolls for the maintenance of Roads.

III. As to the division of the cess between Education and Roads, unless otherwise specially ordered, the proportions should be one-

third to Education and two-thirds to Roads, to repair of Village wells and public buildings, planting of road-side trees, and other local objects of public utility.

IV. As to the management and application of the Funds, His Excellency in Council believes success will depend on the degree of freedom allowed to the local managers of the Funds.

7. The management will be entrusted to local Committees, which will be of two classes :—

I. District Committees, one for each Collectorate, to consist of the Collector and Executive Engineer, and Deputy Inspector of Schools *ex-officio*, and stipendiary servants of Government and non-stipendiary members in about equal proportions, to be all selected by the Collector, with the approval of the Revenue Commissioner, whose consent should be necessary to the removal of any member once appointed.

II. Talooka Committees, one for each Mamlutdar's charge, to consist of the Collector and his Assistant in charge and the Mamlutdar *ex-officio*, and any number not less than three of other members to be nominated by the Collector.

8. This Talooka Committee will take the initiative regarding the expenditure of all the Talooka Local Funds, which will include the amount of Educational and Road cess raised in the Talooka, and any other Funds which the Collector may assign to it. In any case of doubt or difference of opinion as regards the assignment of Funds, the decision of the Revenue Commissioner will be final.

9. All other local Funds raised in the Collectorate will be managed by the Collectorate Committee.

10. The duty of the Talooka Committee will be—

I. To estimate as early as possible in the official year, the amount available for the next season, and to prepare a scheme for its expenditure both on Education and Roads.

II. This scheme will be revised by the Collectorate Committee, and if necessary, sent back for reconsideration by the

Talooka Committee; the Collector's decision of opinion being final.

III. To appoint Officers, and to manage disbursements.

IV. To draw up at the end of the year a Vernacular report and figured Abstract Statement showing what has been received and how it has been expended, and to have this report lithographed, and furnish a copy to every Village Accountant.

11. The duties of the Collectorate Committee will be—

I. To prepare estimates and a scheme of expenditure (similar to those directed above in the case of the Talooka Committee) for all Funds under the exclusive management of the Collectorate Committee.

II. To examine and revise the estimates and scheme of expenditure of the Talooka Committees.

III. To combine both Collectorate and Talooka schemes and estimates, and to submit it for criticism, the Educational portion to the Inspector of Schools, the Road portion to the Superintending Engineer.

IV. To submit the scheme and estimate, with the remarks of the Inspector of Schools and Superintending Engineer, to the Revenue Commissioners, whose decision on every point shall be final.

V. To appoint Officers and manage disbursements as far as its own Funds are concerned.

VI. To communicate with the Collectorate Committees in the adjacent Collectorates in order to secure uniformity and connection of plan in laying out Roads, &c.

VII. To draw up at the end of the year an English report and figured Abstract Statement of Receipts and Disbursements for the whole Collectorate, including the Talooka Funds, and forward it to the Revenue Commissioners, the Executive and Superintending Engineers, and Inspector of Schools.

12. The Revenue Commissioners will submit the results as a whole to Government; the Superintending Engineer and Inspector of Schools will take such notice of what relates to their several departments as they think fit in their annual or other reports, and will take the requisite measures for making the necessary entries in their respective Budgets.

13. The mode of making the non-agricultural classes contribute to the objects of the local Funds will require separate consideration, and the opinions of the more experienced Revenue Officers should be called for by the Revenue Commissioners.

14. All the provisions of this Resolution, with the exception of the levy of one anna in addition to each rupee of the Land Revenue assessment as a local Educational and Road cess, should be carried out at once; each Collector reporting through the Revenue Commissioner whether there are any resources other than those noticed in paragraph 6 which he would propose to add to the local Funds.

15. The Secretary of State will be addressed regarding the levy of the additional anna-cess if it should be ultimately determined on, as his sanction would be necessary for giving effect to the views of Government on this subject in the case of their being affirmative.

(Signed) A. D. ROBERTSON,
Secretary to Government.

The Funds administered by District Local Committees under the above orders are the following; the charges noted against each being first met and the residue applied to the construction and repair of Roads, Bridges, and other local objects of public utility.

Road Fund.

Receipts.—Two-thirds of the proceeds of the cess of one anna on every rupee of Land and Sayer Revenue, contributions for Local Works, Fishery Fees, and other miscellaneous items of Local Revenue. *Charges.*—Expenditure in connection with the collection of the receipts.

Ferry Fund.

Receipts.—Tolls levied at public Ferries, the rent of such of them as are farmed and all penalties for offences against the Act constituting the Fund.
 Act XXXV. of 1850.

Charges.—Maintenance of Ferries.

Toll Fund.

Receipts.—Tolls levied on public Roads and Bridges, the rent of such of them as are farmed, and all penalties for offences against the Act constituting the Fund.
 Act VIII. of 1851.

Charges.—Construction and Repair of Toll Houses and maintenance of the establishments at Toll Bars.

Pound Fund.

Receipts.—Fines levied on the owners of cattle trespassing and doing damage, or straying in a public place, unclaimed proceeds of the sale of unclaimed cattle, and all penalties for offences against the Act constituting the Fund.
 Act V. of 1860.

Charges.—Construction and Repair of Pounds and maintenance of Pound establishment.

Staging Bungalow Fund.

Receipts.—Fees from Travellers for accommodation at the Staging Bungalows on the lines of road. *Charges.*—Construction, repair, and maintenance of Staging Bungalows.

Letter from the Government of India No. 372 A dated 18th August 1864.

The undermentioned Funds belonging to the class of Public Works Funds are not administered by District Local Committees, but are at the disposal of Government or under the supervision of some responsible Officer or Officers.

Esplanade Fee Fund.

The object of this Fund is the general care, conservancy, and improvement of the Bombay Esplanade. The revenue is derived from Fees for the storage of cotton and grazing of cattle, ground-rent, and other miscellaneous items. The ordinary expenditure is for establishments entertained for the carrying out of the special objects of the Fund. The balance is devoted to improvements. The Fund is under the control of a Committee consisting of the Municipal Commissioner of Bombay and the Executive Engineer at the Presidency as Members, with a President who is nominated from time to time. The Committee consult the Brigadier General commanding the Garrison and attend to his suggestions as far as possible. The Superintending Engineer Presidency Division is to this Committee in a position similar to that of the Superintending Engineers Southern and Northern Divisions in regard to Local Funds Committees in the Districts.

Extract from the Proceedings of the Government of India in the Financial Department, No. 3077, dated 24th November 1865.

Jail Local Fund.

The difference between the proceeds of Jail manufactures and the cost of materials plus any expense of manufacture, other than prison labour, is credited to this head, and devoted to the repair, construction, and improvement of Criminal Jails. The Fund is under the control of the Inspector General of Prisons.

Extract from Proceedings of the Government of India, No. 158, dated 17th January 1866.

Barrea Tribute Balances.

The Tribute paid by the Barrea State is treated as a Local Fund in consequence of the decision of the Government of India that the money so paid shall be expended for the benefit of the Territory of Barrea and its vicinity. The pay of the Political Agent's Escort and of certain Police guards form a first charge against the Tribute, the balance being available for roads and other works of public utility.

Resolution of the Government of India in the Foreign Department, No. 807, dated 24th July 1868.

Income Tax Balances.

This Fund consists of the grants from the one per cent. Income Tax collections, and is available for expenditure on Local Works specially sanctioned by Government. The amounts which have been allotted to the Bombay Presidency and credited to the Fund are as follows :—

Grant for 1861-62 ...	Rs.	8,00,000
Ditto 1862-63	„	8,00,000
Ditto 1863-64	„	8,00,000
Ditto 1864-65 ...		5,26,000
Supplementary Assignments		3,72,067
Second ditto	„	4,42,788
	Rs.	<u>37,40,855</u>

**Bombay, Baroda, and Central India Railway
Dhurumsala Fund.**

This fund consists of the Contributions of certain Native gentlemen for the construction of Dhurumsalas along the line of the B. B. and C. I. Railway. The following contributions were received and credited to the Fund :—

General Resolution in
the Public Works Department,
No. ^{309 C. W.} 107, dated
10th June 1865.

Sir Jansetjee Jejeebhoy, Baronet, for Bandra Dhurumsala	000
Lady Jansetjee Jejeebhoy, for Oodwada Dhurumsala	10,000
Do. do. for Balda Pardi Dhurumsala	0,000
Mr. Rustomjee Jansetjee Jejeebhoy, for Broach Dhurumsala	20,000
Mr. Framjee Nusserwanjee, for Bhurodie Dhurumsala	0,500
Mr. C. Furdoonjee, for Pysur Dhurumsala	0,000
	<u>Carried over Rs. 78,000</u>

	Brought over ...Rs.	73,000
Mr. Sorabjee Pestonjee Framjee, for Manickpoor Dhurumsala	,,	15,000
Mr. Roychund Deepchund, for Verar Dhurumsala.	,,	8,000
Do. do. for Wapee do.	,,	8,000
Do. do. for Annund do.	,,	15,000
Mr. Byramjee Maneckjee Wadia, of Surat, for Bulsar Dhurumsala.....	,,	15,000
Merebye, daughter of the late Furdoonjee Sorab- jee Paruck, for Saen Dhurumsala	,,	12,000
		<hr style="width: 100px; margin-left: auto; margin-right: 0;"/> Rs. 1,51,000

Lady Jamsetjee also contributed Rs. 2,000 for the maintenance of the Oodwada Dhurumsala, which sum is invested in Government securities.

Public Works Pension Fund.

This Fund is established to provide means for granting Pensions in accordance with the Uncovenanted Service rules to employes in the Public Works Branch of the Local Fund Department. A sum equal to five per cent. on the salaries of employes entitled to pension is transferred to this Fund, and forms an additional charge on the Public Works Funds on account of Establishment. Interest at the rate of five per cent. per annum is allowed by Government on the balance to the credit of the Fund at the end of every year.

Government Resolution
in the Revenue Depart-
ment, No. 4628, dated
27th September 1870.

LOCAL FUNDS—GENERAL.

Cotton Improvement Fund.

The object of the Act constituting this Fund is the suppression of fraudulent practices in the Cotton Trade within the Territories subject to the Government of the Presidency of Bombay. All Fees levied for the working of Cotton Presses and for Cotton exported from any port or place in the Presidency of Bombay, as also Fines for offences against the Act constituting the Fund, are credited to this head, and the revenue thus realized is appropriated for the maintenance of an establishment of Officers styled Inspectors of Cotton, whose duty it is to suppress the use of unlicensed Presses for compressing Cotton and to examine Cotton offered for compression or exposed or intended for sale. The general control of the Fund is vested in the Commissioner of Customs.

General Fund under The Customs Consolidated Act VI. 1863.

The proceeds of all Confiscations and Penalties imposed under the Act for consolidating and amending the Laws relating to the Administration of the Department of Sea Customs in India are credited to the above head, out of which the Commissioner of Customs grants rewards to any person through whose information, assistance, or instrumentality any seizure is made or offence punished.

Mohusullee Fund.

This Fund exists only in Kattywar, and is supported by fines levied on tributaries of the British and H. H. the Guicowar's Governments for the enforcement of orders. These fines were for a considerable period (with the consent of the Guicowar, who has a large interest in them) appropriated towards the expenses of a Fund

for putting down infanticide in Kattywar, but there being a large surplus at the end of the year 1863-64, it was ruled that, after providing for the support of the Infanticide Fund and for Educational purposes in Kattywar, the balance of the Mohussulee Fund should be expended in opening up roads and improving the communications in that Province.

Kattywar Agency Gazette Fund.

The Fund derives its income from subscriptions from Talookdars and miscellaneous printing jobs. The object of the Fund is to keep the large number of Tribute payers in Kattywar informed of the important orders of Government, which are printed and circulated to them. The charges of the Fund are the salaries of the printing establishment, cost of printing materials and buildings, &c., for the Gazette office. The amount for the first establishment of the printing press was advanced from the Mohussulee Fund and this advance was subsequently repaid from the Infanticide Fund under the orders of the Political Agent in Kattywar.

Resolution of the Government of Bombay, No. 358, dated 31st January 1863.

and miscellaneous printing jobs. The object of the Fund is to keep the large number of Tribute payers in Kattywar informed of the important orders of Government,

Kattywar Jubtee Establishment Fund.

The income of the Fund is derived from a percentage on the revenues of attached States in Kattywar, and is devoted to the maintenance of establishments for the audit of the revenue accounts of such States.

Letter from the Government of Bombay to the Political Commissioner in Guzerat, No. 32, dated 9th January 1834.

venues of attached States in Kattywar, and is devoted to the maintenance of establishments for the audit of the revenue accounts of such States.

Kattywar Institution Fund.

The receipts of the Fund consist of fees levied on Civil plaints, copies of orders and documents and registration of girass mortgage deeds (on the first two the fee is in lieu of stamp duty). The fund is applied to the better administration of justice, in Kattywar, by providing for the cost of increased establishments, &c.

Resolution of the Government of Bombay No. 3205, dated 8th October 1863.

copies of orders and documents and registration of girass mortgage deeds (on the first two the fee is in lieu of stamp duty).

Kattywar Infanticide Fund.***Kutch Infanticide Fund. †****Ahmedabad Infanticide Fund.**

The receipts of these Funds consist chiefly of fines levied on Native Chiefs and others for infractions of the Rules established for the preservation of their daughters. The charges are principally confined to donations granted in aid of the marriage expenses of the daughters preserved from infanticide. In Kattywar the surplus of the Fund is devoted to education and works of public utility.

Mahableshwur Station Fund. †

Matheran ditto. †

Paunchgunny ditto. †

Khundalla ditto.

Singhur ditto. *

Toongar ditto. **

These Funds are formed for the special improvement of the several Hill sanatoria of the Bombay Presidency which are not exclusively Military. The local revenue of each Station is credited to the Station Fund and devoted to improvements. At the first three Stations Superintendents are maintained and paid from the Imperial revenues; the Funds are also assisted by grants from Government to the extent of Rs. 8,400, Rs. 3,050 and Rs. 2,000 respectively.

* Letter from the Government of Bombay to the Political Agent in Kattywar, dated 5th July 1825.

† Letter from the Government of India to the Government of Sind, No. 789, dated 9th November 1844.

‡ Letter from Government of India, Home Department, No. 1693, dated 28th August 1861.

§ Resolution of the Government of India, Financial Department, No. 2393, dated 18th September 1866.

¶ Resolution of the Government of India, Financial Department, No. 1262, dated 10th July 1865.

¶ Resolution of the Government of India, Financial Department, No. 2097, dated 27th August 1866.

** Resolution of the Government of Bombay, No. 1900, dated 12th May 1869.

Rajkote Station Fund.

Resolution of the Government of Bombay, Political Department, No. 361, dated 7th February 1866. Established for the purpose of meeting the charges of the Rajkote Civil Station from the local revenue of the Station.

Dhollera Station Fund.

Created about the year 1818 and originally supported by voluntary contributions, which were devoted to the digging of tanks and wells for the purpose of supplying water to travellers passing through the Town of Dhollera. The revenue is now derived from Local Taxes, Tolls, &c., and devoted to the construction and repair of the city roads and the general improvement of the Town.

Sadra Station Fund.

Instituted at the time of the establishment of the Rewa Kanta Political Agency. The revenue is derived from a small tax levied on the inhabitants of the Sadra Cantonment Bazaar, and is devoted to the improvement of the Station.

Steam Boiler Inspection Fund.

The object of the Act under which this Fund is constituted is to provide for the periodical inspection of Steam Boilers and Prime Movers attached thereto in the City of Bombay. The provisions of the Act are carried out by a Commission consisting of the Commissioner of Police as President, and the Mint Master, the Chief Engineer Her Majesty's Dockyard, the Superintending Engineer P. and O. S. N. Company, and the Locomotive Superintendent G. I. P. R. Company, as Members. The income of the Fund is derived from Fees levied for the inspection of Steam Boilers and Prime Movers; the expenditure consists of the pay of the Engineer Inspector, his Establishment charges, and fees to the Commissioners for attending meetings.

LOCAL FUNDS—POLICE.

Kattywar Local Corps Fund.

This Fund is supported by contributions from the Native Chiefs of Kattywar, confiscated property of outlaws, fines levied for harassing outlaws, &c. The charges against the Fund are salaries of the officers employed to superintend the efficiency of the Police Forces kept up by Native Chiefs for the suppression of Wagheer and other outlaws.

Letter from the Government of India No. 15th April 1865.

Mahee Kanta Police Fund.

The receipts of this Fund consist of fines levied from prisoners tried by the Courts of the Mahee Kanta Political Agent, and is devoted to rewards for apprehending offenders and for the maintenance of prisoners confined for &c.

LOCAL FUNDS—MARINE.

Bombay Port and Pilotage Fund.

The Port Dues, Light Dues, and Pilotage Fees, levied in the Port of Bombay, are credited to this head and devoted to the maintenance of the necessary establishments and the general improvement of the Port. The Fund is administered by a Committee styled the Bombay Harbour and Pilotage Board, consisting of not less than five members, one of whom is selected by the Firm acting as Lloyd's Agent, and another by the Chamber of Commerce. The Commodore for the time being is the ex-officio President of the Board.

Act XXXI. of 1857.

Extract from Proceedings of the Government of India in the Financial Department, No. 4375, dated 5th September 1863.

Kurrachee Port and Pilotage Fund.

The revenue and expenditure are similar to those of the Port of Bombay. The Fund is under the control of the Commissioner in Sind.

Act VIII. of 1858.

Aden Port and Pilotage Fund.

The receipts and charges are similar to those of the Kurrachee Port. The control of the Fund is vested in the Political Resident at Aden.

Act XV. of 1858.

Northern Ports Fund.

The Port Dues and other Fees levied in all the Ports on the North coast of the Bombay Presidency are credited to this head and devoted to the maintenance of the necessary establishments and improvement of the Ports. The following are the Ports comprising the Northern group:—

Act XI. of 1866.

Gogo.	Dehej.	Balsar.
Bowlecarce.	Breach.	Oomersaree.
Khoon.	Bhugwa.	Koluk.
Tankaria.	Suret.	Calai.
Delgaum.	Mutwar.	Murolee.

Oomergaum.	Aliwada Nowapoor.	Dantewra Creek and
Golwud.	Sapatee Creek.	River.
Dhanoo Creek.	Mahim (K. ...)	Coast and Coast to
Tarapoor.	Kelvey.	the Main Fort.

The Fund is under the control of the Commissioner of Customs.

Southern Ports Fund.

... and charges of the Ports on the Southern ... the
 Act XI. of 1866 ... are dealt with
 ... similarly to the
 Northern Ports. The following are the Ports comprised
 in the Southern Group:—

Bandora.		
Versova.		
Munibore.	Rowdanda.	
Ootun.	Tull Kharrec.	
Bassein Creek and River east of Bassein Fort.	Barkote Creek and River.	Trakol Creek River.
Bhowndy Creek and River.	Kelsee.	Karwar incl Boitkul.
Callian Creek and River.	Hurnee.	Chendia.
Tanna Creek and River.	Unjunwell Creek and River.	Ankola.
Trombay.	Boria.	Gungavuli.
Panwell Creek and River.	Jyngurh Creek and River.	Taddry.
...	Ratnagherry.	Coompta.
...	...	Honore.
...	...	Shiralee.
...	...	Moordeshwar.
...	Viziadroog Creek and River.	Bhutkal.
...	Dewgurh.	

Indus Conservancy and Registration Fund.

The fees levied on vessels plying on the river Indus and its Tidal Channels within the Province of Sind is credited to this head, and devoted to the maintenance of an establishment of competent Pilots and Pilot Boats at the mouths of the River, also to removing obstructions from the channels of the Indus, and in other ways improving the navigation of that River.

LOCAL FUNDS—CHARITABLE.

Victoria Charitable Dispensary Fund.

District Court Proceedings
No. 918, dated
29th May 1864.

This Dispensary is situated near No. 1, and was founded by Sir Jamsotjee Jejeebhoy, the first Baronet under that title, and Lady Jamsotjee, the object being as expressed in the Baronet's letter to Government dated 27th November 1858:—

“Gratitude to the Gracious Sovereign who has conferred on me the hereditary honours which I now enjoy, makes us desirous that our high sense of these Royal favours should be commemorated in our birth-place, and the recent change of Government in this country seems to furnish a fitting opportunity for us to carry out this design in a becoming manner. I hope, therefore, that your Lordship in Council will be pleased to concur with wish that the undertaking now under consideration should be designated of ‘The Victoria Charitable Dispensary.’”

The sum of Rs. 75,000 was contributed by Sir Jamsotjee Jejeebhoy for the Dispensary; Rs. 10,000 for the construction of a school building, and Rs. 65,000 for investment at 5 per cent. per annum for maintenance. The latter amount is held by Government as a Book Debt, and interest at 5 per cent. is annually credited to the Fund. The institution is in charge of the Collector of Surat, who meets all the charges of the Dispensary from the yearly interest.

Kattywar District Dispensary Fund.

The object of this Fund is to provide medical aid to the people of Kattywar. It is supported solely by contributions from Talookdars, which are devoted to the purchase of Medical Stores, &c.

Resolution of the Government of Bombay No. 1878, dated 31st July 1896.

Bhewndy Charitable Dispensary Fund.

Is supported by an annual contribution of Rs. 864 from the Bhewndy Municipality, which is paid into the Government Treasury, and the expenses of the Dispensary met therefrom.

Metheebye Hormusjee's Charitable Dispensary at Coorla.

Mr. Pascoal D'Souza's Charitable Dispensary at Oorun.

**Cursetjee Rustomjee Wadia's Charitable Dispensary at
Tannah.**

Rookmabai's Charitable Dispensary at Callian.

Bechardass Charitable Dispensary at Ahmedabad.

These Dispensaries have been established under the Rules for Charitable Dispensaries published at pages 556 to 558 of the *Bombay Government Gazette* for the 28th March 1861, but having been endowed by the individuals whose names they bear, and the endowments being in the hands of Government, a separate account is kept of the interest accruing on each and the payments made therefrom.

LOCAL FUNDS—EDUCATIONAL.

Educational Fund.

This is the principal Fund from which all local Educational expenses are paid. One-third of the cess of one anna on every square foot of land and Sayer revenue contributions for Educational purposes, and other Miscellaneous receipts are credited to it, and devoted to the promotion of Education generally, such as the building of School-houses, purchase of books, &c. and the maintenance of schoolmasters.

School Fee Fund.

The fees paid by Scholars for attending local schools are credited to this head, and applied to the promotion of Education in the same manner as the Educational Fund.

Elphinstone Institution Fund.

This Fund had its origin in a meeting of the Bombay Native Education Society on the 22nd August 1827, to consider the most appropriate method for testifying the affectionate and respectful sentiments of the inhabitants of Bombay to the Honourable Mountstuart Elphinstone, on his resignation of the Governorship of Bombay. The result of this meeting was the collection of public subscriptions towards the endowment of Professorships for teaching the English language, and the Arts, Sciences and Literature of Europe, to be denominated the "Elphinstone Professorships." The subscriptions realized are invested in Government Securities, the interest on which is augmented by an annual grant from Government. In the year 1856 the Professorial element was separated from the Elphinstone Institution, which henceforth became a High School. The charges of the Fund consist of the salaries of the Establishment of the School, petty charges and annual repairs. The surplus of this Fund is applied to meet the deficiencies, if any, of the West and Clare Scholarship Funds.

The Guzerat Provincial College Fund

In November 1855 Mr. Erskine, the then Director of Public Instruction, proposed that as measures were being taken for the

establishment of Universities, it would be desirable that every Province should have a College of its own, and that Ahmedabad should be the seat of the future Guzerat College. In April 1856 a public meeting was held at Ahmedabad, and a subscription was raised for the purpose of founding a Guzerat College. The subscriptions collected, amounting to about Rs. 50,500, are invested in Government Securities, the interest on which, together with the fees levied in the College, and the Government contribution (equal to the interest of the funded capital) forms the revenue of the Fund, which is expended in meeting the charges of the College generally.

**Rustomjee Jamssetjee Jejeebhoy Guzerat
Schools Fund.**

In the year 1863 Mr. Rustomjee Jamssetjee Jejeebhoy contributed one lakh of rupees in five per cent. Government Promissory Notes, for the establishment of Schools at Damaun, Bulsar, Billimora, and Nowsaree, and for increasing the efficiency of the Central School connected with Sir Jamssetjee Jejeebhoy's Parsee Benevolent Institution at Bombay. The interest on the endowment, together with the Government grant of Rs. 3,500 annually, is devoted to the maintenance of the Schools above enumerated.

Sir Jamssetjee Jejeebhoy School of Art and Industry.

The object of this Institution, which was established in the year 1854, is to give instruction to Native youth in the liberal Arts generally. The Institution was endowed with one lakh of rupees by Sir Jamssetjee Jejeebhoy, the first Baronet of that title, which sum is held as a Book Debt bearing interest at 5 per cent. per annum, and in 1862 Mr. Sorabjee Jamssetjee Jejeebhoy contributed a sum of Rs. 3,600 for investment in Government securities towards the same object. The interest on the endowments, together with the Government Grant to the Institution, is devoted to the maintenance of the school. Some of the pupils are paid a monthly allowance as an encouragement to persevere in their studies.

Belgaum Jagheerdars and Sirdars High School Fund.

Was established by the Sirdars of the Southern Mahratta Country and is supported by their annual contribution, together with the interest on an investment in Promissory Notes to the value of Rs. 15,000, and the fees levied in the School. The charges against the Fund consist of the ordinary expenditure for the maintenance of the School.

Dhoolia English School.

This School was established in 1853 by the people of Khandeish. The sum of Rs. 26,000 was subscribed by the people, out of which Rs. 2,500 was expended in the purchase of a building, dead stock &c. for the school, Rs. 2,500 was deposited in the Treasury to meet emergent payments, and the balance of Rs. 21,000 invested in Government Promissory Notes, the interest from which is devoted to paying the salaries of the Masters of the School.

Goculdass Tejpall School—Moombadavi.

Was established by Goculdass Tejpall, an inhabitant of Bombay, in the year 1857, for the benefit of the poorer classes of people who were not in a position to pay the high fees which were demanded in the Schools then existing in Bombay. Mr. Goculdass invested Rs. 12,000 in Government Promissory Notes on account of the School, and the interest on this investment, together with the School Fees, which are fixed at a low rate, is devoted to the maintenance of the School.

Juggonath Sunkersett English School Fund.

This School was established in the year 1857 by the late Juggonath Sunkersett for the Education of the sons of poor Hindoos. It has an endowment of Rs. 1,000 and is supported by Government and the representative of the Juggonath Sunkersett family.

Dharwar English School Fund.

Consists of interest on public subscriptions to the extent of Rs. 5,000 invested in five per cent. Government Securities, which is devoted to the maintenance of an Assistant Master for the School.

Ahmedabad Female Schools Fund.

Was founded by Rao Bahadur Muggunbhai in the year 1850 by the presentation of Rs. 14,000 to be invested in Government Promissory Notes of the five per cent. Loan, the interest of which is devoted to the maintenance of two Female Schools at Ahmedabad, named after their founder.

Telungee Marathee School.

Was established by the Telungee community of Bombay in the year 1865. The sum of Rs. 2,000 was subscribed and a School House provided; the money is invested in Government Securities, and the interest thereon is devoted to paying the salaries of the Masters of the School.

Educational Pension Fund.

This Fund is established to provide means for the payment of pensions to employés in the Educational Branch of the Local Fund Department in accordance with the Uncovenanted Service Rules. A sum equal to five per cent. on the salaries of such employés is charged off to the Educational Funds and carried to the credit of the Pension Fund. Interest at the rate of five per cent. per annum is allowed by Government on the balance at the credit of the Fund at the close of each year.

Government Resolution
in the Revenue Department
No. 5749, dated 27th December 1869.

Scholarship and Prize Funds of the Elphinstone Institution.

West Scholarship Fund.—Was raised by subscription in the year 1828, in honour of Sir Edward West, Chief Justice of Bombay. The funded capital amounts to Rs. 28,400, the interest of which, amounting to Rs. 1,156 per annum, together with the annual Government grant of Rs. 1,124, is expended in Scholarships. The surplus of this Fund is available for meeting the deficit of the Elphinstone Professorship Fund.

Clare Scholarship Fund.—Was raised in the year 1835 in honour of the Earl of Clare, Governor of Bombay. The capital, amounting to Rs. 3,8800, is invested in Government Securities, and realizes an

income of Rs. 1,597 per annum, which is expended in Scholarships. The surplus of this fund is available for meeting the deficit of the Elphinstone Professorship Fund.

Gaikwar Scholarship Fund.—Was founded in the year 1850 by His Highness the Gaikwar of Baroda. The funded capital amounted to Rs. 6,000, realizing an annual income of Rs. 250, which is expended in Scholarships.

Bell Prize Fund.—Was subscribed in the year 1848 as a testimonial to Professor John Bell, of the Elphinstone Institution. The funded capital is Rs. 1,500, the interest on which, amounting to Rs. 60 per annum, is awarded as a prize to a Student selected by the Director of Public Instruction.

Rajah of Dhar Prize Fund.—Was founded in the year 1853 by the Rajah of Dhar. The funded capital is Rs. 1,000, the interest on which, amounting to Rs. 40 per annum, is disposed of in the same manner as the income of the Bell Prize Fund.

Gunputrow Wittul Prize Fund.—Was founded by Gunputrow Wittul, of Indore, in the year 1854. The funded capital is Rs. 1,500, the interest on which, amounting to Rs. 70 per annum, is disposed of in the same manner as the income of the last two Funds.

Soonderjee Jowajee Prize Fund.—Was established by Babajee Soonderjee in the year 1842, in memory of his father. The funded capital is Rs. 1,500, the interest on which, amounting to Rs. 60 per annum, is disposed of in the same manner as the income of the three last Funds.

Scholarship and Prize Funds of the Grant Medical College.

Farish Scholarship Fund.—Was raised in 1841 by the friends of the Honourable Mr. Farish, Acting Governor of Bombay. At a public meeting held on 18th February 1841, the following proposition was made by Sir J. P. Willoughby (then Mr. Willoughby), "I am of opinion, that we could not have selected any mode more appropriate or more congenial to the feelings of him we design to honour, than the one I am about to propose, that Mr. Farish's name shall be for ever

associated with an Institution which is to be devoted to the advancement of Medical knowledge and science, and to the relief of suffering humanity, and raised by the joint munificence of this community and of the Honourable Court of Directors, to perpetuate the memory and virtues of a kindred spirit, the much lamented, the late Sir Robert Grant." The amount raised is held as a Book Debt, and interest, at the rate of six per cent. per annum, allowed for the payment of the Farish Scholarships.

Carnac Scholarship Fund.—In 1841 the sum of Rs. 10,000 was subscribed by the community of Bombay and set apart for the foundation of a Scholarship in this College in the name Sir James R. Carnac, Governor of Bombay. The Resolution come to at a public meeting was to the following effect:—"Resolved, that the sum of ten thousand (Rs. 10,000) Rupees be set apart for the foundation of a Scholarship in the Grant Medical College, to be denominated the *Carnac* scholarship, as an appropriate record of the interest Sir James R. Carnac has taken in the establishment of that Institution, and the zealous support he has afforded it both in England and in India from its first submission to the notice and patronage of the Honourable the Court of Directors to the present time." The sum raised is deposited with Government and held as a Book Debt on the same terms as the Farish Scholarship Fund.

Anderson Scholarship Fund.—At a public meeting held on 16th February 1844 it was resolved:—"That the fund realized by public subscription for a testimonial to the Honourable Mr. Anderson, be appropriated in his name to such Scholarships and Prizes as the Governors of that Institution may deem best adapted for the promotion of Medical Science." The sum deposited with Government is held as a Book Debt on the same terms as the two previous Funds.

Reid Scholarship Fund.—In 1846 a public subscription was raised by the friends of the Honourable Mr. Reid, Acting Governor of Bombay, a moiety of which was set aside to endow a scholarship in Grant Medical College in his name, to commemorate the interest Mr. Reid ever displayed in the promotion of Native Education. The amount deposited with Government is held as a Book Debt, with

interest at the rate of five per cent. per annum for the payment of the Reid Scholarship.

McLennan Scholarship Fund.—Subscribed in 1855 by the friends of J. McLennan, M.D., late Physician General, Bombay Army, for providing a Scholarship and other rewards in the Grant Medical College, to commemorate his name and services. The amount subscribed was deposited in the Government Treasury and bears interest at the rate of five per cent. per annum, from which the McLennan Scholarship is paid.

Jamkhunde Scholarship Fund.—Was founded in 1862 by Ramchunder Rao Appa of Jamkhundee, for the purpose of providing the following letter to the Chief of the Principal of the Grant Medical College.

Bombay, 19th May 1862.

MY DEAR

I have personally experienced the benefits to be derived from the English system of Medicine, and being fully convinced that its diffusion throughout the Bombay Presidency cannot but lead to the most beneficial results by relieving the suffering, I am anxious to add my mite to the munificent sums already laid out both by the Government and private individuals. I accordingly propose to present a sum of Rs. 2,500 to the Grant Medical College, to be invested in five per cent. Government Promissory Notes, the interest of which to be appropriated in the way as may appear to the Principal of the College best calculated to further the diffusion of the system of Medicine there taught.

Yours sincerely,

(Signed) RAMCHUNDER RAO APPA
Chief of Jamkhund

To JOHN PEET, Esq.

Principal Grant Medical College, Bombay.

The donation of Rs. 2,500, in accordance with the terms in the above letter, has been invested in 5 per cent. Government Promissory Notes, the interest on which is laid out in a Scholarship bearing the name of the donor.

Hemabhoj Vukutchund Medal Fund.—Hemabhoj Vukutchund Naggersett, Merchant of Ahmedabad, Guzerat, paid in 1856 a donation of Rs. 1,800 in 4 per cent. Government Promissory Notes, the interest of which was to be laid out in a Gold Medal bearing his name, to be awarded to the most deserving student of the Grant Medical College.

Sir Jamsetjee Jejeebhoy Medical Book Prize Fund.—Sir Jamsetjee Jejeebhoy, Bart., in 1848 paid a donation of Rs. 10,000 into the Government Treasury, on condition that the interest accruing thereon should be annually expended in reducing the cost of purchase of Medical Books required by the Students of the College. Also a sum of Rs. 500 for the presentation of an Annual Prize to the Student who should evince the greatest familiarity with and knowledge of the practical details of Medicine and Surgery. The endowments are held as Book Debts bearing interest at the rate of five per cent. per annum for the purpose of carrying out the object of the donor.

Sir Jamsetjee Jejeebhoy Medal Fund.—Sir Jamsetjee Jejeebhoy, Bart., in 1857 further paid a donation into the Government Treasury of Rs. 3,000, and on 16th November 1862 Rs. 1,452, for awarding a Gold Medal annually to the Student of this College who should distinguish himself most in Practical Toxicology and Medical Jurisprudence. The sums paid into the Treasury are held as a Book Debt on the same terms as the preceding Fund.

Willoughby Fund.—Sir J. P. Willoughby left the sum of Rs. 2,000 in his will as a legacy to the Grant Medical College; this sum has been invested in 4 per cent. Government Promissory Notes, and under the orders of Government the interest on the investment is laid out annually in prizes of Books for competition among the Hospital Apprentices and Vernacular Students in alternate years.

Cawasjee Jehanghier Scholarship Fund.—On the 18th January 1869 Cawasjee Jehanghier Ready-money, Esquire, forwarded a 5 per cent. Government Promissory Note of Rs. 5,000 for the purpose of founding two Scholarships in his name, of the value of Rs. 10 each, for Matriculated Students entering the College.

Miscellaneous Scholarship Funds.

Muggubhai Scholarship.—Was established in connection with the Guzerat Provincial College by Rao Bahadur Muggubhai, who contributed a sum of Rs. 7,000 for a Scholarship to be given in the College only, and the interest on the endowment is applied towards that object.

Sind Scholarship Fund.—The object of this Fund is to enable Sindhee youths to proceed to Bombay for the purpose of appearing at the Matriculation examination, and of afterwards taking advantage of the higher course of education afforded at Government Colleges and the Bombay University. Sindhee lads prosecuting their studies in Bombay are allowed Rs. 20 per mensem and their passage money from and to Kurrachee. The receipts of the Fund consist of interest on a small investment, which is supplied by contributions from the School Fee Fund when the income is found to be insufficient.

Frere Scholarship Fund.—This Scholarship was subscribed for at a meeting of the Native inhabitants of Poona, held on the 11th November 1866, to present an address to Sir Bartle Frere, the then Governor of Bombay, on his approaching departure for Europe. A sum sufficient for the purchase of Government Securities to the value of Rs. 7,500 was subscribed, the interest on which is devoted to Scholarships in the Poona Engineering College, styled "Frere Scholarships."

statement showing the total Receipts and Charges of each Local Fund for the years 1868-69 and 1869-70.

NOTE.—The figures in antique are debit balances.

No.	FUNDS.	Balance 1st April 1868.	Receipts 1868-69.	Charges 1868-69.	Balance 31st March 1869.	Receipts 1869-70.	Charges 1869-70.	Balance 31st March 1870.	Funded Capital.	
									Book Debt.	Government Securities.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
LOCAL FUNDS—PUBLIC WORKS.										
	Road Fund		23,20,409 10 0	38,21,181 4 11		21,58,075 5 8	31,20,195 3 1			
	Ferry Fund		1,27,716 15 8	28,535 13 9		1,63,319 12 7	1,26,123 13 4			
	Coll Fund	32,39,515 3 7	6,78,937 10 1	27,522 1 4	30,79,867 10 11	7,57,434 14 2	4,69,506 2 1	25,61,634 7 1		
	Pound Fund		1,79,654 3 2	65,744 15 2		1,82,548 0 6	56,870 3 0			
	Staging Bungalow Fund		12,373 15 10	35,815 12 1		13,371 14 0	30,857 13 3			
	Esplanade Fee Fund	79,367 12 7	1,39,496 4 0	1,43,917 9 10	73,946 6 9	1,21,462 10 6	1,95,306 6 1	12 11 2		
	Jail Local Fund	1,70,670 3 1	1,41,613 4 5	2,72,304 3 9	45,979 3 9	1,45,048 10 11	2,33,796 0 0	42,773 1 4		
	Barrea Tribute Balances					2,69,318 13 5	73,439 11 6	1,00,877 2 0		
	Income Tax Balances	6,79,689 3 11	1,28,048 14 4	3,36,821 3 0	3,70,915 15 3	20,159 12 0	2,20,400 11 3	1,70,674 15 10		
	H. B. & C. L. Railway Dhurumsala Fund	23,558 13 1			23,558 13 1		133 3 0	23,435 10 1		
	Pension Fund									
	Total Local Funds—Public Works...	40,97,800 4 3	37,26,310 13 4	42,31,842 15 10	35,94,268 1 9	38,31,332 13 9	45,31,739 2 8	29,93,861 12 10		1,32,500 0 0
LOCAL FUNDS—GENERAL.										
	Cotton Improvement Fund	1,88,555 6 10	2,95,023 1 5	2,49,787 10 1	2,33,730 14 2	2,11,487 0 4	2,56,108 15 9	1,69,118 14 9		
	General Fund under Act VI. of 1863	7,511 12 3	11,833 14 0	4,692 0 7	1,658 9 8	9,464 14 10	12,034 14 7	12,058 10 3		
	Kattywar Mohussulee Fund	20,120 13 2	98,690 9 11	54,370 15 3	4,431 7 10	52,027 7 0	45,064 13 9	11,394 2 1		
	Kattywar Agency Gazette Fund	5,734 0 2	7,180 4 1	11,462 2 7	1,452 2 1	11,939 6 8	1,603 1 7	7,733 7 1		

A T C

16	Kattywar Jubtee Establishment Fund	3,549 9 2	2,285 11 0	1,876 11 5	3,807 8 0	1,13 9 0	1,788 9 0	2,782 8 0	.....	.....
17	Kattywar Institution Fund	17,435 2 4	43,720 14 0	25,931 7 0	25,244 9 4	27,686 10 4	20,373 11 7	52,557 8 1	.....	.....
18	Kattywar Infanticide Fund	1,15,716 1 5	20,482 12 8	30,237 9 9	1,05,901 4 4	32,624 2 9	47,384 0 6	8,858 8 5	.....	1,00,000 0 0 46,700 0 0
19	Kutch Infanticide Fund	70,744 5 3	12,799 4 8	1,902 0 0	71,641 9 9	3,412 13 4	1,807 7 4	17,050 15 9	.....	56,196 0 0
20	Ahmedabad Infanticide Fund	6,249 11 4	1,499 0 10	85 8 0	7,043 4 2	50 4 3	6,065 1 0	1,645 6 5	.....	.....
21	Mahabaleshwar Station Fund	15,059 0 2	30,003 1 11	27,747 13 3	7,344 4 10	16,551 10 5	19,217 12 3	4,678 3 3	.....	.....
22	Matheran Station Fund	4,146 4 5	6,235 8 5	6,115 1 3	4,269 11 7	8,474 2 11	9,558 1 5	3,184 13 1	.....	.....
23	Paunchgunny Station Fund	2,741 2 0	3,633 6 0	37 0 6 0	2,594 2 0	2,009 12 0	4,065 10 8	628 4 6	.....	.....
24	Khundalla Station Fund	36 12 0	35 2 0	.....	73 14 0	43 0 0	.....	115 14 0	.....	.....
25	Singhur Station Fund	2,217 6 0	794 12 0	.....	3,002 4 0	634 7 0	.....	3,636 11 0	.....	.....
26	Toongar Station Fund .....	.....	.....	.....	.....	9,000 0 0	82 6 0	1,917 10 0	.....	.....
27	Rajkote Civil Station Fund	5,743 8 11	13,280 2 8	11,000 0 0	8,126 7 10	20,902 8 9	25,241 8 0	3,787 8 7	.....	.....
28	Dhollera Station Fund	21,037 13 4	10,736 5 2	19,000 0 0	21,404 5 0	41,451 1 10	16,121 8 10	40,733 14 6	.....	.....
29	Sadra Station Fund	616 4 4	125 0 0	.....	641 4 4	491 6 0	552 10 4	250 0 0	.....	.....
30	Steam Boiler Inspection Fund .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Total Local Funds—General	4,27,219 3 1	4,90,253 14 7	4,60,000 0 0	26,196 12 11	4,51,599 7 2	4,73,463 4 1	3,43,436 0 0	.....	2,02,691 0 0
	LOCAL FUNDS—POLICE.									
31	Kattywar Local Corps Fund	61,829 2 7	69,629 13 6	1,20,907 13 0	40,549 3 1	24,411 10 5	50,979 3 11	13,951 9 7	.....	.....
32	Mahee Khanta Police Fund	4,009 14 2	1,776 3 6	2,940 10 5	2,845 16 5	4,735 2 1	4,618 4 5	3,012 3 10	.....	.....
	Total Local Funds—Police	65,838 0 9	71,405 0 2	1,23,847 7 5	43,394 0 6	29,146 12 6	55,597 8 7	16,963 13 5	.....	.....
	LOCAL FUNDS—MARINE.									
33	Bombay Port and Pilotage Fund	16,575 10 6	4,77,666 8 10	26,503 3 11	25,112 5 7	4,27,171 5 6	5,22,023 1 2	1,19,964 1 3	.....	.....
34	Kurrachee Port and Pilotage Fund	27,081 13 4	1,29,016 6 9	12,207 14 6	39,736 10 11	47,808 1 10	61,514 4 8	26,020 8 1	.....	.....
35	Aden Port and Pilotage Fund	50,729 14 3	1,92,819 8 0	59,515 15 6	82,572 10 3	91,178 12 9	70,970 1 2	1,02,731 5 10	.....	.....
36	Northern Ports Fund	65,822 12 0	30,927 11 7	89,261 9 8	7,498 13 11	30,023 10 0	33,709 15 6	4,112 8 5	.....	.....
	Carried forward	38,564 10 1	3,30,429 2 2	6,57,158 11 7	1,04,673 13 6	6,96,171 14 1	6,57,907 8 5	12,900 5 1	.....	.....

No.	Funds.	Balance 1st April 1868.	Receipts 1868-69.	Charges 1868-69.	Balance 31st March 1869.	Receipts 1869-70.	Charges 1869-70.	Balance 31st March 1870.	Funded Capital.	
									Book Debt.	Government Securities.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
	Brought forward.....	38,564 10 1	8,30,429 3 2	6,87,188 11 7	1,04,075 13 6	5,96,131 14 1	6,57,907 6 6	12,900 5 1		
37	Southern Ports Fund	73,300 8 0	56,137 5 0	130,315 15 11	672 2 11	58,002 9 1	64,340 13 11	7,210 7 9		
38	Indus Conservancy and Registration Fund	1,734 3 9	76,916 5 8	69,807 15 9	5,574 2 2	30,836 12 9	38,811 11 6	2,100 12 7		
	Total Local Funds—Marine	33,007 10 2	9,63,482 13 10	8,86,812 11 3	1,09,677 12 9	6,84,971 3 11	7,91,059 15 11	3,589 0 9		
	LOCAL FUNDS—CHARITABLE.									
39	Victoria Charitable Dispensary	63,266 7 0	3,250 0 0	3,494 9 10	63,021 13 2	3,251 0 0	4,963 8 0	3,690 5 10	65,000 0 0	
40	Kattywar District Dispensary	288 4 11	4,328 4 7	2,367 13 8	2,246 11 10	1,389 6 8	2,997 12 11	638 5 7		
41	Bhowndy Charitable Dispensary.....	16 11 11		607 1 8	590 5 10	1,630 8 10	1,087 0 9	46 13 9		
42	Coorla Charitable Dispensary	20,048 9 4	1,029 14 8	1,145 1 4	19,938 13 6	991 8 2	877 13 3	46 8 7		20,000 0 0
43	Oorun Charitable Dispensary	11,317 11 11	548 10 0	75 0 0	11,791 5 11	274 5 0	521 5 0	544 5 11		11,000 0 0
44	Tannah Charitable Dispensary	26,371 5 7	1,252 6 0	1,032 2 5	26,541 9 2	129 11 0	889 6 3	1,231 13 11		25,000 0 0
45	Callian Charitable Dispensary.....	21,586 4 11	857 13 6	1,054 15 6	21,389 2 11	857 13 6	1,536 5 4	789 4 11		21,500 0 0
46	Ahmedabad Charitable Dispensary	228 9 2	658 5 6	824 6 1	62 8 7	658 5 6	185 9 6	35 4 7		16,500 0 0
	Total Local Funds—Charitable	1,43,123 7 9	11,923 6 3	10,651 2 7	1,44,395 11 5	9,682 10 8	13,558 8 0	1,980 1 11	65,000 0 0	94,000 0 0
	LOCAL FUNDS—EDUCATIONAL.									
47	General Educational Fund.....	6,60,928 7 0	7,68,307 7 5	7,87,443 12 0	6,36,787 2 6	8,62,405 11 0	7,79,920 2 6	6,34,233 11 3		85,000 0 0
48	School Fee Fund	46,932 12 11	1,23,097 13 2	1,27,559 8 11	47,471 1 2	1,49,146 0 2	1,39,575 13 8	77,011 3 8		
49	Elphinstone Institution Fund	5,42,007 5 10	96,412 10 4	1,11,612 4 3	5,26,807 11 11	76,836 4 2	80,511 0 10	40,967 0 9		5,64,100 0 0
50	Goozerat Provincial College Fund	52,635 1 1	8,739 1 10	8,049 3 10	53,324 15 1	6,903 1 10	7,828 6 1	1,800 5 2		54,200 0 0
51	Rustomjee Jamssetjee Jejeebhoy Goozerat School Fund.....	67,780 3 2	7,614 10 11	7,000 0 0	68,400 14 1	11,205 10 0	12,868 9 0	3,262 0 11		70,000 0 0
52	Sir Jamssetjee Jejeebhoy School of Art and Industry	1,08,098 6 4	23,515 13 1	24,253 12 5	1,07,358 7 0	24,691 8 3	26,181 7 7	5,858 7 8	1,00,000 0 0	

63	Belgaum Jageerdars and Sirdars School Fund	23,761 10 8	5,840 8 6	5,171 2 8	24,430 0 6	6,320 10 10	6,072 1 7	9,078 0 9	.....	25,000 0 0
64	Dhoolia English School Fund	20,992 8 7	4,746 13 8	4,936 3 4	20,773 2 11	2,899 3 0	3,519 13 0	848 7 1	.....	21,000 0 0
65	Goculdass Tejpall School Fund	13,529 15 6	650 5 10	563 6 7	13,598 14 11	354 1 10	600 0 0	201 0 0	.....	13,000 0 0
66	Juggonath Sunkersett School Fund	1 167 13 5	54 13 10	.....	1,218 11 5	54 13 10	.....	273 9 3	.....	1,000 0 0
67	Dharwar English School Fund	5,181 7 6	288 12 6	329 6 0	5,138 13 10	266 12 6	262 1 6	163 8 10	.....	5,000 0 0
68	Ahmedabad Female School Fund	26,982 7 6	1,850 13 8	3,093 1 5	25,779 3 11	2,512 11 5	2,406 3 1	114 3 6	.....	28,000 0 0
69	Tollengee Marathi School Fund	15 14 0	99 12 0	54 0 10	31 10 0	90 12 0	.....	131 6 0	.....	*2,000 0 0
60	Educational Pension Fund	.....	.....	.....	.....	.....	.....	.....	.....	.....
61	West Scholarship Fund	28,454 8 11	2,291 15 1	1,260 0 0	28,486 8 0	2,274 1 10	3,090 0 0	156 1 10	.....	28,464 8 0
62	Clare Scholarship Fund	39,489 10 6	3,223 0 2	3,674 2 5	39,540 6 0	3,222 0 2	3,000 0 0	221 0 2	.....	38,841 8 0
63	Gaicowar Scholarship Fund	5,138 12 0	249 6 9	240 0 0	5,149 2 0	352 6 1	512 1 2	11 7 1	.....	6,000 0 0
64	Bell Prize Fund	1,687 2 3	59 13 6	.....	1,916 15 9	58 13 6	60 0 0	445 13 3	.....	1,500 0 0
65	Rajah of Dhar Prize Fund	1,242 13 9	39 14 4	40 0 0	1,242 12 1	39 14 4	40 0 0	242 10 5	.....	1,000 0 0
66	Gunputrow Wittul Prize Fund	1,994 3 1	74 13 0	75 0 0	1,994 0 1	37 6 6	75 0 0	456 6 7	.....	1,500 0 0
67	Spooderjee Jewanjee Prize Fund	1,806 4 10	60 13 8	60 0 0	1,806 2 6	56 13 5	60 0 0	305 0 2	.....	1,500 0 0
68	Farish Scholarship Fund	15,314 6 0	1,103 7 7	536 0 0	15,879 13 7	1,149 2 5	688 0 0	19,349 0 0	.....	.....
69	Carnac Scholarship Fund	14,873 7 6	902 13 7	156 0 0	15,595 5 1	941 11 4	436 0 0	16,101 0 5	.....	.....
70	Anderson Scholarship Fund	14,230 4 7	671 3 11	560 0 0	14,531 8 6	886 11 2	520 0 0	14,899 3 5	.....	.....
71	Reid Scholarship Fund	12,023 1 7	605 5 2	190 0 0	12,447 6 9	626 9 5	240 0 0	12,834 0 2	.....	.....
72	McLennan Scholarship Fund	150 5 6	415 6 4	238 4 2	8,307 7 5	420 15 1	.....	8,728 6 9	.....	.....
73	Jamkhundee Scholarship Fund	913 7 10	124 11 0	140 0 0	1,899 2 10	112 3 6	.....	.....	.....	2,500 0 0
74	Hamabhoj Vekutchund Medal Fund	.....	51 12 9	480 15 6	1,260 13 6	91 12 4	.....	.....	.....	1,800 0 0 * 500 0 0
75	Sir Jamsatjee Jejeebhoy Medal Fund	.....	174 15 5	.....	.....	175 13 6	.....	3,693 8 6	.....	.....
76	Sir Jamsatjee Jejeebhoy Prize Fund	19,957 0 1	.....	738 2 0	.....	991 5 6	626 12 0	19,658 12 6	.....	.....
77	Sir J. P. Willoughby Prize Fund	.....	.....	.....	.....	79 12 10	.....	.....	.....	*2,000 0
Carried forward		17,46,563 8 5	10,52,508 5 11	10,60,757 5 7	17,02,299 5 11	11,77,222 0 9	10,70,973 8 0	6,82,866 14 3	1,95,254 0 2	9,41,008 0 0

CC
57

No.	Funds.	Balance 1st April 1869.	Receipts 1868-69.	Charges 1868-69.	Balance 31st March 1869.	Receipts 1869-70.	Charges 1869-70.	Balance 31st March 1870.	Funded Capital.	
									Book Debt.	Government Securities.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
78	Brought forward..... Cowasjee Jehangeer Scholarship Fund	17,46,583 6 5	10,52,502 5 1	10,89,787 5 7	17,09,298 5 11	11,77,222 0 2	10,70,973 8 0	6,92,886 14 3	1,95,254 0 2	9,41,906 0 0
						124 11 0	40 0 0	84 11 0		* 5,000 0 0
79	Muggunbhai Scholarship Fund	10,519 1 0	632 2 6	421 7 0	10,719 12 6	384 0 6	394 0 6	729 12 6		10,000 0 *
80	Sind Scholarship Fund	1,639 4 6	51 0 0	783 0 0	952 4 0		319 9 5	632 11 1		
81	Frere Scholarship Fund	25 0 0			25 0 0			25 0 0		* 7,500 0 0
82	Willoughby Deccan Vernacular Society Fund	4,100 0 0	237 8 8	163 9 6	4,173 15 2	163 1 6	163 1 6	73 15 2		4,100 0 0
83	Willoughby Goozerat Vernacular Society Fund	4,100 0 0	211 7 6	363 9 6	3,947 14 0	163 1 6	163 1 6	152 2 0		4,100 0 0
84	Mountstuart Elphinstone Memorial Fund	6,554 13 3	134 2 6		6,388 15 9	323 3 0		1,512 2 9		5,500 0 0
85	Perry Testimonial Fund	52,540 3 2	2,022 15 0	1,442 12 6	53,120 5 6	2,202 15 0	2,252 3 11	2,371 0 9		50,700 0 0
86	Keshojee Naik Goozerat Vernacular Class Fund					162 1 7		162 1 7		* 3,000 0 0
87	Byramjee Jejeebhoy Goozerat Vernacular Class Fund					59 13 7		59 13 7		* 3,000 0 0
88	Cowasjee Jehangeer Goozerat Vernacular Class Fund					61 5 6		61 5 6		* 2,500 0 0
89	Bajee Scholarship Fund.....	1,278 9 0	74 13 0	74 13 0	1,278 9 0	37 6 6	37 6 6	223 7 0		1,500 0 0
90	Hebbert Scholarship Fund					124 11 0	124 11 0			* 5,000 0 0
91	Valla Ratchowld Scholarship Fund					24 15 0	24 15 0			* 1,000 0 0
92	Meernz Scholarship Fund	3,000 0 0	236 14 6	140 10 0	3,087 4 6	124 11 0	124 11 0	87 4 6		3,000 0 0
93	Municipal Scholarship Fund.....	6 0 0			6 0 0			6 0 0		
94	Candy Scholarship Fund	55 0 0		55 0 0	110 0 0			110 0 0		
95	Joonaghur Scholarship Fund					246 14 1	246 14 1			* 9,000 0 0
	Total Local Funds—Educational	19,30,839 5 4	10,56,103 4 9	10,93,246 3 1	17,93,193 7 0	11,81,424 14 11	10,74,854 2 5	6,89,207 3 8	1,95,254 0 2	10,56,806 0 0
	Grand Total.....	60,87,926 15 4	63,31,070 4 11	68,07,276 12 11	62,11,129 7 4	61,68,506 14 11	69,40,272 9 8	39,49,107 12 5	2,60,254 0 2	15,06,202 0 0

* The value of these investments is not included in the opening balances of the Funds.

Society for the Encouragement of Arts, Manufactures, and Commerce.

JOHN-STREET, ADELPHI, LONDON, W.C.

PROCEEDINGS

CONFERENCES

INDIA COMMITTEE

CONNECTED WITH THE

ARTS, MANUFACTURES, AND COMMERCE OF INDIA.

LONDON:

W. TROUNCE, PRINTER, 9, CURSITOR-STREET, CHANCERY-LANE

1886

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Society for the Encouragement of Arts, Manufactures, and Commerce,

JOHN-STREET ADELPHI, LONDON, W.C.

FOUNDED IN 1754. INCORPORATED BY ROYAL CHARTER IN 1847.

ONE-HUNDRED-AND-SIXTEENTH SESSION, 1869-70.

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INTRODUCTION.

On the 25th of January last, the Council of the Society, on the motion of Mr. Hyde Clarke, passed the following resolution:—"That a Committee be formed to organise meetings for the discussion of subjects connected with the Arts, Manufactures, and Commerce of our Indian Empire."

In accordance with that resolution, a Committee was formed, and a series of seven conferences has been held, of which the following is a report. The conferences have been attended by a large number of gentlemen interested in the well-being of our Indian Empire. Maps and specimens to illustrate the subjects discussed have been lent by the India-office, the Royal Geographical Society, the Ethnological Society, Dr. Forbes Watson, Dr. Archibald Campbell, Herbert Bainbridge, Esq., George Campbell, Esq., O. H. Fielder, Esq., and W. Thompson, Esq., to each of whom the Committee herewith tender their thanks.

At its last meeting the Committee passed the various resolutions which will be found on page 101. In consequence of these recommendations, the Council has offered the Silver Medal of the Society for the best treatise on Tea Cultivation, the details of which have been left to a sub-committee to arrange.

On Tuesday, the 13th July, a Deputation from the Committee and Council of the Society had an interview with his Grace the Duke of Argyll, at the India-office, by whom they were very favourably received. An account of the proceedings will be found on page 102.

The Council, with a view of promoting the objects of the Committee, caused full accounts of the proceedings of the Conferences to be inserted in the *Journal* of the Society, and their publication in this volume. Besides the immediate subjects of the conferences, this volume will be found to contain much information on the labour question, sanitary arrangements, military working parties, agricultural improvements, roads, irrigation, and other matters of interest.

The Committee has determined to hold another series of meetings during the next Session commencing in November next with conferences on the subjects of "A Gold Currency for India," and "Irrigation."

(Signed, for the Committee)

HYDE CLARKE

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And
 COL. P. FRENCH. | DADABHAI NAVROJI.
 Appointed by the East India Association.

WILLIAM GEORGE LARKINS,
 Assistant Secretary to the Committee.

ERRATA.

Griffiths, and McLellan
and McLeland.
Page 7, column, line 21

Column, line 21, for "eleven out-
lets" read "one from bottom
of Rawlinson," read

Following extract from
Times of June 21
Henry Rawlinson, page 7
permit me to state, in cor-
rect representation of the s-

and West of China—First,—
north-easterly from Rangoon
point of view which is nearest to any
Burmah. Second,—That the route
Meikong or Upper Kowli is near
from China, navigable
season, and forms, I

boundary
strikes the
Kiang-Hi
cavan road near the
Sz-mau, on the east of
uate west of both the

int does the route

se south-east from Rangoon in the
of Cochin China, but lies through
ly to Yunan. Fifth,—That its proposed
terminus, Kiang-Hung, is 4 deg. 30 min. N.
most northern sea point of Cochin China,
30 min. west of it; the Cochin Chinese north
ary wall being in about 17 deg. 35 min. N. lati-
100 deg. 30 min. E. longitude; whereas Kiang-Hung
is in 22 deg. N. latitude, and 101 deg.
Sixth,—That it never entered my hands
with commerce with the Shans and West
or Henry Rawlinson's route overland from
in Cochin China.' And seven-
commended by me
and the Shan S
connection in my
from Cochin China w

TEA CULTIVATION IN INDIA.

The first Conference on Indian subjects was held on Friday, March the 12th, ARCHIBALD CAMPBELL, Esq., M.D., late Superintendent of Darjeeling, in the chair.

The CHAIRMAN called upon Mr. Hyde Clarke, before Mr. Fielder read his paper, to explain the object of these India conferences.

Mr. HYDE CLARKE said that they were aware that the Society of Arts had devoted itself from an early period to the promotion of Arts, Manufactures, and Commerce, not only in connection with this country, but with our colonies and with India. From time to time various subjects connected with India had been brought before this Society, and those subjects had always been received with attention; it was natural, therefore, that those gentlemen who were specially interested in such matters should apply to the Society of Arts to appoint a committee with a view to the holding of discussions on various Indian questions, because these subjects came within its domain, and it was equally natural that the Council, in its desire to promote a public object of great importance, should accede to the request. It was under these circumstances these meetings had been projected. It had been the desire of the India Committee that these meetings should be in the nature of conferences, in order to elicit a greater variety of opinion, the subject to be considered being introduced by a short paper. He might congratulate them upon the presence this evening of many gentlemen greatly interested in India.

The Paper read was:—

ON TEA CULTIVATION IN INDIA.

By C. H. FIELDER, Esq., Hon. Secretary of the India Tea Planters' Association and Secretary to the Lower and Northern Assam Tea Companies.

The tea plant in British India was discovered by Major Bruce, to whom this Society, very justly, gave its gold medal for the important discovery. He was in the province of Upper Assam prior to the British entering it in 1825, when they drove the Burmese out, and advanced to Sadiva. The tea was first brought to the notice of the British officers by Sing-Fo chiefs, and the late Mr. David Scott, Commissioner of Assam, sent down specimens of the leaves and seeds to Dr. Wallack, the superintendent of the botanical gardens at Calcutta, but it was not until,

by the reports of the then Colonels Jenkins and Charlton, in 1834, all doubts were removed of its being genuine tea, and proofs given of its quality by samples sent down prepared by the latter officer, that Government tea nurseries were formed, under the charge of Mr. Bruce; and a Commission was sent up to Assam in 1839 and 1840 the bulk of the tea gardens thus experimentally planted by the Government, under the management of Mr. Bruce, and afterwards of Mr. Masters, in the Soobaugur and Debrogur districts, were handed over to the Assam Company.

The plant is a shrub, nearly allied to the genus *Camellia*, from which the tea of commerce is manufactured, and those discovered by Bruce, and since cultivated in British India, are merely varieties of the same species as those cultivated in China. If left to their natural growth they attain a height of from thirty to forty feet, with numerous branches; the main trunk attains a diameter of from 10 to 20 inches, and the lateral branches from one to four inches; but in a state of cultivation it is kept down by judicious pruning to a height of from three to five feet. The leaves when full grown are of a length of from five to nine inches, and are lanceolate or oblong, and dotted copiously with distinct pellucid dots, usually spread minutely over the whole surface, interspersed with larger dots.

The green and black teas of commerce are made from the same plant, the difference arising solely from the difference in the manufacture, the green tea being made direct from the green leaf, while the black is allowed to wither by exposure to the sun or hot air before manufacture.

The tea plant appears to flourish best in a sub-tropical climate, i.e., in China in N. lat. 24° to 35°, and British India in N. lat. 25° to 28°, and requires a most excellent soil, a very large average rainfall, and a comparatively high temperature. The cultivation of tea has already become an important feature, and the gradually increasing consumption of it here tends to show, beyond doubt, that it has taken root in the general tea trade of this country.

The tea districts, at first confined to Upper Assam, have since greatly extended, and teas arrive now from various parts, offering a good assortment of useful to very fine qualities. The best black tea that China produces compares but poorly, even the finest first crop requiring a certain quantity of the better description of Indian to be mixed with it, the latter being so much more brisk and

pungent in flavour. Indian tea possesses extraordinary strength, a property invaluable for mixing purposes; and, looking to the comparatively inferior teas of China growth, I lean to the belief that those from India will continue to merit the attention of our dealers no longer as a curiosity, but with a view to satisfy the requirements and taste of the general public.

The lands actually at the disposal of the Government of India, *i.e.*, 1859 and 1860, in districts suitable to the cultivation of the tea plant, were as follows:—

	Square Miles.
Tenasarim.....	14,176,011
Arracan.....	4,860,000
Coseyah and Jyntiah hills.....	453,000
A-sam, 7 districts.....	6,500,000
Dehra Doon.....	141,652
Darjeeling.....	250,000
Kumaon.....	No return
Sunderbunds.....	809,648
Cachar.....	200,000
Chitragong, space for any number of European settlers.	

Of these, about 546,000 acres have been taken up, and 56,000 brought under tea cultivation.

The above is an abstract of returns made to Government, which are not considered complete, as none of the land has been surveyed. Grants of land were published by the Government on easy terms.

It was generally believed that all the best teas that reached England were grown in the north, the climate of which is temperate, and in winter very cold. By the most eminent men of the day the slopes of the Himalayas were recommended as offering the best prospect of success to cultivate the tea plant of commerce. The Assam plant was satisfactorily proved to be real tea; a question then arose, is it identical with the tea plant of China, or a new species?

The China tea shrub delights in high situations, and all the green teas of China grow in the temperate climate of the north; the finest black teas on the slopes of the Bohoa Hills. In China the best of all tea is procured from high mountains, *viz.*, Vu-ye. Assam will grow, and has grown as good, if not better, certainly stronger tea than China, hence we have a right to anticipate as good results from the slopes of the Himalayas. From the Himalayan range we could ensure a supply of one hundred millions lbs. annually, which would be distributed through the commercial centres of the world by the London brokers. From one district in Assam, Luckimpoor, there is a report to Government that there are 228,634 acres of waste land available for tea cultivation, and that wherever factories are established comfort and plenty is provided. Similar evidence is forwarded from Nowgong, Seebaganr.

The Kangra Valley is about four thousand feet above the level of the sea. A tract of land of about a thousand acres was secured by Mr. Fortune, and it is described as being bounded on the east and west by mountains, well supplied with water, and admirably adapted for tea cultivation. In 1852, 20 acres were planted; 1853, 300 acres were planted; 1854, 300 acres were planted; thus in three years there was a fine plantation.

The tea plant, if planted out at the proper time, *viz.*, in the rainy season, does not require irrigation, except to supply the want of rain; the seedlings in nurseries do require occasional watering, and in the planting-out season if attention is not paid to this they will certainly die. Once a tea plantation is formed, and the plants are from three to six years old, they may be considered safe, and independent of artificial irrigation.

Mr. Fortune says of Nagrowta, in 1855, it produced 300 lbs. an acre; the soil is of loam and rich in vegetable matter, well suited for tea cultivation; the plants are healthy and vigorous. At the plantation of Holter, in the Kangra Valley, Mr. Fortune says the condition of the plants is

highly satisfactory; they are healthy, vigorous, and quite equal to the best plantations I have seen in China: much to the credit of Dr. Jamieson and his overseer, Mr. Rogers.

In 1856 tea had been fairly established on the Government plantations, and encouragement was given to natives and Europeans; but the Europeans were not inclined, and the natives had not capacity for the work. Dr. Jamieson continued to prosper with his seed and nursery seedlings, and he was almost embarrassed with his riches, until he was obliged to distribute in thousands to native planters, and even to Assam.

The Kangra district comprises, with nominal exceptions all the hill territory belonging to the English Government between the rivers Ravee and Sutlej. The area contained can only be conjectured, as it has never been surveyed, but the rough estimate is 8,000 square miles. Various races of men, speaking different languages, are distributed over its surfaces; hills just above the sea's level, mountain crests higher than any peak of the Andes. Every zone of climate and variety of vegetation, from the scorching heat and growth of the tropics to barren heights, destitute of verdure, and capped with perpetual snow. It was found that the plant was indigenous to Cachar also, which was immediately turned to good account, and, in 1862, in this province 68,149 acres had been leased to tea planters; 6,077 are in cultivation, with an estimated crop of 336,800 lbs. per year, and 6,719 labourers. The produce was quite equal in quality to Assam.

Darjeeling.—There is great difference of opinion as to this being a tea growing district, the elevation being 7,000 feet; some think it too cold for young seedlings, and that the summer heat is not sufficiently strong to ensure fine flushes. In opposition to this, practical planters have taken up 25,865 acres, and have now in cultivation 8,762 acres, of which there are planted out 5,152 acres.

The area of Assam is about 34,345 square miles, and the population was in 1851 about 1,200,000. The total stated by Colonel Vetch before the House of Commons was about 1,000,000, and this agrees with Captain Butler's figures, as Assam proper is generally reckoned without Goulparah.

The large importation of labour into Assam, Cachar, and Sylhet began in 1863:—

	WHERE FROM MAY, 1863, TO JANUARY 1868.			
	Coolies Embarked.	Mortality during Voyage.	Percentage of Deaths.	Duration of Voyage.
Assam	65,352	1,712	3.14	1 Month.
Cachar	52,155	2,456	4.70	"
Sylhet	2,473	82	3.31	2 Weeks.

These high death rates were caused by cholera, overcrowding, and a bad selection of emigrants. Where a careful supervision has been exercised on the recruiting, losses by deaths on the voyage are the exception. The average rate of wages per month in Assam was from 2 rupees 8 annas (*i.e.*, 5s.) to 3 rupees (6s.) previous to 1857. In 1859 the wages rose to 4 rupees per month, and since then to 7 and 9 rupees per month, through competition.

The statistics available are very meagre, but it may be stated that the average rainfall is from 70 to 100 inches in Upper Assam, and 60 to 90 inches in Lower Assam.

The variety advisable to cultivate is from indigenous or true Assam Seed; that called the "China," introduced by Fortune into the Himalayas and Upper Assam, not yielding, after full growth is attained, so much leaf per acre, nor is the strength and flavour equal to the Assam. A variety called the "hybrid" was in great favour for some time, but it has been found to relapse more into the "China" character after some years' growth, and more especially in the seed obtained therefrom.

The distances the plants are sown or planted apart vary extremely, viz., from 6 ft. to 3 ft. by 3 ft., and are regulated greatly by the nature of the soil, and the description or variety of plants to be grown.

The general opinion is, that a garden that can give an average of four chests, or maunds, of 80 lbs. each per acre, say 320 lbs. of manufactured tea, is a good one; there are many gardens undoubtedly in British India that have given, over an extensive area of cultivation, much more than this average, but they are at present exceptions; a safe average may be taken at three chests, or 240 lbs.; and as each chest or maund of tea manufactured takes, on an average, four maunds, or 320 lbs. of the green leaf as gathered to produce this, it will be seen that even with double the average crop, the return of green leaf per acre would only amount to 1,920 lbs., or less than one ton, which ought to be considered a very moderate result for crops that are gathered in on an average fifteen times a year. The out turn per acre will again depend—On the nature and quality of the soil; the locality of the garden in reference to aspect and average rainfall; the variety of plant cultivated; the distances the plants were originally sown or planted out apart, and more especially on the amount of labour available.

The amount of out turn per acre on good lands, and where the trees are of the Assam variety, may truly be said to depend on the labour available to work them. Gardens have been known to yield six, seven, and even nine maunds of 80 lbs. each of manufactured tea, or from 480 lbs. to 720 lbs. per acre. One adult to each acre under tea cultivation is considered the lowest amount of labour that a garden can be kept in a state of moderate cultivation with.

At present there are far too many subdivisions of qualities, owing to the number of small concerns that are engaged in its manufacture. It is recommended that eight qualities should be made, viz.:—Fine Pekoe, or all flowery leaf tea; Pekoe, little flowery, with small leaf; Pekoe Souchong, larger leaf, few ends; Souchong, larger leaf, without ends; Congou, all coarse, dark, leafy sorts; broken Pekoe, siftings of fine Pekoe; broken black, siftings of Pekoe Souchong; fannings, siftings of Congou, old leaf. These classes would be found quite sufficient for all requirements of trade; nor will the difference in price between any two consecutive sorts be so much as to preclude the trade from buying either. It may appear that too much broken tea is advised, but the qualities of these differ so greatly that it is doubtful if they can be reduced to two alone. Teas such as Kangra, Valley, Tukvar, Kursiong, Dehra Doon, and some Darjeeling kinds, should be made into green teas, as when made into black the liquor is always so thin and highly burnt that prices are very irregular. Indian green teas fetch usually what would seem to be paying rates. The proportion of China green to black is about 1 to 10. Nothing at the moment can be said as to what qualities would be advisable to manufacture, as their appearance is so rare. Uniformity in tares and weight of contents of the packages is a great desideratum. It would be advisable to fix a limit of weight of tea to a chest, say 80 lbs., a half chest 40 lbs., catty box 20 lbs., or with very fine sorts, even 12 lbs. It would also materially facilitate the working of the teas in the warehouses here if the tares were to be even, the chests or packages properly marked with the correct quality, as at present the names marked on the chest are most arbitrary. Thus a Souchong is often marked Pekoe, and *vice versa*. Some have thought the Indian teas might eventually become an article of export to Russia, for when comparing a flavoured, though somewhat weak, Pekoe Souchong with fine black leaf China tea a great difference in intrinsic value is apparent. Many Pekoe Souchongs selling at 1s. 7d. and 1s. 10d. are far better than Monings fetching 2s. 3d. and 2s. 6d., and some, though deficient in strength as an Indian tea, are better in flavour and equal in strength to fine China black leaf. It is thought, were this class of Indian tea separated

from the stronger qualities, and bulked in marks of not less than 100 chests, they would find a good market on the Continent.

With respect to thin, sour teas, the quantity of these becomes smaller every year, so that their presence among the stronger sorts would not be apparent after bulking if they were moderately used.

The example of the Assam Company ought to be followed as much as possible in all the details of mixing, bulking, and packing and evenness of tares, and scarcity of small breaks. Many items of expenditure could be saved by an amalgamation taking place among the competing interests.

The quantity of Indian tea imported in—

	lbs.
1857 was	263,839
1861 ..	1,520,000
1864 ..	3,285,000 (increase over two-fold in 4 years.)
1868 ..	8,133,000 (increase nearly three-fold in 4 years.)

The quantity delivered from warehouses in—

	lbs.
1861 was	1,392,000
1864 ..	2,781,000 (increase over two-fold.)
1868 will be	7,320,000 (increase nearly three-fold.)

The stock on 31st December—

	lbs.
1861 was	1,028,000
1864 ..	1,783,000 (increase three-quarters.)
1868 ..	3,691,000 (increase over two-fold.)

It will be seen that the increase in the eight years, 1861–8, of import, was five and a-half-fold; ditto, delivery, five and a-half-fold; ditto, stock, nearly four-fold. These figures cannot be regarded but as favourable in comparison with China tea—

	1867.	1868.
Import from Jan. 1 to Nov. 30.	1,100,000,000	1,275,000,000
Delivery	1,100,000,000	1,275,000,000
Stock on Dec. 31st	1,100,000,000	1,275,000,000

It may be fairly stated that no crop is more dependent on an adequate supply of labour than tea. Until the trees have become fit to pick leaf from, it requires one man to each two acres for clearing, and one man to each two acres for planting; afterwards one man to the acre as for in addition to keeping the ground clear of jungle, the leaf picking, when a flush is out, employs every hand, and the leaf, if neglected for even forty-eight hours, becomes unfit for the manufacture of the higher quality of tea, such as Flowery Pekoe, Pekoe, and Souchong. The labour question, therefore, in the words of the "Tea Commissioners of 1868," is the question to look to in the future.

The Commissioners were appointed to inquire into the "State and Prospects of Tea Cultivation in Assam, Cachar, and Sylhet, in accordance with the resolution of the Government of Bengal, dated November 1867." It appears that after a careful and lengthened investigation, and taking evidence on the spot, they came to the conclusion (vide p. 14 of their report) that—"On the whole we see no reason to believe that as far as soil and climate go, tea cannot be grown profitably in Assam, Cachar, and Sylhet. The whole matter may be reduced to the one question of the supply of labour. It cannot be obtained in sufficient quantity and at a price which would enable the gardens properly planted and economically worked to return a fair profit on the outlay."

The revenue from Assam in 1862–63 amounted to 750,000 rupees, or £75,000, while in 1864–65 it had reached a total of 2,530,000 rupees, or £253,000, of which was from land and forests 1,100,000 rupees, or £110,000, and from the sale of opium to the British Government 1,430,000 rupees, or £143,000. To the use of this pernicious drug may be attributed the indolence and degeneracy of the bulk of the inhabitants of the Valley

of Assam. The increase in the quantity sold, and the revenue obtained thereby have been as follows:—

	Sold.	Revenue.
1859-60	32,720 lbs.	£21,400
1864-65	155,200 lbs.	£148,500

The total revenue has since much increased, and has, as regards land, lately been in some districts doubled by the Government. It is now felt that the Government ought to immediately aid the planters, by expending not only a larger proportion of the revenue obtained from the province on public works, but that a free circulation of native labour should be promoted, the market enlarged and equalised. Facilities for cheap locomotion by steam vessels would transfer the surplus labour of Bengal and many other parts to Assam, Pegu, and other places where there is a scarcity of labour.

They should also improve the water communication by keeping up the bunds and embankments not only of the smaller rivers Dehing, Dhonsavil, Disang, which are so neglected now that large tracts of former cultivation are now deep morasses or dense swampy jungles.

The trunk roads should be considerably raised, and the water ways or bridge openings widened. The trunk and minor roads should be completed and the old native roads where possible improved and utilised, and the planters should be encouraged by liberal grants to give their personal attention to these urgent requirements, and to making them in sections, the Government should send up the labour required in lieu as hitherto of competing with the planters for the small amount of local labour and time expired imported coolies.

The necessity of extension of telegraphic communication to Dibronghur was pointed out by the commissioners' report of 30th March, 1868, and also that Government should supply from local treasuries cash required by planters in lieu of the latter sending up specie from Calcutta in exchange for drafts. The Hon. William Grey, Lieut.-Governor of Bengal, visited Assam in 1867, and, in reply to a deputation of planters, on 14th September, in that year, stated that he hoped the communications would be improved, the roads repaired, the ferries rendered efficient, and the navigation of the smaller rivers made easier by the removal of the snags, &c., and that telegraphic communication would be extended—but as yet no action has been taken thereon.

The memorial of the planters to the Government was as follows:—

1st. That the whole of the revenues of the tea districts of Eastern Bengal be expended in the civil administration of these provinces, and that a sufficient sum in addition be provided annually, either from the immense surplus revenues of Bengal proper, or from loan specially raised for the purpose, as has lately been done in other cases, for the early completion of a system of bunds, roads, and bridges, which shall improve the sanitarium of these districts, place them in communication with the neighbouring and more populous provinces, and generally improve the internal communications of the country.

2nd. That measures be adopted for giving effect to the desire expressed in Lord Cranborne's Despatch (Public No. 3, dated India Office, London, the 3rd December, 1866), "to facilitate the acquisition on the part of the planters of an adequate supply of labour to the utmost possible extent," and that labour be imported also by Government in sufficient quantities for the execution of public works.

3rd. That courts of justice be increased to such an extent as will enable Government to enforce the due performance of contracts in the tea districts, and to mete out impartial justice to all Her Majesty's subjects, whether employers or labourers or other persons, and that all special legislation, other than as aforesaid, and that may be considered necessary for sanitary transport, be at once withdrawn.

The recommendations of the Tea Committee referred to previously were to a similar effect, and that cattle

trespassing should be severely dealt with; that an extension of terms of engagement of coolies be made, say from three to five or seven years; and that an abolition of the minimum rate of wages by enactment for imported labourers take place, for, as a rule, they are a lazy set, and would simply do nothing if the rule of minimum rate being given were acted upon; the consequence is it is not carried out by either the planters or the officers of the Government on the Public Works Department.

There are records of thirty-eight joint stock companies engaged in Indian tea production. Their nominal capital amounts to nearly four millions and a-half sterling. Their subscribed capital is about three millions and three-quarters sterling, and that called up amounts to three millions.

The above statistics do not include a number of companies in course of liquidation.

The number of private planters is estimated at two hundred, but the want of reliable Government statistics on the foregoing points is one of the chief reasons for concurring on the rise and progress of tea cultivation in British India before your Society, and the action necessary for its future profitable development.

In conclusion, it must be admitted that the future of tea cultivation in British India must depend greatly on the action of the Government of Bengal in relation to labour, and it is believed that they are now fully alive to the importance of fostering, instead of obstructing, the cultivation of the tea plant; considering the amount of capital engaged in its development, and the revenue derived from what was a few years ago mere waste land, it is trusted that the recommendations of the committee appointed on the tea cultivation of India will be carried out, and the competition between the Government engineers making roads, &c., and the planters cease, and the Government import the labour they require for their works. The rate of wages has become nearly reduced to that formerly ruling in Lower Assam through combination; and planters in the upper provinces have only to abandon the senseless competition hitherto existing to benefit likewise. The employment of machinery for the manufacture of the tea and the cultivation of the soil, together with rigid economy in the expenditure, is now being generally introduced and enforced, and the cultivation of tea in British India ought for the future to yield at least remunerative returns on the capital employed.

The CHAIRMAN said he would supplement the interesting and suggestive paper of Mr. Fielder by a few notes of his own on the same subject:—

My acquaintance with the subject is from two sources. At the International Exhibition of 1862 I exhibited the teas of all the tea-producing provinces of India, including the government teas from Kumaon; and I was a member of the jury on articles of food at the same exhibition, when tea from all parts of the world came before us. Secondly, I had a great deal to do with the introduction of tea into the district of Darjeeling, of which I had civil charge, and there I became well acquainted with the cultivation and manufacture of tea and coffee.

The discovery of tea in India and the progress of its cultivation and manufacture are very remarkable. About twenty years ago the plant was discovered in Assam, where it is believed to be indigenous, although it is possible it may have reached that province from China overland. It was also some years later discovered in the neighbouring province of Cachar, where it had attained the size of small trees. At first it was believed that this great discovery was a mistake, and that the plant was a species of camellia, which, in all its botanical characters, very much resembles the tea plant. A commission of inquiry, headed by the late Dr. Wallich, was deputed to examine and report on the plants discovered, when it was decided that they were the veritable tea plant. The only important difference between the two plants being that in the one the seed pod when ripe opens along the back of the seed—which are three in each pod—while in the other it opens along the interstices of the seeds.

last year's exportation of tea to this country, chiefly from China, with the exception of seven millions of lbs. which came from Calcutta, was 164,000,000 lbs., of which 106,000,000 were retained for home consumption in this country. England, Russia, and America were, he believed, the chief tea-consuming countries. If they took the population of Russia and America together, they had another 100,000,000 of tea drinking population. Then there was the consumption of China itself, which must be very large, because the Chinese had been accustomed to that beverage from time immemorial. If they took the English consumption of tea, according to the figures of last year, of what was retained for home consumption, it amounted to something like $3\frac{1}{2}$ lbs. per individual. If to these figures they added the consumption of the 300 millions at the lowest estimate of Chinese inhabitants, the 60 millions of Russia, and the 40 millions of North America and other American countries, they found that there was a positive production in China of from 800 to 1,000 millions of lbs. of tea per annum, whilst with all the efforts and expenditure in India for the last twenty years they had only succeeded in getting an export production of seven millions of lbs. That was not a result which was at all satisfactory. The consumption of tea in India was not large. The hill tribes did not habitually consume tea. There was no doubt on the first discovery of tea in India a cry of triumph was sounded by the friends of India as to the chance of that country competing with China in the article of tea. He hoped that day would arrive, but looking to the financial results up to this time it bid fair to be distant. When they considered that three millions of money had been sunk, the rate of interest it brought was very low. It showed they were over-weighted in the race, and there was a necessity for a great alteration in the state of things before India could hope to compete with China. He was struck with the various remedies which Mr. Fielder mentioned as necessary to be applied by the Government, but he failed to see the feasibility of the last, but not least important one, viz., as to the supply of labour, because it was the fact that it was impracticable for the Government of India to influence the labour market in a country like Assam, sparsely peopled. They knew that the labourers of Dorchester, with all the advantages of cheap travelling by railway, could not be induced, by wages from 50 to 80 per cent. higher than they were receiving, to remove from their own county. He apprehended the difficulties in India in that respect were even greater; there were the differences of language, customs, and caste which prevented the moving and employment of armies of labourers in such parts of the country as they were most required. He did not say this to discourage enterprise, but as practical men they saw there were these difficulties to be faced, and, therefore, he was afraid the results were likely to be disappointing while they had the formidable competition of a nation like China, where population was redundant, and where the soil and climate were far better suited for tea cultivation than in British India. He, however, thought it was deserving of consideration whether they should memorialise the Government or move them to further inquiry on this subject, but he doubted whether the Government were in a position to recommend any large expenditure of funds derived from the revenues of India, for they were the trustees for the management of those funds, and it was not incumbent upon them to dissipate them in a careless or an idle manner, or in a way that did not produce a satisfactory return. He did not for the moment argue that they should not view with the utmost favour all attempts to open up the country by irrigation, by railways, and by improved police arrangements; but, at the same time, it behoved them, looking at the experiences of tea cultivation in India for the last 20 years, to consider whether they had not thrown away a great deal of money, and whether they ought to continue in the same course. It also behoved them to make some authori-

tative Government inquiries as to the system of cultivation pursued in China, because there they saw they had the power of increasing their production as the demand increased. It might be they would find that the system of administration by companies was not at all the practice in China. He admitted he was not informed on the subject, but it was possible that their system might be one of small cultivations. They knew that in this country, in the manufacture of cheese and other dairy produce, the custom very much prevailed of collecting from small cultivators the results of their industry. It might be a question with the Government, after full inquiry as to the system adopted in China, whether we might not carry out some of those principles, so far as they adapted themselves to our constitution in India.

Mr. WILLIAMSON (late of Assam) said there was a gentleman present (Mr. Bainbridge) who, having been entrusted with the important commission of investigating the affairs of one of the largest companies in Assam, was more competent than himself to give them information on this subject. He would say, with reference to the remarks of the last speaker, that he hardly knew the drift of them—whether he intended to convey that the development of tea cultivation in Assam had been so small that it ought to be snuffed out altogether, or whether the Government should be called upon to give encouragement. If he meant because Assam produced the small quantity of tea described, it was no use going on, he might have gone back to a period when it produced only a few cwts. per annum. In drawing a parallel with China, the circumstances of the two countries were totally different. There was no doubt the latter system of cultivation of tea prevailed in China to a great extent. Each family grew and manufactured its own tea. But what was wanted in Assam was population, which existed in China to redundancy. What they required assistance in was supplying that immense vacuum which existed in Assam from want of population. No doubt the Government might say they were not bound to dispend their funds for promoting emigration, but, on the other hand, it was right to say, considering the nature of the government—its patriarchal character, its despotism, and how difficult it was for an obscure European to make his voice heard—they might expect the government to assist struggling enterprise, which might become exhausted for want of sufficient encouragement, and this had contributed to the present collapsed state of the tea cultivation of Assam. Looking at the statistics of Assam, they found that up to the year 1855 the revenue of the province only amounted to about £3,000 a year; from that time up to 1860 the revenue was quadrupled owing to the extension of tea cultivation. He did not say that the increased revenue should be dispensed for the sole benefit of that province, but they might look to the government to do its best to help a struggling industry. What Assam wanted was population. The ravages of the Burmese and the devastations of epidemics had done a great deal towards depopulating that portion of India, and these were circumstances against which private enterprise could not make headway.

Mr. BAINBRIDGE was sorry Mr. Williamson, who had had larger, though not so recent, experience as himself in Assam, had not favoured the meeting with some practical views on this subject, because he believed, from Parliamentary reports and such statistics as were received at home, the question was but little understood. Without entering into the question of labour and other details, it resolved itself into the broad question whether the growth of tea in the provinces alluded to, and more particularly in Assam, was remunerative at the present time or not; and if not, what were the circumstances which prevented it being adequately remunerative? because, though a profit of 6 to 10 per cent. might be earned, that was not a remunerative return for colonial enterprise. He might state that most of the estates in Assam had come under his inspection, in the various

those interested in this question should take up—that was the introduction of machinery in substitution of manual labour, which was so scarce and dear. He had done a good deal himself in introducing machinery when he was last in Assam, in 1867, and he could say success had attended his efforts; and he believed that machinery for the manufacture of tea had been largely used since then. But that was a small matter compared with machinery to do out-door work. He believed most of the cultivation could be carried out by the aid of machinery, so that they might be to a great extent independent of hand labour. Till that was done in Upper Assam, he did not think the planters would receive a sufficiently remunerative interest upon their capital; and this was a question which deserved immediate attention, because if the cost of producing the article went on increasing, and the price in the market went on decreasing, it was only a question of time when the whole thing must cease.

Mr. GEORGE CAMPBELL (Commissioner of Nagpore) remarked that on occasions like this they were apt to have people who took too sanguine views, but as far as they had yet gone the speakers who had addressed the meeting had taken a very unsanguine view. The first speaker, who he gathered was not a planter, but spoke from theory, made an observation to the point. He said truly they had extreme difficulty in inducing a Dorsetshire labourer to migrate from his native county, in which he could barely subsist, to one in which he could live in comparative luxury, but it was still more difficult to induce the coolie to migrate to another part of India. This was the real difficulty in regard to tea planting in the remote parts of India, where, though they had land in plenty, they had not labour. They had heard the speech of Mr. Bainbridge, a thoroughly practical man; the observations of that gentleman seemed unduly discouraging. They could all see he had practical knowledge, and he had explained his views in a practical manner, but the results appeared to him (Mr. Campbell) extremely discouraging. He had told them they could not hope to compete against the free labour of China in tea, but he did not understand the remedy suggested for that difficulty. He told them the difficulties with regard to the cost of cultivation of tea in India; that they could not expect to cultivate there except at a heavy expenditure, and that the profit which planters could hope to obtain was barely remunerative, and not adequate to the risk of carrying on cultivation at so great a distance. The first remedy which he understood Mr. Bainbridge to suggest was one which he thought would not be regarded with much favour in these days of free trade, viz., that the sellers should combine together not to submit to the exigencies of the market, and sell their teas at too low rates. That would not succeed. The other was, no doubt, in principle, the right thing, viz., that where labour was dear they should substitute it as much as possible by machinery; but, while Mr. Bainbridge told them that machinery intended for the manufacture was comparatively a small matter, they could hardly introduce machinery for doing the out-door labour. That was looking to perfection of machinery to which they were hardly likely to attain in the present generation, because up to this moment they had not succeeded in getting an efficient ploughing machine in this country, and they could hardly expect to get a machine to set out tea plants, gather the leaves, and do all that sort of thing. Therefore, if the hope of a large export of tea from India depended upon machinery brought to that perfection, it must, he thought, be a forlorn hope. He would like to put before the meeting another view, which was this—He understood Mr. Bainbridge estimated the capital sunk in the tea companies at an average of £50 per acre. If the calculation was made on that basis they could hardly expect the thing could succeed. But he (Mr. Campbell) submitted that was a false and unnatural basis, and the result of that over-speculation to which Mr. Bainbridge had alluded. For his own part, he did

not believe the actual expenditure amounted to anything like the £50 per acre mentioned. It seemed to him that the real reason why tea planting was so discouraging was, because a large proportion of the gardens were formed, not to grow the tea, but to sell; and that £50 per acre represented, not the *bona fide* capital expended in bringing the land into cultivation, but the artificial and nominal price obtained by those people who made the gardens to sell; therefore, those who had paid fancy prices for their plantations, must make up their minds that they would have some difficulty in getting a fair interest for their capital; but those who had gardens which they had themselves brought into cultivation, and had not put down more than they had actually expended in bringing the land into cultivation, might hope to get a fair return by industry and perseverance. In that view only it was possible that tea cultivation in India might eventually be successful. They knew that plantations carried on at a great distance by absentee planters, under the charge of an agent, were carried on at great disadvantage. Take the case of ordinary farming in this country; they knew that agriculture was an art which required skill, industry, and perseverance, and by their exercise good returns could be made for capital and labour; but they knew, as a rule, gentlemen farmers were seldom successful in a commercial point of view; and gentlemen who sat at home at ease, and sent out agents to plant tea for them, would, very probably, lose their money. At the same time, it was by no means a thing to be disregarded by vigorous young men of our own country, who possessed a little capital of their own. He believed, for such, tea-planting in India would be an extremely good field of operations; and if they invested their money in that way, they might yet hope to make a good thing of it.

Mr. LEONARD WRAY thought the cultivation of tea in India ought to be discussed in a wider sense than as it affected the province of Assam. It was true the tea plant was first discovered there, and a large amount of capital had been expended in its cultivation; but they knew the first efforts of the Old Assam Company resulted in a great success, through the energetic management that was brought to bear upon it. That company, he believed, eventually paid as much as 25 per cent. dividend, and was looked upon as one of the great successes of Indian enterprise. They knew that enterprise was killed, and he thought many in the room knew why. They knew that a lawyer of Calcutta, who scarcely knew a tea plant from a cabbage stem, was placed as manager, and bound himself in that appointment for three years, and the whole affair, instead of paying a good dividend, paid nothing. It was not from the intrinsic value of the undertaking, but from bad management. It was looked upon as one of the greatest enterprises ever undertaken in India. It gave great hopes to those who subsequently embarked in like concerns; but many who followed in the footsteps of the first Assam Company embarked their money as a means of deceiving others. They planted gardens, regardless of expense; and as long as they made money, they did not care who lost it. But, apart from bad management and dishonesty, no doubt the climate, and want of population in Assam, were against such enterprises. It was situated in a remote part of India, and very far from the labour market, which was Chata Nagpore. There was the great fault. They tried to take coolies from one part to another where it was very unhealthy, and where Europeans could hardly live. Why not cultivate in other parts? The vicinity of Nagpore was healthy, if not for Europeans at all events for natives, with abundant population, and labour at from three rupees per month. He had had them come to him in gangs to work at three rupees per month and find themselves, and he never knew a finer set of working men. If they could not take the labour to the plant, why not take the plant to the labour? Tea would grow in Nagpore as well as in Assam. Why was it that plant-

...formed on hills? ... low-lands miasma ... was not subject to ... tea there with as much certainty as in any part of ... It was something like smelting in the present ... Instead of smelting the ore in Chili they took it to ... where the coal was, and it was the same all over the ... world, and in this case, he said, take the plant to the ... our. In Nagpore they had a good climate, abundant ... and fertile soil, and Mr. De Merley, the manager of ... company with which he (Mr. Wray) was connected ... had reported that Chittagong was eminently suited for ... the tea plant. Another field of operations was to be ... found in the Ghauts settlements, and Mr. ... had sent to Assam for seed ... Ghauts settlements. They all ...

... tea differed according to the plan on which ... was made. The China plant differed from that ... India. The former was more delicate in flavour, ... while that of Assam was stronger flavoured and better ... blending, consequently it fetched a good price, and it ... was just the plant which was wanted in the Straits settle- ... ments. It was not necessary to confine the cultivation of ... tea to one district of India alone, because the plant was ... not indigenous to any one part of the country. Everyone ... had made a rush to Assam, and great jealousies had arisen ... not only as to labour, but as to seed, and the consequence ... was there was no unanimity, and tea-growing in India was ... at a discount. He begged to thank Mr. Bainbridge for the ... honest way in which he had given expression to his ... opinions. ... to hear him; it had the ... genuine ring of the true metal. They had the views of ... a practical man who had worked out the whole subject. ... they knew now how much it cost per lb. to grow tea in ... Assam. The question was, could they grow it elsewhere ... at a cheaper rate and with larger profit to the planter ... than in Assam. He said they could, but let them not ... take the labour to the plant, but rather take the plant ... to the labour.

Mr. SAMUEL WARD (Secretary of the Lebong Tea Company) thought the great difficulties in connection with tea cultivation in Assam had arisen in the matter of labour, and he would say, in Darjeeling, where attention was paid to the comfort of the coolies, they had found no difficulty in getting labour at from 3 to 5½ rupees per month, and at those rates they got all the labour they required. Everybody who had spoken appeared to take a depressed view of tea cultivation in India. He was happy to say personally he took a more favourable view of it in Darjeeling, with which he was acquainted, a year ago. The company with which he had already more than a thousand acres of tea cultivation, but to obtain that quantity of tea he had to plant about two thousand acres. The tea plant, and he anticipated that this year he would be 2,000 maunds of tea (last year it was 1,500 maunds), which would bring the produce to 15,000 maunds per acre. A portion of the plant was young, and a portion of the produce was commenced. The Chairman left him, and they made tea. They might calculate in a few years the produce would be 2,000 maunds per acre. The best results were obtained in the estate which immediately lay on the hills.

... on in detail ... to the expense. It was essential to get the plantations as compact and well together as possible; and it was necessary to have skilful and trustworthy managers. Managers were to be avoided as much as possible, because to be successful, the cultivation must be carefully managed, and he thought it desirable that managers as far as possible be placed in positions of trust. With regard to Indian tea being a failure, that was an erroneous view of its own merits. It was not a failure. If they produced a good tea it would bring higher prices.

... it was in the year 1856 that ... Hanson and himself first embarked in tea cultivation in Cachar. At that time the average price of labour rupees per month; and upon the supposition that labourers and artisans could be obtained at those rates he was led to embark his capital in tea cultivation, in which he was joined by several friends. It had been stated by Mr. Fielder and Mr. Bainbridge that wages had gone up from 6s. to 18s. per month. What was the cause of that? Simply competition. When he invested his money, and that of his friends, in this enterprise, he hoped to do some good to the country, as well as benefit himself, and for some years he had a prospect of making the returns spoken of, viz., 25 per cent. He believed, in some instances, a larger return than that was being made. If he were at liberty to do so, he could mention the name of one house which was now making that return from their tea cultivation. When that cultivation was in embryo, it paid in some cases as much as 50 per cent. profit, and he had made 25 per cent. himself. There were reasons why it did not pay so well at the present time. Competition was one of the principal reasons. The moment a person went to take gardens he was followed by scores of people—little better than convicts from Australia—men from the streets. Any man could get a grant of land. The result was that those who had capital, and could have managed the property successfully, could not get labour. The effect of that was that managers and superintendents who had been trained on estates from boyhood threw up the engagements to which they were bound for higher salaries. He ventured to say there was not a tea garden which was fully stocked with plants. Instead of 1,000 plants per acre, as there ought to be, the number was more than 1,800 or 2,000. He had himself ... and he was sorry to say he had been the means of deceiving others. About twelve months ago he received a telegram, stating that estates in which he had a large interest were going to ruin. He at once started for India, and those estates which were reported to be on the verge of ruin were now in a fair way of yielding a good return. Why was that? Because he turned out the rascals! Previously, he had no choice, but now people came begging for appointments, and they could elect honest men, and by doing that they would be certain of success. Last year the cost of the estate was £12,500. When he went there last he found some 20 body servants in attendance upon the manager. The result of the measures he took was that the cost of cultivation was reduced from £12,500 to £9,000 per annum, and, instead of a yield of 100,000 lbs. of tea, he obtained a yield of 150,000 lbs. and an honest day's work. The Assam gentlemen ... not, as a rule, taken ... occasionally a fearful ... On the

... manipulated. The manufacture of tea in ... and these tea ...

at 25. 50. per lb. in the market. He was convinced that tea cultivation would prosper under honest management and ordinary industry.

Mr. TAIT congratulated Dr. Barry upon the success he had achieved. He was a shareholder in tea companies, and had never realised such results as had been just stated. In reference to the prospects of tea in India, he would refer to the last share list he had received from Calcutta, from which he found the names of ... whose names were quoted in Calcutta ... were 2 which paid a dividend of ...

others which paid under 5 per cent., and 18 which paid no dividend at all, and the shares of those 18 companies were at a heavy discount. The shares of one company, with £10 paid, were quoted at from 2 to 3 rupees each. He did not dispute the statement of 25 per cent. profit, but it seemed to him a large amount of money was spent in management, and on boards of directors, and officers at home.

The discussion was then adjourned till Tuesday evening, March 16th.

The adjourned discussion on Mr. C. H. Fielder's paper on "Tea Cultivation in India," was resumed on Tuesday evening, March 16th, at eight o'clock. ARCHIBALD CAMPBELL, Esq., M.D., late Superintendent of Darjeeling, in the chair.

Dr. BARRY said the result of the previous evening's discussion, was to show that there was a great want of confidence both here and in India, as to whether the cultivation of tea in that country would pay as a speculation; but this was easily accounted for when they considered the difficulties which for many years it had had to encounter. He would commence by enumerating some of them. In the first place, when the Assam Company was proved to be successful, there was a great rush of the public into tea cultivation, and as it had happened with railways and other things, over speculation had caused a great depression. Those who were entrusted with the selection of land had not sufficient judgment, and large tracts had been bought which were utterly unfit for the purpose. He was speaking principally of Cachar, in which his own experience had been gained. The second cause was the want of seed; they had to buy almost entirely on Assam, and when the cultivation was commenced, there was very great difficulty in obtaining it. The Cachar Company refused to sell it at all, but as he had had the means of rendering valuable services to that company in his capacity as a medical officer, as a personal favour he was allowed 40 maunds of tea seed. A great deal of discussion had lately taken place in the public newspapers with regard to the adulteration in England of clover and grass seeds, but that gave a very small idea of the extent to which the adulteration of tea-seed was carried.

The CHAIRMAN inquired how the seed was adulterated?

Dr. BARRY replied that windgalls were sold, and sufficient care was not taken in selecting the seed, which was of the utmost importance. It also required very peculiar treatment in order to bring it into a fit state for germination. The third cause of failure was that proper men were not selected to carry out the enterprise, and in many cases it was found that when a good man had been secured, owing to the great speculation he resigned his appointment for the sake of a monetary inducement to go elsewhere, and in this way the best plans were sometimes frustrated. It was within his own knowledge that all classes of men, from convicts up to bankers, had been engaged in this enterprise. Fourthly, when he first went to Cachar he was informed that ordinary labour cost about four rupees and three shillings a month, and that the skilled artisan's wages would be six shillings a-month, but the fact was that now he could not get a carpenter under twenty shillings a month, and the wages of ordinary labourers now averaged about fifteen or sixteen shillings. Fearfully great losses were sustained through the plots of agents in Calcutta. It was necessary for every tea planter to employ an agent for selecting his implements. From calculations he had himself made, he found that by exercising great care in this department he had saved one per cent. on his capital. Supposing that every acre represented £40 of capital, which was necessary to bring it into cultivation, 100 acres requiring a capital of £4,000, the saving would be very considerable. Then some of the agents had acted

very injudiciously in sending coolies. He had lately had a letter from a manager of a tea plantation complaining that some of the men who were sent up, and who had to cultivate the plants, did not weigh more than five stone; it was quite evident they were utterly unfit for such occupation. Sixthly, they had had a bad market for their teas, the agents in Calcutta not exercising a sound discretion. Only last year he went into the tea marts, and noticing the price at which teas were selling, he had bought in a considerable quantity, which never ought to have been sold there at all, by which he had realised threepence a-pound, which never ought to have gone into his pocket, but if proper discretion had been used should have gone to the tea planter. He had before referred to the labourers being badly selected, and he would add that 20 per cent. of the labourers sent up to Cachar were not fit for tea cultivation. As he had saved one per cent. on the purchase of implements, so he had saved four per cent. by properly selecting his labour, and five per cent. in sending the tea on to a proper market, which, added together, amounted to ten per cent. clear gain, simply through having a proper agency. There were many tea gardens which just paid their expenses, but if they could save these per-centages there would be a clear ten per cent. profit. Then there were causes detrimental to the tea cultivation which affected the government of India. In the first place they required roads. Not being an engineer, he could not say much as to the best method of constructing these roads, but he would strongly recommend a pamphlet which he had seen that day, by Mr. Login, which described the most suitable means for roadmaking, for a country such as India, which could be supposed possible. Then, again, and this was the eighth difficulty which they had had to contend with, different legislation was required. He had been taken to task for finding fault with the Emigration Bill, but he considered there were grave defects in it. They wanted to be under the same conditions as the Ceylon planters; that small courts with stipendiary magistrates should be appointed for the purpose of moting out justice between the employer and employed. Instead of that, however, the government had appointed what was called a Protector, and the injurious effect of that was almost impossible to describe. He understood that in Assam, where the agent appointed possessed very great abilities and a very humane disposition, good results had followed, but in other parts they were so prejudicial that for the last two years he believed that part of the Act had been allowed to remain inoperative. He would now venture to make a few suggestions as to how tea cultivation should be made profitable. He had no slightest doubt that this could be done, for he had seen it. The first thing necessary was to have a good and judicious agent; and secondly, the manager must be not only honest and industrious but intelligent and skilful, and these qualifications were to be obtained. The best men for such positions were skilled gardeners. He had sent out four such men from this country to India, and they were all doing well, and made tea-gardens pay. It had often happened, however, that directors of companies sent out their sons to fill such positions, and that system of nepotism had been one of the greatest causes of failure. With regard to the coolies they would suffer almost any inconvenience, provided they had good water; and it had been found that on those estates where this point was not attended to the mortality had been very great. Then the labourers must be properly housed and fed. Rice and other necessaries must be provided for them at a cheap rate, and they must be properly clad. These matters were of the greatest importance, although they had often been entirely neglected. For instance, the huts were generally made of the most able materials, and covered with grass; when the months came on they became so dry and the slightest thing would ignite them, and the natives were burned out just before

speedily fell victims to it, and He believed that felt, which used in England, would form a most admirable substitute for thatch for these huts, as it was not easily ignited; being a non-conductor, it would be found equally as cool as thatch. All these matters must be attended to, from motives of economy not less than feelings of humanity. Again, there were many things to attend to in the and manufacture of tea. Great advances had been made in Cachar in the way of trenching, hoeing, and

experiments had been tried on a considerable scale of making an 18-inch or 2-foot trench, and filling it in with manure, which were found to answer admirably, giving an increased crop to the extent of 30 or 40 per cent. Then, in the manipulation of tea, they had now given over in the best gardens the system of firing, and also of putting the tea in heaps, by which it sometimes fermented and turned sour. It was now dried in the sun, which rendered it flaccid and fit for rolling, and then dried rapidly over charcoal. This plan was found to succeed admirably, the tea being of a very uniform standard. He might mention that he was present at the last sale in October, before he left Calcutta, when the tea of that meeting averaged 2s. 9d. per lb., and since been informed that the quality was very good.

With regard to the cultivation of tea, they should not be guided by the opinion of brokers in London who, no doubt, acting to the best of their judgment, sent out instructions as to what kinds of tea should be made. The fact was, they must make the tea at the leaves came. If they found that the plants brought forth a flush of leaves which it would not be injurious to pluck, they should take them and manufacture them into tea, but it would injure the plant to take them they must do so; the only safe guide was to follow nature, and by so doing, they could not fail of obtaining the best results. Returning to the road question, he might remark that various memorials had been presented to Government for assistance, but there was one fund on which he thought they had something like a claim. It appeared that there were now 35½ lacs of rupees lying in suspension raised from the sale of waste lands, which the Government did not know what to do with, and he thought it would be only just that out of this fund some assistance should be given in bringing labour into connection with the land which required cultivation. This amount had accumulated since 1858. He hoped, therefore, that it would be presented to Government for this purpose, and also to alter the system of the Protectorate, or to allow it to remain in abeyance as at present. In this connection, he would say, that he had no doubt of tea being made to pay, for he knew an instance in which a tea garden had paid 25 per cent. on the capital only last year; people, therefore, who had invested money in tea should not despair, but they must go in for retrenchment, for honest and able managers, and look well after their own interests.

Mr. HYDE CLARKE asked whether there was any system in India with regard to the wages of the labourers by the means of diminishing the earnings of the labourers.

By supplying them with provisions, or in any other shape? They had not yet had brought before them the quantity of tea consumed in India itself. The consumption in England was estimated at 8,000,000 lbs., but it would be very useful to have some idea of what was the amount used in India, and also what was the proportion of Assam tea recommended for mixing with Chinese. He should also like to know if anything had been done with tea seed oil? He had heard that it was pressed oil from tea seed, but he had not seen it at a profit. With regard to the mixing of tea, it was all a matter of taste. He preferred pure Cachar.

Mr. HYDE CLARKE would like to have some information on the wages question, and stated that on one occasion,

when he had 1,000 labourers employed under him in a foreign country, he found, after some inquiry, that they only took one anna in the day, which the coolies were willing to pay, but he thought a bad man he often took as much as two annas, which is one-fourth of a rupee.

Mr. HORNE said that he had seen a good deal of tea planting in Kumaon, but there was no importation of coolies, the coolies there being, generally speaking, natives of that part of the country, though in some places it was very difficult to get them. The rate of wages averaged from three to six rupees a month, or from six to twelve shillings. The commoner or coarse kind of tea sold for about 12 annas a pound of eleven ounces, or at the rate of 18 pence an English pound, while the finer qualities sometimes sold high even as 4s. a pound. It was found that the tea sold in the country paid much better than exporting.

This was found to contain a small quantity of opium, and was mixed up with various gums. It had been successfully imitated, and by the last reports he understood that it was finding considerable sale as Bokhara. It was also sold in Poojaub. He believed that the trade for tea among natives was incalculable—speaking of the plains, and hills. The greatest treat they could give a servant was a pinch of tea, and this was one of the things which it was always necessary to keep under lock and key. Mahomedans, Bhuddists, Hindus, and Christians all drank tea, and he believed that the whole amount produced in the country was consumed under the sun, and was not sent to the Hindostani law.

most parts of the country. He thought that they possessed tea-drinking populations. There was one street in Constantinople almost entirely occupied with tea shops, and even the Turks themselves had a great disposition for it. Mr. HORNE said he was not a great tea drinker, but he thought that Assam, Cachar, Chitlang, and other teas, and they must consider that the tea industry in India, he thought they must look to Europe and Australia for their market. He thought that such a market might be worth consideration whether, if they were held out to them, the Chinese would not take part in this industry, with which they were acquainted. They were found to emigrate to California, Australia, and many other parts, and they could be introduced to the tea industry in India, he thought it would have a great effect. Mr. Bainbridge had told them that the price of tea would be 1s. 8d. per lb. He did not contradict that, but he thought that such a price had arrived at under very great difficulties. Assam required association with the Chinese, and he thought it would be very difficult to get the tea trade in Kumaon, Kangra, and Chitlang, as the conditions were very different; Kumaon was not so well

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known as Assam, but there and in Kangra, he believed there was a large tea-drinking population, and they were more favourably situated for supplying it to the neighbouring countries; and it was well known that all the Mongolian races appear to have a craving for it. All the men in the hills who could afford it used it as an article of diet, mixing it with opium, and sold and used it in various other ways. He had the honour of serving in that district for some time, and was informed by the chief engineer that the quantity of tea that came from Kurrachee to Umritsur, and was sent on from there to Cashmere, was 160,000 lbs. weight in 1853. The company, in which he was a shareholder, sold tea at nine annas a lb., and Mr. Fortune estimated in 1851 that tea could be grown for from 4d. to 6d., and in 1853, the first year in which any attempt was made to grow tea in Kangra, Dr. Jenkinson made the same estimate as to the cost of production. He did not know whether it could be grown for so small a sum, but the opinion at which he had arrived, from the best information he could obtain, was that it could be produced very well for ninepence per lb. The tea cultivation had generally been carried on in these provinces by military officers, who of course worked at a disadvantage. He knew one gentleman in Calcutta who had a large tea garden managed by his brother, a military officer, and who was just on the point of abandoning it, when he sent to England and obtained the services of a nobleman's gardener who came and very soon put every thing in a prosperous condition, and the tea garden was now answering very well. Another gentleman found that a great deal of time was wasted in drying the tea, and on sending a specification of what was wanted to Messrs. Ransome and Sims, they sent out a machine at a cost of £25 which did the work admirably. He believed it was only a question of time to make tea cultivation eminently prosperous. As to the qualifications mentioned by Dr. Barry, they were requisite to success in any business. His own opinion was that one reason for want of success was the great ignorance prevalent on the subject. Mr. Thompson thought tea would not give any yield in cold countries, while Mr. Fortune said the finest kinds of tea were grown in China amongst the snow; that the Kangra tea was superior to that of the Kumāon, and there was no doubt of the climate being much colder. His opinion was that Kangra and Kumāon might furnish tea for upper India, but for capitalists who wished to secure dividends, Cachar and Assam were the best places for their enterprise. If, however, a young man, with a limited capital, wanted an occupation, and a pleasant climate, which would give him work to do and yield him a fair return, he would advise him to go to Kangra or Kumāon where the climate was unequalled. In conclusion he would suggest whether it would not come well within the province of the Society of Arts to offer a medal for the best essay on tea cultivation. He believed it would have the effect of eliciting the information which must be possessed by many men of intelligence in India, but which was not attainable to the general public.

Mr. THEOBALD said he was part proprietor of a considerable tea estate in Dherra Dhoon, which, he was sorry to say, had turned out anything but profitable, and they had virtually sunk. The Dhoon was a large tract of country of as great fertility as any in India, and within the last 35 years had been cleared from forests and jungle. There were several tea gardens and various properties in Dherra Dhoon, and when he was there some few years ago he inquired respecting them, but the general opinion seemed to be that they gave great promise at first, but ended in disappointment afterwards. The Dherra Dhoon Company started some years ago with a large capital, in £10 or 100 rupees shares, but they fell to 50, 40, 30, 20, and, by the last quotation, he saw they were down to three rupees, or 6s. per share, the nominal value being £10. He did not know what was the cause

of this failure in that district, whether the growth was slower, or because the rainfall was more uncertain, but such was the fact. The portion in which he was interested was at the eastern side of the country, which had not yet been cleared, but was in great part, even yet, jungle, and, therefore, they had to contend with that disadvantage. Their first failure arose from white ants, and the next from the scarcity of rain. The Dhoon was about 1,900 or 2,000 feet above the level of the sea, and formed nearly a perfect plain; and his own opinion was that some years' cultivation and expenditure of capital and labour upon it would be necessary before the land would be fit for tea cultivation. One of his partners had some property in Kangra, and in a letter he had lately received from him he stated thus:—"I have about 100 acres in the Kangra Valley, and this year I expect to realise about £300, after paying all expenses. I have only a native superintendent, at 20 rupees a month. He makes very fair green tea, which he sells to the natives on the spot for one rupee and two annas a lb., equal to 2s. 3d. a lb., and has no expense for putting it in boxes or transmitting it. I think this is far better than making for the home market." There was no doubt that if tea could be produced cheaply in India it would meet with a very ready sale. He had paid a great deal of attention to the question, and his firm conviction was that it could be made to pay. Mr. Bainbridge's estimate was that land first under cultivation would produce 220 lbs. weight per acre; the Tea Commission stated that the produce of three maunds, or equal to 240 lbs. an acre, might be expected, but he believed that both these estimates were much under the mark. In 1867, the directors of the Assam Company, who were, of course, well-informed in the history of their own gardens, said that in the next year they expected to produce a million and a-half lbs. from their 5,000 acres, which would be equal to 300 lbs. per acre. Now, the difference between 220 lbs. an acre and 300 lbs. would make all the difference between barely meeting expenses and paying a fair profit, and he had every reason to believe that the production of the Assam Company had been much higher than that stated, reaching nearly to 500 lbs. an acre, whilst a letter had recently been addressed to the Tea Commission, stating that, with the aid of manure, 600 lbs. an acre might be produced. The Zoohrat Company in one year produced 400 lbs. per acre, although, owing to the inferior quality of the tea, their enterprise was not commercially successful. The experience of the Assam Tea Company was very much like that of many other companies—a comparative failure until within the last few years; for the capital that was now called up had all, he believed, been called up in the first 13 years of their existence, and during that time they only paid a dividend of three quarters per cent., and he believed a portion of that was paid out of capital. On the same principle, with perseverance, other companies might be expected to prove remunerative.

Sir CHARLES TREVELYAN, K.C.B., said he attended the conference to a great extent as a matter of curiosity, having no modern experience on the subject to communicate. He saw the first germ of what was now being discussed when a young civilian at Calcutta many years ago, when he was appointed by Lord William Bentinck, in the last few months of his administration, one of the members of the Tea Commission, for the purpose of inquiry into the practicability of growing tea in British India. The first thing they did was to send out circulars to all parts of the country, asking for information, but the utmost they ventured to ask was, whether any plants of a cognate character were grown in the neighbourhood, which would hold out some hope that tea might be cultivated. The answers read were various, but from Upper Assam he read the extraordinary reply that tea itself was grown there in whole forests, and although this could not be believed at first, further inquiry only proved the correctness of the statement. A Scientific Commission, as it was called, was organised to go and investigate the matter on the spot, and they found, as it had been stated, that

The tea plant was growing in Upper Assam in ancient times, and he understood that even to this day the tea plants in Assam were of a strong, wild nature, and produced tea of a very strong character, while the finer and more delicately flavoured kinds had to be produced from imported plants. He recollected that one of the suggestions made to Lord William Bentinck at that time was, that he should establish an agricultural school, but his idea was that the instruction given in such places was exceptional even in England, and that the best agricultural school in India would be the establishment of indigo plantations, and the settlement of Europeans in the country. The first great requisite in tea cultivation was an absolutely secure tenure of land; nothing less would suffice, but it should be remembered that there were two ways of securing this—either purchasing land out and out by the lump sum, or by paying a certain fixed quit rent. The latter plan had been adopted in the Madras Presidency, and had many advantages—the government were secured a certain annual revenue, and the planter was not obliged upon to cripple himself on the outset of his labours. In Bengal and Assam the government had required that the land should be purchased out and out by the payment of a lump sum, but that was not found to answer so well, and, ultimately, a variation had been introduced by allowing it to be paid for by instalments; but even this was not so beneficial in his opinion, as a system of a fixed quit rent. The next government requisition of course was labour. He recollected Mr. Jordan, a member of the firm in Calcutta, being sent to bring over some Chinese labourers, but he did not think that, on the whole, the experiment answered, partly, perhaps, from difference in climate, and partly because the wages were so low as not to offer them sufficient inducement. There was an abundant supply of labour in India itself, if it could be made available. There were large classes there who would emigrate to any part where labour was required if only their confidence could be secured, and a sufficient pecuniary inducement held out to them. Great exertions had been made by the late John Lawrence's Government to bring about that state of things, which was beneficial both to the coolies and to the planters, but there was still room for greater efforts in that direction. In his opinion, all the indications pointed to the conclusion that the tea plant would ultimately prove a great remunerative crop in the first place excellent tea could be grown; and in the next place, there was an unlimited demand for it, not only in England but in India itself, and, above all, in those extensive Tartar countries to the north, the population of which were much disposed in its favour. Of course the planter had to struggle, not only with the fluctuations to which the price of tea was liable, but with many difficulties incident to all novelties, and, of course, judgment must be exercised in the locality selected for the experiment. He doubted himself whether the Dherri Dhoon was suitable for tea production.

Mr. WILLIAMSON said he had had about 20 years' experience in Cachar, Assam, and Chittagong, having been manager of the Assam and other companies. He could not agree with all which had been said by Dr. Barry; for instance, he did not think that, as a general rule, the dishonesty of managers had affected the tea cultivation; there might be one or two black sheep, as in all other occupations, but such a cause had had no general influence on the present state of affairs. Undue speculation had, no doubt, had a prejudicial influence, but it must be borne in mind that, however exorbitant the price paid for land, that was no reason why the operations carried on upon it should not show a surplus. The main question was that of labour. He would not go so far as to say that it was the province even of a paternal government to assist in the production of population, but, at the same time, considering the state of Assam, they had a right to ask for an emigration act. Some of the defects in that act were pointed out by Dr. Barry, but there were others

of equal importance. For instance, a minimum rate of wages (5 rupees per month) was fixed, which the planter was practically bound to pay, whether the coolie did his work or no, the onus of proof being thrown on the planter who might have to go three days' journey to the nearest magistrate, and then he would have but a poor chance of getting back his money. Besides that, the employer was bound to provide rice at one rupee per maund, whatever might be its cost, and this sometimes occasioned a heavy loss. A great deal was heard of the misery caused by famine at Orissa, but little or nothing of it in Assam because the charity of the government was carried out much more efficiently, vicariously through the planters. Under a proper emigration act, with a little encouragement from government, he had no doubt that tea cultivation might yet become profitable, although he was not sanguine of ever getting 25 per cent. The population of Assam had been much reduced by the Burmese invasions, and their efficiency as labourers was still further reduced by the practice of opium eating. For a long time the growth of opium was permitted, but recently it had been prohibited, the government importing the drug and selling it; and he was sorry to say that 50 per cent. of the entire revenue was derived from that source. The consumption had, he believed, much increased of late; at any rate, the revenue from it had. Another defect in the Emigration Act was that the period of service was limited to three years, all the planters being unanimous in desiring that the term should be extended to five years. The reason assigned was, that the coolies might take service on government works at the end of three years, and thus government came into competition with the planter for the labour which he had been at the expense of importing. If a man refused to work all you could do was to imprison him, which was no disgrace or hardship, and then his contract was broken. They had a right to expect that these anomalies should be removed, and that government should encourage indirectly, if not directly, the emigration of labourers, and then Assam would become one of the most flourishing portions of India; the soil was remarkably fertile, but it required cultivation.

Sir CHARLES TRAVELMAN asked if the planters attached much importance to having a strong local authority?

Dr. BARRY said that was so, the reason being the fact that the government of Bengal had so much work on its hands that it was incapable of properly looking after the interests of the province, but that if a Special Commissioner were appointed whose reputation and future advancement depended on his proper administration of affairs, they would have a better guarantee for their interests being protected. In reply to another question, he stated that it was the fact that the imprisonment of a coolie cancelled a civil contract, and he had known them refuse even to leave the station where they were landed, preferring to go through court, as it might be called, and then take their chance of getting a fresh bonus from another employer.

Dr. BARRY said he believed the employer had a civil action against the coolie after his imprisonment, but he pleaded in *forma pauperis*, and nothing could be got out of him, so that it came to the same thing in practice.

Mr. ARTHUR HALL said he had been stationed for some time in the Neilgherry Hills, and, although not much had been done there, it was clearly established that tea would grow, the plants attaining a large size, and yielding very fairly. The principal drawbacks to its cultivation were the want of proper means for preparing it for the market, and the great distance from Calcutta. Just when the matter was being taken up coffee was introduced, for which the climate was found very favourable, and it had in fact practically superseded tea. However, the fact which some had doubted was clearly established, that tea would grow well at an elevation of 4,000 feet, and the flavour was very good, very good. The want of labour was the

great difficulty, but that was not so much felt as in Assam. Tea had also been grown on a neighbouring range called the Pulney Hills, but it was mostly sold on the spot, instead of being sent to the English market, for want of persons skilled in its preparation. At one time it was proposed to get a few Chinese, and some did come, but the experiment did not answer very well, possibly from the climate being too cold for them. The main reason, however, for the discontinuance of the tea cultivation was that coffee had taken its place. Anyone who was disposed to speculate would find a beautiful climate, and land might be got on easy terms, and with a secure tenure. There were also good roads, and a railway at the foot of the hills. It took about five years, with an expenditure of from £20 to £40 per acre, to bring tea gardens into proper bearing. He did not know what produce per acre might be expected, nor the cost of cultivation afterwards. He should like to know if this had been calculated elsewhere?

Dr. BARRY said that matter had been carefully gone into in Cachar. The cost per acre in 1868, for all expenses connected with the cultivation, was 120 rupees per acre; this year it would be about 90 rupees.

Mr. HENDRICKS said there was one question of great importance which had not been much touched upon, viz., whether the knowledge and use of tea as an article of diet were at all general in India. Some gentlemen had referred to the demand as unlimited, and they had been told how anxious native servants were to obtain it, but that might arise simply from curiosity. The statistics showed that it was almost impossible as yet that any general knowledge of its use had been diffused throughout India; and upon this, he believed, would very much depend the question whether its cultivation could be profitably conducted. It was not the consumption of the higher classes, but of the million which would make it remunerative. He had been much struck with the extract read by Mr. Theobald, showing that the only profitable cultivation in the district it referred to was where the product was sold on the spot, thus saving all expense of packing and transport. There had of late been some outcry as to the expense of railway transport in India, owing to the costly manner in which the railroads were constructed and it would therefore be well worth consideration, whether some cheaper system might not be devised which would not throw so heavy a burden on the producer.

Mr. HYDE CLARKE said there was one economical point to which he wished to call attention. The rise of wages in India had been alluded to as an obstacle to the growth of tea; that was only part of a general rise both in the cost of labour and other things throughout the East, and although it might at first sight appear detrimental, there was another result which must not be forgotten, that the labourer, having more means at his command, would come into the market as a purchaser. There was not time to go into the matter in detail, but when, at his request, the land question in India was brought before the House of Commons by the late Mr. William Ewart, he had much pressed upon him that a land and emigration system was needed. At the present day instead of having a system which encouraged the migration of labour and a proper supply of land for the improvement of the country, the result was to restrict both. He was sorry they had not been able to hear Mr. Login on the question of roads, but certainly something more ought to be done in India than was going on at the present time in that direction. In conclusion he regretted that the discussion had not brought out more fully the immense moral and social advantages which would result to India from the settlement of European planters.

The CHAIRMAN said Mr. Fielder's paper had elicited a most useful and interesting discussion, the result of which it would be almost out of the question for him to attempt to summarise. It had been carried on with reference to almost all the provinces by gentlemen thoroughly well

acquainted with the subject, and the general opinion—differing from that of Mr. Bainbridge, who thought the tea could not be produced under 1s. 7^{d.} per lb., which would exclude it from the English market—was that the cultivation might be carried on at a profit. Dr. Barry was very sanguine, and not unnaturally so considering that he had succeeded in making 25 per cent. by the speculation. All persons agreed that the great desideratum was more labour and better roads, and it was suggested that the Government had a fund at their disposal, which might properly be applied to this purpose. He was glad to hear that the prospects of the tea cultivation in Darjeeling were improving, especially as he was the first person to plant tea seeds in that district many years ago, from seeds supplied by the late Dr. Wallich, from plants grown from Chinese seed. They grew admirably 7,000 feet above the level of the sea, and four years afterwards very good tea was made from the plants. After this had been proved, however, it took ten years before any one was willing to risk a farthing in tea cultivation; and then, when speculation spread all over the world, there was such a rush that the thing was overdone, and many were ruined. He did not, however, believe that the past history of the tea cultivation was any criterion for the future. When they began they were utterly ignorant of both the method of making tea and of the value of land. He knew a company which started with the purchase of 40,000 acres, not more than one-tenth of which could possibly be cultivated, and the same ignorance was displayed in other matters. The climate and soil of India were both well suited to the growth of tea, and there was plenty of labour, if it could only be made available, and when these advantages were followed up by European intelligence and capital, they must eventually succeed, and be able to compete with almost any country in the world. Although China had supplied them with tea for so many years, no European had ever seen the tea districts, or the process of manufacture; but now that Europeans were making it themselves, surely their science and skill would do as much for the improvement of that branch of industry as they had for the cultivation of indigo, jute, and other products. He saw no reason to doubt that, in time, Englishmen in India would produce far better tea than the Chinese, and if they could produce it as cheaply, they might drive them out of the market. There were boundless tracts of land at command, the whole of the Himalayas, Assam, and Bhutan, and the only question was how to manage matters economically. They must not begin by paying enormous sums for land, but must remember that the land itself was only of value when labour had been expended on it. There was one advantage, there was no export duty on tea; and in speaking of the Government, they must not forget what had been done by it at the outset. They established plantations in Assam and various other places, to show that tea could be grown, and then, as soon as the matter began to be taken up by private persons, they stepped aside and left it to them. In conclusion, he would say that the demand for tea, if it were produced cheaply, would be almost boundless; both Mohammedans and Buddhists drank it with avidity, so that the only question was how to produce it cheaply enough to meet the wants of the million.

Mr. HENRY ATHERTON writes:—“I can give no exact particulars regarding the tea cultivation in the Kangra district from my own experience, as I left shortly after my plants were put into the ground. My impression is that the best elevation is about 4,000 feet, but the produce will be very varied. There is the greatest difference in the soil on the Kangra Valley, and in my opinion the tea-plant has in many places where the returns will be very trifling. The better the soil and the better the cultivation, the better the returns. I had 1,000 acres of land in a very good position, but had I remained in India I should not have

ed above 250 acres, my belief being that 250
 of the best land thoroughly cultivated and
 the aid of cattle kept on the re-
 which would have supplied the Kangra
 would have yielded a return than
 nity. The Kangra climate, at
 about 3,000 or 4,000 feet, I think,
 as well as tea, but the quantity of good
 not great, and most of that the natives
 will never part with. The advantage settlers
 in the Kangra valley is not so much in the land
 by the abundance of cheap labour, any amount of
 and on moderate terms, and nothing
 needed to secure a certain supply
 of tea. In the Kangra valley the natives in my
 were eagerly taking to the tea cultivation, and by
 time probably the tea leaf may be purchased in
 and the proper position of the European, in
 is that of manufacturer; a large tea planta-
 not be well overlooked, and the business in
 bring the leaves may cause a large quantity of
 by the quantity gathered with the branches
 instead of carefully picking each leaf. I have no interest
 any tea plantations, and I know not what the
 prospects may now be. I tried to calculate that after
 10 years a return of 10 per cent might be looked for
 the capital invested. I am convinced that there
 is such a field as India for the investment of
 but I would not follow the plan adopted
 of endeavouring to be growers as
 as manufacturers. I would adopt the nat-
 ional plan; locate people on the land; get them
 to do whatever paid them best, and for which they
 are best fitted, and purchase the produce
 of the land, there is no question of
 protection, and just treatment will
 be given on your land for protection. If
 I had my land covered with
 plantations would have
 been made. When I re-
 turned to England people wanted me to take
 thousands would have gone to settle
 I have afforded to take them. The

I have
 managed as
 might now be

and India to the certain advantage of all parties.
 If I £10,000 I should be disposed to go back to India,
 my heart is in the country, and nothing would so de-
 termine me as to go back
 land in Central
 to Chepul
 I would
 to have

a single young fellow on the property, unwilling to treat
 the natives as fellow men."

Mr. JOHN C. WILSON writes:—"In reference to the
 important discussions on the above subject which have
 just taken place in the Society's rooms under its auspices
 I wish to say that I was unable to attend the meeting on the 16th, as a colonial
 engineer (but I had not the opportunity of doing so), the
 machinery is now available for accomplishing every opera-
 tion connected with the manufacture of tea; a complete
 system, worked by steam power, was lately sent
 out to Japan which accomplishes all the operations of
 drying, rolling, sifting, &c., including even the manufac-
 ture of the boxes. This fact not appearing to be generally
 known to the meeting, or, at least, to the speakers on the
 subject, and the use of such machinery tending to lessen
 the demand for that labour, and also that skill in manu-
 facturing which, as was represented, is often very difficult
 to be obtained, will form, I trust, an excuse for my
 troubling you with this note of it."

The Times correspondent at Calcutta, under date Feb.
 23rd, writes:—"It is long since I wrote of the prospects
 and condition of the tea districts of North-eastern
 Bengal. In spite of dull trade and past complications,
 and under Mr. Grey's enlightened administration, they
 are now, as a rule, only joint-stock gardens here,
 and the causes which are patent to all
 British gardens are, in many cases, this year yielding
 large incomes to their proprietors. It may be said that
 whenever the capital paid was not excessive (in some
 cases it was) and even in many
 cases (value) there was a fair re-
 turn. The Government of India with
 its policy of non-interference, and compli-
 cation of the labour difficulty, the con-
 dition of the coolies are improving. The
 Government have received, that of the tea and
 which has said
 in paying
 that all the time-expired coolies are engaged in
 their engagements. A very shrewd merchant, who has
 just returned from a careful inspection of Cachar, assures
 me that they do in the
 up stock, and
 homesteads, or to do extra work
 I admit, is better than Assam—
 it is more cultivated, it is nearer Calcutta,
 and it is recruited by a natural way from the labour dis-
 tricts in a natural way. Assam is being worked
 greatly. There is now a superior class of
 too, on the spot, who not only have learnt to
 the tea, but that the comfort of the coolie is essential to
 a dividend."

ON

SILK CULTIVATION AND SUPPLY IN INDIA

The second of the conferences appointed to take place on Indian questions was held on Friday evening, April 2nd, Dr. J. FORBES WATSON, M.A., M.D., F.L.S., Reporter on the Products of India to the Secretary of State in Council, in the chair. The paper read was—

ON SILK CULTIVATION AND SUPPLY IN INDIA.

By L. SIMMONDS, Esq., Hon. Sec. of the Silk Supply Association.

I have been asked to open up the subject of Silk Cultivation and Supply in India by a few remarks, but when there are so many much more intimately acquainted with the subject than myself, I can scarcely tell why I have been selected to open the discussion of this very important question. It is one at least to which I have long paid attention, for it will be seen by reference to the *Journal of the Society*, that fourteen years ago in this room I spoke at some length on the subject of Indian silk production,* when Mr. Dickins read a most exhaustive paper on "The Commercial Consideration of the Silk-worm and its Products." Strangely enough that gentleman and myself, who have not been thrown together since, are now closely associated as the active agents in a Silk Supply Association recently formed in London, which has for its object the endeavour to stimulate and extend the production of that important raw staple, on which not only depends the prosperity of thousands in this country and on the Continent, but also the comfort and well being of operatives and labourers in far distant lands.

In 1808, at a meeting of the Silk Trade, held at Weaver's Hall, it was unanimously resolved "That Bengal silk was become highly necessary in many branches of manufacture, and that from experiments lately made it is found fit for purposes to which it had not before been thought suitable."

Although our extended commerce with China and Japan has brought in largely increased supplies from those eastern countries, and the production of silk on the continent has been greatly stimulated, the demands for the civilised world are such, that Bengal silk is more and more inquired for, and has materially improved. Much, however, yet remains to be done, both as to

quantity and quality. Our total imports of silk last year were nearly seven million pounds, but this is a million and a quarter pounds less than was received in 1858.

The silk of Bengal was originally inferior in quality and very carelessly wound. The East India Company in 1757, sent a Mr. Wilder to improve the winding of silk, and in the year 1769, other Europeans, as drawers, winders, reelers, and mechanics. The plantations were all in Bengal, and to the southward of 26° of N. lat., in the North-west Provinces were stated by Dr. Royle to be much too hot and dry for the silk worm.

Experiments were for many years made on the western side of India to introduce the culture of the silk worm, under an Italian, M. Mutti, but they were abandoned, for want of success. Some excellent silk is, however, produced in Mysore, and it is probable that the culture might easily be carried on in the valleys of the Himalayas, and to these points I shall draw attention hereafter.

The Jury on Silk of the Paris Exhibition of 1855 remarked in their Report, that the art of silk cultivation extended over the extreme portions of the Indian Empire. There skilful cultivators, seconded by large capital, had established for some years past improved establishments for reeling the silk from the cocoons. The silk shown among the other varied products of the East India Company, excited the warm attention of the Commission, and showed the great progress that had been made in reeling Bengal silk, previously thought impossible, by reason of the difficulties in the way of introducing the discipline necessary for the introduction of improvements in those distant regions. Looking at this progress, who can predict the future of silk in the East. China will soon have no barrier to oppose the pacific civilizing conquests of European industry.

Messrs. Eaton and Sons inform me that the one great drawback hitherto attending Bengal silk is being rapidly decreased—namely, the manipulation of the cocoons by the natives. Now, on all sides, plantations worked by Europeans are starting up, and the natives, instead of winding off the cocoons which they produce, sell them to the proprietors of the plantation, and these being reeled upon the Italian system, silk is turned out fit to compete in many respects with that of the European production; but the cocoon, being naturally a poor little thing will never yield silk equal in nerve to the European. Something may, however, be done by introducing seed from Japan,—which, in all countries, prosper well.

* See *Journal*, Vol. iii., p. 203.

annual statements speaking of Bengal silk, say "The delivery is equal to last year, and this, with a reduction of 20 per cent in the supply; hence a considerable reduction in price, and comparatively full support of the importers for all the finer and better classes; the coarser classes are at present almost unsaleable."

The average monthly delivery of Bengal silk during the last three years was over 641 bales. The average weight of a bale of Bengal silk is 150 lbs., but small bales weigh only 105 lbs.

Mr. T. Winkworth, in his Report to the Society for the Italian Exhibition at Florence in 1861, says that there was received there from India and China (but principally from the former), and always in bales, about 984 tons annually, which at 2s. 4½d. the ton would be worth about £241,000.

To trace back the annual supplies of India silk to the year 1820, we find that the imports into the Kingdom in that year were 1,206,722 lbs., or nearly half the total quantity received. The highest import was 2,116,596 lbs. in 1829. It subsequently averaged about 1½ million pounds (with one or two exceptional years) until 1858, when there was a great fall to 586,662 lbs., and the later years, up to 1859, were not very much higher, except 1854, 1855, and 1858, which years averaged about 1 million pounds. But this has to be explained by the entries made through Egypt, which swell the imports of Indian silk to from 3 to 5 million pounds; or one-third to one-half of the total supply from all quarters.

In 1851 the quantity of silk exported from all India was 1,000 tons, value £819,818; 31 tons being shipped from Bengal and all the rest from India. Nearly all this was sent to England, a very little to France and the Mediterranean and Persian Gulf.

In 1861 the total quantity exported was 873 tons, value rather more than one million sterling. France received about 218,000 lbs. weight of this. Bombay and Bengal were still the only two exporting presidencies.

The value of the manufactured silk in India has largely declined. In 1851 it was valued at £355,223, were shipped, nearly all to the United Kingdom. In 1861 only 211,542 pieces, of the value of £227,787, were exported; and in 1865 the value of the goods exported had dropped to £100,000. The principal seats of silk manufacture in India are the cities of Peshawur, Lahore, Umritsur, Multan, and the capital of the neighbouring State of Bhawalpore. The silks of the latter place are considered the best, and the next those of Multan.

The value of the silk manufacture in the Punjab was estimated twenty years ago at over £130,000, nearly half that sum being expended on the raw material. At Umritsur there were 2,200 shops of all descriptions interested in the silk manufacture, the fabrics turned out being valued at £40,000. At Lahore there were nearly 1,000 shops, and the value of the manufacture was £100,000. In the Mooltan and Bhawalpore 1,000,000 worth of silk goods were turned out annually.

As much more in the Jullundhur and other districts little or no raw silk appears, however, to be produced in the Punjab, a circumstance that seems singular, considering the apparent fitness of the soil, country, and climate for the cultivation of the mulberry. The raw material is brought at Lahore is chiefly brought from Bokhara and the Punjab. The raw silks of Bengal and China are used for the same use, the latter being procured from the same sources.

It is not improbable that the lower districts of the Punjab were formerly silk-producing countries, as was the case at the time of Justinian silk was produced in the Punjab. Experiments were made a few years ago by the Government of the Punjab, with a view to ascertaining whether silkworms could be successfully reared in the plains; but the experiment was a failure.

It is not improbable that the lower districts of the Punjab were formerly silk-producing countries, as was the case at the time of Justinian silk was produced in the Punjab. Experiments were made a few years ago by the Government of the Punjab, with a view to ascertaining whether silkworms could be successfully reared in the plains; but the experiment was a failure.

insufficient moisture having rendered the worms nearly unproductive.

Notices regarding the extension of silk cultivation in the Punjab have, from time to time, appeared in India and attracted considerable attention. The cultivation was originally commenced in 1862, at the suggestion of the then secretary of the Agri-Horticultural Society of the Punjab, and most liberally fostered by the supreme government. Reasons (on which I do not dwell) led to the experiments being given up afterwards Mr. H. Cope, of Umritsur, brought to notice that a native had successfully carried on silk cultivation in the Goordaspore Zillah for years. This fact induced Mr. Cope to renew his attempts in 1860, when he obtained 3½ maunds of cocoons. Lord Canning sent the silk to England, where it attracted much attention.

In 1862 the Punjab government again came forward with an offer to Mr. Cope, to give him 500 rupees, and 10 acres of land; also a grant of 2,000 rupees to Mr. Cope, to aid him in further attempts.

He made a vigorous attempt in 1863, but for various reasons, none of which had any effect, he persevered in 1864, and succeeded in obtaining 100 lbs. of cocoons, or nearly 700 lbs. At the same time other parties had been similarly successful. Mr. S. J. Forbes Watson, a company at Peshawur obtained 1,200 lbs. of cocoons; other parties in various parts of the Punjab, including the military stations of Gurdaspore and Shahopore, succeeded in rearing silkworms. The result was most encouraging. These experiments were subsequently carried on with fair promise of ultimate success. Mulberry trees were sent out in 1865 from Lyons, at the request of Mr. Forbes Watson.

For more than thirty years Mr. J. Bashford, of Bengal, has devoted his attention to the rearing of silkworms, and so successful have his efforts been, that the quality, that the Society of Arts has awarded him a medal.

Although superior to much of the China silk, it falls far behind the finest qualities of French silk. Animated with the desire of improving the country so abundantly furnished with mulberry trees, and every facility for breeding silk worms, Mr. Bashford introduced a quantity of the best eggs from France, Italy, and China, to cross with the poor races of Bengal, which breed all the year round. He did not desire to introduce an annual species, because that seemed destined by nature for cold climates, where the mulberry trees yield only one crop of leaves in the year, whilst in India the best trees shoot vigorously after pruning, and give, in five or six weeks, an abundant yield of fresh leaves. Although he has not yet had very great success in his experiments, he perseveres. The natives are, unfortunately, in the habit of stinging the worms with their fingers, and so destroying the leaves in such a manner as to prevent the worms from producing with them.

The eggs are not sold in India, but are bought in cocoons are bought for breeding from. Good and bad are purchased of the same dealers, and they are not distinguished by any mark. The eggs are not sold in India, but are bought in cocoons are bought for breeding from. Good and bad are purchased of the same dealers, and they are not distinguished by any mark.

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except a fine grating, which answers for a door. They pay no attention to light or temperature, and the one good reason for the want of the protection of work the flies. The worms are reared in the open air, or three days in the open air, and occasionally enter by millions, every year, and penetrate into the chamber at the hour when the worms are fed. More than one collection of cocoons, which I had collected at night, has been found to contain many worms escaping. In the Punjab, the silkworms are reared in the open air, and the eggs are not sold in India, but are bought in cocoons are bought for breeding from. Good and bad are purchased of the same dealers, and they are not distinguished by any mark.

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ture are very considerable in Bengal during the year, and even in the 24 hours it is frequently 20 degrees. There is no effort made to equalize the temperature in these houses filled with worms, without necessary air, and giving out a pernicious odour.

Messrs. Durant and Company, in their annual Silk Circular, give the statistics for a long series of years, from which I deduce the following figures as the progressive imports of Bengal silk into the United Kingdom:—

	Bales.	PRICES.			
		Common.		Superior.	
		s. d.	s. d.	s. d.	s. d.
1830	8,726	10 0 to 12 0	14 0 to 16 0		
1840	7,644	13 0 „ 16 0	18 0 „ 21 0		
1850	10,090	6 0 „ 10 6	12 0 „ 15 0		
1860	9,231	11 0 „ 15 0	16 0 „ 26 6		
1868	6,200	18 0 „ 16 0	23 0 „ 31 6		

In the words of a recent writer, Mr. P. R. Cola, in his essay, "How to Develop Productive Industry in India," "It may be conceded that the production of raw silk is an important branch of industry open for future skill and exertions in many parts of India, and the duty of the English Government is to go on encouraging it by every possible means, as they are doing in France."

The decennial progress of our total imports of raw silk into the United Kingdom is shown by the following figures:—

1821	2,641,866
1831	4,621,874
1841	4,966,098
1851	6,597,178
1861	8,835,255
1862	10,434,350

Since then the total has dropped three or four million pounds. The imports in 1868 from the East, including China and Japan, were but 5,300,000 lbs.

Indian silk is classed into two kinds—namely, the rainy and the dry weather hunds; the name being derived from the season in which it is obtained. The inferior qualities of silk are generally used by local manufacturers; the better qualities are almost wholly shipped to Europe. This most valuable staple is capable of great extension and improvement. If its production were more carefully attended to, it might rival the finest silks of Italy. There is no doubt that, with continued attention, the Punjab would soon rival Bengal in the production of this important staple. The raw silks from Burmah, and some from Assam, are of a peculiar coarseness, yet the length and strength of the thread are such as to render this silk peculiarly adapted for the manufacturing of fringes. Experiments made in France with this silk will no doubt lead in a short time to the exportation of large quantities to Europe.

The worms, being badly fed, bred in quantities, in ill-ventilated houses, with little care bestowed on them, it can scarcely be expected that good cocoons would be obtained. There are, however, a few intelligent and careful breeders, who obtain improved results, and 15 lb. of their cocoons, or about 9,500 in number, will yield one pound of very good reeled silk.

The native breeders are generally very poor, and few raise more than 100 lbs of cocoons each. Many produce far less, and often they exceed their means and starve their worms to arrive at this result. The production rests entirely with the natives, and the purchase of cocoons for winding is made by agents from house to house.

All the worms which produce silk in Bengal yield

several crops of cocoons during the year, except one, an annual species, of unknown origin, and which is dying out fast.

The principal kind, known under the name of Dessie, or Dasee, signifying "Country," worm, is assumed to be an indigenous species. This furnishes nearly all the cocoons of the principal harvest of November, or that of the cold season, in Bengal, and yields the best silk. The cocoons are, however, small. In some districts the produce of the best quality is estimated at about 10,500 cocoons to one pound of silk. The worm succeeds best in the cold season, and the cocoons are better than those of the succeeding gathering, but they continue, more or less, in different localities during all the year. The interval between the hatching of the egg and the formation of the cocoon is about 86 days in the cold season, but the time sensibly decreases as the heat increases.

The next species in order of importance is the Madrassee, and, as this name signifies, "Brought from the sea," it may be concluded it is an imported species. It is very hardy, and is easily raised. The produce is slightly better than that of the Dessie worm, since it takes only about 10,000 good cocoons for the pound of silk. The fibre is, however, less strong and brilliant, but it produces a very fine thread if wound with care. This worm passes so rapidly through its several stages, that twenty-five days suffice from the hatching of the egg to the full development of the cocoon. It will thus be seen that there are two distinct species of worm, suited by the wisdom of Providence to the different seasons.

The large worm known as Beroo Poloo is annual, and of unknown origin, for it existed when the East India Company sent out Italian eggs, all of which latter failed. It is principally met with now in the District of Radnagore. The silk it yields is excellent, and double that from the other kinds of India worms. But after frequent failures in the crop, irregular hatchings, and very expensive cost in breeding, besides being an annual worm, the natives have taken an aversion to it, and it is likely soon to be as rare at Radnagore as it is now in other districts.

We have seen that it takes at least 10,000 of the best Indian cocoons to produce a pound of silk, while in France about 2,500 will produce the same quantity. This great disproportion between the yield of Bengal cocoons and those of Europe must necessarily arrest attention, and the idea which naturally presents itself is that if India could produce cocoons equal in size to those of France and Italy the quantity of worms at present raised might supply the silk required by all Europe.

I may now summarize the principal silk-producing moths of India, and this I can well abridge from an able paper by Mr. Frederick Moore, of the India Museum, published a few years ago in my scientific journal *The Technologist*.

The common mulberry silkworm (*B. mori*), doubtless introduced from the northern provinces of China, produces only one crop annually, but spins the largest cocoon and the best silk, of a pale yellow.

There is another species (*B. sinensis*), the small Chinese monthly worm, introduced into Bengal about thirty or forty years ago, but now fast disappearing, being very delicate.

The Madrassee, or Nistry worm (*B. crassi*) yields in Bengal and China nine crops of a good golden yellow silk. Introduced into India about 1780, it is degenerating by reason of carelessness and improper management of the worms. Cocoons monthly between November and June, if attention be paid, but more generally from January to May.

The dasee, or country worm (*B. fortunatus*), yields a golden yellow silk, and produces several crops annually—stated to cocoon five times in the year, at periods of 110 days.

(*B. arracensis*) yields annually a superior silk, superior to that produced in the East.

The Boro Poloo (*B. textor*) produces a pure white silk—spun in March and April. The life of the worm is from 42 to 50 days, and the cocoon lasts from 10 to 15 days.

A wild mountain species (*B. Huitoni*), found abundantly feeding on the indigenous mulberry in the forests of the N. W. Himalaya, produces decidedly good silk, and in considerable quantities, which would be valuable. The worm, however, has hitherto proved so intractable that it cannot be reared in the ordinary way in the house, and thrives only upon the trees in the open air.

The caterpillar of *Actias selene* feeds on many wild plants, and can be easily domesticated. The cocoons in Pondicherry are softened in a solution of wood ashes, taken out, picked, and immediately spun, without being either combed or carded, the silk being exceedingly strong, tenacious, elastic, and brilliant. Four broods can be produced annually.

The Tusseh (*Antheræa Paphia*) is one of the most common in use of the native wild silkworms. It is found in abundance over Bengal and the adjacent provinces, and has afforded to the natives from time immemorial an abundant supply of a most durable silk. Millions of the cocoons are annually collected in the forests and taken to the silk factories near Calcutta, but the principal place of manufacture is at Bhagulpoore. Tusser silk is everywhere used as clothing by the natives, and even by Europeans, while considerable quantities of woven Tusser are imported into England.

Tusser silk has been thrown with some success in England. In the Indian Department of the London Exhibition of 1862, some goods manufactured from this silk were shown, which were very fine in texture, but being woven from the raw material they do not take the dye well, and hence cannot compare with the silk of the *Bombyx Mori*.

Tusser moths are hatched twice in the year, in May and August. The larvæ go into the chrysalis state in September, remaining so till the May following; whilst those that enter the chrysalis state in July, come out in three weeks. Many of the females lay eggs in eight or ten hours after quitting the chrysalis; others, again, do not until the following night, or longer. In ten days the young larvæ make their appearance, and feed on the Aasen and Saul trees. In about three weeks from the time of the exclusion from the egg they attain their full size, and in eight or ten days more prepare for their transformation into the chrysalis. The caterpillar commences its operations by drawing a few leaves slightly together, as if to screen it from observation. It then spins a strong cord, composed of many threads, altogether about the thickness of a crow-quill, at the end of which it weaves the cocoon. This is so transparent for the first six-and-thirty hours, that the larvæ may be distinctly perceived at work in the interior. After that time, the cocoon gradually acquires consistence by the continued industry of the caterpillar, and becomes quite opaque, from the addition of a glutinous liquid with which it moistens the whole. When that dries, the cocoon appears as if covered with white powder, and in the course of a couple of days becomes perfectly hard. The moth generally deposits its eggs within a few yards of the cocoon; these the villagers collect and keep in their houses till the young caterpillars come forth, when they are placed on the Aasen in the jungles, the proprietors remaining to provide food for the birds, and to bring home the cocoons when they are full. The people who rear these silkworms are of the Sontal and Bhuiya castes, and practise many superstitious ceremonies while tending them in the jungles.

From the experiments of M. Perottet of Pondicherry, it would appear that the statement that this moth cannot be domesticated is fabulous, as he succeeded in inducing it to breed in a state of captivity, and obtained sound and

productive eggs. He managed, during a year of continued rain, and when there was a continued dampness, to obtain four generations of these worms during the year. M. Perottet forwarded to France living cocoons of several species, and several generations were reared there, being fed on the leaves of the common mulberry. In 1859 he sent five different despatches of living cocoons of this worm to France, which arrived safely and were doing well.

The cocoons found upon the *Terminalia* are always considered stoutest and strongest, while those on the Jujube are the weakest. Fifty cocoons obtained from the former tree will weigh one French pound. These cocoons are exceedingly rich in silk; they reel by means of an alkali, or any other solvent with great facility, and to the very end. The silk they produce is very elastic and of singular brilliancy, but dark in colour.

There has been some discussion as to the distribution of this species of moth in India; the difficulties having arisen mainly from the existence of allied species in Darjeeling, and other remote localities.

Dr. Roxburgh, in the 7th vol. of the *Linnean Transactions*, has described the preparation of the Tusseh silk; and Colonel Sykes, in the 3rd vol. of the "*Transactions of the Royal Asiatic Society*," has a paper on the cocoons of the *Saturnia Paphia*, or *Antheræa Paphia*.

Tusser silk could be obtained in large quantities from the wild tract of country to the eastward of the Godavery river. The breeding worms in the cocoons are there preserved in the houses. At the proper season, the young caterpillars are taken to the jungle and fed on wild trees, where in time the cocoons are formed. Demand would encourage supply to an unlimited extent. If this coarse kind of silk would sell in Europe, the whole jungle would unfold its treasure, and a very large quantity might be brought into the market annually.

The Tusseh cocoons brought from Cutch are smaller in size and colour, and there is also a great diversity in the texture and glossiness of the silk, which, most probably, depends on the species of tree on which the caterpillar may happen to have fed. The same variety is observable in the female moths, which are of three or four different sizes and modes of winding off the thread does not differ from that pursued in the case of the ordinary silk worm proper. The Tusseh silk worm feeds indiscriminately on the oak, the jujube, the mulberry, and other trees. In some places it is an annual only, but in Bengal it has at least three broods in the year.

The Moonga silk worm (*Antheræa Assama*), feeds also upon several wild trees; it is often cultivated by the natives, and can be reared in houses, but is fed and thrives best in the open air and upon the trees. There are five broods in the year. The silk forms one of the principal exports of Assam, and leaves the cocoon generally in the shape of thread.

The Mezankooree, a closely allied worm (*A. Mezankooria*) feeds on a species of *Terminalia* in Assam. The silk is nearly white, its value is less than that of the Moonga, and it is not so much in demand in the higher classes in Assam. The oak-feeding silk worm of North West India (*A. Roylei*), feeds on the common hill oak (*Quercus incana*). The cocoon is large and very tough, and the silk is pronounced as promisingly worth cultivation. An allied species (*A. ...*) has been introduced into France.

The Atlas moth (*A. ...*), which feeds on the leaves of *Terminalia*, *Albizia*, *ovata*, &c., is stated to produce the Tusseh silk of China. It is easily reared in a state of domestication, producing a cocoon well stored with a fine yet strong silk, of a grayish colour.

The *Atacus Canningii* is the wild sub-Himalayan Eric silkworm, feeding on *Cortaria nephtensis*, *Xanthopis hostilis*, and *Kicinus communis*.

Attacus ricini is the commonly cultivated Eria or Arindy silkworm, which, in Bengal, yields four or five crops annually, and is reared over a great part of Hindostan, in houses in a domestic state, feeding on the leaves of the castor-oil plant. It gives a cloth of seemingly loose texture, but of incredible durability, the life of one person, it is stated, being seldom sufficient to wear out a garment made of it. The thread is woven like cotton, and the cloths are mostly used for home consumption by the poorer classes at all seasons, and by the highest for winter wear.

These wild silkworms may be thought by many unworthy of notice, as they do not yield that kind of silk most valued in commerce, but they are more important than they at first appear to be. We must remember that the culture of some in the forests, and the collection of all, affords employment to considerable numbers of the natives in the parts of districts least productive of useful occupation. They afford also clothing for many of the inhabitants. In one district alone, that of Azimghur, it was stated that, in 1837, 318,772 pieces of Tussah silk were turned out annually from the looms.

The inquiry as to which is the tree best adapted in India or elsewhere for the production of good silk, although apparently a very simple one, is in reality not easily answered, since much must depend upon the species of worm under cultivation, as well as upon the climate itself; and the difficulty is enhanced by the fact that every one who, possessed of much zeal but little knowledge of the subject, essays to rear silkworms, appears to think it necessary to extol some particular species of mulberry, and to pronounce it for the time the *ne plus ultra* of silkworm diet. One while it is the white-fruited mulberry only that can enable the insect to elaborate good silk; and anon, for some inexplicable whim, the white is discarded, and another tree adopted in its stead. The purple-fruited species is unhesitatingly denounced. And yet the white mulberry is found to be nothing more than an albino variety of the purple-fruited tree.

In the report of the Agricultural Society of Calcutta, for 1866, notice is taken of the experiments in various parts of Bengal with the varieties of the Japan silkworm, which are stated to yield a much superior silk to the monthly worm of Bengal, and samples raised from this stock at Ghatal were considered by Mr. Turnbull as infinitely superior to the general run of Radnagore silk, and not far short of Italian. In consequence of this favourable result further supplies of eggs were ordered, and the experiments continued.

The cultivation of the silkworm in Oude is believed to be capable of great extension, as the mulberry abounds throughout the province, and the climate appeared to be favourable to the rearing and thriving of the worms. Of silk from Oude shown at the London Exhibition in 1862, Messrs. Durant reported that it was, in some respects better than the silk of Bengal, inasmuch as it had more nerve and less of the fluffiness which, more or less, seems to be an inherent condition of even the best of the European filatures of that country.

In 1861 Dr. Bonavia commenced the cultivation of various kinds of mulberry trees in Lucknow, distributing cuttings to the officers of all the districts in Oude, and energetically induced the natives to rear silkworms. After repeated trials, he stated in 1865 that his experiments were given up, for it was found that *multicoloured* varieties required more care than any native would be inclined to give them, in a climate like that of Oude, where the contrasts of temperature between different seasons are so great. The *Unicolor*, or annual variety, also, did not succeed sufficiently well to give much encouragement. He further states, that if silkworm breeding is ever to succeed in Oude, it must be some hardy annual variety, feeding on the native mulberry.

The cocoons of Oude and Umritsur are said to have degenerated in one season 56 per cent. below the Cashmere standard. Cocoons raised at Lucknow, in Oude,

by Dr. Bonavia required 5,200 to the pound of silk. Candahar, in 1819, the Afghans reckoned about 1,500 to the pound of silk, while in France, previous to the late epidemic, 2,500 cocoons were, on the testimony of Mr. Bashford, equal to a pound of silk. Here, then, we have positive evidence that the climate of the Punjab and other parts of the plains of India is injurious to the health and general well-being of the insect.

The political resident at Munnipore, writing in 1864, states that there can be no doubt of the suitability of the climate of the locality to the growth of the finest quality of silk.

With the sanction of government, an experiment was instituted by Captain Thomas Hutton, at Mussooree, in the N.W. Himalayas, in 1850, having for its object the eventual cultivation of the wild Himalayan silkworm, known as *Bombyx Huttoni*, and for this purpose he was instructed to form a plantation of the indigenous mulberry trees, three years being granted in which to finish the work. Subsequent trials proved unfavourable to the chance of future success with this species. Captain Hutton, however, represents that experiments tried with the domesticated *Cashmere* and *Bengal Madrassee* worms, had proved, beyond a doubt, not only that these worms thrive well in the climate of Mussooree, but that there was also a ready and remunerative market for the silk.

Is it not (asks Captain Hutton) a well-understood and long-established fact, that, whether among animals or plants, an occasional renewal of seed, and reinfusion of the original stamina is found to be absolutely necessary for the preservation of health and of that particular standard of perfection which it is thought desirable to maintain? And yet, with the domesticated *Bombyx mori*, this necessary precaution has been uniformly neglected for 400 or 500 years. What wonder, then, that under the combined effects of bad and scanty food, want of sufficient light and ventilation, too high a temperature, and with the constant and unvarying interbreeding of a debilitated stock, the insect should have become subject to a multitude of maladies, and threaten, at no distant period, to become extinct.

As early as the year 1791, experiments for the introduction and culture of what succeeded so well in Bengal, were made in the Presidency of Madras, and continued for several years, but without any permanent results; as in the year 1854 only 1666 lbs. of silk were exported. This is probably owing to the climate of the Madras Presidency being generally unsuited to the culture; for, in the more elevated climate of Mysore experiments have been continued to the present time, and some very good specimens of silk were sent to the Exhibitions both of 1851 and 1855; also to the Exhibition held at Madras in 1857; when it was stated as probable that the culture might be successfully carried on in the valleys of the Neilgherries. The silk produced in Mysore is required for the manufacture of the silk shawls of that province.

In the same way, experiments were made in the Bombay Presidency about the year 1755, repeated again in the Deccan in the year 1830, and persevered in for ten years, under the superintendence of an Italian, M. Mutti, but without eventual success, as was always anticipated by Dr. Gibson, in consequence of the heat and dryness of the climate.

Though these instances may appear to put limits to the extension of silk culture in India, and to a supply of raw material from that country; they only do so in the districts having the climate which has been indicated. In the valley along the foot of the Himalayas, in North Western India, there is a less arid soil, a more temperate climate, and species of mulberry appear indigenous and flourishing. This is still more the case in the lower hills which bound the Punjab and in many parts of the Punjab itself. Here, indeed, a most successful experiment has been commenced, of which the results were shown in the Paris Exhibition of 1855.

Experiments were for some time energetically carried out by the late Mr. Cassamajor and by Major Minchin. Silk from Italian worms was successfully reared at Katy, and silk was produced of good quality on the estate of M. Lascelles on the Neilgherry hills. Quantities of silk may be looked for yet from these localities, from Kashmir, Bokhara, and Afghanistan, whilst the dry and salubrious climate of Scinde is especially favourable to silk culture.

The cultivation of silk in connection with the manufacture of muslin has for many years been carried on in the talooks lying in the vicinity of Bangalore, Mysore, and Seringapatam, where are chiefly congregated the Mussulman communities, to whom this branch of industry is almost wholly confined. Devoid of energy, and unaided by the capital which could enable them to import the best varieties, both of the mulberry and the silkworm, they have been content to eke out a bare subsistence, and to feed their families on the rapid deterioration which has been going on in the local trade had been for some time past.

The settlement, however, of the silk culture company, conducted by an Italian gentleman at Kengari, near Bangalore, and the introduction of new breeds of silkworms, as well as of improved kinds of mulberry, promise to inaugurate a new era in the silk manufactures of Mysore. The increased demand thus occasioned has given a stimulus to the production of a better kind of silk, and, in order further to promote this object, arrangements were made, in 1865, with Signor de Vecchi for the importation of silkworm eggs from Japan, for distribution to those who were willing to rear them with care and to give the experiment a fair trial. The only kind of silkworm hitherto reared in the Mysore country is the China variety. These worms yield cocoons which are described as being much superior to those of China and Japan; the silk is not only woven, and is internally flossy, though the quality of the thread, when reeled by European processes, is found to be good. The inferior quality of the native reeled silk is evidenced by the value. The best samples, which are worth on the spot 4 or 5 rupees (8s. or 10s.) a seer equal to three-fifths of a lb., would not in Europe obtain a higher price than 18 or 14 shillings per lb.

Some singular religious notions stand in the way of the extended production of silk by the natives of Mysore. Thus Mr. Wright, of Peradwar, has been making exertions to extend the cultivation, and forwarding 500 or 600 cocoons to be distributed among the natives, called the headmen, but they doubted whether the priests of Buddha would sanction the cultivation of the silkworm. The high priests were consulted, and came to the meeting in their large yellow silk shirts—their sacerdotal dress; but nothing could induce them to recommend an occupation which involved the destruction of life. "Why," said the agent, "you come here, wrapped in the spoils of the worms that are killed by the strictest Buddhists in China and Siam," but they would not sanction a practice which involved the destruction of the worm. They themselves are the greatest encouragement to the use of silk.

Silkworms are common in many parts of the province of Burmah. In the district of Sandoway, the eggs are hatched by the ordinary heat of the weather all throughout the year, and a supply thus kept up, but the silk produced not being good at all times, it is not until December that the silk for sale is obtained. In that month the worms are largely bred, and the cocoons are formed in February. A selection is made of the best silk, but it is sold indiscriminately, and used in the district in the manufacture of native dresses. Silkworms are also extensively used in the northern and western parts of Toungoo. Attempts have been made to introduce a better breed of worms, by importing eggs from Moorshedabad in Bengal.

I have now somewhat hastily skimmed over the extensive subject of silk production in India. Imperfectly as this has been done, I trust it will open up a field of inquiry and

discussion which may result in benefit hereafter to that great and important dependency of the British Empire, as well as in supplying the urgent wants of the factories of Europe. The Society of which I have the honor to be a member, devoted its best energies to this subject, and I am much to be hoped that the appeal, made for further information, and for useful suggestions as to the best mode of stimulating the production and improving the quality of Indian silk, may not have been made in vain.

Mr. Thomas Perkins, Chairman of the Silk Supply Association, believed the statements Mr. Simmonds had made were on the whole very correct with reference to India; but the unfortunate fact still remained that the quality of the silk produced there was very defective, and would continue to be so, so long as the present mode of rearing was carried on. The great error was already experienced.

The cocoon was produced. The silk worm required so much food and so much attention, and the great object sought was to get the largest quantity of silk from the smallest number of worms. In France, in Italy, and the best silk-producing countries, about 12 lbs. of the great cocoons—that was French cocoons—were sufficient to yield 1 lb. of silk. That 12 lbs. when dried and pressed for packing for exportation, lost about 75 per cent., and when the cocoons were imported in that state from Asia Minor, and such places as now exported cocoons about 4 lbs. was sufficient to produce 1 lb. of silk. In India and China, wherever the silk was imperfectly reeled, they required twice or three times that quantity, and, therefore, it would be evident that the great cost of producing silk was in that proportion twice or three times enhanced up to the point of reeling the cocoons, so that if in India we could have a better and stronger worm, such as was produced in France and Italy from the Japanese seed, that would be one great point gained. Then, again, the unfortunate and great error in the production of silk in all countries except France and Italy, was the practice of reeling the silk there instead of sending the cocoons to Europe, where the machinery and the whole system of reeling was carried out to much greater perfection. The filament of all these countries probably was of about the same quality, whether in Bengal, China, Japan, or France; and if in reeling the same number of filaments were continued throughout the thread, then the Bengal and Chinese thread would be quite equal to the Italian or French thread; but the superior mode of reeling in Europe enabled the weavers to continue the thread of four or five filaments throughout, and made the silk worth 45s. per lb.; whereas, from the defective reeling in India, the thread varied from four up to twenty-five or thirty filaments; and owing to its uneven character was worth only a third or a fourth of that value, whilst the cocoons were just the same in quality.

parties with regard to India, should give every possible encouragement to the proper classification of the cocoons, press-packing them, and sending them to the best market, such as Marseilles, where they might be reeled. The time might come when we might import the raw material into this country and reel it here. Marseilles presented the great market for this country, and he believed the cocoons if so imported, press-packed, would realise to the merchant who imported them a far greater value than silk reeled in the defective state in which it was now produced in India and elsewhere. He proposed at the end of the month to visit the silk supply before the Government was prepared to enter more fully into the subject, relating to all the countries capable of producing silk, and the comparative qualities which these countries produced at the present time.

the perfect salubrity assumed, for such changes are too frequently only changes of the forms of disease; a change of the diseases of a hot for the diseases of a cold climate—if the hills be not, under competent sanitary science, put in befitting sanitary conditions. I beg to present some examples of the conditions of the so-called hill sanitarium. I cite the report of the Indian Sanitary Commission, from Indian official evidence on this most important point. They state generally as respects the hill stations:—"The stations being generally on ridges and near ravines, afford great facilities for perpetrating all kinds of nuisance. There is a large native population, over whom very little sanitary inspection is exercised. At Simla, the 'conservancy' is described as being as bad as it could be, the ravines full of dead animals, together with the ordure of many thousand natives. There are no public conveniences. The water supply was scanty, and liable to pollution. The effluvia from the ravines were 'as strong as on going into a sewer.' A large amount of hill diarrhoea prevailed among the residents, which Surgeon-Major Grant attributed mainly to want of sanitary precautions, and neither to the elevation nor to the damp atmosphere. He states that the disease had gradually increased with the increase of population, and that 'the authorities seemed to think that, because the climate was cold, the men might be crowded together, and all sanitary arrangements neglected with impunity.' The men were crowded together at Kussowlic with fatal results. Colonel Greathed informs us that, when the rains begin, the nuisance produced by the washing down of the filth is intolerable. The reports on the stations give the evidence of a number of officers on this same subject. We learn from them that the barracks at several stations in the Simla group, such as Subathoo and Kussowlic, are bad in structure and plan; that at Mount Aboo the barracks are erected in a malarious gully; that at Nynsee Tâl, 7,600 feet above the sea, the huts have been built in a narrow defile, where the earth is damp, and a perfect marsh during rains, and where the huts are exposed to violent gusts of wind. The bazaars are filthy and crowded. There are neither drains nor latrines, and 'the stench is at times overpowering,' causing nuisance in the barracks. At Darjeeling the medical officer reports the sanitary condition of the hospital for convalescents as 'bad,' and he states that he had been making representations for five years as to a privy under a verandah connected with the hospital, before he could get the nuisance abated, which rendered the ward so offensive that the sick had to be removed out of it. The drainage is defective, and 'the inducements for the sick to remain dirty are,' he thinks, 'greater than those to be clean.' The hill stations on the Neilgherries are not exposed to the same objection as regards climate; the rain-fall is much less, and the air is drier; there are fewer fogs, and altogether this group of stations is perhaps the best yet occupied. But even here the usual fatality followed neglect of very obvious sanitary measures. When the station at Jackatalla, now called Wellington, was first occupied, much disappointment was experienced on account of the high rate of sickness and mortality. The mortality of the 74th Highlanders, during three years at Jackatalla, was at the rate of 39 per 1,000. Of the 68 deaths in the regiment, 19 deaths were by dysentery, 6 by diarrhoea, 8 by cholera, 6 by apoplexy, 9 by hepatitis. The barrack square 'was frequently an immense swamp.' In 1860 the mortality of the 60th Rifles, third battalion, was at the rate of 24 in 1,000 at Jackatalla; the mortality of the 66th Foot at Cannanore was 11 in 1,000 during the same year. Cannanore is on the coast, and 20 feet above the sea level. On inquiry into the causes of this sickness, it was discovered that, besides want of attention to drainage, the large body of from 2,000 to 3,000 workmen employed on the buildings had been under no sanitary control, so that the ground for miles about was 'one immense privy,' and the troops suffered to a great

extent from bowel disease in consequence; but since sanitary arrangements were thoroughly carried out, the sickness has been under one per cent. of the strength. One thing is quite clear, that it will never do to trust simply to elevation above the plains to keep the army in health. Malaria has been blown up ravines in India far above the fever range, over sites otherwise perfectly healthy; and those who slept within its influence have been attacked with fever and died. We have shown that epidemic disease originates at hill stations just as it would do at unhealthy stations at home. Hence, in selecting sites on hills, all the precautions necessary for selecting sites on plains are just as necessary. The climate, exposure, sub-soils, drainage, water-supply, local diseases, and the relation to distant sources of malaria, require careful examination; and all buildings, whether for European troops or natives, must be subjected to the sanitary conditions as to structure and supervision which are everywhere required." Now, this is a mild statement—an epitome of much of the civil government of India. To one conversant with sanitary science, it is only necessary to know of such death-rates, and to know of such cases of death by dysentery, diarrhoea, and epidemic cholera, to be certain of the existence of such local causes or antecedents as those above described. And if they mow down strong men, what chance have women and children against them? What chances are there of succession under such neglect? Mr. Campbell states that civilians in India know how to take care of themselves. This may be questioned, from the extent of their invaliding, and their squalid appearance here. But, most certainly, they as yet have a miserably small knowledge of how to take sanitary care of the people they are appointed to govern. It may be said that better care has been taken of these matters since the returns I have cited were made. But here is the fact, that cholera and preventible disease are yet rife in the hill sanitarium—the places of refuge. In 1867, Murree (which is 7,800 feet above the sea), Sabathoo, Dhurmsala, and Kassowlic, were all ravaged by cholera. Ottummund, a place of a particularly fine climate, 6,000 feet above the sea, vaunted as a sanitarium—and justly so, probably, if there were any proper sanitary care of it—has recently been infested with typhoid fever, and has gone on from bad to worse, and is now reported to be in so bad a condition, with all its elevation and climate, as to make it dangerous for invalids to resort to it at all. Here is a pretty state of civil care and local government! It is characteristic of it, that objections are made to sanitary service and works on the score of expense, which, if the works be properly prepared, is an ignorant objection to the means of staying waste—pecuniary waste—objection to the means of the largest economy. Sanitary works, like other things, are to be tested by the results—the saving of sickness and the prevention of premature mortality. In India, I find works condemned for their inutility here reproduced there—enormous expenditure for large main-sized sewers, which detain what sewers properly adjusted should remove—sewers made without and complete connection with houses; water carried into town districts without due means of removing the foul water, and thus aggravating bad subsoil drainage and creating swamps; water for the supply of town populations, gathered into open reservoirs, so as to engender dangerous impurities; foul surfaces attempted to be corrected by latrines which, not having due provision of water for constant cleansing, were concentrated poison pits for all those who used them—large works, by per-centage-fed civil engineers, who profited by the extravagant cost of works, irrespective of results. All this in defiance of exposures at home, and of principles and works proved by long trial, and the reduction of death-rates. There must be better government than this in India, or children cannot be raised there, and there can be no succession and no settlement. And certainly the recent great lesson gathered in Algeria must be made known and made prevalent, for it does not

...ee, even for the protection and maintenance of our military force, to put camps and cantonments in a good sanitary condition, with all the necessary arrangements

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...turnbull remarked that Mr. Campbell had drawn a distinction between the character of the hill people and those inhabiting the plains. His own experience had been with the latter; and if Mr. Hyde Clarke meant to set up a large tract of land in Bengal, and place there a few Europeans as could live on it, under habits and regulations of their own, he could understand it; but unless he was going to fence them round, it was one of the most dangerous things he ever heard of. To introduce thousands of Europeans into the middle of Bengal in that way would be frightful. He knew what Europeans could do perfectly well. The regulations of Bengal, so far as the English were concerned, were right and just, and they must have some code of regulations, but they would be inapplicable to the native character. It would be like using a net in the Ganges with meshes large enough to let every fish go through. They would be obliged to take care of themselves in the best way they could. With regard to what Mr. Chadwick had said as to sanitary conditions in India, he agreed with every word. He knew many of the stations, and had been in some. In Bengal he never strolled outside one of the stations without seeing exactly what Mr. Chadwick had described. It was the same in Calcutta. To go one got beyond the fine houses of the Europeans, he found the same state of things, indescribable by Englishmen. He had been told by artillery officers that their station was under water for a great part of the time. The higher ranks of civilians might avail themselves of the sanitarium, but there were a great many who could not. He knew habitations in which four or five families lived, amounting to 30 or 40 persons. That locality was visited by cholera, and it carried off sometimes over 20 people in one house. There was no necessity for the people to live in that way, and he thought some efforts ought to be made in that direction. He had been struck, on his way to Calcutta, with the appearance of the Europeans there; he presumed it was from the general unwholesomeness of the place.

...Edwin Chadwick said, as a general rule, one must test the nature of the civil administration in going through a town by the nose.

...George Campbell wished to explain, with reference to the sanitary condition, that he was not altogether in favour of the present mode of their way. He thought military settlements could put a stop to cholera and fever; but, whether sanitary science were good or bad, we were overrun with it, and parties ran wild on sanitation. He thought Mr. Chadwick had seen Algiers in a more favourable light, and British India in a less favourable light than it deserved.

Colonel Haly moved the adjournment of the discussion to Friday evening, 23rd instant, which was agreed to.

The adjourned conference on Mr. Hyde Clarke's paper, "On Hill Settlements and Sanitaria," took place on Friday evening, 23rd April, Lord William Hay in the chair.

Colonel Haly, in moving the adjournment, was sorry to hear from the capabilities of Bengal, and the space for colonisation and settlement. He felt this to be somewhat of a libel on the supreme authority which will be easily contraverted. He thought, however, to others better acquainted than myself, that it would be a good idea to send a few actual localities in Bengal to do so; and proposed that the more and more humble Presidency of Madras,

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work on. Now, if added to this, on the question of the reduction of the officers of the Native Army, they had likewise been in the same manner induced to settle in India, instead of having been so cruelly and injudiciously forced, it may be said, out of it, the material for the organisation of a reserved military force would have been complete, and at the same time the agricultural interest of the empire would have been better studied, and a large portion saved of that present enormous outlay of ten millions sterling for barracks, in part at least obviated. With reference to the suitability of the climate of the mountain ranges of India to the European constitution, I cannot do better than refer to the papers read by Dr. Mowatt, at the United Service Institution, in 1866; where will be found an opinion by this well-acknowledged authority, which I would recommend to the serious attention of those who would still wish to see our soldiers stewed and grilled in the plains. Great necessity exists for care being observed in the selection of good and dry positions for sites for several of the hill-stations, and that they be drained previous to becoming settled. Look at the several stations on the Neulgherry Hills, only one out of the four, viz., Kotagherry, has been judiciously selected; the original sites of the other three are mere basins, so surrounded with hills as to prevent the possibility of a free and healthy circulation of air, with drainage almost unthought of, though peat bogs, swamps, &c., exist in their very midst. This is the more extraordinary, as, close at hand, viz., Wynaal, formerly one of the most deadly places, perhaps, throughout India, has been converted by cultivation and drainage into a salubrious tract, now inhabited by European planters and their families. Most of these ranges are much under the supposed safe altitude, which shows that if the necessary sanitary precautions are taken, even the lower ranges or plateaux of India, with well-selected elevated dry sites, may prove to be genial and healthy localities.

Dr. ARCHIBALD CAMPBELL said:—Having served a long time at hill-stations, I am glad to give some of the results of my experience to this meeting. My first connection with the hills was in 1829, when I accompanied the first detachment of European convalescent soldiers from Meerut to Landour. It was in April, and very hot on the plains. I shall never forget the delightful impression made upon me by the first ascent of the Himalaya; a cool and invigorating breeze put new life into every-one. The hill-sides, above 5,000 feet, were gorgeous with the scarlet tree-rhododendron in full flower, and the snowy range stood out bright and clear against a blue and cloudless sky. The rapidity with which the change of climate to an elevation of 7,000 feet effected a recovery in all the men recently suffering from acute attacks of fever and liver disease—notwithstanding the bad accommodation in barracks and hospital, hastily run up and not finished, the bad bread, and indifferent rations—was very remarkable. I again visited Landour and Mussoree, in 1831, and travelled across the mountains to Simla, and onwards to the Sutlej, whence I went to Nepal, where I was for eight years. From Nepal I went to Darjeeling, where I remained 22 years, in the course of which I travelled all over Sikhim and into Thibet. I have, therefore, seen a good portion of the Himalaya, in the north-west, in the central region, and in the south-east, and had experience of its climates at all elevations, up to 19,000 feet. I quite agree with all that Mr. Hyde Clarke has said in their favour, and as to the large field for occupancy, although we are quite shut out from Nepal and Cashmere. The great features of all the stations are much alike; the following distinguish Darjeeling:—The hill portion is about 400 square miles. The elevation varies from 1,200 to 10,000 feet above the level of the sea. All elevations above 3,000 feet are healthy for Europeans. Indian corn grows up to 5,000 feet, potatoes to 7,500. Tea thrives best at elevations up to 4,500 feet. It does not grow at eleva-

tions above 7,000. English vegetables do very well up to 7,500; they have not been tried at higher points. The scenery is unsurpassed in grandeur; the climate excellent. It is cooler in summer, and warmer in winter, than the western stations at similar elevations. The rain-fall is 120 inches per annum. The spring is showery; the rains commence about a month earlier and continue a month later than at Landour and Simla. There is still much land available for settlers, and it is a fine field for them. Access is still difficult; of this I shall speak presently. Labour is abundant and cheap. Mr. Hyde Clarke has said, and it is a very general subject of remark, that although the British Government has possessed India for so long a time, and although the climate of the country is, upon the whole, inimical to the European constitution, so little has been done to utilise the hills, the climates of which are so salubrious. There is no part of India proper in which we can avoid six months of hot weather, with a great proneness to tropical diseases, nor can we ever colonise it. Throughout the Himalaya we can have every variety of temperature, and cold healthy climates, according to the elevation we may select. No doubt the remark is, to a great extent, well-founded; but, on the other hand, it must be recollected that there was everything to learn of these hills at starting, and that it was not until 1816, when the war with Nepal was brought to a successful termination, that we had any footing at all in the hills. Our first stations were Almorah and Subathoo, for civil government and military occupation. Then followed Simla, in 1825, as a general sanitarium; Landour as a sanitary depôt for European soldiers; with Mussoree, adjoining, in 1829; Darjeeling, to the east of Nepal, ceded by the Rajah of Sikhim in 1835, was opened in 1839; and then followed the military cantonments of Kussowlie, Jutogh, and Dugshai, near Simla. Since the Punjab war, of 1848, the hill-stations of Murree, Dalhousie, Dhurmsala, Chumba, Kangra, and Bukloh have been formed as sanitarium and governing stations, to which has been added Cashmere for officers during the hot season only. There is also Nynce Tal, a general sanitarium in the province of Kamâon, with Ranakhet and Chukrats; so that we have many stations on the whole, although the total number of European soldiers on the hills, for this hot season, sick and well included, will not exceed 6,000, or about eight per cent. of the whole army, taking it at 72,000 men. Mr. Clarke has very truly said that the range of subjects connected with the hill-stations is so great that they can only be glanced at in a meeting of this kind. This is all I shall attempt to do, and it will be under six heads:—

1. As sanitarium for Europeans of all classes requiring change from the plains.
2. As sanitary depôts for European soldiers.
3. As cantonments for the European troops.
4. As places of settlement for Europeans.
5. As places for colonists and military colonies.
6. The means of communication, internal and with the plains.

1. As general sanitarium for Europeans who require a change of climate after acute attacks of disease in the plains, or who are suffering from weakness caused by hard official work, or long residence in India, and for ladies and children who are not ill, but for whom it is very desirable to be removed from the heat and disease of the plains during the hot and rainy season, they have been of the greatest benefit. The advantages in these respects have hitherto been principally derived by the officers of government, civil and military, lawyers, merchants, and high railway officials, their wives and families. The cost of travelling and high house-rents have hitherto deprived the middle class of Europeans of all the sanitary advantages of the hill-stations. To Europeans who are near enough a hill-station to be able to afford to keep their families there for six months of every year, the advantages are immense, and the value of Indian service is thereby greatly enhanced. Their children are quite as well off for climate as if they were in England, and

is made by Dr. Mouatt, Inspector of Jails in Darjeeling, who has frequently resided at Darjeeling. He made it in a paper on this subject, read before the Royal United Service Institution, three years ago, on the subject of military colonisation of the Himalayas. Dr. Mouatt says:—"My plan would be this. I would, in the first instance, select most carefully 300 well-conducted, healthy soldiers, whose term of service had nearly expired, and I would take equal care that my intended colonists had healthy, well-conducted wives, with young families. These 300 families I would form into one village community, with grants of land of sufficient extent to admit of their supporting the village when fully cultivated. To each village I would appoint a captain and subaltern, married men with growing families, to control and direct it in all matters in which guidance was required. The officers should also have grants of land, and become *bona-fide* settlers, and they should be armed with all the powers necessary for the entire management of their charges. Medical attendance and education, with which religious offices and instruction should be combined, I would likewise provide, every soldier and his family having his grant of land, and being thus identified with it. In addition to attaching some light condition of military service to each soldier-settler, from each family I would exact the condition suggested by Sir Henry Lawrence, of supplying a recruit for service for ten years to the European force in India. By some such plan as this, carefully worked for five years, the practicability of military colonisation would be fully tested, at a cost that could be more easily borne by the revenues of India than the large outlay now incurred in sending time-expired soldiers to Europe, and removing regiments without any real necessity, as frequently as seems to be contemplated, on pleas of health and necessity, which are utterly untenable." 6. The internal communications are bad everywhere. In conclusion, I will, therefore, submit only one very important matter to your consideration, in the hope that, through so many well-informed persons, who are, no doubt, well wishers of their countrymen and women in Bengal, it may make some impression beyond these walls. Although Darjeeling is the only sanitarium for Bengal, and that province and Calcutta have by far the largest European and Eurasian population in all India, invalids are deprived of the blessing of healthful change of air because there is no railway. Hundreds of our countrymen, who are too poor to take a voyage to England, are really languishing and dying in Calcutta and other parts of Bengal, while a few hours of slow railway travelling would suffice to place them in a most healthy climate, and in the grandest scenery in the world. The total distance from the capital of India to Darjeeling is under 400 miles, 200 miles of which may now be travelled by rail. With a continuous line and express train, the high officials and merchant princes of Calcutta might dine at home, and breakfast next morning in the hills, while the sick sailor and artisan could reach the same delightful and invigorating change in twenty-four hours by Parliamentary trains. It is no undue partiality of mine for the sanitarium I have had most to do with that induces me to press this matter on your attention; nor have I any personal object whatever to serve by doing so. The facts of the case—and they are painful ones—are all I appeal to, and if any one desires explanations on the subject, or further particulars, it will give me the greatest pleasure to meet their wishes. Mr. Clarke has put the matter very strongly and well before you. Mr. G. Campbell has, I think, underrated the importance of this matter, and over-rated the expense of remedying the evil. It is not for the necessities of Darjeeling alone that a railway is wanted. It is to give the blessing of healthful change of air to the sick of Bengal that it is so urgently wanted; and instead of four or five millions being required, I have an idea that less than a million would give a single line from Raj-

mahal or Caragola to the foot of the hills at Darjeeling. But Mr. Turnbull, who opened the East Indian Railway so successfully, and knows Darjeeling well, can say more to this point, and I hope he will do so. The choice of a line lies, I think, between Rajmahal and Caragola. The proposed one from Koostea is twice the length, and not so likely to be a paying one. The engineering difficulties on the lines communicating with the East Indian Railway are confined to bridge work, for the country is very flat. From Caragola to the foot of the hills there is a wide roadway laid down by Mr. Login, C.E., now present, the curves and gradients of which are suited to laying rails on, should that line be adopted. The road, however, is not metalled nor efficiently bridged, so that the means of communication in the rains is dreadfully bad. I have shown how injuriously and unjustly the want of a railway affects invalids and soldiers. The obstructions to commerce are also excessive, but Mr. Ward will, perhaps, enlighten us on this subject.

Mr. T. Login said—I venture to bring forward some facts on this important question, brought before us by Mr. Hyde Clarke, which I trust will be of some use in enabling us to arrive at some practical conclusions on the question now under consideration. Some twelve years ago, I made some careful inquiries concerning labour in India compared to England, and I arrived at the conclusion that an up-country beldar can perform three-fifths of the work done by an English navvy. Now, as the average price of wheat in England may be taken at 60s. a quarter, or eight seers per rupee, the price of food here, under ordinary circumstances, may be said to be three times that in India, where usually wheat sells at twenty-four seers per rupee. Consequently, a labourer in India can live and support his family at one-third the cost, as to the staff of life; but, as the average pay of a navvy is about fifteen shillings a week, or thirty rupees a month, and that of a beldar is hardly five rupees a month, the cost of labour as to money in England is six times what it is in India. Therefore for one-sixth the pay we get three-fifths the actual work done; that is, in India a labourer receives only five rupees for work which in England would cost eighteen rupees, or the English navvy receives $3\frac{1}{2}$ times as much as the Indian labourer for the same work. But as to the price of food in England (taking wheat as the standard), the English labourer is rather better paid than the Indian coolie, and consequently is better fed and clothed, for in India cloth costs more than here, though, happily, in India the coolie does not require so much clothing. This is taking the most favourable state of things, where the labourers are paid by job-work, but if we descend in our comparison to the agricultural labourer and the village coolie, the comparison would still be in favour of the English labourer. Now, no one can suppose that an English workman could perform three times the work if food was three times as cheap, even here in England; and, in a climate like that of the plains of India, it is probable he could not perform anything like the same amount of labour that he could in his native country, let the price of food be ever so cheap. The deduction is that, throughout the plains of India, European labour cannot for one moment compete with the labour market in India. In among the hills, however, the circumstances change, for there we have only a very limited supply of workmen, and to induce men from the plains to go and work among the hills we must raise their pay, so the European comes to have a somewhat better chance of competing with the Indian coolie, for he is in a climate where he can do out-door work all day long without injuring his health, and the little experience gained by employing European soldiers among the hills supports this view of the case. Surely no one will say that a soldier who has done a good hard day's work out of doors, and is paid for it, can be a worse man or soldier by having done so, if he is better able to support his family, for surely the soldier is worthy of his hire,

employed in some way, they would only appear to the Indian population as a lot of broken-down Europeans. He recollected the German missionaries mentioned by Dr. Campbell; they appeared to have prospered very well, and a favourable opening seemed to have presented itself for them. The government formerly could not move many of the troops to the Himalayas, because a certain portion were required in the plains, especially when communications were difficult, but now that they were easier, and there were more European troops, the greatest blessing to the troops and to India was to locate them in the mountains. It would no doubt be very desirable if we could breed our own recruits for the army. If we did not breed Englishmen, they would be men almost as good; in one respect they would be better, for they would have the wind and limbs of mountaineers, and be able to climb well. He had no doubt that would eventually be done, but, to enable it to be done, he wished the word "barracks" were expunged from the English language; it had done more harm to the soldier than anything else. The noble Lord in the chair, Mr. Campbell and others, who had served in India, would recollect how picturesque were the cantonments of the Sepoy regiments, where each man was monarch of his little house, surrounded by his family and small garden. He believed that could be done at less expense than building large palatial barracks. Those built under Sir Charles Napier, he believed, cost from £150 to £180 per man, while they could build cantonments, of the kind he referred to, at about £30 or £40 per man.

Mr. C. H. FIELDER said, on looking over the report presented by Mr. Ewart's Committee to the House of Commons, it struck him that the recommendations contained in that report were almost identical with the pith of the discussion which had taken place up to this time. He was sorry to find, from the remarks that had fallen from official gentlemen recently returned from India, that few if any steps had been taken by the government at home or in India to carry out those recommendations.

Mr. SAMUEL WARD was pleased to find that the question of railway communication between Calcutta and Darjeeling was receiving some attention. A great advantage would be gained, in a commercial point of view, if the produce could be conveyed from Darjeeling to Calcutta more readily than it was at present. A railway from Calcutta to Darjeeling was most desirable, independent of economical considerations, for all classes of European residents in Calcutta.

Sir CHARLES TRAVELYAN, K.C.B., said his first acquaintance with hill stations in India was in the year 1830, when he went with Lord William Bentinck to Simla; and, after more than a generation, he paid a second visit. It might be interesting to the noble Chairman and others to know what changes he observed there. The place remained substantially the same. Its character had been fixed for ever by "the everlasting hills." There were many more houses; there were more roads and better, and the old roads widened; and, above all, the beautiful carriage road from the plains had been made by Colonel Kennedy. Commercial development there was none; means for it did not exist. The country, no doubt, was suited to tea cultivation, but less suited than other parts. There was a tea plantation at Kotegurh, a few miles from Simla, but in the immediate neighbourhood there was no possibility, as far as he could see, of commercial development. Of colonisation, properly so called, also there was none. In fact, the merit of the place lay in its extreme beauty; and, if proper sanitary conditions were observed, its extreme healthiness. It was one of the most glorious places in the whole world. During the long interval of thirty-two years, he had seen all the places of greatest mark in Europe, but he had seen nothing that could be compared with this beautiful region of India. All of them fell far short of Simla. There was that magnificent chain of snow-clad mountains, the highest in the world, stretching from Cashmere to the

sources of the Ganges and the Jumna, like a screen half-way to heaven. There was the beautiful rhododendron forest, and he begged to compliment the noble Chairman upon the great care taken of that forest, which he found, after thirty-two years, more flourishing and more primitive, so to speak, than when he left it on the first occasion. Then he would mention the extraordinary cloud scenery. He never saw anything like it. From his house, looking down the valley, he frequently saw a magnificent dark cloud stretched across the valley from hill to hill, with the rain falling from it into the valley, and the sun shining through this charming lace veil. At other times clouds formed a bridge over a gap in the hills, and, while all was dark and gloomy above, the sun was seen shining through this gap in the most delightful manner.

Then in the year 1859-60, in the course of an official tour, he visited the Neilgherries and the Pulneys, and stopped some time at each. The Neilgherries, though quite in a different way from the Simla hills, were very remarkable. The Neilgherry plateau was advanced, like a magnificent bastion, into the plains, with Dodabet, like a gigantic watch tower, dominating over the plains and table-land of Mysore itself. Then there was that remarkable Palghat gap in the Western Ghâts, through which the railway was carried, separating the Neilgherries from the Pulneys—an admirable natural arrangement which made a high road across the mountains to the western coast possible, and allowed the monsoon to spread over the plains of India, producing the climate which made the Madura and Tinnevely cotton so famous. The Simla hills were all in ridges. It was, figuratively speaking, difficult to find a resting-place for the sole of one's foot upon them. One clung to the hill as to the roof of a house; but it was different in the Neilgherries. Here was a great undulating table land, quite open except in the hollows, filled by woods of extreme beauty, which never receded and never advanced, but remained just as they were probably thousands of years ago. The plateau was quite destitute of population, except those strange people, the Todas, a sort of barbarous Normans, who had settled it over the inferior races occupying the side of the mountains. They were a shepherd race, who offered an obstacle to settlement. As we advanced they receded, and were thankful for the provision we made for them.

The health of the district was excellent. He (Sir Charles Travelyan) did what he could to promote the removal of the great Military Orphan Asylum from Madras to the Neilgherry hills. This had since been accomplished, and he regarded it as a great measure of colonisation, and he hoped it would be followed by the removal of the Female Asylum to the same locality. Here there was a solid foundation for commercial and industrial prosperity, coffee cultivation being the great staple. The produce was of excellent quality, and might be grown with profit to any extent, the demand of Europe for this article being constantly on the increase, and the region suited for coffee cultivation in Coorg, Mysore, Wynad, and the Neilgherry and Travancore Hills being almost unlimited. European colonisation in the district approached nearer to the Australian and American than anywhere else in India. Europeans could live there out of doors all the year round. The climate was invigorating. The residents had abundant means of employment and subsistence, and the Madras Government had been liberal in their arrangements for giving security of tenure, at moderate quit-rents, in a manner acceptable to the planters. A considerable amount of colonisation had taken place, and it was still going on in a satisfactory manner, through coffee planters, through a large number of retired officers, and also through the schools, the latter being a very interesting feature. The admirable climate of the district showed the advantage in the younger portion of the population. He spent several hours on one occasion at a school established for educating young East Indians for

the following service. They were taken from the ... and he was pleased to ... the hills the robustness and ... the rugged constitution, and the same ... among the natives. Those who followed ... to that cold district were obliged to wear warm ... clothing, and to eat more animal food, and to ... stouter and stronger than the natives who ... the plains. The Todas themselves were also remarkable specimens of the excellence of the climate. Physically, they were almost like a race of giants, and the women were strong in proportion. As far, therefore, as the Neilgherries were concerned, everything appeared to be going on admirably. A separate commissionership had been established to the advantage of local administration; and, as the Indian empire were to be rent asunder to-morrow, he believed an important self-sustaining fragment would be left there; but surviving, as he believed it would, for generations to come, and continuing to grow and develop, he looked to the Neilgherries as a source of solid strength, as a sort of bulwark of European power and of British civilisation in the south of India.

Some remarks had been made ... by colonisation, by which he understood to be meant organised systematic military colonisation; that was to say that entire military bodies should be assisted to colonise. He thought it was a mistake to take any body of men whatever, and to turn them into ready-made colonists. The work of colonisation was one which all were not capable of. It required special personal qualifications, and the manner in which our English soldiers were cared for and looked after was not favourable to the formation of the self-reliant habits which are so necessary for colonists. Of course, a certain number of European soldiers were quite successful colonists, and they ... procolated, as it were, into colonisation; but to encourage them to settle in a body, and to assist them with little outfits, was a mistake. It had been tried, and failed over and over again. During his experience in the Treasury, two remarkable instances had come under his observation—one in Canada, and the other in New Zealand. Both were dead failures, and he attributed it to the fallacy of supposing not merely that military, but that any body of men as a class, were fit to be colonists.

He also visited the Pulneys. Phulney (Phalni) meant "flowerery," and anything equal to the flowers there he never saw. The roses and geraniums, originally planted in a few private gardens, had spread themselves on all sides, and had literally become brakes, like the furze brakes in England. The roses had become single, as they did without cultivation, like the dog-roses here, but they were very sweet-smelling. The feature alluded to by Mr A. Waugh existed here in a more decided manner than he ever saw it elsewhere. He zigzagged up the side of an almost perpendicular mountain, and, in two or three hours, passed from the sweltering heat of the plains into a cold but temperate climate. The first decided change in the climate was the braeken ... the root, and there was the old ... It struck him that it must be the work of Almighty Wisdom that had placed in the heart of the hills, and in the mountains, the natural bridges which had been made for the extension of the Great Southern India Railway by a loop-line into that district, so that, probably, before many years, we might hear more of the ...

the native ... and turf were ... streams burrowed ... natural bridges were ... over several of them. ... There had not been ... the hills, but now arranged ... had been made for the extension of the Great Southern India Railway by a loop-line into that district, so that, probably, before many years, we might hear more of the ...

scope ... Charles Trevelyan to the feelings of the pleasure of temperature and of the sense of sight, require correction from sanitary experience, and the ... in urban districts at least, by the ... spoken in glowing terms of Simla. N ... of the mention I made of it is ...

... passage from ... Bengal, with ...

... the following terms:—"In connection with the unsatisfactory condition of Simla, the whole question of the proper means to be adopted for the conservancy of hill stations was considered and reported on. There can be little doubt that arrangements for securing the proper sanitary condition of such sanatoria have been hitherto much neglected, and it may be questioned whether the affections of the bowels, which have been considered as endemic in the Himalaya, may not in some measure be due to the contamination of the water supply. That the water was contaminated in the foulest manner possible was a fact admitting of proof only too clear. The dry beds of the mountain torrents were used as places of convenience, to have their contents swept down by the rain. In many places the spring from which drinking water was obtained lay beneath the brow of a hill, which was frequented for the purposes of nature by the servants of the neighbouring houses. It was shown, moreover, that sheep were allowed to feed on the hill sides, on food too disgusting to be mentioned. How these revolting practices could be stopped was pointed out by the Commission. The provision of latrines, both public and private, the guarding of the purity of the water supply, and the necessity for generally improved sanitary administration were insisted on. There was too much reason to believe that other hill-stations were in no respect better managed than Simla, and that a decided reform in the arrangements regarding the public health was urgently called for in them all." This is a very mild account of the results set forth in other reports as to the hill stations, yet it serves to contrast the impression now ... of this station as a ... and ... of the ... By neglect ... in administration ... are made bad; whilst by proper applications of sanitary science, naturally bad sites may be made good and habitable ... In illustration of what I state ... causes of infantile mortality ... following statistics from the last report ... Commission, as to the sickness and ... 100 children of British soldiers at one station. The total number of these children taken to the hospital was 1,470, of whom 166 died there ...

A ... Simla? ... of results ... course, but an examination ... immense sickness and heavy ... what is to be done ... state that, "of the admissions, ... the fermenting class, or mor ... number admitted; 188 ... and 72 acci- ... Of the z ... sons, 1,075 are ... Now, anyone with a competent knowledge of the disease—is certain ... the miasmatic ... at the author- ... time will be ... that ...

... of results ... course, but an examination ... immense sickness and heavy ... what is to be done ... state that, "of the admissions, ... the fermenting class, or mor ... number admitted; 188 ... and 72 acci- ... Of the z ... sons, 1,075 are ... Now, anyone with a competent knowledge of the disease—is certain ... the miasmatic ... at the author- ... time will be ... that ...

... and the children of British parents ... up to the common sanitary condition ... at least ...

if no higher. Upon examination of the facts, I see no better real foundation for the common lazy dogma of the utter impossibility of rearing British children in India, than there has been for the doctrine some have held, of the essential unfitness of the British soldier, or of the artisan, to work even in the plains of India. I was glad to see it stated in the last report of the Madras Sanitary Commissioners, that the construction and the improvement of the roads in the Himalaya, between the stations of Murree and Abbotabad, have been continued by a party of the 79th Highlanders. From the 21st of May up to the 21st of October, upwards of 600 of the men of this regiment were employed in this work. After adverting to a question of the financial result, the commissioners state "a very considerable indirect cash saving may thus be said to have resulted from last year's operations, while the benefit to the regiment itself has been very great. From being sallow, weakly, and unhealthy, they soon recovered the effects of the fever they had contracted at Peshawur, and became ruddy and robust. Out of thirteen women who were with the working party, not a single case of sickness occurred." Now, why cannot such conditions be extended and maintained, for women and children as well as for men? In reference to what I said as to the extent of the prevalence of the miasmatic and foul-air diseases in India, and as to testing the local administration by the nose, I may mention that a lady, in her travels through India, states that, in night-travelling, she knew they were entering into a town by being awakened by a bad smell. In the advance of public administration, and the knowledge of sanitary science, and after due warning, when a Governor-General makes his progress, he may be guided with certainty by his sense of smell, and, when meeting with such causes of offence to it, may call upon the officer in charge, tell him justly and decidedly, "Children die away! there can be no succession here! you must go."

Sir CHARLES TREVELYAN begged to say a word in explanation. The view expressed by Mr. Chadwick was present to his mind when he said Simla was very healthy, *subject to proper sanitary conditions*. He was aware of the neglect of those conditions which had taken place, and attention to sanitary arrangements was as necessary in the hills as in the plains—in one respect more necessary, because the crowding was greater in the Simla hills than in the plains. The space available for habitation was so contracted that it was almost as necessary to have proper drainage and ventilation as in the crowded cities of England. The first occasion when this evil became apparent was long ago, when the troops were first placed on the Simla hills. Long ranges of sheds were constructed for them at Dughshaie, and it was taken for granted that, because they were in the hills, they must be healthy; but, after a time, the men became more unhealthy than in the plains, and then it became evident that some sanitary regulations were necessary. He omitted one point in his previous remarks, viz., the experience of Southern India with regard to hill stations for the troops. The great military hill station there was at Wellington, in the Neilgherries. It was the only one, and a great deal of discussion had taken place as to the proper use to be made of that single hill-station in the south of India. He had no doubt himself as to what was the most advantageous use to which it could be turned. It was not to put a regiment there in its entirety, and to keep it there for a length of time, and then to send it back to the plains, and to send up another regiment. In the first place the change was severe, from heat to cold, and from cold to heat again. The men did not like the hills. They had no occupation. The full tide of human existence was wanting; and many instances had occurred of offences being committed, solely because they were dull, and wanted to be sent away. The true mode of using that hill-station was in the same way as it was used by the upper classes of civil and military officers, viz., by those who required it; and, in every regiment in the

south of India, men who had been some time in the country, and wanted a change, were sent thither for as long a time as it was likely to be of service to them.

The CHAIRMAN said that they must all agree, whatever they might individually think of Mr. Clarke's able paper, in thanking him for the very interesting discussion it had given rise to. In that paper Mr. Clarke had endeavoured to enforce attention to the value of European settlements in India, and he proposed to accomplish this by having military and civil establishments permanently placed there, by instituting military colonies, and by the encouragement of trade with Central Asia, by which he thought merchants would be induced to settle in the Himalayas; and he went on to say he thought government was not alive to the importance of this matter, and, in evidence of that, mentioned that no military colonies had hitherto been established in the hills, though advocated by Indian authorities; that the subject of railways had been neglected; that no hill territories had recently been opened to those available for European settlers—and mentioned Cashmere and Nepal; and then went on to say, which was quite true, that not one-fifth of the troops were stationed on the hills, notwithstanding that it was recommended by the committee who investigated the matter. There was a general concurrence of opinion as to Europeans being settled throughout the hills; and it must have struck every person who had given attention to this subject when it was considered, that we have a country in India of the size of Europe, taking Russia out of it, and that it was held in subjection by a number of Europeans amounting, including the army, to not more than about 101,000. The last census showed that the troops amounted to 60,000, and that the other Europeans, settled all over India, did not number more than 39,516. Now, everyone must agree that our strength in India would be enormously augmented in proportion as European settlers were increased, not only materially augmented but morally, as Mr. Clarke said, by establishing centres of civilisation throughout the hills, wherever Europeans were located. This question of colonisation was attracting at this moment the attention not only of our own government, but those of the French and the Dutch. The former only lately issued regulations with a view of attracting Frenchmen to settle in Algiers, in preference to going to America, so important was it considered to increase the number of settlers; and the Dutch were endeavouring to do the same with regard to the island of Java. Therefore, everyone would concur with Mr. Hyde Clarke in thinking it was a most important question, how best we could accomplish this object. But when we came to this point the difficulty arose. One speaker remarked how little had been done to utilise the hills, and proposed that the civil and military establishments should be placed there. Mr. George Campbell had pointed out that we had already gone as far as we could in this direction, and everyone who bore in mind the occurrences during the Orissa famine, and other circumstances in Bengal, would feel that it was possible to go too far in having civil establishments in the hills. With regard to the paucity of European soldiers located on the hills, he thought there was fair ground of complaint, because, though the expense of such establishments was great, and, no doubt, military considerations, the importance of which would be seen by looking at the map, stood in the way of having too many troops in the Himalayas, and also the observations of Mr. Campbell and Sir Charles Trevelyan, that the soldiers did not care too much to live in the hills, because it was extremely dull—in fact he could only compare a military station there to the picture of Noah's Ark on the top of Mount Ararat, and about as lively—he said, notwithstanding those considerations, he felt that Mr. Clarke had ground of complaint that so few of our troops were stationed in the hills. He made up an account at the India-office the other day, and, as well as he could make out, last year there were not more than 5,059 soldiers stationed in the sanitaris of India

give the people of India good water. As far as he knew, nothing had been done to improve their wells. He could not but think, with regard to sanitary regulations, we had overlooked what we could do, and attempted to do what it was impossible to accomplish in the present infancy of the science. He might be thought to have taken a rather gloomy view of the prospects of settlers in India, but he had no intention whatever of doing so. No man was more conscious than himself of the great importance of this question. He felt one chief danger in India arose from the little root we had taken there. Our position reminded him of those great cedar trees so common in the Himalayas, with vast spreading branches, but which, owing to the nature of the soil, threw out their roots laterally, and took little hold of the soil; consequently, when a wind of more than ordinary violence came, a great tree, which it would be supposed would stand any amount of wind and storm, went over with hardly any resistance. That was something like our position in India. We were a caste separate from the rest of the country, and therefore the great object should be to throw our roots down deeper into the minds of the people of India; and anything that tended in that direction deserved every support on the part of this country; and whether they agreed or not with all that Mr. Clarke and other gentlemen had advanced in this room, he was sure they would concert in saying that any person who placed one stone upon the cairn of our knowledge of this subject deserved their warmest and most cordial thanks. When he said the climate of India was unfavourable, he included, to a certain extent, the hills, because, though it was agreeable to strong and healthy Europeans, it had a debilitating effect upon some constitutions.

After a few remarks had been made by Mr. SAMUEL BROWN, on the rate of mortality in India, which he stated showed great improvement,

Mr. HYDE CLARKE said, in reply, with regard to the objections made, either to his mode of opening the discussion, or those who had supported him, it was not his intention to enter into any detailed answer, because he considered the objections, to a great extent, really came in confirmation of his position. He was relieved, under those circumstances, from defending himself with regard to the general remarks he had made as to the conduct of the government of India. With regard to the objections generally, when considered, they would be found to arise, to a great extent, from misapprehension. In the first place, with regard to the remarks on that subject went to this extent, that in some cases the sanatoria already existing were in unsuitable places, and not adapted for all useful purposes. That was tantamount to saying that, because one part of England might be unsuitable for a particular cultivation, there was no capability of its development in any other part of the country. The subject was such a large one

that it could not be studied in single details, but it must be grasped as a whole. So likewise with regard to military colonisation, anyone who had gone into the history of the subject must arrive at the conclusion which Sir Charles Trevelyan and the noble Chairman had come to, viz., that military colonisation, in its general sense, was a thing which must fail, and had always failed, even when they took into account apparent exceptions; but, nevertheless, military colonisation, as applied to the hills, was capable of doing a great deal. If regiments were sent out to India with permission to settle there, they would have persons suitable for colonisation, who would remain permanently in the country. Then there was considerable scope likewise for small stations on the hills, in the manner of the system adopted by the Austrian Government. With regard to a Minister of Agriculture for India being preferable to his own proposition of a land commissioner, he might say that both were indispensable for India, and a subdivision of labour must be carried out, so as to constitute separate departments for agriculture and land. Whatever might be the extent to which any objections had impugned details, or rather corrected them, it remained clear that the occupation of the hills by Europeans is practicable, and that the Government had not accomplished all that is required. Much remained to be done, to bring up the troops in the hills to the one-fifth. As to the civil establishments being sufficiently in the hills, or too much, the reform would not be complete till the capitals of government are placed in the hills. The allegation that the Orissa famine was aggravated by the Lieut.-Governor being at Darjeeling, was only another form of reflection on the government for not providing full communication with the hills. There was a telegraph to Darjeeling; it ought to be within twelve hours from Calcutta, and as accessible to Orissa as Calcutta was, and the establishments ought not to be divided between Darjeeling and Calcutta, but concentrated in Darjeeling. Much misconception had arisen in this discussion by Indians not understanding the variety of forms of colonisation; they regarded a colonist as an agricultural labourer, digging and tilling the ground in a cold, arable country. They forgot the various climates and shapes of colonisation; sheep-farming in Australia, semi-tropical cultivation in Queensland, the employment of Caffres in Natal. India, on its varied surface, would afford scope for European enterprise and intelligence, although the agricultural labourer, "the out-and-out emigrant," cannot plough the barrens of Simla or Dugshaie. The more the matter was understood, within and without India, the weaker would the objections appear, and the more assured the results. He was quite aware that Cashmere and Nepal are under native rule, but it was desirable attention should be kept directed to them, as an interchange of territory might be possible with Cashmere, and the course of events might cause alterations in our relations with Nepal.

ON INDIAN FIBRES.

The fourth Conference on subjects relating to India was held on Friday evening, 30th April, GEORGE CAMPBELL, Esq. presiding. The paper read was—

ON INDIAN

BY

The subject of "Indian Fibres," a subject which has of late frequently brought before this Society, and especially by those able and scientific men, the late Dr. Royle and Dr. Forbes Watson, to the latter of whom we are all greatly indebted for the exhaustive manner in which he has treated the subject.

I propose to occupy your time, but very briefly, and will leave the remainder of the discussion to those who are more conversant with the subject, and more interesting subjects.

We cannot avoid dividing our subject into the three great branches which it naturally assumes, viz.—1st, those fine silken fibres so valuable for manufacturing into textile fabrics; 2ndly, those suitable for cordage, &c.; and 3rdly, those adapted only to paper-making. And I need not tell you that, to do anything like justice to them, would fill a good-sized pamphlet appropriated to each. Flax and hemp are so largely grown in Europe that we may well leave them out of the question for the present; and I think the same may be said of jute, and others of the same class.

The fibre which is now creating a great stir amongst our manufacturers is the "Rheea," so commonly although erroneously called China-grass, because we obtain our supply almost wholly from China. It is there named "Tchu-má," and is named in botany *Urtica nivea*, being of the nettle family.

In Assam it is cultivated and a wild variety is found; and in the Malay peninsula, Penang and Singapore, another variety is found, the fibre of which is unusually strong. Its Malay name, "Rámeo," and is in botanical nomenclature *Urtica tonacissima*.

The paper of the rheea, such as this, is now worth in the market 10s. per lb., and is a beautiful silken fibre, full, soft, and strong. It is per lb., as the fabrics made from it are so lustrous a character as to be in universal demand. Pity, indeed, is it that this splendid fibre is obtained only in such small quantities. No other can be looked for, except from China, nor can much from that country either. Its growth and preparation have been tried by most intelligent European men in India, but they found, first, that the separation of the fibre from the plants was a most difficult and laborious operation; and, secondly, that the yield per acre per annum was exceedingly small. Indeed it is

said by a gentleman who has been to the East, that no one to one and a half— a fact which forbids any hope of cultivation.

which is much to be regretted. As I have alluded to made particular mention of the following plants, viz. the fine silken, and

yet strong fibres, the Moorva, and fully describes; and it is a fact which is known to many now present. I quite believe that each and all of them hold out the promise of any European who will attempt, in a proper manner, to utilize the beautiful fibres they

The *Pine-apple* is a most lustrous fibre, and is found in the Straits of Malacca, and may be had at Singapore in any quantity for the gathering, yet no one seems to regard it. once to so tempting an opportunity is so astonishing, but I

Now, the plant which can only be seen or heard of in the East, and which is so much to be desired, is the *Jettie*, again, is a most excellent fibre, and will

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agree with me in thinking that it cannot be the fibre of the future, unless it can be grown cheaper and in greater quantity than we yet know of. But the fibre to which I allude can be grown exceedingly cheap, and the manufacture involves no difficulty. I do not know the exact mode by which Mr. Routledge separated the fibre, but I believe it was on the principle of the thrashing machine, the plant being passed at a slow rate along a platform having a yielding surface, through rollers and beaters; and, when this was done with the plant in a green state, it came out at the other end of the machine very good fibre, which was improved by repeating the operation. A stream of water is used to wash the pulp away as it was expressed from the fibre. These are the principal textile fibres to which I have to draw your attention.

I come now to cordage fibres, and that is so vast a subject, that I feel I ought scarcely to introduce it on this occasion; but the point to which I will call your attention lastly, is that of fibres adapted to paper-making. With respect to paper-making, we can be satisfied with a very different character of material altogether; and almost anything of a fibrous nature would answer the purpose. I suppose almost all the plants of England have been tried, and some of the patents are very laughable. I have seen specifications of patents containing columns of names of almost every plant in England. Amongst others, there is the nettle; but with reference to Indian productions, there are plants which yield valuable productions besides fibre. But there is one plant I was particularly struck with, that is the common canna, one of which often grows as high as fourteen feet. The whole stalk and leaf are one mass of fibre, so much so that, on cutting down one of these plants in my conservatory, I found the leaves were full of beautiful fibre. The root furnishes that description of arrowroot which is called "Tous les Mois," and is described by chemists as the most nutritious of all the starches—more nutritious than the best arrowroot that comes into the market. That is the first product of the plant; the second product is the fibre resulting from the roots; and the third, the fibre from the stalks and leaves of the plant itself. If we get a double product from such a plant as this, that is getting really a great advantage, and at a cheap rate; and the cheaper you get *surous matter* to make your pulp, the better it will be for all parties. It may be interesting to you to know in what form this fibre for paper-making can be best sent to this country. It is said we cannot have paper-mills in India, because, as we see them in England, it costs a great deal of money to build and furnish the machinery. We must take into consideration the different kinds of paper made. If we go in only for that kind of paper which newspapers are printed on, that is a simple thing. I saw that kind of paper made 25 years ago, in the mills of Mr. Marshman, the proprietor of the *Friend of India*, and I was struck with the simplicity of the thing. In the factory, which was a very plain building, a number of women and children were seated, with blocks of wood before them, cutting up old gunny bags to pieces, and these were washed and made into pulp. The pulp was passed between cylinders heated by steam, and the paper was made from it. The paper is worth from 3d. to 4d. or 1b., and is well adapted for newspapers. Only consider the quantity of paper that we send to India. Why should they not make their own paper? I recollect, on one occasion, Dr. Riddell exhibited in this room some fibre from the ochre plant, which he called a paper-making plant. That plant is fibrous from one end of it to the other; and Dr. Riddell showed me some paper which was made from it by the simplest process possible—merely pounding it in a wooden mortar, and turning out the paper at once. When we know this, we may well ask, why not make paper in India? I have here a specimen of a pulp made of Esparto grass, and converted into pulp in Spain. It is worth £20 per ton in the market. That is the form in which I should recommend those who would not make paper in India to

send it here. If it is made in larger slabs than this, it is difficult to dry. If thoroughly dried it will keep for a thousand years uninjured, but, if not quite dry, it is liable to change colour, as this has done; but in this condition little more requires to be done with it to make it into paper.

DISCUSSION.

The CHAIRMAN said that Mr. Wray had laid before them some very interesting matter, with regard to a number of different fibres which were as yet but little known in this country. So far, he thought he could do little more than invite discussion, but he would add to what Mr. Wray had said one observation, which was this—that he thought it was not desirable that they should exclude from the discussion those better-known fibres, jute, hemp, and flax, to which Mr. Wray alluded, but which were excluded from his paper as being well known in this country. He confessed, for his own part, he had a preference for the bird in the hand, rather than for those very desirable birds in the bush which Mr. Wray had introduced to them. He had besides some selfish feeling in the matter. He was familiar with those ordinary fibres, whereas he did not know much about those with respect to which Mr. Wray had given them information. He would suggest that practical men who were acquainted with these great staples of jute, hemp, and flax, should give all the information they could upon this subject. Jute was not only a great commercial and industrial interest in this country, but was an example which gave great promise for the other fibres such as those Mr. Wray had introduced to their notice, inasmuch as he believed, a comparatively short period ago, jute was scarcely known as an article of manufacture in this country, whereas it had now become one of our most important manufactures. The supply of jute, he believed, came almost entirely from Eastern Bengal, but in the central provinces there was a large area of country in which the climate was very similar to that of Bengal, where he thought it was possible this cultivation might be extended, because it was a question whether, if the growth of jute was extended in Bengal, it might not unduly press upon the food resources of that province, and, therefore, it was the more desirable to seek out new districts, where the cultivation of jute might be extended. Then, with regard to hemp, so far as he knew the common hemp of the plains was so little thought of as not to form an article of export to this country; but they had in India the plant which produced the Russian hemp, and, where cultivated, it was principally for the sake of the intoxicating drug derived from it; in the hill districts and some other parts of India it was grown to a certain extent for the fibre. No doubt the production might be increased. At Nynce Tal this plant grew wild nearly all over the station; therefore, if the demand was great in this country, and if the price realised was such as to justify it, we might obtain considerable exports of the Russian hemp from India. With regard to flax, which was grown more widely—certainly as widely—as any plant in India, with small exception it was grown for the linsed and not for the fibre. One reason for that was, it was a plant which required a temperate climate, and when grown for fibre it required moisture, which is wanting in India in the cool season. Cocoa-nut fibre had now grown to be an important product in manufactures, and he believed there were an enormous number of fibres in India applicable to the manufacture of paper, and he trusted those interested in the matter would give their attention to it.

Mr. BAINBRIDGE said his experience of fibres was principally confined to the rhea, which was indigenous to the province of Assam, but owing to the difficulty, to which Mr. Wray had alluded, of extracting the fibre, combined with the very small yield, it had within the last few years become almost unknown in that part of India. The strength of fibre of the rhea was unequalled;

of India, for it was only by the co-operation of the Government—and he did not speak of it merely in a corporate capacity, but in the persons of its intelligent officers—it was only by the co-operation of Government in the fullest sense, that they would effectually to advance improvements like those they were now considering. They were not going beyond the bounds of political economy in asking for that co-operation. They had heard how it would be given from what Mr. Horne had told them. There certainly was a necessity for a better organisation of the development of agriculture than that which now existed in India, so that the exertions of the officers of the Government, and of the community generally, might be rightly directed. In the next place, a part which ought to fall to the Government, and which had been undertaken by the Government at different times, was that of experiment. They considered the benefits that had resulted to India from the sea-gardens, there was sufficient encouragement to the Government to continue in that course. The expense was very small in the first instance, and the profit to the Government was generally very great in the end. They knew, from successful instances of the application of this co-operation, it was desirable that more should be done, and that the Government should be enabled to do more of it.

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eyes of the natives and Europeans who had been brought together to see them. The central provinces had been foremost in that respect. With regard to the suggestion for the appointment of a special department in the interests of agriculture, it had his most hearty concurrence. He admitted the truth of what Mr. Horne had said, that there were, all over the country, a vast number of horticultural societies, small and great, which were doing very good work in every corner of India, but he had for years felt that a great deal of the zeal and energy of the members was thrown away for want of funds and centralisation. He had seen the same experiments repeated in hundreds of gardens, and the same thing done over and over again; it was a kind of treadmill, always in the same direction, and, therefore, he believed a department of agriculture in India would be productive of great good. In this respect he thought we might take France as an example. In this country there was a vast number of people who preferred to act for themselves. In France, and with Europeans in India, it was not so. They looked more to the government, and he thought it most desirable to urge the appointment by the government of a special department of agriculture in India, by which the efforts of officials and amateurs should be guided and assisted.

Mr. LEONARD WRAY, in reply, said Mr. Turnbull had justly stated that no mention was made by him of the different variety of palms yielding fibres, such as the plantain and the banana, but their name was legion, and it would occupy them a month to go over the whole ground. The subject of plantains had been discussed over and over again. They knew that, on an average, the plantain yielded 3 lbs. of fibre per tree, and so many trees per acre were annually cut down, and they knew pretty nearly what quantity of fibre an acre of trees would yield. They also knew that the tree yielded an astringent juice, which was used in black dye, and that it also gave a fruit; and nobody ever thought anything of the matter afterwards. It was incidentally mentioned by a gentleman that a new description of fibre, that of the New Zealand flax, was likely to come into favour. In discussing that subject with a gentleman lately returned from New Zealand, it was said that was a country celebrated for its gums; almost every tree produced a gum of some sort, and even the soil of the country was impregnated with gum. That was the case with the plant alluded to, and the amount of gum it contained had hitherto been an obstacle to its treatment. The same gentleman suggested that there were parts of India where that plant would thrive well; and he (Mr. Wray) believed it would grow there as well as in its native habitat, especially in the Straits, and no doubt it could be cultivated there with great profit. With regard to jute, he remembered, in 1843-44, Mr. George Hodgkinson, of Calcutta, made some great efforts. It was a well-known plant, but its treatment and appreciation in this country were somewhat new, as were also the purposes to which it could be applied. It was true that until lately it had not received the attention that it deserved, but it was brought largely into notice 25 years ago. Then, again, with regard to hemp, they went over the ground again. Dr. Royle laid it down that stronger hemp was produced in India than in any other part of the world, and his experiments went to prove that, while Russian hemp broke at a strain of 160, Indian hemp was equal to a strain of 400, without breaking; and next to that in strength was the rhea grass. He would not allude to the comparative strength of the New Zealand flax. Looking to the fact that India produced the strongest hemp, and that it grew in a portion of the country which abounded with cheap labour, the surprise was that the cultivation of that plant had not been more attended to. The last subject to which he would refer was flax. He purposely abstained from entering upon that, because the time did not admit of his doing so, and he was glad it did not, because it gave him the opportunity of hearing the opinions of others. There could be no doubt as to the exceedingly exhaustive character of that plant. In

all the old leases it was specified that flax should not be grown more than once in seven years, and the same restriction was imposed in some leases at present. If they grew the plant for both seed and fibre, it would not fail to be very exhaustive to the soil, therefore the cultivation of flax almost resolved itself into a question of manure. If the land was not well manured, they took off a very exhaustive crop. There was no doubt as to the fact that it paid better, in many districts, to grow flax both for seed and fibre than for fibre alone, but they must remember that these things were affected by the position in which the plant was grown. To take the case of India, the circumstances of cultivation must differ very much, owing to the vastness of the country. Take the season in which it was grown. He had seen hundreds and thousands of acres of flax grown in India, but it was in the cold season, and that was the driest season of any, and that circumstance affected the production very much. But there were other parts of India where they had more rain. Among them was the valley of the Nerbudda, and there was found, as an indigenous plant, the finest flax in the world, viz., the white linseed. The seed was far larger, rounder, and more plump than ordinary linseed. It did not contain so large a proportion of oil, but it contained more farina. A singular circumstance occurred in Calcutta when experiments were made there with this seed; after the oil was expressed, the cake was so good that the natives ate it. It was an exceedingly strong and good food. He had tried some of that seed in other parts of India, but it did not grow well; but in the Nerbudda valley it flourished greatly, though it was an unhealthy place to live in. They had the fact before them that, though they had a flax indigenous to India, he had never seen it cultivated out of the valley of the Nerbudda, where it was grown for the seed alone, although some flax had been made by the civil servants. Specimens of the stalks from which the seed had been taken were sent to the Horticultural Society.

Major-General CLARKE writes:—It may interest the Committee to hear that, in 1855-56, the Punjab Government, then administered by Sir John (now Lord) Lawrence, sanctioned an advance to the district officer of Googranwala (myself) of 1,500 rupees, for the purpose of experimenting on the growth of flax. The plan I pursued was to offer to the cultivators of forty villages, having different characters of soil, the average profit they would expect on two acres of wheat if they would undertake to sow linseed, cut and deliver the same to the native revenue collector's office. The result was, that of the produce two tons were dispatched to England, of which nineteen bales, sold in Belfast, realised 463 6s. 4d., at prices varying from £35 to £45 per ton, and those sold at Dundee fetched £28 15s. 10d.; total £92 2s. 2d., at £45 per ton. My own opinion was, that the district in which these experiments were conducted was not by any means the one in which the natives would be likely to take up such cultivation, although the experiment was not unsatisfactory, even as to profitable results. I am of opinion that there are several tracts, chiefly alluvial, to the east of Ungurabad, in the Punjab, in which flax may be grown profitably; and, indeed, in parts of the Sealkote district the flax is grown for fibre as much as for seed. I know no other district in which this is the case. The twine is called "toolee." I think it was in 1857 that, in a brief visit to Dundee, one of the gentlemen I met there told me that the twine I showed him, which I had in my pocket, and which was a bit of string that I had bought in the bazaar and brought home, was worth 4d. per lb. I believe that the government Punjab experiments led to the establishment of flax works, conducted by Belfast men, and I have heard that many difficulties beset the enterprise. I can only say as to this, that wherever an article requiring mechanical skill in its preparation grows indigenously in India, it may be profitably dealt with by European supervision. As to how far the cultivation of flax may be extended

I cannot state anything definite, but I think that there are several other fibre-yielding plants which will be much more grown than they have hitherto been. I suggest whether some of the vast, arid, sandy tracts in the Punjab might not be experimented on as to their fitness for growing "atecha" or esparto (the Spanish grass) for making paper. I believe that Lloyd's hemp is obtained from this fibre, of which the stock is limited, but of which Algeria yields a good supply.

The following is the correspondence alluded to by Dr. Archibald Campbell, regarding the pooah fibre of Nipal and Sikim (*Bhameria nivea*) and the oodal (*Sterculia villosa*):—

Extract from Letter from Dr. Campbell to the Agricultural Society of Calcutta.

I have the pleasure to bring a new sort of hemp to the notice of the Society, on behalf of Sergeant Crutcher, who is a professional worker in leather, and uses it in his craft. The sergeant considers it equal to Russian hemp for shoe and saddlery work, and purposes, if a demand should be made for it, to prepare and supply it to the Calcutta market. I shall shortly describe the plant, the method of preparing the fibre, with some other particulars, and will request you to be so kind as to have it submitted to a comparative trial with the "sunna" and European hems, and favour me with the result; also adding, if possible, the price it would fetch per maund in the Calcutta market.

Description of the Plant.—The plant from which the hemp is made is called "pooah" by the Parbutias, "kienki" by the Lepchas, and "yenki" by the Limboos. It is like a nettle, and is one, probably, although I cannot determine the question. I have, however, the pleasure to submit herewith the leaves, seeds just formed, and a portion of the stem of the plant, from which the genus if not the species may be determined. It grows to the height of six to eight feet, and varies in the thickness of the stem from the size of a quill to that of the thumb. The leaf is serrated, of a dark-green colour above, silvery-white below, not hairy or stinging, and has a reddish pedicle of about three inches long. The seed forms in small currant-like clusters along the top of the plant and on alternate sides, about an inch apart; two small leaves spring from the stem at the centre of and above each cluster of seed.

Habitat.—The pooah is not cultivated, but grows wild and abundantly in the valleys throughout the mountains of Eastern Nipal and Sikim, at the foot of the hills skirting the Terai, to the elevation of 1,000 or 1,200 feet, and within the mountains up to 3,000 feet. It flourishes best in the hills at the same elevation at which the cotton is grown, but it does not, so far as I can learn, grow on the flat Terai, or open plain along the mountains. It is considered a hill plant, and not suited to the plains, or found in them. It does not grow in the forest, but is chiefly found in open clear places, and, in some situations, overruns the abandoned fields of the hill people, within the elevations which suit it. It is, I believe, a perennial, but of this I cannot speak positively, as I have not till now known the plant. It sheds its leaves in the winter, throws them out in April and May, and flowers and seeds in August and September, the exact period altering of necessity with the elevation.

When used.—It is cut down for use when the seed is formed. This is the case with the common flax in Europe. At this time the bark is most easily removed, and the produce is best. After the seed is ripe, it is not fit for use—at least it is deteriorated.

How prepared.—As soon as the plant is cut, the bark or skin is removed. This is very easily done. It is then dried in the sun for a few days. When quite dry, it is boiled with wood ashes for four or five hours; when cold, it is beaten with a mallet on a flat stone, until it becomes rather pulpy, and all the woody portion of the

spring-water and spread out on a flat surface. After exposure for a day or two to the sun, it is ready for use. When the finest description of the stuff, after being boiled and beaten, is daubed over with wet clay, and spread out to dry. When thoroughly dry, the clay is scabbed and beaten out, when the hemp is ready for spinning into thread, which is done with the common

Uses.—The hemp is principally used for fishing-nets, for which it is well adapted, on account of its great strength of fibre, and its extraordinary power of long resisting the effects of water. It is also used for making game-bags, twine, and ropes. It is considered well adapted for making cloth, but is not much used in this way. I have the pleasure to forward the following specimens in illustration of this note. 1. Leaves of the plant. 2. Seed clusters. 3. Portions of the stem. 4. The dried bark. 5. The prepared hemp. 6. Thread. I am, &c., A. CAMPBELL.

Darjeeling, September 24th, 1847.

P.S.—The gigantic stinging nettle of the Nipal and Sikim hills is made into hemp, and used in making a cloth called "bangra";* the preparation is the same as the pooah. The bangra is harder and stiffer than the pooah, and not adapted to making cordage and nets.

In compliance with your request, I have forwarded to your address a packet of the pooah hemp, which will, I hope, enable you to have the experiment instituted as to its comparative merits. I have also sent you a parcel of the dried bark of the pooah, with which you may desire to try some other mode of preparation than that in use here.

Enclosed is a note from Sergeant Crutcher, on the subject of preparing the hemp, which shows that the process, in his hands, has been very expensive. He tells me, however, that he thinks it may be prepared for about 4 rupees per maund, if done on a large scale; this, of course, is still conjectural. The point to be first ascertained is the quality of the article. On this I hope again to learn the opinion of the Society.

A. CAMPBELL.

Darjeeling, October 30th, 1847.

Sir,—I beg to enclose an account of the expense incurred by me in manufacturing a small quantity of the pooah for the Society. I am, however, the pooah manufactured, also a specimen of the state, for them to try experiments on. The expense is, including the seed not manufactured, Rs. 4. 6. 6.

C. M. CRUTCHER, Sergeant.

October 28th, 1847.

	Rs.	ans.	pie.
Expense of manufacturing the pooah, from the stalk,			
Expense of boiling the above, 2 men for two days, at 2 ans. 5 pic. each per diem;			
Expense of finishing the above, 2 men for two days, at 2 ans. 5 pic. each per diem;			
	0	10	0
	3	11	6

Quantity of seed used is two seers, at a cost of Rs. 9. per seer; the waste in manufacturing is about 10 per cent.

The reason this experiment is chiefly this, the pooah was brought in by a person on purpose, and not cultivated by myself; and the process should be conducted on a large scale, as the same expense, incurred as above, would be sufficient for a maund.

Extract of a Letter from Major Jenkins, dated Gowhatti, 24th November, 1847, on the Oodal (*Sterculia villosa*), a species of Nettle.

The oodal rope I sent you, not long ago, was a present from Capt. E. F. Smith, commanding at Suva.

* See "Notes on the agriculture of Nipal," vol. iv., p. 124, "The actions of the Agricultural Society of Calcutta," by Dr. A. Campbell.

It is possible serviceable ropes might be made from this substance if better prepared. You may be aware it is the common rope used by all the elephant hunters when in the jungles. The tree is very common, and the rope is made most readily. The bark, or rather all the layers, can be stripped off from the bottom to the top of the tree with the greatest facility, and fine pliable ropes may be made from the inner layers of bark, whilst the outer yields coarse ropes. The rope is very strong, and very lasting, wet doing it very little injury.

Report on the above-mentioned Fibre and Rope, by Capt. A. Thompson.

An unexpected pressure of affairs has prevented me till now sending you the specimens of oodal rope and pooah hemp you sent me to experiment upon. I have now the pleasure of handing you the manufactured specimens, as also returning the communications of Dr. Campbell and Major Jenkins on the subject, together with some remarks on their value, and the uses to which I think them adapted.

First, the oodal. When well made, this rope is equal in strength to our best coir. But, in its present state, from having been made green, I suppose it is too stiff and inflexible for marine purposes. It resisted every attempt to separate the fibre or to dress it by hackling, and could only be useful, I think, for rafting timbers, bale lashings, stage ropes, and such like purposes, for which jute is now used, and the value of which is from 2½ to 3 rupees per maund. You will see by the specimen that has been re-manufactured, that the same rope when laid by machinery is three-quarters of an inch less in circumference than that sent by Major Jenkins; consequently, a rope of three inches made by machinery is equal to one of four inches made by hand. I would further observe that, could the fibre be brought here in such a state of flexibility as to allow of its being dressed by the hackle and properly spun, the value would be very much enhanced, and, I have no doubt, it could be made into good rope for ship use. The line made of the bark of the oodal, you will observe, is much more flexible, and better

adapted for ship use, but not so strong. It is very elastic, having stretched 16 inches in six feet. It sustained 1½ cwt. for two hours before it broke. Of the pooah I have to report more favourably. The substance resembles cotton-wool more than hemp, and is consequently better adapted, in my opinion, for sail-cloth, twine, and thread, than for rope. I send a specimen of the cloth made of it, as also a piece of line. The pooah, when properly dressed, is, I think, quite equal to the best European flax, and will produce better sail-cloth than any other substance I have seen in India. I observe, from Dr. Campbell's communication on this fibre, that mud is used in the preparation, which clogs it too much, and not only renders it difficult to dress and spin, but spoils the colour, as is evident by the sample of cloth made of it.

My superintendent, Mr. William Rownee, who understands the nature of these substances, tells me that, if potash were used in the preparation (which is invariably done with Russian hemp and flax), instead of clay or mud, the colour would be improved, the substance rendered easy to dress, and not liable to so much waste in manufacturing. The value of the pooah fibre here may be estimated from the following data:—To make one yard of sail-cloth, it requires 1lb. 2oz. of fibre; and the expense of dressing, spinning, and weaving it (with the rude apparatus now used by the natives), is 2 annas 6 pie, and I estimate the value of the cloth, when made, at six to seven annas per yard; or, it might be easier understood thus:—

A maund of clean pooah will give 72 yards....	Rs. 25
Less expense of manufacturing, say	10
Leaving as the value of the fibres.....	15

There are other incidental expenses that are not included here, but as near as I can at present estimate I should say it is worth twelve rupees per maund. I would only further observe that, if properly prepared and dressed, I think the pooah capable of being converted into fibres much finer than either sail cloth or sewing twine.

ably occupied for grazing purposes cannot be considered to be waste.

Next comes the question of private property in uncultivated lands. You are aware that there is much uncertainty regarding the degree to which private property in land prevailed in India before our time. I take a stronger view than some people of the rights existing in cultivated land; but as respects large tracts of uncultivated land, beyond the immediate requirements of the cultivating communities, I decidedly think that there was no private property beyond a general right of the neighbouring villagers to a reasonable supply of grass, wood, and water. Still, at the present day, this question is not so much one of theory as of fact. The faith of the British Government has been pledged by certain settlements fully establishing proprietary rights. The right to a supply of grass, wood, and water is a very vague one; it has been very differently construed by different officers in different districts. The result is, that in some districts the villagers have been allowed to divide among themselves the whole waste, even when the quantity is excessive. This has been felt in some places to be an evil, but it is, I fear, now irremediable. In the Central Provinces the system pursued has been to compromise the indefinite rights of each village, by assigning to them in absolute right a liberal allowance of the waste, in proportion to their cultivated area, while the rest is separately demarcated as government property. The consequence is that we have in that country a large proportion of available land.

Besides the claims of the villagers, there is another form of proprietary claim, which, perhaps, more seriously affects the prospects of European colonisation.

I have said that there was an uncertainty about private rights in land. The question was, whether the government was not in a great degree the owner of the rent, even when individuals occupied the lands. Now, rajahs and chiefs may be said, in some sense, to represent the old Hindoo governments; and although they have ceased to be independent, still it has happened that in the more remote, uncultivated, and inaccessible tracts, the superior governments—the Mahomedans before us, and we in like manner—have not found it pay to assume a very direct management, and have allowed hill rajahs and such people to collect what they can get in the way of taxes on jungle produce, and dues on grazing and on the scanty temporary cultivation of the aboriginal inhabitants, paying to us only a moderate quit-rent in a lump sum. Eventually, when we came to settle the question of proprietorship, and brought to bear our English ideas of landed property, we have converted these vague collections into a right of property in the whole soil; and, it unfortunately happens that some of the tracts, formerly considered worthless, but now the most valuable for European settlement, are owned in this form by rajahs claiming hundreds of square miles, and by no means inclined to encourage anything that may interfere with their ancient habits.

Thus, then, we must not only be careful of the term waste, but we must still farther limit it to what is called the available waste.

In considering how we may best deal with these wastes, I would draw a distinction between lands fitted for ordinary native settlement and those fitted for European settlement. As respects the former, the old system I think was quite good and successful. The native has not much idea of what we call freehold; he thinks it the natural function of land to pay the dues of the government, and the interest of money being very high, he would rather pay a moderate annual sum than pay a lump sum down. Accordingly, the practice has always been to encourage the extension of cultivation by granting clearance-leases on very favourable terms, on condition of clearance and settlement. The settler pays nothing for some years, then a very small rent, then one somewhat larger, but still moderate, and eventually, on fulfilling the conditions of clearance, he becomes owner,

subject to the moderate dues reserved by the government. Some Europeans have taken lands in the plains on these terms, with the view of cultivating them through ryots, in the ordinary native fashion, and in some cases they have succeeded well. But to succeed it is necessary that a man should settle himself down in the country, in a way which few Europeans like, in the tropical plains. He must have the most complete knowledge of the native character, and his temper and tact must be nearly perfect. I do not think that, as a rule, Europeans will in this way hold their own against natives; the few most excellent men who succeed must be exceptions. I am inclined to think that they often prefer the old system of clearance leases to the new freehold system; and, in the proper native parts of the country, I do not think that there is sufficient ground for altering the land rules, otherwise advantageous, for the encouragement of native settlement.

As respects the natives, I am free to confess that I prefer to the new waste land rules the old system which I have described, or that which still prevails in Madras or Bombay, where the waste lands are marked out, a small annual assessment is fixed on each plot, and the first comer is free to take possession and become owner on the prescribed terms.

I am inclined to think that we have gone too far in applying our English freehold rules to the native tracts. Owing to the high interest of money, we can only alienate the future dues of government at a rate quite out of proportion to the capital received. A native would rather pay annually a sum equal to 12 per cent. than pay a lump sum; and if he rarely and unwillingly pays the lump sum, it is because he expects that he will gain, at the expense of government, much more than that rate. If he does so, and enjoys the land without payment to the state, there is a disagreeable contrast to the position of his fellows, who pay heavy dues.

In the Central Provinces we have an enormous extent of waste lands; and we suffer from fever, which may possibly, in some degree, be due to the jungle. It is therefore, a great object to promote cultivation. At the same time, I have grave doubts whether we are right in offering freeholds in some districts as low as one shilling per acre. A good deal is taken up in this way by native speculators. But my fear is, that they may be doing what I heard an Australian call "taking the eyes out of the land"—that is, in some cases selecting the best bits for grazing and forest produce, taking them at this merely nominal price without condition of clearance, and so, perhaps, rather obstructing than promoting agricultural settlement. I would prefer to give clearance leases on terms amounting to a mere peppercorn-rent, for a generation at least.

I am not prepared to advocate any interference with the rights of property which have been already recognised in the native tracts, but would leave the natives who have acquired such rights to settle the land in their own way.

I now come to the tracts fitted for European settlement, which I would treat exceptionally, and with a distinct view to European habits, predilections, and institutions. An English colonist likes a freehold above all things. He can generally command a little money. He prefers to pay a lump sum, rather than to be subject to annual payments, or to be harassed with permanent exactions, the exaction of which has often been found difficult. He seeks to utilise lands which have, hitherto paid next to nothing to government, and where there will scarcely exist any contrast with natives under different rules. His settlement would be a great political gain. I am, then, entirely in favour of marking off and treating specially and exceptionally, with a view to European colonisation, all the elevated tracts of available waste land fitted for European settlement. I would even go further, and would say that the public object involved is so great, that where we find large tracts of land specially fitted for such purposes in the proprietary

...sion of barbarous hill chiefs, we should be justified in making them up by special enactment, as for a public purpose, compensating the chief most liberally and fully for his pecuniary loss, and providing him with so much

No subst...
...omical land)
...ts
...ere we must enter on particulars with respect to districts where land available for such settlement may be found, and that, I fear, is the most difficult portion of my subject.

First, I will take notice of the Himalayan districts, and the fact that regard to native

...might have gained...
...districts, and for the...
...of land available in the Hazareh...
...districts on the frontier is not...
...is so near to a dangerous frontier...
...much recommended, unless arrangements could be made for planting a military colony there. The Sikhs did something of the kind, and we might perhaps follow their example, but we must be careful not to press hardily on tribes jealous of their rights. We have no more British territory to the Kangra district, a very fine one...
...one of those in which almost the whole area has been included in the village boundaries, and has become the property of a fine and numerous population, with whom we can hardly break faith. The tea-gardens now existing are principally confined to one spot, left uncultivated in consequence of a local superstition, and but little land is available to settlers on a large scale. Small plots may probably be found. The Simla hills are now almost entirely under native chiefs, holding on the faith of treaties and political engagements from which we cannot depart. There are a few settlers in the small patches of British territory. About Mussooree we have but a very small hill territory. Gurwhal, which was to have been annexed, is now permanently established as a native state; but in the adjoining territory of Kumāon we have a large British hill district, where a good deal of land is available, and where several tea-plantations have been already established, which yield very superior tea. East of Kumāon the Nepalese have all the hill country and a strip of land at the foot of our Darjeeling district is some of the best land has been already taken up. Large tracts of Darjeeling savage tribes occupy the range, and, with the exception of some small portion of the outer hills taken from Bhootan we have no admittance there.

It will be seen, then, that the area available in the Himalayas is not very great, and on the whole... of Himalayan settlement we must bear in mind the extremely precipitous character of the country. It is not that, excepting perhaps the eastern portion about Darjeeling, the range is already inhabited by an industrious Hindoo race. When one sees with what labour and care petty fields have been everywhere terraced out of the hill-sides, one's only wonder is that there should be any available land in a country where the natives have so much trouble in obtaining sufficient sites. And in truth the difficulty is that the best of the land in the high elevations, that is, high enough to be healthy, but not too high for irrigation, has been already taken up. There remains, here and there, a good deal of high land, but the spaces are not large, and are very deficient.

At the foot of the hills there are some tracts of magnificent, but which are in fever range. It is in fact the circumstance that has led to great misconception regarding waste lands in India. People see about the foot of the Himalayas and elsewhere what seems to be very fine land, covered with virgin forest or with coarse grass, and they rush to the conclusion that they are in an under-populated country,

where the waste ought to be utilised. But, in truth, the sub-Himalayan jungle tracts are within reach of a teeming population, most covetous of land, and who are in fact rapidly pushing back the forest, whenever it is possible to do so.

enemy. You... generations a varying warfare between men pushing forward and the fever pushing them back. For a few years they make great advances, then come one or two years of unusual unhealthiness, and deserted fields testify to their defeat. Wherever you find in India good land lying uncultivated within a short distance of a large population, the probability is strong that there is some special reason for it. Still, there are strong evidences that at some remote period some of the most fever-stricken and forest-covered tracts were occupied and inhabited. Malaria still baffles our scientific knowledge, but we may hope that one day it will be overcome.

There is no Terai (as the moist jungle tract under the hills is called) in the Punjab.

...on, which is so well-known a feature of the Himalayas; it is at the foot, only enclosed by what is called the Sewahie Hills, and in a semi-tropical climate. It may average about 2,000 feet above the sea, and not far from its neighbourhood it is a cause to which, as all things, many low tracts, have greatly retarded its prosperity. In fact much of it partakes of the nature of the Terai, and on that account the natives had not fully occupied it. Hence the disappointments of the settlers and the disappointments which have followed. Much land was taken up many years ago by enterprising men, who set up European sugar machinery, and by sugar and other products hoped to develop the valley. Their fortunes; that for the most part failed. As told us of his most interesting attempt to establish a Christian colony. This unfortunately fell through. Tea has been planted on a large scale, but the shares of the Dhera are in an unhappy position in the market. Still, it is very hopeful about the Dhoon. There is already a considerable settlement in the town of Dhera, at the highest point of the valley and quite healthy. Mussooree and the new military stations (called, I think, Chukrata) are closely, and the more rapidly of these settlements will be occupied.

...ness, it is... have merely stated the difficulties, but I will illustrate those which occur to a greater degree than in other locations. Once thoroughly cleared and cultivated, the Mussooree hills and Dhoon will be a delightful settlement.

The Terai extends all along the north of Rohilcund and Goruchpore. Some enterprising grantees have done much, but they have had great difficulties, and some of the grants have been chiefly taken up. Insolvency has been in fact taken to...

...of which something may be made.

Of the whole Himalayan country I would say that I believe there is sufficient land and sufficient prospect to give a good opening to the industrious settler on a moderate scale, but that your financiers, land jobbers, and speculative getters up of land had better look elsewhere.

The tea districts of Assam and Cachar are well known, that I need say little of them. The point, however, to be borne in mind is that already many persons have taken up more land than they can cultivate, and hence much of the unfortunate reaction which has taken place. There is plenty of land. The difficulties are, a certain degree of unhealthiness, and the want of local labour. Still,...

article of great profit may well afford to pay comparatively high for imported labour, and rates that we call high in India, would be thought extraordinarily cheap elsewhere. I believe that tea will never pay to absentees, who give very high prices for the land, cultivate through agents, and expect a very high percentage. But the unhealthiness is not excessive; there is good hope that it is being overcome by clearance, and there is the best prospect for *bona-fide* settlers, who take the land cheap, in small blocks, and cultivate it themselves.

In the Central Provinces we have hundreds of square miles of waste land, at elevations of 2,000 to 3,000 feet above the sea, and offered at a nominal price. Some of the highest lands, unfortunately, belong to aboriginal hill rajahs, but there is very much available for settlers. Tea and coffee have not yet been attempted, but both grow freely in the gardens at Jabulpore, and both or either might probably succeed. The fever is, in most places, not excessive, and there is the best reason to hope that clearance might extirpate it. In fact, the cleared stations, Seonee, Chindwara, &c., are already quite sought as sanitarium for the Central Provinces. I hope that European troops will be stationed on these plateaux, and it would be a good site for a military colony. In that case, some of the native rights might, perhaps, be commuted and compensated.

In the Bombay Presidency there are no extensive tracts offered under the waste land rules; but, on the high lands, immediately behind the Ghâts, are many eligible small sites available to all comers, under the Bombay assessment system, and where, if there was a demand, freehold sites for European settlement might be carved out. My impression is that, as railways and the Suez Canal are opened out, this part of India must become more and more the basis of our European strength, and that, both for the location of our troops and European governing populations, for military colonies, and for the European settlers who would supply the European community, no part of India offers so great advantages.

Coorg and the Wynaad may be described as already coffee settlements, and I trust that they have a most prosperous future before them. The Neilgherries, and especially the Pulneys, offer higher and healthier sites. The whole of the high lands of Southern India offer great opportunities for settlement, and I hope there are gentlemen here who will give us particulars regarding them. I will not make this paper longer by going into details with which others are more competent to deal.

All that I have here said has chiefly reference to lands fitted for exotic plants introduced by Europeans. I do not think that they are likely to succeed in cultivating the native cotton on waste land, because cotton is an indigenous product requiring high cultivation. The best cotton lands have long ago been taken up, and where the natives have (for instance in Oude) found that they cannot profitably cultivate the plant, I do not think that Europeans will succeed. But there is this to be borne in mind, that the American cotton plant is a different plant, requiring a different soil and climate, and it may be quite possible that Europeans might succeed in cultivating the more valuable exotic in spots not so well fitted for native cotton, say in the higher waste lands of the Central Provinces, or in the Bhootan Dooras.

One word on the mode of dealing with the waste lands offered to the public. I have already expressed my opinion with respect to what I call the native parts of the country, and I have said that in the parts fitted for European settlement a different system may properly be followed. Now on the whole subject I will further say this emphatically, that no one can justly accuse the government of backwardness in offering facilities for the acquisition of waste land. On the contrary, if there has been a fault, I say it has been in offering too great facilities to take up large grants in a country in which the supply of suitable land is limited. I have lately

attended several meetings at which land questions have been discussed from a colonial point of view, and I have been very much impressed with the unanimity of opinion which seems to prevail among those who have most experience of such matters, that nothing is more injurious, or more tends to retard a colony, than a system which permits land jobbers to monopolise very large tracts of land at a very low price, and some people even to do what is called "getting into the way in order to be paid for getting out of it." In my opinion, in regard to such large tracts sold absolutely without conditions, the offer of the land to the highest bidder above the upset price was a just and necessary, if in some cases not an altogether effectual precaution. If it had been otherwise all the best of the land which, from special causes, was available in the hands of government, might have been secured by jobbers to sell at a profit, as has been the case in some of our colonies. On the other hand, I think that the rule of sale by auction would now fall hard on a *bona-fide* settler, who, at great trouble and expense, had found a suitable piece of land. To meet the case of such settlers—and these are the settlers whom I would most encourage—I would advocate something like the American homestead law, allowing any man of good character to select from the waste a limited quantity of land (and when considerable capital is put down the quantity might be increased) on easy or almost nominal terms, on condition of actual settlement and clearance. I would not make such grants transferable till a certain cultivation was actually effected, but that done, the land would become absolute freehold.

Before I sit down I would like to explain what I was reported to have said, on a former occasion, regarding the projected railway from Calcutta to the Darjeeling hills. I think it was rightly postponed to Lord Dalhousie's trunk lines, but I do not say that it should be postponed altogether. I do not think that either the use of Darjeeling, as a sanitarium for Calcutta, or the traffic in tea, &c., of the Darjeeling hills, would alone justify the expenditure. The question must depend on a consideration which has not, I think, been mentioned in these discussions, viz.—Whether the local traffic of the productive and populous districts through which the line will pass may be expected, with the aid of the Calcutta-Darjeeling traffic, to make the line pay, or nearly pay. I do not think that I over estimated the cost. The shortest line, by Caragola, runs right across the watershed of a very watery country, and would be very expensive. The other line, in connection with the Eastern Bengal Railway, would run more parallel with the water-flow and would open up some rich districts, but it would be longer—not, I think, longer (or scarcely longer) from Calcutta to Darjeeling, but a longer new line from an existing railway must be made. My impression is, that if a line can be made at a moderate rate, say £6,000 to £8,000 per mile, it will pay, and should be made.

Finally, with regard to the general prospects of European settlement in our elevated waste lands in India, I will say this, that notwithstanding the several difficulties and discouragements which we have encountered (and how many successful enterprises have at first encountered difficulties and discouragements), I have not the slightest doubt that our Anglo-Saxon vigour, and wealth, and resources would long ere this have overcome all difficulties, and established large colonies in India, if the nation had been pressed for outlets, and there had not been agricultural, and woollen, and golden Eldorados in America and Australia to attract emigrants, ever since India was open to Europeans. There are signs that these Eldorados have yielded their most brilliant returns. In America, heavy taxation, and the great dearness of all necessaries, much detract from the advantages heretofore offered. The same causes begin to operate in Australia, where there is not the same unlimited stretch of fine country in the interior, and where gold-digging is no longer a profession for any but very

labourers. In India we have still that cheapness which is so wanting in the colonies, and I have very little doubt that the first bloom, as it were, being taken off the continent, as we annex Africa and open up a new continent, a stream of the many superior and energetic men, with a little money in their hands, who are continually hiving off from this country, may begin to flow towards India, and may profitably occupy the land there, with the aid of native labour.

Mr. FITZGERALD inquired what was the value of the produce of coffee per acre?

Mr. G. CAMPBELL was unable to answer that question, but it was no doubt very large.

Mr. FITZGERALD was struck with the amount of resources afforded for the cultivation of coffee, which depended a great deal upon what the value of the product per acre was.

The value of coffee was very high, and the price was very high.

Dr. ARCHIBALD CAMPBELL read the following communication:—Mr. Campbell has given us a most valuable paper, in which he has shown us the position of the Himalayas. As regards the Himalayas, I consider the statements very accurate.

speaking in this country, to the people to which the Canada, the United States, and Australia offer an unbounded extent of waste land, it may be said that the Himalaya, since we are from Cashmere and Nepal, offers us a good outlet, comparatively speaking, still it is a good deal and of great importance. As Mr. Campbell has pointed out, the Darjeeling Railway, which I have on various occasions brought to the notice of this Society, will only just now say that I am quite sensible of the difficulties which lie on the line from Calcutta, through Purnea, in consequence of the number of rivers to be bridged; but, looking to the success of the engineers in bridging the affluents of the Ganges on its southern side, I have no doubt they would equally succeed on the northern bank. But it is not necessary that we should stick to the Ganges, for, as I have said before, there is the Teesta, which, after crossing the Mahanuddi, can be taken all the way to Dinajpore, without crossing any river. I shall, however, give fuller particulars on this subject at our next meeting. On the subject of waste lands, I shall confine my remarks to the district of Darjeeling, which is the only British territory in which I have had a practical experience of the subject. Experience of the independent Himalayas, in which there is more waste land than in any parts of British India put together, cannot be turned to any good account here. The total area of the hill-portion of Darjeeling is about 282,000 acres, the elevation of which varies from 1,000 to 10,000 feet above the level of the sea. The whole of this, I may say, was waste land when it was ceded to us by the British, as there were not fifty families of the whole tract; and the custom of these hills is to clear the land in the forest for the purpose of cultivation, and then move to clear and cultivate the same circumstances, and

yards square, were granted and leased at 50 rupees, or £5 per annum, to all applicants. Lands for agricultural purposes were assigned to applicants, on lease for less than 30 years, with an exemption of five years' rent on uncleared places, after which 2 rupees, or 4s., per acre per annum was leviable. In cases where no clearance or occupation was effected within five years, the lessee forfeited his tenure, and the land was resumed by government. The exemption of five years was designed for the encouragement of Europeans, with reference to the difficulties of starting in a new country and to the expense of clearing off the heavy forest. To show the difficulty of meeting the requirements of people of different races and usages, I will mention a curious circumstance. In explaining the new waste land rules, I asked the natives assembled for the purpose what they thought of the 30 years' leases, with exemption of rent for five years. There was a general murmur at the question, and a man came forward and said that five years' lease was quite suitable, for

we were anxious to be cleared to us. Applicants were furnished with written plans, and were allowed to clear and cultivate in the forest for three years, on condition of eight annas, or one shilling, per acre, and on condition of their attending to the clearing of the mountain paths, and the current rate of wages when so the cultivation of tea was introduced, in 1809, waste land was assigned to Europeans at ten rupees, or £1 per acre, payable in ten instalments of one rupee per acre per annum, or fresh land to be

had been assigned 200,000 acres. In October, Canning's celebration on the disposal of waste lands all over the country. It was received with universal approval, and all the commercial and planting interests provided for the sale of waste lands to applicants in lots, comprising not more than 3,000 acres, at five annas, or 10s., per acre, to the best of my recollection. I have mislaid my copy of the resolution. Lord Canning, however, was not supported from the India Office; the Secretary of State altered his liberal well-devised resolution, and sales of waste land by auction became the rule. By this system persons who have not taken any pains or who have not gone to any expense to ascertain the qualities of land, are put on the same footing for purchase as those who have, by their skill and perseverance, selected allotments, and their minds and plans on securing them. Up to this time large assignments of land were made to applicants, but I cannot state to what extent, but is the extent now available, although still considerable. I have recently received that 25,000 acres of the request of their payments, grants, to the extent of 25,000 acres. The total land was

considerations were, to the new territory, the resort of European invalids and soldiers. The ridges of the hills, at elevations from 7,000 feet above the sea, were reserved for the sites; and allotments, of not less than 200

beginning to the and when the avidity of Europeans to procure

lands for tea-cultivation became prevalent, I took every opportunity of urging on them the propriety of retaining their lands, and not to be tempted to part with them for sums of ready money, which I knew they would certainly spend at once. It was of no avail. One after another yielded to the temptation freely offered by the planters, and sold their lands, soon spent the purchase-money, and generally became the tenants of the purchasers, in their own houses. This is but a fresh instance of the giving way of aboriginal people to the spread of the irrepressible Anglo-Saxon; but it is pleasant to know that it is quite free from the miseries and bad blood which accompany it elsewhere. One of the rules for the sale and grant of waste lands at Darjeeling is objectionable, I think. The purchase-money is payable either in full, at the time of purchase, or by instalments running over ten years at not less than ten per cent. per annum. In the latter case, however, interest at ten per cent. is charged on the unpaid portion of the purchase-money, the whole grant remaining hypothecated to government until the whole amount in principal and interest is paid up at the end of ten years. The rate of ten per cent. interest is double that paid by government on its loans, and is a heavy pull on the planter. A reduction of the rate to five per cent. might be made justly in the interests of government, and to the benefit of settlers. So far as I can at present ascertain, the European settlers and tea-planters at Darjeeling are well satisfied with their land tenures, and do not complain of any shortcomings by government, except as regards the want of a railway to Calcutta, to enable them to send their tea and other produce to market, and to get up their stores, machinery, &c., from the same place. This drawback goes very far indeed to neutralise the favourable circumstances they are otherwise placed in, and I wish once more to impress on this Society the importance of railway extension to the Darjeeling hills, for the benefit of all classes of Europeans in Bengal, and for the full development of the resources of a productive district in a climate admirably suited to the European constitution. There is no difference of opinion now among the friends of India as to the importance of European settlers in all parts of the country, as a means of strengthening the hands of government, and of securing the attachment of the natives to our rule. Every argument in favour of this settlement in the plains must have double force when applied to the hills, and I do not know of any project for the advancement of our interests in India more worthy of the support of government, than the extension of the present railways to all the accessible parts of the Himalaya, and I hope that our Committee may be induced to give its serious attention to the subject.

LORD WILLIAM HAY said he came with no intention of taking part in the discussion. Mr. Campbell's paper was, as he anticipated, a very exhaustive communication on the subject. There was only one point on which he wished to offer a few remarks, that was with regard to the assistance which the government had given to the settlement of lands by Europeans in India. Mr. Campbell seemed to think that the government had given all the assistance which it could be expected to give. He (Lord W. Hay) was inclined to think all had not been done that might have been expected, considering the importance of the subject, and the immense strength which a large number of Europeans spread over the country would give—a strength out of all proportion to the expense which would be incurred by the government in facilitating their settlement. The rules relating to waste lands were open to great objection. Not that he thought Lord Canning's rules could have been approved by Lord Halifax. They contained provisions which could not be sanctioned. There was one, for instance, which enabled government to dispose of land to a would-be settler, and no person who had a claim upon that land could make it after the expiry of one month. Now, considering that natives often left

their homes for six months, it was possible that land, under that rule, might be sold over their heads, and when they came back they would have no power to regain it. For that and other reasons it was found impossible to maintain Lord Canning's rule. The rules as they exist now had the fault of differing in every district of India. He had a thick volume at home containing the rules with regard to waste lands in India, and he ventured to say that every province had a different set, so that a person who had mastered the rules of one province, on going into another would find himself at sea. The rule to which reference was made by Dr. Campbell, viz., that which required the sale of waste lands by auction, was a most objectionable one. A European went to India at great cost. On arriving there he hunted about for a place suitable for his purpose, and having found one, he was liable to have the land bought over his head by some rich native. That seemed to him a hardship. Then, with regard to information respecting waste lands in India, he defied any person to obtain it. If he had a personal friend who was anxious to go out and settle in India, and who wished to obtain as much information as he could, he (Lord W. Hay) really did not know where to refer him to. It could not be got at the India-office, for the government could not tell the extent of waste lands available in Bombay or Madras; he had himself made the inquiry and could get no information. It seemed to him the first duty of the government, if they were anxious about the matter—and he believed they were anxious to see Europeans settle in India—was to obtain all the information possible for the benefit of intending settlers. He had already alluded to the great expense entailed upon those who went out to India. There was another reason why waste lands should be offered on terms more advantageous to Europeans than to natives. At present both were placed on the same footing; but when they considered the European had to go out to India at a heavy expense, to a climate by no means agreeable, even in the hills, it seemed to him (Lord William Hay) they should offer terms more advantageous to Europeans than to natives, especially when they further considered the affection which the former had for freehold tenure. He would unhesitatingly offer to Europeans freehold tenure wherever they desired it. The natives themselves did not care about it. If the rent which they paid for the land was less than they would get as interest for their money, they would rather pay rent than obtain the land on a freehold tenure. With regard to the Himalayas, they discussed the amount of waste land available there at such length at a previous conference, that it was not necessary for him to offer any further remarks upon it. He was surprised to learn that there was so little waste land in the Hazara district. He had been informed that was the only part of the Himalayas where there was any real extent of land for the purpose. He doubted after all whether we should ever see in India many European settlers. India was a great field for men of good character, competent to act as agents and superintendents of native labour. The natives, as they knew, were very clever; there was nothing which they could not do, and there were very remarkable examples of their ability in acquiring knowledge. Only the other day, out of those who passed competitive examinations, there were no fewer than three natives, of whom one passed second or third. Their ability was scarcely inferior to that of the Anglo-Saxon, but when they came to the character of the man, they found a great difference. That was a point in which Europeans excelled, and which gave them a value in India in relation to the mass of population which they did not possess to an equal extent in any other part of the world; therefore India, of all places, was a country where Europeans, not rich men, but men of good character, would obtain a reward equal to their deserts. Every day Europeans were being employed in the Himalayas, on small tea-plantations, on railways, and other works; they received large salaries, and he believed

they could make considerable profits. In that way he believed the field of employment for Europeans in India was almost unlimited.

Major-General J. CLARKE communicated the following, restricting his remarks to the Upper Provinces of India including the Punjab:—An opinion was once, and still more or less prevalent, that applicants for waste lands meet with needless difficulties from government. I think, on examination, it will be found that at least of these difficulties are owing to the vagueness of the case. In a country which is not thickly peopled, where the extent of land exceeds the want, boundaries, although tacitly recognised, are not at all rigidly defined. This is an interesting and important subject, and is thoroughly illustrated by the history of the boundaries and bloody affrays or faction-fights which have happily now infrequent, owing to the more scientific demarcation of boundaries.

I remember that, in the anarchy which always was chronic in one or more districts, under native administrators, whole estates, or portions of them, sometimes lapsed into jungle, and it is frequently very difficult, after a long interval of abandonment, to decide on State and individual claims on such lands. When we consider that, even in this law-directed country, boundaries still come before our courts, as in the recent case

Leonard's claim and the contention as to the proprietary interests in Tooting-common—a spot within seven miles of this—I say that, on examination, it will be found that the difficulties are not ordinarily of government origin. I understand all such lands as are at the disposal of government, whether in the hills or the plains, and which the government desire to bring under tillage, to be otherwise improved.

It is a pity in England that the encouragement that a high class of European settlers, and on the importance of encouraging the European element there is entire unanimity of opinion; and in stating, as Lord William Hay has done, the most valuable class to be Europeans of character holding situations of control, superintendence, and inspection, I most thoroughly concur. I do not look for any colony of European settlers in India. I think that we understand settlements in Australia better than we do in India. I see no reason whatever why England should not hold the most profitably ordinary agricultural lands. It was the strong desire of the Government to authorize "the sale of waste lands charged from all prospective demand for revenue." This raised the hopes of some men to such an extent that they saw themselves in their mind's eye, the lords and owners of magnificent estates, and the Government also looked for substantial benefits.

It was a pity in England, but I think that we have been disappointed in some respects, where the lands possessed special advantages of soil or position, disappointing both to the purchasers and to government, the vendors. One plain reason for this is, in the case of the late Mr. Campbell, the rate of interest charged on unpaid instalments was ten per cent, some-tenths of which, under the resolution of October, 1851, might be spread over ten years. This condition was probably intended to repress undue speculation, but it only encouraged it. Be that as it may, I think that interest on the instalments should be reduced, if it be desired to give men who are of character of good constitution, and of good age, but who have but very small means, a chance of succeeding in the reclamation of waste lands.

It is a pity that the Government should have authorized the sale of waste lands to men who could pay down the purchase money, and that a rate of interest of 25 per cent. should be made. I am sure that the success of the sale of waste lands, to which I think the Government should be continued. Another reason for the failure of the purchasers' success is that, as a rule, they

personally had no agricultural experience, and that they did not understand the difficulties of reclamation, and that they attempted a slow operation, and that they made many unsuccessful attempts.

It is more successful in some respects than in others, and above all, I would caution them against the indiscriminate clearance of forest waste, what we should call woods in this country. I can only refer to this because I have seen many instances where the clearance of woods seems to have been done in a hasty and unwise manner.

I think that the Government should be cautious in the disposal of waste lands, and that they should be careful to select men who are capable of undertaking the reclamation of waste lands.

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need not explain to gentlemen of Indian experience that the tenure I advocate as above is heritable and transmissible, and, for all practical purposes, is a freehold estate paying a quit rent, which, though variable, has recognized limits, the discussion of which would take me too much into detail. I consider the conditions would work fairly for government, as preserving to it valuable land revenue prospectively and to some extent immediately, and for settlers, who, if at the end of their pioneering term of occupancy, so to say, or before it possibly, might, without much loss to themselves, throw up their lease, or renew it on modified terms, if they did not see their way to success, and if they did succeed they would hold on, and benefit themselves and the State. I have proposed the exemption of a fixed portion of the land. I would fix it at from 15 to 25 per cent. This proposal is in entire conformity with native usage as to the principle, and quite compatible with general tenures, and is common under the terms "enam," "narkar," "seer," &c. I may add, to say nothing of the dissatisfaction which revenue-paying landlords must feel at exempted lands lying contiguous to their own, the fact of these revenue-exempted landlords being able to afford labourers and cultivators greater advantages acts detrimentally and unfairly on the assessed lands; and, as may often have been observed by revenue officers (jageer), exempted lands flourish, while neighbouring lands, of as good quality and as well managed, are in some difficulties. Finally, I may say that I am confident that capitalists who would be satisfied with six or seven per cent. could realise that by the purchase of ordinary landed estates in India. I am not giving an opinion on the advisability of thus investing money, but I say to those who desire it, it can be safely done, and they had far better, in my judgment, thus invest their money than in purchasing waste lands, unless they can begin the work when young, strong, and supported by the encouragement and credit of friends. Indeed, I may say that the proper position of the European who is a gentleman connected with land, is either that of a landowner or of manager, not that of a simple tenant or even proprietary farmer.

Mr. EDWIN CHADWICK—On such information as I have derived from others, I should doubt whether India generally furnishes fields for the Anglo-Saxon settler to go forth singly, as he has gone forth into the American backwoods, relying on his own axe, or pick and shovel, and for self-protection on his own rifle. I apprehend that, apart from other enemies and obstacles, the more rife causes of tropical fever are commonly too many for his unaided individual effort, or even for associated effort like his own—as by land companies—unguided by sanitary combined with engineering science. But it is proved by the example of what has lately been done in Algeria, to which I have before adverted, and which I must protest against being set aside, that such obstacles are not too many for governmental effort, guided by special engineering and agricultural science, combined with sound practical sanitary science. On plains where men making unscientific effort had been thrice driven back by fever, and the colonists had been swept away—on those same plains, by governmental efforts, by the *corps de genie*, guided by sanitary experience, fever was subdued and extirpated. The course indicated by such examples would be one by means of special surveys and special works, directed by competent engineers, for the drainage of marshes, the clearance of jungles, and the sources of malaria, rendering reclaimed wastes both cultivable and fever-proof, and healthily habitable, and to the government profitable by increased rentals. On such sound Indian testimony as I have cited, the Algerian example is widely applicable to India. But I may also cite a great particular example from India itself as applicable to India generally. I cite it not on my own authority, but on the authority of my late lamented friend, Colonel Baird Smith, who was wont to dwell upon it with great satisfaction. It is but little known in India. I have met with members of the

Indian government who have never heard of it, and it may be said to be not at all known in England. It was what was done by the late Col. Dixon, of the Indian scientific corps, who was sent with a brigade of troops to repress, or keep in check, a robber population occupying the Mairwarra, a tract of hill country (about the size of the Highlands of Scotland), extending from the frontiers of Goojerat, through the middle of Rajpootana, to the neighbourhood of Delhi. He found the condition of that population to be one in which, from the regular failure of their crops at particular seasons from the failure of water, they were obliged to rob, by forays upon the lowlands to obtain subsistence. He designed works for the storage of water, and borrowed money to execute those works by the labour of that predatory population. He set them to clear away jungles, and to reclaim wastes, and when those wastes were cleared he settled cultivators on the land. He founded one hundred and thirty new villages for their habitation. A market was required for the sale of their produce, and with the market he founded a town. He succeeded so well in reclaiming the predatory population as well as the land, that he took some of the worst, whom poverty and ignorance had made robbers, out of the gaol, to convert them into thrifty and useful subjects—and he succeeded. He achieved the grand administrative result of so employing these thieves that they could not afford to thieve, and hence they became honest, settled, law-abiding men. The general result of his labour in the application of engineering science to culture, and of administrative skill to the service of the population was, that instead of expending a revenue upon them, he raised a revenue from them—instead of occupying a brigade of force upon them, he raised a brigade from them, and that brigade was faithful to us during the mutiny. Here was the *lignum* of which governors and governor-generals ought to be made! Here was the true mode in which our dominions might be sustained! To the observation of tonight as to men pushing forward as settlers, and fever pushing them back again, and malaria still baffling men of science, I answer, Yes, to men of imperfect science, who are ignorant of sanitary science, it is so. Whilst irrigation has been so conducted in some districts as to improve the climate, it has been so conducted in large tracts as to create marsh surfaces and generate malaria, and it has been found that the proximity to such works is denoted by the external size of the spleen of the people who have the misfortune to live near them. But I was interested to learn that Colonel Dixon had so conducted his works of water-distribution as to adjust it to the absorbent power of the soil and of the crops so as to avoid this evil, and that children were reared, and population increased the range of his work. It is a matter of congratulation that we have less pessimism to-night on this subject, and that it is admitted, or implied, that the Anglo-Saxon, who, it was dogmatically asserted, could not thrive or have succession anywhere in India, may thrive and settle somewhere there. I was glad, in conversation with Dr. Campbell, to learn from him that, in the conditions which he has described as attained in Darjeeling, children live and prosper.

Dr. CAMPBELL—Yes; a more hearty population, I believe, does not exist, and they are now in the second generation, in excellent health.

Mr. CHADWICK—Then we may confidently anticipate that, in the continuance of those conditions, there will be generations for time to come. I deem it important to observe that, by governmental arrangements, or by competent sanitary and scientific direction, the sacrifice of life, so common and general in tropical climates, in the reclamation of waste lands and opening them up for cultivation, is preventable. It is now prevented in the government preparations for settlement in Algeria. It is prevented there by sanitary care, as to the times and seasons, and prevalent winds, for opening up the soil, so as to avoid the diffusion of the products of decomposition

by exposure during the lodging of the labour...

operations like those of the government—be available in India; and it will be obvious that the full account of the highest interest and importance for India and for civilisation. A copy of it ought to have been given to every young engineer, officer, and administrator, for his study and imitation. But he died, and passed away unnoticed and unhonoured, except by the people whom he had benefited, and who loved, and were disposed to deify him. Other heroic men there have been amongst the most successful of Indian administrators of whom this country may be proud, who, having subjugated or received in charge savage hordes subjugated by arms, elevated them by administrative art and science, and led them in progress of peaceful civilisation, and achieved those arts victories over barbarism greater than victories in war. These are the brightest stars of India, admired by the people, but yet they had no decorations, but, like Colonel Dixon, were mostly passed over by high-seated apathy, but were contented that their beneficent labours were not interrupted by powerful antipathy.

Mr. SPENCER PRICE believed that these conferences would have the effect of drawing a large share of public attention to the development of the resources of India, in which the utilisation of the waste lands must be regarded as an important feature. On this subject of waste lands, he would ask whether they were regarded as waste lands which could be really put to the benefit of the country and those who occupied them, or whether they were mere desert wastes, sources of malaria and the abode of wild animals? It was very desirable that they should have information from those acquainted with India as to what extent these lands might be utilised, more especially with regard to the article of cotton. They knew that cotton was already cultivated to a great extent in India, and it was of importance to know whether these waste lands would be available for the increased production of that article.

Mr. HUGH CLARKE having moved the adjournment of the conference,

Mr. GEORGE CAMPBELL said that, as he probably could not be present at an adjourned meeting, he would like to offer a few explanations with reference to the remarks which had been made by several speakers. With respect to a Darjeeling railway, he by no means undertook to advocate one line or the other; he merely pointed out the disadvantage of crossing the drainage, and that it was an engineering and commercial question to find the cheapest line, a commercial question to select the line which would afford most traffic. He had not before heard of the Rajmahal route, suggested by Dr. Campbell; very possibly it might be the best. On the whole question he would only say, examine the country well; make the line, if there is a reasonable prospect of remunerative traffic; and select the line which will pay best. One point adverted to by Dr. Campbell, and alluded to by other speakers, he wished to dwell on a little, because it was a matter which had attracted considerable attention—he meant the method of giving lands to applicants at a fixed price, as distinguished from selling them to the highest bidder. An idea was very widely spread—he had found it to be entertained by many in this country—members of Parliament, commercial men, and others—that Lord Canning had passed very liberal land rules, and that Sir Charles Wood had cancelled them, and substituted very illiberal rules. Dr. Campbell seemed to support that view, alluding to transactions in which he was concerned, in which, as representing the Government, he had made grants of lands under Lord

rules, which had been cancelled...

that the grants made under Lord Canning's rules, which had been cancelled, were not to be taken into account in the calculation of the land revenue. The grants were void, as they were made under Lord Canning's rules, under which the Government were acting. After this decision it was quite a fallacy to say that Sir Charles Wood had very essentially altered Lord Canning's rule. The truth was, that Lord Canning's rule, just as those which were subsequently published, was such that when made, they were perfectly

correct, and that the system was not a system of jobbery and great injustice. At the time when the rule was in force, it was a rule of certain limited value for special reasons had not been made, which were really worth almost as much as the land either for grazing purposes, or for other purposes situated in the heart of the cultivated country. There were some such tracts in Oude—land which had been preserved for grass or for sport, as the parks round the castles of barons in Oude. To give such lands unconditionally to the first comer, or to those whom the Government would choose, would be most unfair. In the case of a man getting a grant of land, the most valuable because he said he was going to cultivate it, and breed horses, but the man who at once offered to pay annually as much as the other man offered for the fee simple of Darjeeling was also very much in the right, no doubt whatever. The purest motive for the purchase of Darjeeling was one of the most valuable. It was good waste land available in the climate; the quantity of that land was not small; it was in no out-of-the-way position, and in the immediate neighbourhood of the city of Darjeeling. Of course, if the land were sold at the fixed price, it would be a great deal of money in the pockets of the Government.

most abundant, and they went so far as to say that they would give land to Europeans on the same terms as they would give it to Europeans. It is probable that the Government will encourage European settlers, and that the estates were made to a number of European

men. What had happened? Why, almost without exception, they had sold the estates for high prices to natives, and gone off. He had met two or three of them in this country, with money in both pockets. Perhaps they well deserved it, but the object of European settlement was certainly not attained. Lord W. Hay had, perhaps, somewhat misapprehended him in regard to government assistance to European settlement. He only meant that the government had gone far enough in the one particular of giving facility for the acquisition of waste land. At a meeting of the Colonial Society the other day, he heard one of the most enterprising planters, Mr. Williams, state that, whatever might be the faults of government, they could not be said to be wanting in this particular; on the contrary, Mr. Williams found himself with a hundred thousand acres on his hands, which he would be most happy to surrender to any gentleman on the most moderate terms. In truth, the great object of the planters now was not to get more land, but to get government to let them off the bargains for large tracts, which they had been in too great a hurry to make. His view still was that, in parts of the country already fully occupied by the natives, Europeans could not have land on more favourable terms than others, and the quantity of waste land really fitted for European settlement being limited, very large tracts ought not to be given away otherwise than to the highest bidders, but he most entirely agreed that (as he had already said) in the high waste lands fitted for Europeans small grants might be advantageously made, on distinct conditions of settlement, not at the highest to be got, but at a very low price; and he adhered to the view that, in suitable tracts marked off for European settlement, the government might—and if they would have settlement must—give much more active assistance than had hitherto been given. In such special settlements he would take upland for the purpose, would make special grants, pass special laws, give special institutions, afford special facilities in the way of roads, &c., and in every way foster and develop colonies, which would be excellent social centres of improvement, and a great political strength.

The adjourned discussion on the subject of "Waste Lands in India" took place on Friday evening, 21st May, Dr. ARCHIBALD CAMPBELL in the chair.

The following communication from Mr. Charles Horne was read by the Secretary:—

The subject of waste lands is so vast in its various bearings, and so important, that I send this memorandum of my views on the subject, with reference to the remarks already made on the subject by various speakers.

I hold "waste" land, as under discussion, to mean cultivable land, relative to which government is under no engagements, and so has full power to dispose of. Of course a small proportion of uncultivable land must in most cases accompany it. In dealing with this, I hold that neither should "India for the English" or "India for the natives" be our principle, but "India for both" of these classes.

Lord William Hay held that, because the Englishman had been put to great expense, inconvenience, and trouble in coming to India, therefore he should be dealt with on more liberal terms than other applicants. Another gentleman remarked that, because scattered Anglo-Saxons in India added greatly to our strength, a similar course should be pursued. I regret that I cannot agree with these gentlemen, but hold with General Clarke that, in dealing with these lands, no absolute transfer of proprietary right should be made, and that the tenures of the country should be respected. We ought to deal with all alike, and perfect impartiality should be our rule.

Surely, if land were granted to pay a peppercorn rent for such a time as it was in course of being reclaimed, the said time to be fixed say from five to ten years, according to circumstances, and after that to be moderately assessed with government revenue, and the settler to be then recorded as the holder, rent-free in perpetuity, of say one-sixth of the said land, or of land of its value, it would be quite sufficient inducement for the enterprising Briton as well as for the native.

Why natives should not cultivate tea, coffee, and other products, just as well as Europeans, I could never understand, and, in fact, they do in many places, and I have seen many native indigo factories in the plains. The European, as noted by one speaker, has a great advantage over them, viz., his moral force of character, and strict adherence to truth in the contracts to which he must necessarily become a party.

I have never in India heard of any difficulty thrown in the way of applicants obtaining land. I can only say that, as far as I am aware, the present rules work very well. In the government "Gazette" (I believe, for I have not got it here to refer to) there are published lists of land available, and I know that such lists are to be found with the Commissioner of Kumaon, the province relative to which, I believe, I was expected to make some remarks,—and I know that this gentleman is ever ready to afford every information.

As I said on a former occasion, and as Mr. Campbell has so emphatically observed, there is certainly an opening for resolute men with a small capital to settle in that most healthy province, with every prospect of success. The plots of land are not large, and I quite think with Mr. Campbell, that the grants should not exceed from 200 to 300 acres at most, and the difficulties to be overcome, although great, are not more than in Canada or the more remote parts of Australia. Above all, I would show no favour to any; and I would wish to impress upon all, that healthy waste land in India is not so abundant as it is generally thought to be.

Kumaon has ever been a densely-populated province; and although we find everywhere traces of abandoned cultivation, it arises only from the people finding other occupation more profitable than cultivating these little terrace fields, as also from the opening out of the terai at the foot of the hills by means of irrigation. I am sorry that I can give no statistical details, and I trust yet to hear of many more settlers in Kumaon than at present.

Mr. HYDE CLARKE said—I am very glad to have the opportunity of participating in this discussion, by having moved the adjournment of it, more particularly as it was commenced under favourable circumstances, in the presence of gentlemen who had taken an active part in India in the passage of the necessary measures. I can only regret the absence of the chairman of the last meeting—Mr. Fitzwilliam—because he did take a very considerable part, more than he acknowledged to, in carrying out those measures with Lord Canning, and I had hoped he would have been present on this evening, to have given us some further information with regard to the policy that dictated that measure. I regret that it is illness incurred in India which is the cause of his absence, and it is with the view of alleviating this suffering to Europeans in India, that many of us are so urgent to avail ourselves of the hill regions, a subject closely connected with this question of waste lands. If the waste lands in the hills and upland regions had been better taken up, there can be no question that it would have been followed by the transference of men and administrative establishments to those regions. It is only under such circumstances we can hope for the development of the government of India, and the proper treatment of the question which we have under consideration. How many valuable lives would have been saved; how many constitutions preserved from inroad, if proper advantage had been taken of the facilities which the varied climate

contaminated...
 Englishmen, but
 It is with that view I got
 the Parliamentary Committee
 the natives, because
 convinced that the
 tion with India which must
 out reach to the natives of I
 Englishmen in India has be
 that effect. It would be trite indeed
 the many operations of our fellow-
 many branches of trade and industry
 development have given increas
 country, and greater happiness to
 it was in consequence of that agitation of the waste
 lands question in that committee, and the evidence
 given on that subject by the several witnesses before
 that committee, that led, in the
 issuing of those land-orders by
 however, we consider natives and Europeans, I think
 it is exceedingly desirable that we should by no
 means blink this question. It is not solely amongst
 philanthropists at home, but very prominently amongst
 civilians of India, and particularly the new class of
 civilised and particular patronage of the natives
 and to the natives, in one's
 European character is apt to be
 influenced by the submission which the natives show to
 Englishmen, and every one is apt to acquire the function
 of patron, and look upon the natives of the country as
 his clients. That is a motive greatly acted upon by the
 administrators of India, and I think it leads to false
 results in relation to ourselves; for whatever may be our
 desire to advance the natives of India, we must not hide
 from ourselves one great fact—viz., that we are in that
 country by the right of conquest. It is as conquerors
 that we are influencing the destinies of the people of that
 country; as conquerors we have assumed to ourselves
 the right of disposal of the lands and the pro-
 duces of the country; and I do say these questions are
 not questions of equality of rights, but really and truly it
 is the question of the prerogatives of Europeans in India;
 and, if we start from that basis, and if we carry it
 out legitimately, we shall arrive at results which
 are for the benefit of the people of India. I can-
 not be surprised when I hear, from the pen of
 a man of the standing and ability of Mr. Horne, such
 statements as are contained in that memorandum, for,
 after all, what do they come to—a depreciation of the
 European in comparison with the native of India. And
 there, again, is another reference to this patronage
 of the natives, which is doing a great deal of
 harm to the government of India. Not one of us will
 deny the natural ability of the native of India, but no
 one who has had political experience of the world,
 looking to that greater record of India than can be
 obtained by residents—looking at the records of history
 over centuries—no one can fail to see, with regard to
 India, as also to many other countries in the east and
 west, that the natives of India are politically
 in an inferior position to ourselves, and, if they are
 to be elevated, it must be by the free action of
 their own intelligence and European experience upon
 them. Notwithstanding these, I may say, dis-
 tinguished arguments which have come before us, I
 cannot but regard the manner in which this question
 has been introduced in this room by Mr. Campbell as a
 very important stage in the progress of this question.
 In a long period we have had to encounter an ab-
 sence of sympathy, not only on the part of the
 government of India, but on the part of those engaged in the
 management of the country. I think we have now got to
 a period when sympathy has ceased, and when at-
 tention is directed to the demands of justice,

and to the necessity of taking some early action. We
 have got over that stage of passive resistance. We have
 got over the stage of objection and prejudice; and
 though the period may not be immediate, the period will
 not be far distant when all those claims that have
 hitherto been regarded as wild and visionary will be
 the administrators of India themselves. I
 the way in which this question has been
 brought up, pointing to our having
 reached that stage. When I heard the
 Mr. George Campbell, and the
 Mr. William Flay, bringing
 an administrator in India, I
 congratulation that we had at
 Mr. Campbell has justly stated that
 India is really and closely connected
 with the continent of Europeans in
 India; but he endeavoured to
 the evening, because he
 devoted two evenings to the ques-
 tion in India, and one to
 the subject and I thought it was exhausted. I be-
 lieve the statements of those gentlemen who are to
 follow me will show that this subject is far from
 being exhausted, and that practical evidence can be
 brought to bear confirming our case, and carrying it
 to a still greater length than Mr. Campbell is now willing
 to concede. I shall endeavour to follow out some of the
 objections of Mr. Campbell; but I particularly compli-
 ment him on the advocacy he sustained on the claims of
 Central India for occupation by Europeans. I think the
 manner in which he has brought forward the case of
 Central India is one of the strongest arguments on behalf
 of those who demand a better administration on this
 subject. It is in fact, to a great extent, a complete
 answer to the objections raised by Mr. Campbell
 himself. I will endeavour to refer to those objec-
 tions which they have evidently influenced the mind
 of Mr. Campbell and some other gentlemen. I particularly
 refer to the endeavour is now, as it was years ago, to
 convey the idea that the extent of waste land in India
 is inconsiderable. Every attempt is made to bring it
 into the smallest possible compass. I recollect being
 present in the House of Commons when the repre-
 sentative of the then Board of Control got up, and, sup-
 ported by other members of experience, stated that there
 was not a spare piece of ground of 100 feet square in
 the hills. That was a statement made in the presence of
 the House of Commons; nevertheless we obtained a
 committee, and I think we proved something
 but still the object, down to this day, is to narrow
 the area of waste lands. One does not wish
 to impute motives, but it may be for the purpose of
 showing that what we are asking for is so small that it is
 not worth consideration, and that the government of
 India have done everything requisite on the subject. I
 am disposed to maintain that the waste lands of India, if
 properly considered in the true light, will be found to be
 very extensive. You are oblig-
 ed to me for the information I have given. To the
 case we use the term "waste lands" sim-
 ply those lands which are not at the present
 lutely occupied by cultivation or by any exercise of in-
 dustry; but it does not necessarily follow that, on the
 other hand, we should restrict it simply, as Mr. Horne
 has done, to the lands which are not at the present
 various.
 Mr. Horne's statement on this subject had been
 considered, as it begins to be considered this year by
 means of the discussions that have taken place here, a
 great deal more attention would have been paid to it
 here, and by the legislature and authorities at home.
 Mr. Campbell thinks the neglect of India, as a field of
 enterprise, has been a great deal owing to the competi-
 tion of the superior resources of our colonies, and par-
 ticularly, as he said, of El Dorados. Now, I am dis-

no means disposed to concur in that view, because I believe there are many parts of India which present far greater claims to the emigrant, far greater allurements than the majority of our colonies; and I conceive the great reason why India is neglected, is that India has never been brought before the public as many of our colonies have. The misfortune is that India is not known in England at all, and there never has been any organisation for the purpose of making its claims known in this respect. The organisations formed in periods long gone by, or even in recent times, have been for other objects. They have been for the purpose of advocating the claims of some particular class of planters; for altering the charter of the East India Company; for effecting the reform of the government; or, in later times, for advocating the claims of natives, but never for the real purpose of bringing the subject of India before the public at all. Mr. Campbell laid it down that land in India which had been abandoned cannot be considered as a proper field for the enterprise of Europeans, because in a long-settled country like India, land would never be abandoned if it were susceptible of cultivation, and that the natives know best whether it is available or not; and it is because the land is not capable of cultivation, or because the district is affected by fever. I think we ought to take that view of the case with some degree of reserve, because how many districts are there ravaged by fever and abandoned, which are known in former periods to have been occupied by cultivation. Mr. Campbell alluded to some of these cases, and there is the instance of the Sunderbunds. Evidence is not wanting to show that they were occupied by cities and villages, and were in a prosperous condition at a period not so remote. Similar instances are to be found in the Maremme, Rome, and Tuscany, and we are not without hope that those districts will be restored. So in India, as cultivation increases malaria decreases, under proper arrangements. Then, with regard to ground that has been abandoned at some period of war and devastation, and not occupied at this period, it by no means follows that it is not susceptible of cultivation, although, from long neglect, it may require a heavy expenditure to prepare it for cultivation. Take the case of land for cotton and many other crops, it must be broken up, and the cost of clearing is very heavy indeed, often far beyond local resources, and this, to a certain extent, answers the inquiry made at the last meeting as to the bearing of the subject of waste land and on the cultivation of cotton in India. I believe there is a good deal of land that could be brought under cotton cultivation, if European capital could be fairly applied. We have proof of this in the ground taken up in the Terai. Our chairman has shown by experiment that some of that land is particularly available for cotton cultivation, and there is land in other parts of India which, if cleared, would be useful for that purpose. Then Mr. Campbell says a good deal of land not under cultivation has proprietary rights over it; but that by no means affects the question, because Europeans may become purchasers of private property, as we have had example given by Dr. Campbell with regard to Darjeeling; and the value of property in India would be materially increased if there were freer land tenure in the country, so as to stimulate the employment of European capital. How is it that in Turkey the government have given a more liberal law as to tenure of land by Europeans, and endeavoured to increase the number of European settlers? It is because they know the value of every state held by natives will be increased in consequence. Now I believe a great deal of prejudice we have on the subject has regard to the question of rent in India. It is assumed that the government is the universal landlord of the country; and on every occasion when we have a plan brought forward, even for giving increased facilities to Europeans or natives, it has always been upon the quit-rent system—to let persons have land for a few years at

a nominal rent, and then subjected to what they call rent. Notwithstanding the time devoted to this subject in India by the many able men who have written upon it, and the complication of the subject, from the difference of circumstances in various parts of India, I think if we look at the subject more deeply, if we bring to bear the experience we have in other countries, we shall see that what is called rent in India is not properly rent at all, but partly rent and partly land-tax; and, if we look to some parts of Asia, we find a distinct difference between the part payable to the government and the part payable to the landlord. This is a subject worthy the consideration of every man connected with India, to get up evidence on that subject, and arrive at a clear distinction between those two portions; because, when once we get clear on that point, we then come to the question of freehold tenure. We were told the other evening that the natives of India are opposed to holding freeholds, and prefer land at a quit-rent, or without tax for a certain period, and then to come under tax. Now, for my own part, I place very little confidence in a statement made by natives to any government official, when he asks a direct question. I have been asked myself, when I have put questions, what was the object of the question, so that they may know what answer to give; but, if we look at the facts in connection with estates generally, we find they do prefer freehold tenure; and the moment you give an ownership in property you give a value to it, and a greater impulse to energy and industry in the country. I should like to say something with regard to land-jobbing. It has been held up as a great evil, but I am afraid it is like some of the minor evils which people attempt to extirpate, at the expense of suppressing the good that is to be derived; but if land be converted into a property and a commodity, it must be subjected not only to the benefits of commerce, but also to its evils and imperfections; and we have yet to learn, with regard to India, whether the jobbing has done an amount of evil in proportion to the benefit which the freer supply of land has had, in promoting the enterprise and industry of the country; and I trust we shall hear from practical men present some detailed information on that part of the subject. Then, again, Mr. Campbell has told us that land in native states is to be looked upon as wholly beyond our reach and control. I think, if we take proper measures in India, we shall be able to make a good deal of that land available. It is hinted that it is possible to obtain such interposition as may make some of those states more open to Europeans; and if Cashmere is made more open to Europeans, I am sure it would be a vast benefit to that district, and certainly of great advantage to the empire. I shall only refer briefly to the question of the railway to Darjeeling, because my friend Mr. Login, who is present this evening, knows first-hand what I know only second-hand with regard to it; but, before referring to that, I do say—for I felt it very strongly—that the government of India, in the last quarter of a century, during which I have taken part in these discussions, has shown itself commercially backward in reference to the whole matter of transport and communications in India. It appears to me as if the government of India had been asleep as to what is taking place in other parts of the world, but I believe they are now on the point of awaking to it. At the time when railway advantages were first needed in India, there was sufficient experience furnished in the United States of what railways could do in the development of the resources of a country. Now we have Russia, working upon that experience, approaching the gates of India, and I believe giving a lesson to the government. This question of transport is one of the great points in connection with the welfare and advancement of India; and it is to be regretted, on this subject, that the state and circumstances under which Europeans are placed in India do not admit of the study of this question on so wide a scale as it can be carried out at home;

must pass through a country inhabited by a people of the same religion as the majority of the Punjabees. When we look at the matter in this light, there can be but one opinion as to the necessity of reclaiming the waste lands of the Punjab. In my opinion, all the objections to private enterprise reclaiming waste lands by irrigation works disappear, as it is very different from irrigating a country already thickly populated, as in Orissa, Bengal, and the north-west, which should be done by government officials because there are so many vested interests to consider. With waste lands, on the other hand, the company become the zemindars, with all their rights and privileges; and as it would be for the interest of the company to improve their property, the cultivators are as sure of good treatment under a well-managed company as under any zemindars, while a private body could introduce improvements much more readily, by importing the proper class of men from England and Scotland to improve the agriculture on their estates. I have one more observation to make, that has only just come to my knowledge, and it is, that I heard the other day that 50,000 of the Russian army are engaged on an undertaking which will go further to firmly establish the Russian rule in Central Asia, than all the fortifications built since the time of Peter the Great. In addition to making a transway from the Black Sea to the Caspian, they are engaged, I am told, in constructing an irrigation canal that will irrigate four millions of acres, or half as much again as this waste land of the Rechna Doab, which I wish to see reclaimed; but a glance at the map will show that there are many more thousands of miles which only want water to make them as productive as any country in the world. When all this waste land is reclaimed, England will have accomplished the task which an All-wise Providence has given her to do, and then we can leave India to be governed by an enlightened, contented, and friendly race, whom it is hoped our posterity shall be able to call brother Christians.

Mr. VESSEY FITZGERALD said—Having devoted a great deal of attention to colonisation in India and various Indian enterprises, and having been interested in them to a certain extent, I am desirous to make a few observations this evening. The first remark I would make is, that the sale of land by the government of India has been the turning point in the recent progress of legislation and administration, which has supervened upon the ancient traditional policy pursued since the conquest of India by the East India Company. There is difference of opinion as to the merits of that policy, and it would be of no advantage to enter into that subject now, but what I desire to call attention to is, that the sale of land in India has been the turning point on which that traditional policy was abandoned. It is needless to trace the exact steps and precise progress which brought about that result. There was one fact mentioned by Mr. Campbell at the last meeting which impressed me very much; it was that the wealth capable of being produced by coffee cultivation shows that, in rendering available the resources of improvable land between the low-lying districts and those elevations which are too high for the application of industry and science, the cultivation of those lands with coffee opened up a source of wealth in India to an indefinite and immense extent; and when that is the case it is no use going into figures and calculations. Of course that land is suitable for other things than coffee, but if it is capable of yielding large produce in coffee, that is a most satisfactory circumstance, even if it is not carried to further development than in that most important article. There is another circumstance glanced at, but not to the extent I desire, that is, that the improvement of the means of communication in India is in itself an increase of national wealth. The cultivation of land in wheat is not more an increase of national wealth than the increase of the means of communication; and I can name no country where the results of increased means of communication have been so

striking as in India. Large districts are now available for the growth of cotton, which were totally unavailable previous to the opening of railway communication to the comparatively small extent it has yet been done. The land was worthless for cotton till the means existed of bringing the produce to the sea shore. The connection of railways and canals with waste lands is this—that a great deal of land might be rendered very valuable, provided good means of communication were opened, which are not valuable and not marketable unless such means are opened. I would mention one spot to which the remarks I have made on this subject are peculiarly applicable—that is the Neilgherry hills. Land there is useless for the cultivation of cotton, unless a little railway is made to bring it in communication with Madras, and that line is of vital importance to the development of the hill settlement of the Neilgherries. The principle is of universal application, and to an indefinite extent. There is one thing I have wished to get information about, and on that subject I have no doubt gentlemen present can give some facts, but I have never been able to ascertain to what extent facilities exist for increasing the production of indigo and sugar, in the low-lying districts, as well as cotton. Those are valuable products, and largely cultivated, but I have never been able to ascertain the amount of land available for that purpose.

The CHAIRMAN—It is not waste land anywhere. It is low-lying, and not waste in cultivable parts of the country. Indigo is grown in the most populous parts of India. As Mr. Fitzgerald has remarked, the turning point has been the sale of land by the government.

Mr. EDWIN CHADWICK—In consequence of the discussions which have been raised since our last conference, I beg leave to offer some further observations on the chief administrative principle which I then briefly propounded. It is to be borne in mind that the Indian government is distinct from our own and from other governments in being the general landlord, and I think it is well for the Indian masses that it should be so, and that it should be powerfully controlled by a distant, a competent, and impartial authority. I agree with Mr. Mill and others that a tax on land is of the wisest of taxes, and I believe that it is better for the people to have large capitalists as powerful and responsible landlords, than to have only small capitalists, small landlords, with small means of improvement. The same rule applies in the Manchester fact with regard to the economy of production on a large scale. The State then being in India, the questions which may be submitted for the public to consider is whether it shall be an unimproving and as it were an absentee landlord—caring for nothing but the receipt of revenue for placemen—a revenue mostly derived as rent, through barbarous and merciless middlemen, from a wretched population; or shall it be an improving landlord, whose chief function is to reclaim wastes, to clear away jungle, to drain marshes, to collect and distribute water into towns, to apply refuse to agricultural production, to improve the sanitary condition and working ability of the population, to perfect the means of intercommunication, to give security and convenience to the cultivators of the soil, and render money's worth of service to them in return for the rent they pay. It is a declared duty to extend to the East the civilisation of the West, and of this civilisation is that of good and improving landlords. Of these, examples have been furnished by the house of Bedford of landlords who have reclaimed wastes, and improved habitations, and drained marshes, and charged only moderate remunerative rents for what they did. The late Duke of Portland and the late Duke of Northumberland were, within my knowledge, landlords of this sort, who may be said to have deserved the greater part of their rents by doing much to earn them; and I might cite distinguished living examples of the like—of men who have doubled the yield of land, and have augmented the receipts from wages beyond those

drained by the small farmers... their plough. The Duke... of large landlord power... profitable at... especially... ions on a... which sma... incompetent... sub-soil land... started in England by the late Mr. Smith, of... whom we employed as one of our inspectors... General Board of Health), the Duke of Portland advanced money to his farmers, which he borrowed at four per cent., and lent it to them at five, to enable them to drain their farms. But it was found that their ignorance in the new work exposed them to the hands of quackish pretenders, and that they expended fruitlessly the money advanced for the purpose. It was found to be a relief to the tenantry on the whole, that the improving landlord, the Duke, who had better means of knowing than they had, and insight, from the interest he took in the work, and a better judgment, should undertake the duty of doing for them what was required, they paying a remunerative rent for the outlay, and this course was successful. Large landlord power, under the guidance of science and practical art, is beneficent in proportion to its extent. I have been in a position to acquire experience of this. Subsoil drainage, being a measure of production, is a great means of increasing it. I early wrote papers to point out the advantages of drainage of settled estates that were moved by legislation and by government action. Other concurrent representations were probably made, and a loan on the... money... ing it... a low rate of interest to the owners at the cost of the... The administration of these loans was confided to the Tithe Commutation and Commons Enclosure Commissioners. On the whole, the measure has worked... appeared to me, however, that authentic information was wanting to excite and guide the... well as owners... interests of... stowed great public... ing, from the... authentic information of what had been done in such works, with instructions to show what might be done, the probable expenditure, and the profit that might be expected. This was comprised in official minutes on the drainage of suburban lands, and comprised more information than any private occupier or proprietor could obtain, if he could obtain it all without aid and considerable labour. I compiled official minutes of information also on the drainage of houses and towns, and on the application of the sewage of towns to agricultural production. This was... and... s not followed up as I... ve been; nevertheless... ivate or local enterprise that would not otherwise... ve been attempted. I know that the "Land Drainage Minutes" served as a manual for the direction of an expenditure at the rate of £20,000 per annum, for the drainage of the lands of the late Duke of Northumberland, and that two towns, of which he was the chief proprietor, were drained on the principles set forth in the manual, and I am assured that the minutes of... and guide other large... ves the assistance of... mation of wastes and... improvement of lands, by owners or by private individuals. Now the Indian government, being more... dly a great landlord... decidedly... d to be an improving... stronger... tive in land and to... others... made one advance in great trunk line irrigation... and, upon the examples given, it may be submitted... d the... services to the reclamation... to the improvement of... ing all private initiation of... surveys and plans of works if need...

ing money on loan, repay... principal and interest. In... private capital is scarce, and... twenty per cent. interest, the... ing money, may well supply... heap rate on... fails, the... to follow... the example of Colonel Dixon in the Mairwarra, not, however, depending on the like heroic virtue, but remembering the maxim of Burke, that "ordinary service" must be secured by the motives to ordinary integrity. I do not hesitate to say that that state which lays its foundation in the heroic virtues will be sure to have its superstructure in the basest profligacy and corruption. It appears to me that, in this respect, we might well borrow a leaf from the Dutch, in their most successful pecuniary result, in their government of Java, where they give the... in the culture and... them according to... In Java, I am told that, despite the detraction of some of our Indian administrators, it works admirably, and has proved a means by which that has been made a highly paying colony. Under the action of this principle, "circumlocutory" and the "how-not-to-do-it"... It is... everywhere... with duty, but... important points it is now separated... antagonistic. The legislature has acc... —though from ignorance it has... reluctant... s officers are apt to do—of paying... results, and why should you not pay administrators for results? You pay in war for results by prize money, and by life-pensions as well as peerages, and why should there not be payment for results in civil... examination... would you not... to the officer who... a pair of a good,... reclamation and settlement of a waste territory... execution of the work, and allowing him to be seconded, as it is termed, whilst he is doing it—such work as Colonel Dixon's,—and giving a per-centage on the improved rental, or on the net revenue derived from it? Peace-work should not be excluded from honours; and where they are given, let it be specified what... stars are bestowed, will they not shine more... in the eyes of the natives of India if they be... for achievements for them, like Colonel Dixon's, than for military achievements against them? It has been said that that instance occurred a long time ago, but I can give you a more recent example. One afternoon, by an extraordinary... a rose and submerged the sea... and out of 100,000 inhabitants, only... two hours drowned some 30,000. The... city as a swamp threatened the survivors with... from pestilence. The people and their native leaders were sitting howling in helpless despair over the ruins of the place, when the President of the Madras Sanitary Commission, Mr. Robert Ellis, without waiting for superior authority, went to the spot, took order, buried the dead, cleansed the city as it was probably never before, and brought in fresh water... life before, brought in... tary condition, in which it withstood... that ravaged other... less-protected... probably have destroyed as great a number... were destroyed by the... by the... ment... delayed the repetition of devastating epidemics amongst the population at the great fair of Conjeeveram. Yet no distinction... bestowed for... neglect... Whilst the... used the loss of...

Crimea were nearly all decorated, the civil sanitary officers, whose science and art it was declared by Lord Dalhousie, the then War Minister, had saved the second army, and put it in a state of health better than that of the home army, were passed over, as similar home services were passed over, without any notice whatsoever. Whilst making the observations I have felt called upon to do on sanitary administration in India, I do not overlook the fact that there are now, I believe, in its home service, and the local service in India, men of the most brilliant ability, as able and zealous administrators as any in the world; and I believe that the present government deserves confidence. The defaults we should seek to remedy are in the system.

Mr. E. L. BRANDRITH (Commissioner of Rawal Pindie) being called upon by the Chairman, said—I am here rather to receive than to endeavour to impart information. The subject is the question of waste lands, and the special interest in it felt by this Society evidently is with regard to how far these waste lands can be turned to account for colonisation by Europeans. I was not present during the whole of the discussion at the former meeting, but I heard Lord Wm. Hay's speech, which seemed to meet with the approval of those present. His lordship dwelt specially on the backwardness of the government in affording information in regard to the waste lands available for Europeans. But there is one thing worse than no information, that is, bad information; and I doubt whether the government of India, or any other government, is in the position to take the initiative in putting forth manuals of information. Coming from that source, it is likely to mislead. There was a pressure put upon the government, to get them to take the initiative in this matter. It was supposed that there was no end of waste land available, which, through obstinacy or other causes, had not been made over; and Lord Canning's government, acting in accordance with instructions received from England, endeavoured to make inquiries on the subject. Instructions were issued throughout the whole of the Bengal presidency. Anyone acquainted with India knows the great difficulty of the government taking action in a matter of this kind. The government had to address the local commissioners, the commissioners had to address the revenue board, the revenue board had to address the district collectors, the district collectors had to address the sub-collectors, and the sub-collectors had to address the deputy-collectors, they in their turn had to address the sub-deputies, who, finally, had to address the village accountants. It came upon the latter functionaries to give a return of the waste lands of India. Then came the difficulty of the definition of "waste lands." One gentleman has said land capable of improvement by cultivation was waste land. What were these unfortunate village accountants to do? If they wanted a solution of that question they must have gone back through all these channels to obtain it. What was the principle they went upon? The greater part of the land of India is subject to what is called a settlement, and the land is included in village boundaries. That land is to a great extent cultivated, but it includes uncultivated land used for pasturage. All lands without those boundaries were returned as waste lands. That land was not cultivated it is true, but it was leased by the government for pasturage purposes, and a considerable revenue was derived therefrom, but no return was made on the subject of revenue; and upon the returns of so-called waste lands the government issued its rules, and ordered those lands to be sold at the upset price of one shilling per acre, without reference to the revenue that was derived from them. A good deal of land was sold without the government knowing about the revenue. I brought this fact before the government myself, and it was impossible to suppose the government was precisely informed. I mention this as an example of the difficulties which the government have in acting upon

matters of this kind; but when you come to the question of the government giving assistance to individual settlers, I fully recognise their duty to give every possible assistance, but taking the initiative is another matter. It is difficult to conceive why, if a great deal is to be done in the way of colonisation in India, it has not been done before, considering the immense number of Europeans of all sorts throughout the country who could give information. Take the case which has recently occurred in Sutherlandshire. The government gave no information; there were no plans of the country. The single individual who had been in Australia, and came from Sutherlandshire, remembered that the rocks round his native village were similar to those he met with in Australia; he returned home, set to work, and began digging out gold, doing his best to prevent other people knowing anything about it. It is not to be supposed, if there was much to be made in the way of colonisation, sufficient information to induce people to go out would not have been forthcoming. My own idea is, there is not much to be done in the way of colonisation in India, or we should have heard much more on the subject than we have done. Mr. Hyde Clarke has pointed to the Himalayas, and seems to think there is a great quantity of waste land there which required government aid to utilise. Judging by the map, there does appear to be a large tract of country in that district, but those who have travelled in those mountains are aware that in reality there is very little available waste land. There are valleys running between the hills with just sufficient space for a road or stream. Lord Canning, when he came from the hills after a three weeks' residence, stated that during the whole time he felt exactly as if he were living on a shelf; above him was a wall, and below him was an abyss; and I thought that was rather a good description of the kind of land to be found in the Himalayas. There is one account to which the Himalayas have been turned, not noticed by the previous speakers, that is the enormous extent of potato cultivation that has taken place, which has had the effect of completely changing the appearance of the country, and a very valuable article of food has been given to the people. If European colonists can live upon potatoes, there is field enough for them in the Himalayas.—[Mr. CHADWICK—Would not Irish colonists do well there?]-What struck me most was to see an immense number of natives from the territory of Lucknow, who came up 500 miles to settle there. This convinced me how very enterprising the people were, and how ready they were in thickly-populated districts to seek every outlet that offered itself. That I think goes to show that there is not much available cultivable land in India, or the people in the most thickly-populated parts would have found it out. It is, however, quite another matter whether land cannot be made cultivable by engineering skill, by canals, and by reclamation, but these are beyond the power of the natives. I have no doubt there is a good deal to be done in that way, but even canals are not without their drawbacks. It is a question whether the old Junna Canal does not do more harm than good. In the first place, the whole population of the district suffer from a spleen disease which is frightful to see, and the surface of the canal is covered with a highly pernicious saline matter. [Mr. CHADWICK—That is the effect of bad drainage.] There are great difficulties in the way of canals. No doubt engineers are doing their best to overcome those difficulties, but it does not follow that these canals will do the very great good that is anticipated from them. Gentlemen best acquainted with India, wishing to be colonists, have gone to other places. Perhaps the most energetic of these was Mr. John Wilson, and he went to New Zealand, and Mr. Brunton, the most energetic engineers, has followed in his steps. I am, therefore, afraid the prospects of colonisation, in a direct way, are not very favourable. With regard to the irrigation works spoken of by Mr. Login, we cannot suppose that a private company will come forward to carry them

General's proclamation, May, 1864, said:—"And so much of the hill territory, including the Fort of Dalimkote, Passaka or Buxa, and Dewangiri, as may be necessary to command the passes, and to prevent hostile or predatory incursions of Bhootanese into the Darjeeling district, or into the plains below." Taking up the line of frontier thus indicated, I reckon that the new territory extends for about 200 miles from east to west, with a varying breadth which I am not able to estimate correctly. Captain Pemberton, in his report on the Dooars, estimated their length at 220 miles, with a varying breadth of from 10 to 18 and 20 miles, giving an area of about 4,400 miles, exclusive of the lower ranges of hills. Taking the hill portion annexed to be about half the breadth of the Terai portion, which I do roughly from the map of Bhootan, we shall have an area of 6000 square miles as the extent of our new acquisition in this direction. A large portion of this, in hills and Terai, I believe to be waste. I also believe that a great part of the hill position is at healthy elevations for Europeans, and it is probably suited for tea-cultivation. The Terai land is rich, well-watered, and suited for cotton, indigenous and foreign. The climate, although at present unhealthy for Europeans, is suited for growing cotton, on account of the early coming of the rainy season, with frequent showers in spring. Clearance and cultivation will there, as elsewhere in the Terai, render it healthy. Within the last few days, I have seen a gentleman just arrived from Darjeeling, and he informs me that the trial made of growing tea in that Terai has been most successful. The Europeans who superintend it are in excellent health. They have their houses at an elevation on the hills which is safe from malaria; and they daily go down to their gardens in the Terai without detriment to their health. Such is the effect of clearance in a locality which I myself found, twenty years ago, to be almost deadly for Europeans. Another gentleman writes to me by the last mail, and says, "I wish you could see our Terai tea-gardens now; they would, I think, put the hills into the shade in your estimation." The great drawback to the occupation of waste lands in the Bhootan Dooars is the want of roads. There are none beyond Titalya to the western ones; the access to the eastern ones is by the Brahmapootra river, which is very tedious from its rapidity, and from its banks to the Ruxa and Dewangiri hills there are no roads, unless they have been made very recently. On the Darjeeling Railway I shall take up as little time as possible. It has been said, and very truly, that Darjeeling is but a small place, and that much larger interests elsewhere have properly been attended to before it. Still, it is a place that has been raised, through European enterprise, from an impenetrable forest to be a very productive settlement, and it is a very important position to government in more ways than one. Its climate is more healthy for Europeans than that of any other hill station, and for their children it is safer, and more healthy than our native land. Not having a map on a large scale to show the features of the country between the East Indian Railway and the foot of the hills, you must be content with my description of it. Mr. Login, who has surveyed a great part of it, will be able to correct me. The East Indian Railway reaches the south bank of the Ganges at Rajmahal, at about 200 miles from Calcutta, and Sahibgunge, opposite Caragola, about 30 miles further west. The country between Caragola, on the northern bank of the Ganges, and Purnea is a raised plateau, or spur-like elevation, running for 40 miles over which a railway may be laid without difficulty and cheaply. To pursue the line to Darjeeling from Purnea via Titalya would involve the bridging of two rivers, many large streams, and embankment work over a good deal of low-lying land, which is flooded in the rainy season. This line, although it would run through a very productive country requiring means of transport excessively, and would best serve people going from all places above

Sahibgunge to Darjeeling, would probably be too expensive to be remunerative. From Caragola to the foot of the hills is 154 miles. The country on the north bank of the Ganges, immediately opposite Rajmahal, is low, and as far as Malda, 24 miles, would require embankment work and bridging. At or not far from Malda, the Mahanuddi river has to be crossed, and a steam ferry might suffice. From the Mahanuddi to Dinajpore, about 60 miles, the country is favourable, and free from rivers. From Dinajpore to the foot of the hills, 100 miles, the country is very favourable—the most favourable in Bengal I believe—and there are only two rivers, of no great length and with high banks. From Rajmahal to Darjeeling is 180 miles. So much for the lines by which Darjeeling could be most cheaply connected with the East Indian Railway, and which were proposed for survey and guarantee to the Court of Directors of the East India Company in 1857, but without success. The districts named are rich and populous, and with the neighbouring ones which would come within the influence of the railway, may be estimated to yield a revenue of 4½ millions sterling, and to have a population over 4,000,000; added to this would be the traffic, passenger and goods, of Darjeeling itself, with a good deal from Eastern Nipal, Sikim, and Bhootan. The other line for connecting Darjeeling with Calcutta is a continuation of the Eastern Bengal Railway, to cross the Ganges at Kooshtea, 100 miles east from Calcutta, I believe, and run on the northern side of the Ganges to Dinajpore, and thence to the foot of the hills by the same route as the other line. You will see that both the lines proposed will pass through Dinajpore, but to reach that place from Kooshtea will require a new line to be made for 150 miles or more, while from Rajmahal to Dinajpore the distance does not exceed 90 miles. Both lines will equally suit for extensions to Rungpore and onwards into Assam, and the country proposed to be traversed, from Kooshtea to Dinajpore, is not by any means, I believe, so rich and populous as that lying between the East Indian Railway and the same place. It is for the government to decide which of these lines shall be adopted. The railway is a crying necessity, and it is little short of cruelty to withhold it from the Europeans of Bengal, if it can be shown, as I believe it may, that for the line from Rajmahal the money could be procured for it at five per cent. guarantee, with a reasonable prospect of good eventual returns. Mr. Campbell made a suggestion for increasing our hill possessions, viz., to take every opportunity of purchasing the holdings of petty chiefs. It is applicable to the western hills only, where we have very little land of our own, and is a very good one I think. Coming now to the observations that have come before us this evening, I will say with regard to Mr. Horne's idea, that no difference should be made between natives and Europeans in the sale of land; I think it is impossible to do it and to secure the full value of the land. The only use of land is to lay out money upon it, or to get money from another person; and titles to land ought to be made as transferable as a bill of exchange, whereas they are generally loaded with all kinds of difficulties. To give land to Europeans, to be held by them exclusively, would be to shut them out from the native market, and that would be to shut them out from the most wealthy. Native capitalists are always ready to lend money to Europeans to effect land purchases, and I think it would be unwise to make any difference between natives and Europeans in the holding of land. Mr. Hyde Clarke, alluding to the question of land in the hills, thought it might be made more of. He thinks the government might by some means get access to land in Cashmere and Nepal. I do not know that that could be done, but, without being able to get into those states the whole quantity of land is not great. The quantity in Darjeeling does not exceed 400 square miles; but there is the new land in Bhootan amounting to about 6,000 square miles, and that is a valuable ac-

position, and if there was a railway to Darjeeling, roads would very easily be made to meet that railway. Mr. Login gave an account of the route by which he proposes to run the railway to Darjeeling by Rajmahal. I believe that is the best route, the shortest, and the cheapest, and that it might be made, probably, for £5,000 a mile for a single line of railway. Mr. Fitzgerald was quite right in saying that the first land was the turning point for Europeans in India. It may be called the Magna Charta of Europeans, because before that land could only be got under great difficulties. As Mr. Turnbull says, they can only get land on the peopled parts through the zamindars or landowners. You agree with a planter for so many acres, to cultivate under certain arrangements, and the planter cultivates that, but he holds entirely from the native landowner. There is difficulty in getting land still more difficulty in getting it because there may be competition, or the planter may incur the displeasure of his principal, and after ten or fifteen years he may be cast aside. It is very difficult to get a satisfactory tenure in the populous plains of Bengal. Mr. Fitzgerald also says the settling of Europeans may be called colonisation. Yes; but you must bear in

mind it is through native labour alone that Europeans must thrive. They cannot work in the plains, and they will not work in the hills, where labour is not difficult to get. Mr. Brandreth's remarks as to the precipitous nature of the hills, I think, are more applicable to the north-west than to Darjeeling and the new territory of Bhootan. I have marched from the hills of Mussooree to Simla, and round Simla the hills were more precipitous than at Darjeeling, where they are more round, and there is less rock. The first 1,000 feet of elevation is exceedingly steep, and very little fit for cultivation, but as Europeans can only live at 3,000 feet elevation, to be properly healthy, there is but little loss on account of the steepness of the first ascent. The statement of Mr. Brandreth with regard to potatoes is very remarkable. In Nepal they spread over the hills like a weed, the soil being devoid of tubers from the want of cultivation; but excellent potatoes are grown in Darjeeling, but they cannot be sent to market for want of a railway. Potatoes were sold for 12 annas per maund, whereas if the means of transport to the great markets of India in a couple of days existed, they would fetch from 6 to 7 rupees per maund, which would make a difference in profit between 1s. 6d. and 12s. or 14s. per maund.

TRADE WITH CENTRAL ASIA, THIBET, AND SOUTH-WESTERN CHINA.

The sixth conference was held on Friday, May 28th, Lord WILLIAM HAY in the chair. The papers read were, on "Trade between Calcutta, Darjeeling, Bhootan, and Thibet," by Dr. ARCHIBALD CAMPBELL, late Superintendent of Darjeeling; and on "Trade between Assam, Thibet, and Western China," by Col. HOPKINSON, Commissioner of Assam.

ON TRADE BETWEEN CALCUTTA, DARJEELING, BHOOTAN, AND THIBET.

BY DR. A. CAMPBELL.

Before reading my paper, I shall allude to some circumstances which have an important bearing on the subject and which are not, I think, generally familiar to people in England.

A trade between India and Thibet always went through Nepal and Bhootan, but after the present Goorkha dynasty conquered the valley of Nepal, the trade which had been well carried on by the Newars, whom the Goorkhas displaced, became much reduced, and it then went chiefly through Bhootan. The Thibetans were always favourable to trade with India, and had a trading establishment near Calcutta. The Grand Lama was so desirous to improve this trade, that he asked the Governor-General of India to send an envoy to him for the purpose, and this led to Bogle's mission, in 1774, and to Turner's, in 1783. Shortly after this, however, the Chinese became paramount in Thibet, but their exclusive system and the normal misrule in Bhootan destroyed the trade, or nearly so.

In more recent times the trade again reverted to Nepal, and we have opened a way for it through Darjeeling. We have also, with other nations, opened trading ports in China itself; and the supremacy of China has been thrown off by the Panthays in the south-west, and by the Mahomedans in the extreme north-west of the empire. If the Thibetans follow suit—which is not unlikely—their tolerant usages will probably resume their sway, and we may look for many trading facilities from them. In the meantime there is a good occasion for trying to induce the Chinese government at Pekin to relieve the trade with Thibet from all obstacles and restrictions in that country.

In venturing to bring this portion of our conference before you, I must at once announce that I have not the means of showing that an extensive or flourishing commerce is in existence in this direction, or that such can be easily or at an early date realised. My aim is to draw attention to the subject, to indicate the state of things which obstruct the development of trade, and to point out how these may be most easily obviated. In doing so, I shall endeavour to give the information as

concisely as possible, to meet the demands on our time this evening, and to furnish some details.

Our subjects are, trade with Central Asia, Thibet, and South-Western China. As the first is almost entirely carried on from the north-west provinces of India, with Bombay as the seaport for English exports, it is quite distinct from the second, which is carried on from Bengal, with Calcutta as the seaport. It is not, however, so distinct from the third division of our subject, as trade with Thibet has the ultimate object of being trade with South-Western China also, although the routes from India lie through very different countries. Thus, goods reaching Lassa, the capital of Thibet, through Nepal or Darjeeling, go on to Siling and Sechuen, Chinese marts; goods from Rangoon, through Upper Burma and Bhamoo, being destined, according to Mr. Cooper's recent account of his unsuccessful effort to reach India from the Yangz-tokiang, to reach the province of Sechuen also, and thus the two streams of commerce will meet in China. Taking trade between India and Thibet in its fullest sense, then, it also means trade between the rich and populous countries of India and China by overland routes. Thibet must be considered, to some extent, as a medium of passing the commerce between these two great and populous countries. A trade with Thibet only would be, comparatively speaking, a restricted one, as silks, satins, fine woollen fabrics, &c., come from China. Although Thibet is a country of immense extent, and has very valuable products in gold, the finest wools, musk, borax, &c., its population is not dense, and Lassa itself, although a great entrepôt for trade, is not a great manufacturing city.

Looking at the map before you, then, you see the plains of Bengal on the south, and the country of Thibet on the north, with the great chain of the Himalayas lying between them. Taking Bengal geographically for my present purpose, it includes the provinces of Oude, Goruckpoor, Firhoot, Purnea, Darjeeling, Rungpoor, and the valley of Assam. The corresponding portion of the Himalaya includes the independent state of Nepal, the small protected territory of Sikhim, and the hill country of Bhootan.

Our frontier with Nepal, from the Kali river on the west, to the Mechi river on the east, is 500 miles, with Sikhim and Bhootan, about 250 more. The breadth of the chain is at least 100 miles. In no part of this long line of frontier—750 miles north of Nepal, Sikhim, and Bhootan—have we any direct access into Thibet, nor have we any political relations whatever with the government of the country. It will therefore be readily admitted, after this outline of the relative positions of the two countries, India and Thibet, that there must be many obstacles to the carrying on of trade between them, and at present it is so. The obstacles are of two kinds, physical and political. The first lie in the character of the mountains, which, in the position indicated, form an aggregate of the highest peaks in the

The following is a list of the principal exports from Nepal:—Chours or yak tails; Thibetan, Himalayan, and Chinese woollens, as maleda, toos, namda, chourpat, rahry, bhot, &c.; Chinese damasked and brocaded satins and silks; sohāga or borax; Nepalese, Bhootea, and Chinese drugs; rhubarb, mihurgiyah, zaharmohara, monira, jatamangsie, hurtal, &c.; Bhootea and Nepalese paper, musk pods, gold, silver, rupees of the plains, rupees of Nepal, and copper pice of ditto, ponies, or tanghans; hardware, as iron phowrahs, &c., &c.”

The chief exports to Thibet are European broad cloths (crimson, green, orange, liver, and brown are preferred), cutlery, pearls, coral, diamonds, emeralds, indigo, and opium.

The chief imports from Thibet are, Chours or yak tails, white; ditto, black; Chinese velvets, satins, silk-bread, and raw silk; peltry of Mongolia and Bhoote, as samoor, kakoon, chuah-khal, garbsooth, &c., borax, and furs; Chinese and Bhootea tea, drugs.”

From Calcutta, Patna, and Benares the routes meet at Sugowlie, on the frontier of Champaran, whence it is an stages to Catmandoo. There are two routes from Catmandoo, the capital of Nepal, to the frontier of Thibet, one by Koote, the other by Kiroong. The former runs from the east end of the valley of Nepal, the latter from the western. Both places are eight stages from Catmandoo. From these places it is about a month's journey to Lassa, and the hire of a pony or mule is about ten rupees, or £1.

From Mr. Hodgson's tables, I reckon the total annual trade between India and Nepal, including Thibet, to amount to about £285,000. It has probably increased since his time, but of this I have no authentic information.

I now come to Darjeeling as the next route for trade with Thibet. This place being a British possession in the Himalaya, it differs in every respect from Nepal, and holding out superior advantages for a greatly extended trade with Lassa. It is under 400 miles from Calcutta, of which 200 has a railway, and although a rail is much wanted for the remainder of the distance, it is, in the meantime, a good cart-road from the foot of the hills to the station, 30 miles; whereas Catmandoo is more than 600 miles distant from Calcutta, with no road at all in the hills. Darjeeling is the shortest route from Bengal to Lassa, the distance being say 500 miles, of which we have now the control of 70 miles through Khim to Choombi, and over which we can, under treaty with the Sikhim Rajah, make a road whenever we wish.

The present trade with Thibet through Darjeeling, in Nepal, cannot well be separated from the trade of Darjeeling itself. Of the present amount of this trade I have not correct information. In 1854, the imports into Darjeeling from the plains were estimated at three lacs of rupees, or £30,000; from Thibet, in 1861, at 70,000 rupees. The principal export from Darjeeling to the plains is tea, of which about 1,500,000 lbs. is expected in season, which may be valued at £100,000. The principal exports to Thibet are, English broadcloths (brown, purple, orange, green, and yellow, the most preferred), cutlery, indigo, tobacco, sugar, rice, cotton seedings, endy (or castor-oil) silk, crockery, &c. Wool is a very important product of Thibet, and may be looked to as a valuable export. In that country and the adjoining ones there are immense tracts of pasture land, which flocks of sheep, in almost countless numbers, are maintained. Seven or eight thousand sheep is a common number for even ordinary graziers to possess. The great elevation and cold temperature of these countries, with the fine pasture, produce very heavy fleeces of the finest wool, and of a very long staple, quite as fine as the Australian wools, but more valuable for many fabrics, on account of its longer staple.

While at Darjeeling I procured some loads of this wool, and sent samples of it, with rate of cost, for trial export to Calcutta and elsewhere. It was highly taken of; and the industrial school at Jubbulpore, in

the Central Provinces of India, celebrated for its fine carpets, was so pleased with it, that the managers offered to send me a lac of rupees (£10,000), to be laid out in purchasing wool for them, at the rates I had quoted. I need scarcely say it was not procurable; but the wool is, in Thibet, in immense quantity.

Of the state of trade at this moment through Bhootea I cannot speak. It was, as regards English and Indian goods, at a complete stand-still all my time (from 1839 to 1861). Captain Pemberton, in his report (1838) says:—“There was every reason to believe that the trade which formerly existed between Bengal and Thibet was at one time carried on through Bhootea, and to its total cessation may, in a great degree, be attributed the marked deterioration of the latter country.”

The following is a list of the principal articles imported from and exported to Bhootea. The former amounts to 7,375 rupees, or £737 only, the latter to 4,150 rupees, or £415. Imports:—Debang (China silks), cow-tails, hill ponies, wax, wammas, musk, madder or munjeet, blankets, silver. Exports:—Cloves, nutmeg, cardamum, nukher, camphor, sugar, copper, broad-cloth, goat-skins, endy-cloth (castor-oil silk), coarse ditto, googool, sandal-wood, country gunpowder, dried fish, tobacco.

Of the city of Lassa, as the focus of all Thibetan trade, there is, as you are all aware, not much known as the result of European observation on the spot, nor can I give you positive information as to the profits to be made there on English and Indian goods. From all I learned at Darjeeling, they are very large, and as goods in transit, loaded with a profit of 30 or 40 per cent. in Nepal, are still profitable at Lassa, it is quite clear that goods going direct through Darjeeling to Lassa, without any custom or transit duties, as in Nepal, and not having Nepal profits added to the prime cost, must be very profitable indeed.

At Lassa, the trade arrangements are on a good footing, according to my information. It is resorted to by people of many different nations from every direction, and the merchants of each country appoint their own chief or consul, who is the medium of communication with the local government, and has the power of settling all disputes among his countrymen without reference to his own or the Thibetan government. The Newars of Nepal, the Cashmerees of Patna and Dacca, the Bhooteese, the Ladakees, as well as the merchants of many countries lying between Thibet and China, have consuls of this description. The last account of trade at Lassa by a traveller, is by Nunpal Pundit, of the Indian Trigonometrical Survey. He says:—“During the month of December, merchants from all parts bring their merchandise here from China, Tartary, Darchando, Chando, Khan, Tawang, Bhootea, Sikhim, Nepal, Darjeeling, Patna, and Ladak. From China, silks of all varieties, carpets, and chinaware. From Jiling, in Tartary, is brought gold-lace, silks, precious gems, carpets of a superior manufacture, horse-saddles, and a very large kind of dumba, or large-tailed sheep, also valuable horses. From Darchando immense quantities of tea (Darchando is said to be situated north-east of Lassa, and to be distant two months' journey). From Chando city, in the Kham territory, an enormous quantity of the musk perfume is brought, which eventually finds its way to Europe, through Nepal. Rice and other grain that is foreign to Lassa, is brought from Tawang, in Bhootea. From Sikhim, rice and tobacco; and from Nepal, Darjeeling, and Patna, broad-cloth, silks, satins, saddles, precious stones, coral, pearls, sugar, spices, and a variety of Indian commodities; obaras and saffron come from Ladak and Cashmere.”

I have now to conclude with a few observations on the best means of improving and greatly extending this trade, and they are suggested by what has gone before. Our great aim should be to clear the way of all obstacles from our own to the Thibetan frontier, and it may be done in this way:—Firstly, we require a new commercial treaty

with Nepal, stipulating for the abolition of all transit and customs duties on European and Indian goods, whether for Nepal or Thibet, and for the removal of all official interference with the trade between the British frontier and the frontier of Thibet. I have no hope that we can at present induce the government to make a road to Catmandoo and onwards to the passes, but for some day, and the treaty is to be signed, we should take advantage of our position with Bhootan, to remove all obstructions to trade between the Doors and the Thibetan frontier. I am, however, one of those who think that it would be desirable, if possible for the people of the Doors, if the Government had annexed the Doors only. This would have effectually cleared the way for trade to the north, and put a stop for the future to Bhootanese kidnapping of our subjects, and violent breaches of frontier, which the Government would direct our best attention to. It is, perhaps, the shortest and best to Thibet, and much left to be done now to secure it. There are many routes, but the one from Darjeeling which is the most direct, and it would be wise and to be followed. What is wanted is the extension of the frontier at Chola, and the establishing of an annual fair or bazaar, to continue for two months in the spring, at some place in Sikhim, near the frontier, to enable the Thibetans, who might not desire to go on to Darjeeling, to dispose of their goods, and provide themselves with necessaries. After these arrangements

are made, I think it is probable that we shall be found in the bazaar at Luse, and that we are fond of following their wares in the English and Indian goods are in great request there, and we may as well follow them also. This, however, is a matter which, you will undoubtedly agree with me, requires consideration.

TRADE BETWEEN THE DOORS AND THIBET, AND THE DOORS, BY COLONEL HOBKINSON.

I think it by no means improbable that the practicability of a communication between the Doors and Thibet may be some day established. It has been assumed from the observations of Mr. R. D. M. that the route is practicable as all inquiry, and, indeed, experience, hitherto led us to believe it to be. Mr. R. D. M. has made some observations on this point, certainly speaking of a tract not known, at least, to present any special difficulties, but all the routes that have been explored and inquired into, as those by Wilcox, Burnett, Hannay, White, and, if I mistake not, Bayfield, appear to be crowded with every species of obstruction that can be put in the way of preventing commercial intercourse. In the course of any exploration that it should keep clear of tribes dependent directly or indirectly on the Burmese government, we must at the same time be guided by the opinion that no practical route can be found, except through the Doors, and, moreover, that will not bring the explorers among tribes very directly under the influence of the Burmese government.

Lieut. Wilcox's adventurous journey illustrates the difficulties of any line passing through the Burmese tribes, and these were met with in the route from Suddya, since there is a very high mountain range, Beesa, and thence to Moursing, but he was obliged to proceed east, and then north-east, after leaving Suddya, and he had hardly quitted Assam than he found himself in the region of perpetual snow. On a clear day, snowy ranges can be seen from Suddya bounding the whole horizon from north to south-east. My idea of this region is, that it is filled by the convolutions of a mighty knot, uniting vast mountain ranges which radiate from it in every direction, and amid the intricacies of which I should despair of finding a way either in or out.

There is no doubt that it was by the pass that derives its name from the Patkoe hill, or the Patkoe leads, that Assam was originally invaded, and that successive waves of conquest or immigration followed the same channel, I think it may be inferred that the Patkoe is, in fact, the only route that presents any facilities for transit.

The journey from the foot of the Patkoe mountain to Mookong or Mangkhwon may be accomplished in several marches. The first, and only one, the first, is said to be the most difficult, and the most dangerous, between Mangkhwon and Mookong.

From the relations subsisting between the various Singphos and Kampteas, I think the supposition is reasonable one that has been made by some explorers, Mr. Goodenough for instance, that the influence of the Singphos on our side over those in the Hookong may be other than extremely limited, probably—the fact may be that it is alto-

gether, I think it is probable that we shall be found in the bazaar at Luse, and that we are fond of following their wares in the English and Indian goods are in great request there, and we may as well follow them also. This, however, is a matter which, you will undoubtedly agree with me, requires consideration.

I should be glad to see a report concerning the Hookong, and the time a Burmese governor, called the King-tha, acting as governor of Mangkhwon, the Singphos and Hookong are wont to procure the assistance of the party engaged to prosecute the Hookong, and the assistance of the Burmese government.

have about it, too small one way or the other, but the map of the Hookong, I cannot be sure, but it is put into competition with the Hookong, should be presented to it, nor what could be the reception of merchandise that it would be more than to seek an outlet for at Calcutta via Assam, than at Rangoon via Bhamo. If Rangoon were still in the hands of the Burmese, the case might be different, but now that Lower Burmah has become a British possession, to attempt to divert the trade of any trade which, left to itself, would naturally flow to the Irrawady, or any trade which, on the whole, could be more economically conducted by the way of the Irrawady, appears to me to be futile and impolitic.

One reason that forbids me from indulging in the hope of seeing commercial intercourse established between China and Assam, through northern Burmah or the Shan States beyond is, that no native trade at present exists, even in the humblest and most insignificant form, between the two countries. Now native trade, though usually wanting in expansion beyond the most moderate

dimensions, is often audacious in its enterprise, and penetrating in the extreme; it may flow by minute and scarcely perceptible channels, yet still it will find its way through every crevice, and ooze out at the most unexpected and inaccessible places; and its absence in this case appears to me peculiarly significant. The Shans, the Burmese, and the Chinese are all three keen traders; how is it then that they have not found their way to Assam by some route? Debrooghur is known, at least by name, to thousands and tens of thousands of Khampooes and Singphooes; they know that they can obtain there piece-goods of any description and in any quantity; and that their ponies, their cinnabar, or their leaf-gold would be taken as readily in exchange there as at Rangoon or Moulmein. How is it, then, that they do not come?

Though I am not so sanguine as some persons, the main idea of opening a communication with China may, I think, very possibly be realised on the north or right bank of the Bramahpootra, and by one or other of the passes leading into Thibet. I would in particular invite attention to the route from Towang through the Koorcaparah Dooar, which does not, in any part, enter the territories of the Deb and Dhurne Rajahs of Bhootan, but lies entirely across a tract of country dependent upon Lassa, and forms an integral portion of Thibet, so that, as was most happily observed by Pemberton, "we have literally the Chinese and British frontier in immediate contact with each other at a Dooar in the valley of Assam, not more than fifteen miles from the northern bank of the Bramahpootra."

Sixty years ago the trade between Thibet and Assam by this route was estimated to amount to two lacs of rupees per annum, and this though Assam was then in a most unsettled state; and up to the time just prior to the Burmese invasion, the Lassa merchants brought down gold to the value of 70,000 rupees. The occupation of the country by the Burmese, however, killed the trade; and in 1833, only two Thibetan merchants are said to have come down; but since that period there has been a gradual revival of it, which even our late quarrel with Bhootan did not interrupt, and it has now every appearance of being flourishing and on the increase.

The trade is carried on principally through the instrumentality of a fair, held at a place called Oodalgooree, situated at the mouth of the Koorcapara pass. I visited the fair in 1867, and again this year, and was much interested by what I saw of the Thibetan traders. I found men among them from all parts of Thibet, from Lassa, and from places east, and west, and even north of it; some of them looked like Chinamen, they wore Chinese dresses, ate with chop sticks, and had about them various articles of Chinese manufacture, as pipes, strike-lights, and embroidered purses, such as I have seen in use among the Chinese at Rangoon and Moulmein. They were accompanied, in some cases, by their families, and carried their goods on sturdy ponies, of which they had a great number, I should think some hundreds. Besides the Thibetans who attend this fair, there are some who still take the alternative route through Bhootan *via* Passgong to Hewangiri.

The want of competent interpreters prevented me from seeking information from these merchants, about the road by which they travelled. I have no doubt that it is beset with great difficulties, and if it be alleged that they are greater than would be encountered on the route *via* the Patkoe pass, I am in no position to dispute the assertion. At the same time, there is no getting over the fact that, a trade between Assam and China being the object in view, we have it actually made to our hand, on the one side, and only wanting such extension and development as we have a right to suppose we could give it; while, on the other, not the faintest trace of any commercial intercourse between the two countries exists, and we are absolutely without any data whatever for the presumption that we could call it into existence. So much evidence, also, in favour of the practicability of

the Towang route, at any rate exists, as may be derived from the circumstance of women, and children, and laden ponies coming down to Assam by it. I may add that I noticed particularly the good condition of the ponies, and that there were few—indeed I do not remember seeing any—sore backs among them. On the occasion, too, of the difficulty which arose between us and the Thibetan authorities, in 1852, about the Geling Rajah's Tartar troops were pushed towards our frontier by the pass, and the demonstration was considered so formidable, that we put a body of 400 troops with artillery, in camp at Oodalgooree to meet them.

If the Thibetans can come to us, surely we can go to them; indeed, in Assam it has never been supposed that there was any real obstacle to intercourse between the two countries, save the jealous restrictions imposed by Chinese policy and influence. In a brief notice which I read in the *Friend of India* newspaper, of a memorandum by Capt. Montgomerie, of the Trigonometrical Survey, it is stated that the Thibetans were in the habit of resorting to Towang for rice. Now it happens that rice is the principal commodity exported from Assam to Towang, and so, therefore, the Thibetans would seem to be dependent on us for food, in which case it is possible that we might be able to exert a certain pressure, to induce them to reciprocate the freedom of trade which we allow them. Our relations with China are also very different from what they were 20 or 30 years ago, and a rescript might now, perhaps, be obtained from the Chinese government, requiring the Thibetan and Towang authorities to assist us. In a political point of view, I should suppose that the opening of communications between China and Assam, *via* Thibet, would be more valuable than that by Northern Burmah and Yunnan, while its scientific interest must be held to preponderate beyond all comparison. The identification of the Sampoos river with the Bramahpootra, which is still matter of conjecture, would of itself amply reward the exertions of any expedition which should succeed in establishing it.

DISCUSSION.

Major-General Sir HENRY RAWLINSON said—My Lord, I have listened with great attention to these two papers. They are both interesting. I will consider the last one first, as it is more immediately in the recollection of the meeting. The main object, as I understand, which we have in view, and to which these papers are directed, is the opening and facilitating trade communication between India and China. I say the main object, because the mere transit trade of Thibet itself, which has been also alluded to, is not nearly of such great importance. Now, all the information which I have been able to collect on this subject leads to a conclusion very different from that which is given in Colonel Hopkinson's paper. It is a subject which has created much interest in China, in India, and even in England. It is, in fact, one of the great commercial desiderata of the present day. Mr. Cooper's journey was undertaken specially for the purpose of elucidating the subject, and Captain Sladen had the same object in view; and the result of those journeys, I think, points out undoubtedly that the real line of traffic is that conducting from the Irrawady in Burmah to the Yang-tse in China. It leads from Bhamo to Momein (to which point Captain Sladen penetrated), from thence to Tali, and so on to a place of great importance, Cheng-king, on the river Yang-tse, up to which point that great river is navigable to steamers. We are in possession of most important reports and documents in relation to this subject, which I hope, in the course of a few months, will be made public. There is especially a report by a European gentleman, of very high cultivation and extensive knowledge, who has resided in the neighbourhood of the Yang-tse for the last twenty years, travelling between Lassa and Cheng-king; he has prepared a most elaborate report on the social and political condition of the country

tage there would be in having the upper or Thibetan line also available for traffic, but at present, from all the information we have, I am bound to say that I think that line is quite impracticable.

The CHAIRMAN—Will you give us your opinion with regard to another route, recommended by Captain Sprye, more to the south?

Sir HENRY RAWLINSON—The Sprye route does not conduct to Yunnan; it passes into Cochin China far to the south, the main object being to cross the peninsula so as to arrive at a convenient port for sea-communication with Hong Kong. I am glad, however, that the question has been put to me by the noble lord in the chair; it gives me an opportunity of imparting information on a subject which has been hitherto but very imperfectly understood, the Indian government having been much blamed for throwing cold water upon the efforts made to open this communication through Southern Burmah. It has been said, indeed, that the government have blown both hot and cold on this matter; that one Secretary of State sanctioned measures which another Secretary of State refused, and there is, perhaps, some truth in the complaint. We cannot, however, squander the resources of India on a mere Quixotic undertaking. There might be practical good which would overbalance the risk of failure and a certain expense; and in this view a preliminary survey will be prosecuted. In reference to the trade with Central Asia, I may mention the circumstance that information has reached us that Mr. Shaw, a British merchant, has reached the city of Yarkand. Letters which I have received from Dr. Cayley states that Mr. Shaw had reached that city, and was received there with distinction. It is a fact of great importance that a British merchant should have reached so distant a point without the interference of the government. At present we have no reliable information whether Mr. Shaw will succeed in establishing a factory, or entering into any extensive arrangements for trade. He will meet, no doubt, with great difficulties. In the first place there is the difficulty of passing through the inhospitable tract of country between Leh and the Turkistan frontier. From the enormous elevation of the road, it is very inconvenient for travelling, though Mr. Shaw has shown the possibility of passing over it. Then, when he has got to Yarkand, and established himself there, he may be able, perhaps, to supply the tea wants, tea being the staple of commerce of Chinese Turkistan, but he cannot furnish tea to other parts of Central Asia, or introduce it into the Russian territory. There is an organised prohibitive tariff, so that not an atom of tea can reach Russian Turkistan legitimately. They may smuggle the article, it is true; these prohibitive tariffs, indeed, are evils which correct themselves, and, ultimately, I have no doubt tea will be smuggled in, but at present the prohibitive tariff is effective, and merchants who follow Mr. Shaw must content themselves, therefore, with supplying the wants of the independent districts alone. There is, however, considerable merit in what Mr. Shaw is reported to have done; not that there is a very large population to be supplied, but the people, such as they are, are inveterate tea-drinkers, and now that they are independent of China—in fact, in war with China—they have no means of supplying themselves with tea direct from China. They can only get it either from the Russian territory or from us. Hitherto it has been said they do not much like the *Angra tea*; they find it too strong, but they will take that article rather than none at all. With regard to Mr. Hayward, we have no letters from him. He is occupied not with trade, but with geographical exploration, and we are led to understand that his discoveries in Thibet are of great interest and importance. There could seem, however, to have been some jealousy between Mr. Hayward and Mr. Shaw, so much so that when they met on the frontier they pretended not to know each other. They each lived in a different part of the camp; and for the sake of mutual safety, it was thought

advisable that there should be no communication between them. According to the last accounts, Mr. Hayward was still detained on the frontier, but on that, as well as on other matters of interest connected with his journey, we have not as yet any reliable information.

Mr. WYLLIE, said he could offer only a few disjointed remarks on this subject. Sir Henry Rawlinson had drawn a just distinction between the trade from India northwards and north-westwards with Central Asia, and the eastward trade with China. He (Mr. Wyllie) would confine himself to the latter topic. He concurred with Sir Henry Rawlinson that it was the trade between India and China which was the great desideratum. If we could extend our trade with China *via* Thibet or any other country, it would be very desirable, but as for Thibet *per se* it was altogether barbarous and barren, and there was not much to be got out of it. Sir Henry Rawlinson had brought before their notice three places which had been particularly recommended as depots for trade by the "Old Resident," viz., Tali-foo, Bathang, and Cheng-king. He (Mr. Wyllie) knew something of the two former places, though his attention was called, when in India, to the political condition of Western China rather than to our commercial relations with that part of the world. With regard to Tali-foo, it was the head-quarters of the Mahomedan revolutionists called Panthays, who had broken off all relations, commercial as well as political, with the great Chinese dominion of which they were formerly an integral portion. We knew what a difficult matter trade was, even in this country. The difference of a few pence in a customs tariff was sometimes sufficient to extinguish a trade. It followed that the first element of trade was security and good government. There was no such thing in the whole of Western China. Besides the Panthays in Yunan, the other home provinces of Kansu, Shenai, and Sechuen, and the outlying territory of Ili were all, more or less, in revolt, and for the last six or seven years they had been a prey to banditti, and spoliation, and every form of civil misery. Bathang, in this respect, was far worse off than Tali-foo, as proved by the recent experience of some Nepaulese travellers. The Nepaulese ruler was bound to send every five years a mission to Peking, with presents to the Emperor of China. In 1867, Jung Bahadur's envoys reached Bathang, but at that point they were prohibited from going on towards Peking, and they returned, having failed in their mission, with a lamentable description of the state of things which they found. Spoliation prevailed in every form, and the governor of the province was living in a miserable shed, glad to get shelter there. With respect to the two explorers, Shaw and Cooper, the former it appeared had got to Yarkand, and all he (Mr. Wyllie) could say was, he hoped he would be able to get back again when he wanted to do so. His ever having reached that city appeared to him a most memorable feat. Mr. Cooper had already tried to get from the Chinese provinces into India, but he only got as far as Bathang, where he was turned back in one direction at the time when the Nepaulese ambassadors were sent back in another direction. He believed Mr. Cooper's present project of penetrating from India through Assam to China was hopeless.

The CHAIRMAN asked if Mr. Wyllie could state how far the Chinese had been driven back from Eastern Turkistan.

Mr. WYLLIE replied that he had no very recent information. But it was quite certain they had been driven back to the great desert of Gobi, and the greatest hope for peace, and therefore for trade, was that the Russians would annex the whole territory, and become our neighbours in that part of the world.

Dr. CAMPBELL begged to interpose that there could be no doubt that the refusal to allow Mr. Cooper to pursue his journey was made by the Chinese officials in the confidence of the government at Peking. This might be gathered from what we formerly experienced in Canton. The Chinese official, if he knew the policy of his govern-

the old governments of India and in the rank growth of the jungle of barbarism, will become still more considerable than of old. When the communications are cleared politically and physically, India, which is now self-contained, will have a back country, and it is the bounden duty of the government to take charge of the necessary measures.

As to replacing even the Chinese government by the Russians, or encouraging or allowing the Russians to exterminate Yakoub-Kooshbegi, and the people of Eastern or Western Turkistan, I cannot concur with Mr. Wyllie. Commercially and politically the government of Russia is the same as the government of China—one of monopoly and exclusion, and a crushing oppression on human nature. Had Turkistan been more carefully looked after by our own Indian government and by the Foreign-office, the condition of Turkistan might have been ameliorated, and many of the recent disasters averted. At Constantinople, a centre of resort for the Turkish race, no systematic exertion is made, either with the Ottoman government or the natives of Turkistan, who arrive there during the Hadj.

One reason for the neglect of our interests in Central Asia is, undoubtedly, the apathy of our government; another is the few persons showing a care for these interests. In my own belief, the chief support of our policy in Central Asia is Mr. John Murray, the publisher, who devotes the only funds to the purpose, and affords the only encouragement to travellers and explorers at his own risk. The only reward Vambéry has received has been from Mr. Murray. Another votary of Central Asia was the late Lord Strangford, and now we depend greatly on the attention Sir Henry Rawlinson can give in share with his public duties and his labours as a cuneiform discoverer. Sir Roderick Murchison, as President of the Geographical Society, has kept the Region before the public, and Mr. Wyllie and Mr. Eastwick have charge of it in Parliament.

For systematic action, the question of our relations in Turkistan and of trade with Central Asia can alone be systematically pushed. There must be some one in India, some one in the India-office at home, and some one in the Foreign-office conversant with the business, and specially appointed to take charge of it. There must be a special person at Constantinople, another at Teheran, and some one at Peking. The cost would soon be repaid, even if charged on the revenues of India. Every traveller should be encouraged. Professor Vambéry may be again started on another venture, and be provided with a professorship or agency, instead of a sum of £60 a year from the University of Pesth. Independent travellers should be assisted to explore at their own risk, and rewarded on their return. Unaccredited commercial agents should be allowed to select stations in the cities of Turkistan, and draw small salaries. Above all, the functionary with the supreme government of India should watch our relations with the native tribes from Afghanistan to the Indo-Chinese frontier, and urge the government to follow up each tribe, by employing officials conversant with each language, and by encouraging the study of the aboriginal languages. This is one of the great means of effectually promoting the welfare of India, not only with regard to external trade but internal development.

There must be some means provided, my Lord, by which the counsels of functionaries like yourself may, on their return home, be made officially available for the public service, instead of their being offered as an intrusion and rejected with scant attention. There would be no harm, but much good, if there were councils here for the affairs of Western Asia and of Eastern Asia among other matters. The division of labour and the special applications of power are the most effective instruments in promoting political as well as industrial progress.

Mr. SPENCER PRICE expressed his regret that speakers at the previous conference, whose remarks carried so

much weight with them upon Central Asian questions in general, encouraged us so little to look for success in the endeavours of those who are seeking to find a practicable trade route between India and China, through Thibet. He gathered from the observations of Sir H. Rawlinson, that the primary, if not the insurmountable obstacle will be found in the exceeding jealousy of the Thibetan people. It would be presumptuous on his part to attempt to offer an opinion in opposition to so eminent an authority as Sir H. Rawlinson, nor, from his own experience, would he attempt to do so; but he might remark that, when in the north of China eighteen months ago, though not fortunate himself in meeting Mr. T. T. Cooper, whose name has of late become so prominently associated with explorations in Chinese territory, he did hear, from those who knew Mr. Cooper, some particulars as to the nature of the difficulties he considered he had before him. The chief difficulty appeared to be the jealousy of the Chinese authorities, and perhaps that of the Peking government nominally, but what the various mandarins could show, especially as he neared the frontier. As the distance increased, so their power became, he supposed, more individualised. This was only natural, and to be expected. He held in his hand the report of a speech delivered by Mr. Cooper before the Calcutta Chamber of Commerce last February. On the point in question Mr. Cooper says:—"The Chairman had told the meeting of some of the difficulties which he had met on the borders of Thibet. These difficulties did not originate with the people of the country themselves, who, in every instance, treated him with the greatest kindness. The only difficulties he met with anywhere were those he met from the hands of the Chinese mandarins, who, not satisfied with jealously guarding the borders of their own territory, exerted their influence with the Thibetans, which resulted in stopping him from the further prosecution of his journey." A gentleman who spoke at the former discussion, Mr. Wyllie, as he (Mr. Price) understood him, looked upon Mr. Cooper's project as a hopeless, if not altogether a visionary one. But that very practical and intelligent body, the Calcutta Chamber of Commerce, are evidently not disposed to adopt the "rest and be thankful" principle; nor, apparently, do they think so slightly of the adventurous Mr. Cooper; for we find that, fully impressed with the important results which would accrue to themselves if Mr. Cooper succeeds in establishing his route, they had resolved to subscribe and give him substantial assistance in the prosecution of his undertaking; and he thought the Calcutta Chamber was right, for it is to such men as Mr. Cooper that we have ever had to look, and must look again, for those great geographical discoveries which are destined to inform the civilised world, as well as increase its wealth. Here was a man who carried his life as it were in his hand—who accepted all risks. Physical difficulties clearly did not appal him; but he did not disguise from himself that those which were political were important. There were doubtless some present who would be aware that this traveller, after working his way 1,500 miles up the Yang-tse-kiang, had reached a point 200 miles of the Bramahpootra, when he was turned back by the Chinese mandarins. When he appeared before the Calcutta public, he proposed to reverse his plan of action, and, in place of reaching Calcutta from Shanghai he now therefore, proposes to start from Calcutta, with the hope of reaching the China seaport; and according to his showing, there seems to be good reason why he should succeed, assuming, as he clearly does, that the people of Thibet will let him pass through safely. Whether their fear of the Chinese power will operate to prevent their doing so remains to be seen. But the same objection can scarcely hold with the Chinese to an Englishman crossing the frontier from Thibet into China as from China into Thibet. The mischief (if mischief in their eyes there be) would be already done. China has, in point of fact, for centuries exercised a sort of paternal influence over Thibet. She supplies the

Thibetans annually with from four to six million pounds of which tea is the staple article, which, I believe, our countrymen have imitated, and found to be profitable in other parts. We can hardly expect, looking at the present condition of trade on that great river, the Ganges, and the prospects of still further facilities of communication there.

China commerce by land route; but the directness of this communication undoubtedly holds out in itself a sufficiently alluring prospect, not only to our tea-planters in Assam, but to our manufacturers in Manchester as an outlet for their piece goods. As regards the nature of the influence in Thibet, he believed it was well known that the Pekin government subsidised the five chief Lama monasteries, and it is certain that the Lama government issue orders that no European should be admitted.

The Chinese are truly a race of slaves. Whilst we find them falling under the influence of a government which, in this part of the world, has since dismissed as unfit for progress and civilization, it is probably no people in the world who are more keenly alive to the value of a dollar, and the protection of their pecuniary interests. On all sides, however, it appears to be agreed, as an absolute necessity, whatever success which may attend the efforts of any explorer, in a geographical discovery, that we cannot hope to establish a regular trade along this desired route.

He thought we had neglected the precise information given by the French missionaries, who had published an exact account of the route from Laesa to China. The information of Colonel Hopkinson went to show that the Ganges valley range was not the best direction, and that the direct route from Assam to China was the best.

...by which he travelled from Laesa to G-tze. If this was the case, it would be a great triumph on the part of the British.

...years ago we had free intercourse with Thibet. He believed it was in 1783 that a British envoy traversed the mountains.

...direction, he was of the opinion that it was not possible to demand the cooperation of the government of India, but quite as a matter of course, to be required of the government at home.

Mr. GEORGE CAMPBELL said he had very little personal knowledge of the country to the east of India, and had not had the advantage of hearing the previous discussion. The British Association had had the honor to place him on the list of the Secretary of State, and he had the opportunity of addressing the meeting of the British Association, and he well knew what a very distinct communication it would be to connect the two countries, if possible there were any other means of regard to that project. It was highly desirable that the country should be explored. He had the honour of suggesting that, though it might not be possible to make a canal to join China direct with India, it might be possible to make a canal in making a canal.

...obstructed progress. ... Chinese government appeared extremely anxious to admit European trade to Canton. They said—"We will do all we can, but what are we to do with these un-"

...our fitted for... wanted in... migrating... road pass... expect a... Assam... country... was sorry... discouraging... Assam and... might venture... in fact, as shown... a continuation of the great snowy... of the H... only be p... passage long... We might pass from north to south, but not pass along the snowy part from east to west.

...the streets of London, without the slightest... thought, it... of their ob...

...was not, how... want to see... question... given to... that we... which... it was nee... and... trade, G... vize, Turk...

...Mr. Campbell... commun... Assam and... might venture... in fact, as shown... a continuation of the great snowy... of the H... only be p... passage long... We might pass from north to south, but not pass along the snowy part from east to west.

...power of the Ameer himself to make a safe route. With regard, therefore, to most of Turkistan, it

would seem impossible for us to compete with Russia. Bokhara, as the crow flies, is nearer to us than to Russia, but these difficulties were weighted against us. If we got over the tribes of the Afghans, and succeeded in establishing commercial relations with them, we might compete at Bokhara with the Russians. On the whole subject he thought the tendency had been to exaggerate the trade and riches of Central Asia. That it was important to a certain degree there could be no doubt, but, compared with India, it was insignificant, and was, moreover, hedged in by multitudes of irreclaimable cut-throats. Though it was desirable, in a local point of view, to push our trade into those regions, still when compared with 200,000,000 of prosperous Hindoos, to add to that a small trade, only to be got with great difficulty, with 1,000,000 or 6,000,000 cut-throats, would not, he thought, justify any measures which would set us by the ears with the Russians. With regard to Eastern Turkistan he was inclined to agree with Mr. Wyllie that, in a commercial point of view, the best thing was that Russia should take possession of that country, or although the Russians imposed heavy tariffs, they wanted to get tea, and if Dr. Barry would supply them with tea from Assam cheaper than they could get it from China, he believed they would take Dr. Barry's tea and leave the Chinese article alone. With regard to Eastern Turkistan, therefore, he felt no jealousy of the Russians, but whoever might be the possessors of Eastern Turkistan, if trade could be directed across the Himalayas, we might be able to compete profitably with the Chinese at Turkistan in tea. He hoped the road commenced by Lord Dalhousie, from Simla towards Tibet, and the other roads projected from the Punjab, would be sooner or later carried out to completion, and that we should succeed in establishing trade in that direction. There was one point deserving of notice which had not been referred to, that is, that the most important article of commerce to us is the fine quality of shawl-wool which that district yielded. The Rajah of Cashmere, like most Eastern potentates, was ambitious of being a trader, and he had a monopoly of the Cashmere shawl trade, and his object was to obtain the monopoly of the whole of this great shawl-wool country beyond his own territory to the east, and which might be brought into immediate connection with our own territory. The completion of the roads to which he referred would be the most likely means of diverting that trade to our own territory in the Punjab, and we should, in the manufacture of shawls and other articles, obtain great advantages.

Mr. VESSEY FITZGERALD wished for information on two or three points. He could not agree with Mr. Campbell to the comparative unimportance of Turkistan. The best accounts showed that country to be one of the most fertile in the world.

Mr. CAMPBELL asked whether Mr. Fitzgerald referred to the country generally, or only to certain tracts?

Mr. FITZGERALD could not make a distinction. The accounts he had received stated that there was a great deal of very fertile land in Turkistan. He wished to know whether the commerce of Central Asia, in the direction of Russia, had been estimated as to amount? He expected not, except by certain lines of caravans that existed.

Dr. ARCHIBALD CAMPBELL said accurate statistics had been published by the government of the Punjab.

Mr. FITZGERALD wished also to know whether there is a probability of that commerce being increased to a large extent from India, and whether the power of undermining Russia was great under a system of unrestricted competition. He saw a statement in the *Standard* newspaper of that day, to the effect that Russia had imposed a duty of 84 per cent. on English muslin goods at Bokhara, which might be regarded as a prohibitive duty. Then he wished to know whether the Russian lines of communication could be increased by subsidy, as the *Messageries Impériales* in the Levant were supported by subsidy to

his knowledge, as also in the Caspian Sea. He understood Russian commerce and politics were identical with Central Asia much in the same way that British operations in Paris were identical with the politics of France.

Mr. TRELAWNEY SAUNDERS regretted to say that he agreed with scarcely any of the observations which had fallen from Mr. Campbell. He had said, amongst other things, that intercourse on the Himalayas, east and west was impracticable. He (Mr. Saunders) believed that east and west were more practicable than north and south. Again, the route between Lassa and Bathang was pointed out as a direct route east and west; but anyone who took the trouble to read Huc's account of his journey through that portion of country would see that it was one of the most frightful countries on the face of the earth. The accounts of the difficulties there encountered were such as most persons would regard as exaggerations; yet he believed there was no exaggeration in them whatever. They could readily understand from their own experience how impossible it must be to expect commerce on any thing like a large scale between Lassa and Bathang. At the same time, let not that be taken as a reason for abandoning all attempts to solve the problem they had before them, for all who studied this subject must rise from that study with great hopes for the development of trade in Central Asia, when they found that what they viewed as natural difficulties were not insurmountable by the inhabitants. The Himalayas throughout were traversed by the natives at the proper season, and that was all that could be done in the case of the Alps; and if they studied the old trade with Central Europe, which helped to make Venice rich, and the country between the Mediterranean and the interior of Europe before such roads as the Simplon and railways existed, and applied those conditions to the traversing of the Himalayas, they would find the proper solution of that great problem. A greater problem than that they were now discussing could not be presented to humanity and it could not be expected that a problem so vast as this could be studied at first without some mistakes being committed, and he thought the greatest use of these meetings was to compare their ideas and correct one another's mistakes. In that way they got light thrown on the subject, and in the end they might hope to arrive at a satisfactory solution. They were much indebted to the Society of Arts for giving them an opportunity of discussing a question which involved the intercourse of half the population of the globe, of two hundred millions on the one side, and four hundred millions on the other. That was what they were attempting to do; and they had not to remove natural barriers, but those political barriers which have been allowed to remain through the supineness of the people, or the governments which had the question before them. He said the difficulties were political rather than natural, either with regard to the people or with regard to inorganic nature. He believed there was no occasion to make great roads like that projected by Lord Dalhousie. He believed that was a huge mistake at this period, and that if they gave people the power to find a way, they would find it. Moreover, with regard to the people themselves, they had evidence enough to show that, when they were approached in a proper manner, the difficulty in that direction was removed. Captain Godwyn-Austin, one of the surveyors of the Himalayas, crossed the Chinese frontier. He knew there were difficulties in the way, and yet he felt himself at liberty to trespass on the Chinese territory, against the orders of that government. He could not say he approved of that; but what was the reception Captain Austin met with? Instead of being treated with discourtesy, the Chinese official came down, and told him he had strict orders to refuse permission to Europeans to pass the frontier; he also hoped he would not interpose force and advance any further, because if he did it would cause him to lose his situation, and on those grounds he begged him to retreat. Again, he had been assured by a gentle

... had passed the British service in that country, ... ideas to the ... But ... of people who ... country ... knowledge of the ... That ... be one of the great ... difficulties of ... He was told that gentlemen could not ... of the language. Again, he did not ... any steps should be entertained, here or in ... to advance across the Chinese frontier till the ... political obstructions were removed. They ... advance far in the direction of Yunnan from ... coming upon a residence of the Lama ... government. No man was more competent than Lieut. Wilcox for such an enterprise. He approached the residences of the Lama governor and of the high priest which were indications of a settled population, ... was compelled to return. If Mr. Cooper, or anybody ... attempted forcibly to push his endeavours too far ... to trespass upon that territory against the will of the authorities, resistance would be interposed, and a ... take place. Something of that kind might have ... the death of the two French missionaries. No doubt ... were entitled to cross the frontier, nor could we ... doubt that, if the subject was ... and earnestly ... advocated by the Foreign- ... by our ambassador at Peking, the authorities at Peking would ... remove those ... on the part of their officials. He would not ... attention to a few points which he ... considered of importance with regard to Central Asia. There was no doubt Chinese authority had suffered considerably in the western parts of the empire, in what ... Chinese Turkistan, and that portion ... was now in open revolt; but, in his opinion, ... instead of encouraging that state of revolt on the part of the subjects of the Chinese empire, it should be the object of Europeans to aid China in putting an end to it. He believed the ... for our own hands, without ex He would do all we could to support Chinese power ... for this reason, that every successful ... direction was a step towards the acquisition ... territory by Russia. What did such acquisition ... territory mean? It meant our total exclusion ... trade. The Russian tariff was not an ordinary one, but entirely exclusive. It had been said of ... Asia it was comparatively worthless, its population ... and the commerce insignificant; and that while ... we have a country like India in our hand, it was not ... worth our attention. But did they forget that it was ... precisely from those great regions ... overwhelming hordes had come that had ... India, China, Persia, and Europe itself? ... that country Tamerlane and the great Genghis Khan had ... advanced to seize upon the territories of the south—in ... act, to reach ... directions; and ... was only ... in a dis-organised state ... were not safe ... that they failed to have that development of ... which led to outflowings in the way of hostile ... migration. It might be argued that under Russian ... there was security of life and property. Yes, ... in those countries the Russians would find the popu- ... and resources for giving overwhelming influence ... Russian armies, and the power to do that which ... regarded as their destiny—viz., the advancement of ... dominions to the open seas. He said when once ... obtained the control of Central Asia, she would ... in a position which would make her an overwhelming ... power. If, on the contrary, they aided in keeping these ... countries, as they now were, in the hands of the Chinese, ... opening India as an outlet for them, China also as another ... outlet, it would lead to the dissemination of our trade, ... afford to the people of Central Asia the maintenance ... life and property, and increase of population, with-

out danger to the surrounding countries, because these outlets would dispose of the outflowings of their population. The question that we had sooner or later to settle—and it could not be settled too speedily—was, whether these countries were to become subject to the dominant power of Russia on the one hand, or maintained under the power of China and the beneficent exercise of British principles on the other. He believed, unless we secured freedom of access to Central Asia, and carried our trade there, and opened up the doors of the Himalayas, the doors of China, and the doors of India, we should have Russian influence in Central Asia as irresistible as any that had proceeded from it.

Mr. H. STANLEY would make an observation, in answer to Mr. Campbell, with reference to Canton. That gentleman assumed that it was pretence on the part of the Chinese government, with respect to the ... of the people to ... the ... of Canton should ... been ... very talent, as compared with our population of the population of the empire, then, as was the case in later years.

Dr. BARRY would not pretend to follow the gentleman who had addressed them on the subject of Central Asia, but he thought they might leave Russia to herself. She might come to the northern aspect of the Himalayas without giving us much concern. He believed Mr. ... had pointed out difficulties that exist for any ... however great, to cross that frontier to disturb

British government, he thought, was getting hold daily of the immense population ... 200,000,000—by good government, and ... best laws (and more just administrative ... exist); when we consid-

proving our courts, giving ... getting hold of them, ... we had made ... fear from Russia. We ... commerce, what was the use of opening out ... north of the Himalayas when we had millions ... miles the ... commerce of which was ... developed. The ... for instance. He went ... \$10, and ... then almost nil; the difficulties of com- ... so great that he had to order his ... before he ... The ... finest in the ... with a pop- ... million, was ... valley of Assam—he con-

If we wanted to exer- ... that tremendous ... which he spoke about ... A gentleman had spoken ... of Lord Dalhousie's road. He thought, if ... as a man who graced humanity and did good ... Lord Dalhousie was the man. History had not done justice to him. Fifty years hence we might hear more of him, and his name would be in every page of Indian history, not with regard to that road only, but in the opening out of other means of communication which had laid the foundation of Indian greatness. Who was it gave the start to railways in India, and swept away all opposition, moral and physical?

Mr. SAUNDERS interposed that he had no intention of speaking disrespectfully of Lord Dalhousie; he merely questioned the policy of attempting to make ... across a barrier like the Himalayas, at a time when ... not required for the promotion of any existing ... that direction.

Dr. BARRY went on to remark that it was only part of a system of opening out the country—civilising by roads. It was the system adopted by Sir Henry Rawlinson. Look at his papers, and see what he wrote. He said (and it was becoming true) that the great civilisers of India were railways and roads, and he (Dr. Barry) contended that roads were the great things to open out commerce. Mr. Campbell had referred to Simla. No one

was more competent to give an opinion of Simla than the noble lord in the chair. He believed that some day there would be direct communication, but he did not agree with Mr. Campbell that they would be able to get labour from an eastern direction. Those who had read the reports of the Asiatic Society for the last thirty years must be aware that communication had existed between Western China and Bahmoo by caravans. It was stated that a young man in charge of a tea-garden came to a misunderstanding with the native labourers, who rose against him, and having shot at them, he made his escape across the frontier. He got as far as Yarkand, intending to go to Manisa. He got upon a river leading to Burmah, but the British Resident, hearing that he had committed some crime, turned him back; and he described that he had no difficulty in getting from the Indian territory into the Burmah territory. Captain Sladen pointed out that, in course of time, no doubt that would be the route of communication with China. He (Dr. Barry) believed that was one of the great communications between China and India. He did not think the Manchester trade could be conveyed from Calcutta to Bahmoo, and thence to China; but no doubt steamers could go up the Irrawady as far as Bahmoo, whence the goods must go by caravan; and some years hence we might look to getting labour for tea cultivation in Assam, but we should never get it from Lassa.

The CHAIRMAN asked if there was any hope of obtaining coolies from the lower ranges of Assam.

Dr. BARRY said the ranges there were the same as in the north-west.

The CHAIRMAN understood there was a road through these mountains below Assam.

Dr. CAMPBELL said there was a road to Towang.

Dr. BARRY added that no doubt the difficulties north-east and south-east were insuperable, and if they went from Assam they must go south-east, and strike open one of the great channels leading to the south.

Mr. S. WARD rose with diffidence to say a few words, because, as he previously stated at these conferences, his object in attending them was to obtain rather than to endeavour to impart information; and this being the last conference of the series announced, he was desirous to state that he had obtained a great deal of information from them. It would be gratifying to the promoters of these conferences to know that a friend, to whom he sent a copy of the report of the proceedings of the first conference on tea-cultivation, had procured the publication of it in the Darjeeling newspapers, in the hope that it would evoke the criticisms of native planters, and in that event, a promise was made that he would send home the papers containing them. He hoped a similar course had been taken by gentlemen connected with Assam, so that additional information would be obtained, which would add to the benefits of these conferences. He would not occupy them by attempting to address the meeting on the subject before them. There certainly appeared to be great difficulties in the way, but he was glad to learn, from what had fallen from preceding speakers, that the imaginary difficulties were greater than the real ones, and hoped that all difficulties, made and real, would be eventually overcome.

Dr. CAMPBELL wished to say a few words in reply to the remarks made upon the subject of his paper. In giving authentic details of the road through Nepal, Darjeeling, and Bhootan, he was going over ground of which he had had personal experience for twenty years; but when he came to the subject of Lassa, he said there was not much known authentically, from European observation, in the present day. Sir Henry Rawlinson remarked that he did not think anything could be done in Lassa, on account of the jealousy of the Thibetans, and that Lassa itself was not so unknown as was represented. He was quite familiar with the doings of M. Huc and Gabet, and heard of them at Darjeeling, during the whole time they were at Lassa, but they gave little information as to the trade that existed in that city with India. Sir H.

Rawlinson attributed the whole difficulty to Thibetan jealousy. He (Dr. Campbell) thought the latest information on that subject did not bear that way, but it was rather to be attributed to the exclusive nature of the Chinese government. Chinese influence in Thibet was not paramount till 1783, up to which time the Thibetans were friendly to trade with us. The Nepaules made a raid upon Thibet, and robbed the great monasteries of the images of gold and silver, on which the Grand Lama of Thibet sent a mission to Pekin, to inform the Chinese government of what had been done. An army was immediately sent into Thibet, and it marched to within fifteen miles of Cathmandoo, the capital of Nepal, so that there was no difficulty about an army coming from the north. The Nepaules, on this demonstration being made by the Chinese government, made a humble treaty, and they undertook to send a periodical mission to Pekin as tributaries.

The CHAIRMAN asked whether Dr. Campbell was aware of the route which that army took?

Dr. CAMPBELL said there were two routes from Pekin, both going by Lassa, and both were described in detail by Mr. Hodgson. One was from Lassa through a place called Siling, and was as nearly as possible that which M. Huc took in going back from Lassa; the other route came also by Lassa, but further north; both these routes were detailed in the *Journal of the Asiatic Society*.

Mr. SAUNDERS remarked that that was the centre of all the Chinese trade in the south-west.

Dr. CAMPBELL having pointed out these routes on the map, further remarked that Huc and Gabet remained a whole year at Lassa, and returned by the lower route. There was no doubt we might do a good trade with Lassa, if roads were opened to the frontier of Thibet. The distance from Darjeeling to Lassa was not more than 500 miles, and such means of communication as existed had been followed for a long time. He agreed with Mr. Spencer Price, that the difficulties of crossing the frontier were imposed by the Chinese government officials. They were most exclusive, but the Thibetans were not so. They were a pastoral people, and a trading people, and their religion was a tolerant one. Mr. Saunders did not sufficiently distinguish between the Chinese people and the Chinese officials. The officials were certainly very exclusive; the Chinese people, he believed, were not so exclusive. The instance mentioned of the Chinese officials meeting Capt. Austin on the frontier was a parallel case to that which he (Dr. Campbell) experienced. Having crossed the frontier, he was met by a Chinese official attended by 100 men, and similar representations were made to him that were made to Capt. Austin. The custom was for every pass to be visited once a year by an official, who deposited a stick, on which was recorded the name of the official, the date of the visit, and the names of four or five witnesses. The stick which was deposited the year before was taken away and sent to Pekin, so that they had authentic records of every pass from Thibet to India sent every year to Pekin. With regard to the physical difficulties, Mr. Campbell said it was easier to go from south to north than from east to west, but the fact was the people went both ways.

Mr. CAMPBELL said he referred to the crest of the snowy range only.

Dr. CAMPBELL said of course it was impossible to pass that way. There was a route through the centre of the Himalayas, but when the snowy range was approached, there was no passage from east to west.

The CHAIRMAN, in summing up the discussion, said the question before them had been dealt with in so elaborate and interesting a manner, that he was relieved from the pleasure and duty of trespassing upon the time of the meeting at any great length, but he would refer to one or two of the salient points raised in the discussion. The object of the conference was to investigate how they could best promote trade between India, Central Asia

ever that there had been trade between these parts of the world from time immemorial. The object, therefore, was not to create a trade which had never existed, but to promote a trade which might be developed something very valuable to our merchants. Before discussing this question, in order that his remarks might be better understood, he would divide this long line of mountains, which he would divide to the south-east, into three sections: first, that from Eastern Turkistan to Western China; and then he would offer a few remarks with regard to Western China itself. Dr. Campbell had truly said that the obstacles in the way of promoting trade between Assam and north of the Himalayas were of two kinds—one political and the other physical. In one section, in another section, the physical difficulties were both throughout the whole length. With regard to the Afghan section, the political difficulties predominated. It was a great cause, though the roads leading to it were as good as they might be, there was a great difficulty to prevent merchandise being transported on beasts of burden, if not by carts. If they were to believe the statement of Mr. Hill, who had recently travelled in those parts, there was a route known as the Chitral Valley route, which was traversible by laden carts. He was not prepared to say that this route was not announced to the public.

The physical difficulties were of two classes—first, those arising from lawlessness of the inhabitants; and, secondly, those which were created by the advances of Russia. No doubt, without going deeper into the political part of the question, Russia was anxious to absorb the trade of that part of Asia, and would do all she could to prevent the entrance of European merchandise into that part of the country. Coming to the next section, from Kashgar to Western China, which included Great Thibet and Little Thibet, there the physical and political difficulties might be said to be about equal. Amongst the former they might include the great loftiness of the Himalayas, their extreme width, the precipitous character of the mountains, and the numberless rivers which intersect them. Then, under the political difficulties they might include the local arrangements of different countries through which the trade would have to pass—Cashmere, Nepal, and Bhootan. The Rajah of Cashmere imposed prohibitive duties; the Nepaulese ruler would not permit European traders to pass through his territory; and the difficulties in Bhootan were sufficiently well known. The political element in the political difficulties was the important element in the political difficulties. There was a difference of opinion on this subject, some persons thinking that the prohibition was due to the Thibetans themselves, and others that it was due to the conduct of the Chinese government. He was one of those who thought it was originated entirely by the Chinese, as far as we had knowledge of the country before Chinese influence extended to it; we had no difficulty in getting the way into that country; and another proof of the fact that Chinese influence was withdrawn from Eastern Turkistan, the difficulty of finding our way into that part of Thibet had diminished. Mr. Shaw had no difficulty in getting to Kashgar. But, on the other hand, it was to be remarked that that policy, though originated by the Chinese, had been followed by the Thibetans in some parts, certainly by the Rajah of Nepal, whose exclusive policy was as strictly defined as that of China. His own impression was, that the real reason why the Chinese policy had been adopted by certain chiefs on our own territory, and by the Rajahs in certain parts, was the fear of our aggressive policy—our tendency to annex. There was no doubt that we had got a bad name for that throughout Asia. That

was the feeling evidently of the late King Theodore of Abyssinia, when he said that, under the guise of promoting the interests of his country, we aimed at its conquest; and Mr. Palgrave, in his work on Arabia, said that our reputation was of the highest order for dealing justly, but the natives had a notion that the further we were off the better it was for them. The Nepaulese had always gone upon that notion, and he ventured to say they were perfectly right. It was, as far as he knew, the only instance in all India where the king of the country could really be said to rule his own dominions. The Rajah of Cashmere exercised considerable authority, but it was only during the six months that Europeans were not permitted to go there. We must endeavour to dispel that feeling, and to show that the interests of those countries would be received. In the case of Eastern Turkistan, the position of Russia in the country was a great cause, though the roads leading to it were as good as they might be, there was a great difficulty to prevent merchandise being transported on beasts of burden, if not by carts. If they were to believe the statement of Mr. Hill, who had recently travelled in those parts, there was a route known as the Chitral Valley route, which was traversible by laden carts. He was not prepared to say that this route was not announced to the public.

two speakers, he thought had underrated the value of the commerce between Assam and Thibet. He thought it was not large at present, and he did not think it would ever be so. Its chief value would be, when we had access to the sea, borax, and that which was found only on the north of the country, and which could be transported with great difficulty. The great advantage of opening out a trade appeared to be that the chief persons in the country in it would be Europeans. There would be a great number of European settlers throughout the Himalayas, and their chief markets would be the countries north of the Himalayas, and he thought it was a great object to increase the number of those settlers. Nothing would strengthen our hold of India more than a large number of settlers throughout the country. The object was not so much to develop a large trade to bear a considerable amount of taxation, but such a trade as would lead to the spread of European settlers. That appeared to him the chief value of the trade at present. Mr. Saunders said, with regard to Bokhara, it was a great mistake to underrate the value of that country, because it was part of the country from which an immense number of people in the world's history had overflowed.

Mr. SAUNDERS said he embraced the whole of Central Asia, including Mongolia. The CHAIRMAN—The question is, which cut both ways. It was a great mistake to underrate the value of that country, because it was part of the country from which an immense number of people in the world's history had overflowed. Mr. SAUNDERS said he embraced the whole of Central Asia, including Mongolia. The CHAIRMAN—The question is, which cut both ways. It was a great mistake to underrate the value of that country, because it was part of the country from which an immense number of people in the world's history had overflowed.

important places pointed out by Sir Henry Rawlinson were Chang-king, Tali, and Bathang. Those places were the important entrepôts, and Tali was described as being a very beautiful place. There were several interests to be consulted in connection with this question. First, those of the commercial people who wished to get their goods into those markets, goods, for the most part, of a bulky description; then there were the tea-growers of Assam and others, who were anxious not only to dispose of their tea in those countries, but also to procure labourers for their plantations. The notion at the present time was, that the Assam people had strong influence at the India-office, and that they were considered in preference to the merchants of this country. Dr. Campbell had advocated a route through Darjeeling.

Dr. CAMPBELL—Yes, because it is our own territory, and free from hindrance.

The CHAIRMAN—Col. Hopkinson was in favour of the line via Towang to Bhamoo and Tali. Dr. McCosh, who had written an elaborate paper on this subject, advocated the route known as the Petkoi route, and there were others who advocated the route from Calcutta through Dacca to Munipore and Bhamoo. Then there was the other line by way of the Irrawady to Bhamoo; and, lastly, Captain Sprye's route from Rangoon, right across to the Mikong river, which debouches at Saigon, a French settlement, a river of great geographical interest, from being one of the most brilliant geographical explorations of the present century. The expedition sent out by the French ascended the Mikong, then crossed over the difficult country of Yunan, and finally descended the Yang-tse-kiang. The only regret in connection with that exploit was the loss of Captain Lagrée, who died on the journey. These several routes might be classified into routes leading from Calcutta direct, and from Rangoon. The difficulties, he believed, were great, not so much on account of distance, but of the jungly nature of the country. Capt. Sprye's route had been strongly advocated, and an elaborate memorial in favour of it had been presented by the Chamber of Commerce of Huddersfield, which set forth the advantages of that line. The great objection to it was, that it did not lead to anything. Having got over a very difficult country they arrived at the Mikong, which was not navigable throughout, and they did not tap the rich country they wished to reach. The most available line seemed to him to be that from Rangoon to Bhamoo. The Irrawady, however, he was told, was not so pleasant a one as it looked; in summer it was dry, and in winter it overflowed the banks in a manner that rendered it difficult to navigate. That was the reason why a railway from Rangoon should be carried as far as it could be. If the King of Burmah could be induced to allow of the extension of that railway through his dominions it would accomplish a great thing, because there was no difficulty between his country and Tali, and, upon the whole, it seemed the most feasible way of tapping these two large provinces. The next question was, what could the government do to help the British merchant in this matter? The Duke of Argyle had lately stated that the hands of the India government were full. There was scarcely any part of India where it was not desirable that some sort of roads should be made, and the government must choose those which would give the greatest amount of convenience, and do them first. He believed he was right in saying a railroad in Burmah was in contemplation. It was also highly desirable that the Assam route should be well surveyed, for it was impossible to form a correct opinion till that had been done. Confining what he was saying to the Himalayan mountains, he agreed it was desirable that Lord

Dalhousie's road should be completed as quickly as possible. He was very familiar with that road, and at the time he left Simla in 1861, it had been made about half way across the Himalayas and then left unfinished, which was like building a bridge half way over the Thames, and thinking that something had been done towards advancing the trade between the two banks. That road would tap Thibet at the very point where it should, in the neighbourhood of Garoo, which was the head quarters of the wool and borax trades, and the depôt of all the trade of that part of Thibet. But speaking generally with regard to the Himalayas he was not so much an advocate for making roads what he thought was more wanted was bridges. He could give a striking example of the importance of bridges in the case of the Chenab river. It was this: if a traveller leaving Simla desired to cross the Himalayas to Yarkand, he would follow a certain road which he (the Chairman) had passed over; he would, in about 10 days, arrive with his ponies and baggage at the Chenab river, which he must cross but there was no bridge, except one constructed of twigs which was hardly safe for a monkey to pass over; the ponies would have to be sent back; and to prosecute the journey, a fresh relay of ponies must be obtained on the other side. With the exception of that single river, one might ride on the back of a pony the whole distance from Simla to St. Petersburg. He was quite sure there were engineers in this country who would be able to construct a bridge over such rivers either moveable or permanent. What he recommended was, a survey of the Himalayas with reference to the points where it was desirable to have bridges, and then he would endeavour to get the best kind of design for a light iron bridge, capable of being removed if necessary during winter; and he was sure a few thousand pounds spent in that way would do more to improve the communication with the Himalayas, and intercourse with the natives of that country, than anything that could be devised. Dr. Campbell had referred to the importance of fairs being held in the neighbourhood of Darjeeling. He quite agreed with that, and Mr. Atkinson, who had written a work on Siberia, strongly advised the establishment of fairs at Moulton, on the ground that they would do more than anything else to encourage trade between the various races of the country. He thought that was about all we could expect the government to do. There was one thing the government ought not to do, viz., to throw cold water upon the expeditions of adventurous persons in these regions. The Duke of Argyle seemed to entertain the idea that nothing could be done for many years to develop the trade of Western China. That expression of opinion was rather calculated to disappoint and discourage those who were disposed to undertake these expeditions. It seemed, because we made mistakes in Abyssinia, we were now running into the opposite extreme; and because we had acted injudiciously in Africa, we were neglecting the important matter of extending our commerce in India. Mr. Wylie laid great stress upon the unsettled state of the Chinese provinces, and said there was no prospect of carrying on a trade there; but it was not to be taken for granted that they would remain in that condition for ever. In the meantime we should endeavour to make such arrangements as would enable us to take advantage of trade when those countries became in a more suitable condition for it. We (added his lordship) are a commercial nation, and we live by commerce; and if measures are not taken for extending it in every direction, we shall be very much like human beings who are deprived of the air on which they exist.

COTTON CULTIVATION AND SUPPLY.

The seventh conference on Indian subjects was held on Friday evening, 11th June, JOHN CHEETHAM, Esq., President of the Cotton Supply Association, in the chair. The subject discussed was—"Cotton Cultivation and Supply."

The CHAIRMAN, in opening the proceedings, said in the course which this Society had taken during the present session of discussing important questions connected with fibres and other materials, in which the industry of this country is very deeply concerned, he was glad to find the important one of cotton had not been overlooked. It was now six years ago since he had the honour of reading from this platform a paper on the supply of cotton to this country. At that time the American war had broken out, and the operatives of his native county, Lancashire, were in a state of great destitution and distress; and this Society, very wisely and properly, as he thought, brought this question before the public, in order that some measures might, if possible, either by private enterprise, or where government was concerned, by governmental authority, be employed to increase the supply of that material. He was told afterwards by many of his friends that the paper he had read, and the conclusion he had drawn of the American war, limiting our supply of cotton for a long period, was somewhat too gloomy and too highly coloured in an adverse state. He was sorry to say in fact it had not proved so; and at this moment, when eight years had passed since the commencement of that war, the state of Lancashire with regard to the operations connected with the cotton manufacture was one of great misgiving, and grave doubt and anxiety to all concerned. Employment had been already seriously curtailed, many of the most active and energetic operatives were emigrating to America and our colonies. We had before us, looking at the present year, an inadequate supply of cotton; and even for another twelve months there was not any prospect of any very large increase, sufficient materially to reduce the price, and thereby stimulate the consumption of the manufactured article. In this state of things the question was forced upon us as to the future course of that manufacture; and need he say if that were to go down, if our rivals on the Continent and in America were to any considerable extent to supplant us in the production of cotton goods which this country has hitherto supplied to the markets of the world, a very serious blow would be given to the national strength of Great Britain. Now, in that paper which he read six

years ago he stated what was the actual position of the cotton supply at the close of the year 1860, just previous to the commencement of the American war; and without troubling them with figures in detail he would state the per-centage, up to the close of 1860, of the whole cotton supply was, from the United States, 85 per cent. so that at that time the employment of our people depended upon the continuance of the growth of cotton in the Southern States of America. Now, if we looked at the actual state of things in America, we found the disturbance which that war occasioned by the breaking up of the system of slavery on large plantations, worked by slave labour, had led to a complete change in the mode of cultivating cotton—a change which, while it might hereafter give us greater certainty in the supply would for a long time to come very much limit the quantity produced. Previous to the American war, the cotton planter was a man with large estates in his possession; upon those estates he employed hundreds or thousands of slaves, and only employed them in the cultivation of cotton. By means of this forced labour, and the discipline he employed, he could depend (the seasons permitting) upon a steady and large increase every year; and so in 1860 we closed with a production of cotton in the States of America never equalled before, and which would take many long years before we see it again. For what now was the change? Instead of these large plantations, and large numbers of slaves, the plantations were cut up into small farms—not so small as in India, but much in a similar way, and the American planter, instead of cultivating wholly cotton, cultivated food crops, also like the Indian ryot, and so it was inevitable that, whatever might be the price, the increase of the supply from that country would be slow and gradual. Now at the present moment the expectation of supply from that country was supposed to give us about 31 per cent., that was in place of the 85 per cent. upon which we formerly relied. We should not, for this year, obtain more than 31 per cent. The next countries to which we were accustomed to look were Brazil and Egypt. In 1860 they sent 8 per cent. of our consumption; this year we expected 24 per cent.; so that we saw that two countries had made a considerable increase. Egypt, three years ago, quadrupled her supply of 1860; but she had gone back, and for the last two years had not given more than double the supply of 1860. There were many reasons given for that. The main one, he believed, after all, was what was found the great difficulty of every country, except India, and that was the want of labour. Many people supposed that cotton could be easily grown

of a climate and soil suited for it; but it was a cultivation which required a large amount of labour and attention, and in no country but India did we find an adequate amount of labour available for extending the growth of cotton to the amount we require. Then some of our own colonies were supposed to be capable of increasing their very limited supply; but, he was sorry to say, he had not been disappointed, because he never expected we should increase the supply from that source. With regard to the West Indies, which formerly sent a considerable supply, the cultivation of cotton had been totally superseded by that of sugar; and, notwithstanding the very high price given for cotton, it had produced no increase of cultivation there whatever. So also with regard to our colonies of Australia and Queensland, which his hon. friend the member for Manchester took so large an interest in, though he admitted that Australia had, during the last few months, sent a larger quantity than was expected, yet with labour at 8s. or 10s. per day, he could see no very large result in the cultivation of cotton to be relied upon. We had, as he had stated, some cotton from Brazil, a country admirably suited for the growth of that commodity, but there again the obstacle of want of labour interfered with the increased production to any great extent. Therefore we were driven, if we would look for an adequate increase in the supply, to India. Previous to the American war the average supply from India was about 500,000 bales per annum; it had been for the last three years 1,500,000. One would say threefold was a fair and adequate increase, but it did not at all satisfy him. Had the recommendations of the Cotton Supply Association been attended to by the government, he ventured to say the sufferings of the operatives would have been spared, and their forced emigration would not have taken place. If there were any gentleman present representing that government he would be happy to prove his words. There laid at their door great and deep responsibility for the sufferings which the population amongst whom he resided had had to pass through. Sir Charles Wood told them government had nothing to do with the cultivation of cotton; that it was interference infringing upon the laws of political economy. He (the Chairman) would answer that. The whole government of India was an infringement of the laws of political economy. It began with the cultivation of tea; it was at present cultivating opium, manufacturing jute, and carrying on iron works, and would any one tell him that all these put together were to be compared with the promotion of a trade which last year took £30,000,000 from this country to India for the payment for the raw material cotton. They never got any assistance from Sir Charles Wood, but, on the contrary, nothing but opposition. But what was done? There was a gentleman whom he had met in this room, who he believed had read a paper before this Society in connexion with the cotton-supply of India — Mr. Shaw. He was a collector in the Mahratta territory. The American planters had been there, and when they left it was officially recorded that the growth of American seed was impossible in the climate of India. Now, Mr. Shaw, of whom he spoke, happened to be a Scotchman, who had had some early training in agricultural pursuits, and it occurred to him that he would himself take up that in which the Americans were alleged to have failed, and he began, unaided by the government, without their sanction or direction, and solely by his influence with the ryots, who looked up to him where they would not look up to a European stranger, he was enabled to introduce with profit the cultivation of American seed in that district, and that seed, when he left the district, produced the best cotton that was grown in India. He was sorry it no longer maintained the position. Mr. Shaw was succeeded by Dr. Forbes, who paid little or no attention to the matter, though he was dignified with the name of cotton commissioner. The Cotton Association

becoming acquainted with what he was doing, stated their want of confidence in his services, and disclaimed all connection with him in his capacity of cotton commissioner; and ultimately the propositions made by the Cotton Association were assented to in a limited way. The government appointed a gentleman as cotton commissioner in Bombay, purposely to take under his attention the selection of seeds, whether indigenous or foreign, and for the great object of improving the quality, as well as extending the cultivation of cotton, and that was the only public officer the government had appointed in that capacity; and so far they had reason to be gratified with the results of his labours: and he had no hesitation in saying if, instead of one cotton commissioner, there were a dozen in various parts of India, an adequate return would be made in the extension of the cultivation of cotton. The Marquis of Tweeddale, who took a lively interest in the efforts of the Association, invited their attention to a project of his own when they asked for the appointment of this commissioner. It was that they should obtain the services of a skilled man to attend particularly to the selection of seed. The association considered the proper selection of seed, and its distribution in districts cultivated with an inferior quality of cotton, was important. Earl de Grey and Ripon agreed to this proposition, and a practical Scotch gardener was selected for the duty. The government subsequently added three others; and thus the official expenditure of the government in regard to the maintenance of a product of the value of £50,000,000 per annum consisted of one cotton commissioner and four skilled gardeners! Earl De Grey and Ripon was succeeded by the Marquis of Salisbury; and certainly, during the short time that nobleman was in office, those interested in this matter looked for the most favourable results in the promotion of their objects in India. Unfortunately, he retired, and was succeeded in the office by Sir Stafford Northcote, who had not courage to act in this matter. The fact was, the council behind had great influence, and the right honourable gentleman had not the courage to resist them, and nothing was done. Seeing that we had an able man in the person of the Duke of Argyll, he (the Chairman) had the honour to accompany a deputation to the Duke on this question, and a memorial was presented setting forth the objects which it was thought the government ought to take up, and the means by which it was believed they could be accomplished. In America, the cotton cultivation yielded an average of 300 lbs. per acre. [Mr. BAZLEY, 460 lbs.] Official records did not put it so high as that, and he took it at the lower figure he had given. What was the Indian ryot producing? Only 60 lbs. per acre, or just one-fifth what the American grower was producing. If we could bring up the yield per acre in India to what it was in America we should be now receiving three millions of bales per annum from India; and to attain this end was the object of the propositions submitted to the Indian government. He was sorry to say an official letter, which had been received in reply, gave him but little hope of anything being done. Unless we could obtain other assistance from the India Office than had hitherto been afforded, he saw no chance of anything being effected. We could look for no rapid increase of supply from India, and our operations must be left to the slow increase from America, which he thought was a great mistake, whether we looked to the interests of India on the one hand, or the important interests of England on the other.

Mr. ROGERS said that he would be happy to give his experience with regard to the Presidency of Madras, having had none in any other part of India. He would say he thought there was very little that the government could do with regard to increasing the supply of cotton. His own opinion was that the cultivation of cotton in India had almost reached its full limit, seeing it was necessary in that country to grow grain for fodder for cattle as well as cotton. He did not know any part of Madras where cotton could be

taken place in this room on the various products and resources of India had been to arrive at a conclusion that there ought to be an Indian department of agriculture; that the government should undertake what the government of France and other despotic countries undertook. After all, he believed the grand difficulty which lay at the root and foundation of the thing was the want of technical education, and more especially agricultural education. It was the case to a great extent in our own country; and it was the case that we had not educated the natives of India in these matters. In that matter we must begin at the beginning. What had we done in India with regard to the higher classes of natives? There was in India a class of people designated by the name of zemindars, who were expected to perform the functions of our English landowners. In the province of Bengal, where the experiment was first tried, those men were educated to a very high point. The consequence was, though they were versed in the classics and philosophy of Europe, if they came to be agriculturists they hardly knew a horse from a cow. They were without the smallest rudiments of agricultural knowledge, and those were the men from whom they expected such great things in connection with the agriculture of India. The ignorance of agricultural matters which pervaded the native landowners was felt by ourselves. An ordinary English gentleman had no education touching agricultural matters. It was much the same with planters who went out to undertake commercial enterprises in India. A good many of them did not know a horse from a cow. Take the case of tea cultivation. Gentlemen paid large sums of money for tea estates, and, in some cases, they engaged gentlemen educated as midshipmen to take charge of those tea plantations, because there was not a supply of technically educated Englishmen, or natives, to do these things. The fact was agriculture in India was a difficult and complicated thing, and under entirely different conditions from those which obtained in this country. It was not enough to import our ideas of subsoil ploughs and agricultural implements and say to the natives, "Here is proper machinery for your use—adopt them!" The natives would tell us they knew the methods which were best suited to their soil and climate. This was illustrated by his predecessor, Sir R. Temple, who went to a great expense in importing into the central provinces the best agricultural machinery that England produced. But what was the result? The people were brought together to see these implements, and they admired them as such, but they could not be brought to use them. We could not *per saltum* introduce our machinery into India. It would be as reasonable to talk to them in the English language as to talk to them of the English methods and appliances of agriculture. They must begin upon an entirely different system, and for that they must not trust to the government alone. The thing could only be done slowly and laboriously. They might have cotton commissioners, but they must be practical men—men educated not only in the details but also in the science of agriculture. He believed that model farms might be introduced with great advantage by the government; and he thought there was a good deal in the proposition for a department of agriculture in India. It might be said, with truth, that in the various provinces there were boards of revenue, whose function was to look after the land revenues, and in doing that to look after the landed interest generally. But here again there was the difficulty that they had not the special knowledge that was required. Therefore he agreed that much might be done by the establishment of a central department of agriculture in India. But, in addition to this, there was another aspect of the matter which must not be overlooked. That was the preparation, or he might call it semi-manufacture, of the cotton, and the imperfect manner in which this was done had occasioned a great deal of the mischief in connection with Indian cotton. On this head he might refer to the success which had been achieved

by the indigo manufacture. That plant was well known before Europeans went to India. They bought the indigo from the natives, manufactured it, and worked it up for the market. He believed Europeans could do great things by purchasing and preparing cotton in the same way. All he could say, in conclusion, was he had not heard from the chairman the exact particular practical methods by which he would have the government proceed to improve the cultivation and supply of cotton. The government was doing what they could, and he (Mr. Campbell) as an individual officer protested his willingness to do all he could; but those interested in this country must put their shoulders to the wheel also.

Mr. CHADWICK, M.P., having expressed his concurrence with all that the Chairman had said with respect to the conduct of the government, remarked that it had been his lot to take a humble part in connection with the cotton movement in Manchester for many years; therefore, it was with some interest he had listened to the observations of Mr. Rogers and Mr. Campbell in defending as far as possible the action of the government in regard to the cultivation of cotton in India. Mr. Campbell thought all had been done that could be or ought to be done, and that it rested with Providence, or a department which time might bring forth, to cultivate cotton to the extent which he thought ought to be attended to immediately. He would like to say to Mr. Campbell, in reply to his inquiry what it was the Manchester people wanted, that they had told the government of India, Sir Charles Wood's predecessors and successors, and other officials of the Indian government, a thousand times what they wanted. In few words, to repeat it, it was this: There was a great demand for cotton in England; we had been mainly deprived of the American supply; India could produce it in unlimited quantity; we had the opportunity of extending the cultivation in a country under our own government; why not, then, take practical measures to do so? He denied that the government had adopted the practical measures which had a thousand times been pressed upon them. Mr. Campbell said, what could the collectors do, who had so many other duties to perform? He did not blame the collectors; they had more duties than they could attend to. But he said a government which was paternal, and had almost absolute power, could do ten times more in fostering the cultivation of that article than a constitutional government like that of England. He said there were hundreds of thousands of acres capable of producing cotton, but the government had failed to apply the proper stimulus or the growth of that staple. It was true that during the last ten years the export of cotton from India had increased threefold. That showed to what extent it could be increased; and if it had so increased under existing discouragements, to what extent might it have been increased if proper encouragement had been given. With a trade already worth £30,000,000 per annum, what should a paternal government do? They should make more roads, and make arrangements to stimulate trade; it should encourage every facility that could be given to that trade. He had for some years taken a part in this matter with his friends in Manchester, and they were taunted with "Why do you not send your capital out to India?" He had no hesitation in saying a large sum of money had been expended to stimulate the growth of cotton in Dharwar, under the solemn promise of Sir Charles Wood that he would provide roadways to Sedashegur, and the whole of that money had been lost through the defection of the government in not fulfilling their solemn promises. He believed in the next ten years the growth of cotton in India might be increased sixfold or tenfold. There could be no better trade for India than the production of cotton. If they continued their labours in this direction he believed they should obtain from the present government some great advantages in the appointment of cotton commissioners, and in the establishment of agricultural colleges and model farms in India; and from these measures, in conjunction with the introduction of the

"flower pot." The growth of cotton from American seed had, in 1861, increased from 25,000 cultivated by Mr. Shaw, to 300,000 acres, but for want of that European superintendance, which is indispensable in India, the quality has deteriorated through the carelessness of the natives in mixing the native with the American seed. If Mr. Shaw had been sent out to India again, the production of cotton there would have been nearly doubled, the American seed yielding about 100 lbs. of cotton per acre, while native seed only yields about 50 to 60 lbs. per acre. Mr. Campbell had hinted at one or two means of carrying out improvements in the cultivation of cotton. He had mentioned as one, the establishment of a Board of Agriculture. He (Mr. Smith) thought that was a good idea; but there was also wanted a Board of Public Works. He believed he was justified in saying that if the Marquis of Salisbury had remained in power he would have laid out £50,000,000 in the development of India. The expenditure in public works in India must be increased. In proportion as the country became more civilised the wants of the people would increase, and with the expenditure on public works the revenue would increase; and there was no better way of adding to the public revenue of the country than stimulating and encouraging an increased production of cotton. He was sorry to say the Indian government, up to this time, had not shown a desire to meet the views which had so repeatedly been urged upon them on this subject. He hoped the time was coming when they would be disposed to listen even to the interested people of Lancashire, because in so doing they would advance the general prosperity both of this country and of India.

Sir CHARLES WINGFIELD, M.P., agreed with Mr. Campbell in thinking that those who had cast blame upon the government had made no specific suggestions as to what they wanted. They talked of encouragement and stimulus to the cultivation of cotton, but did not tell them in what way they wanted the government to assist. He thought too much was expected of the government. They seemed to be under the impression that India was like a Carolina plantation, the whole soil of which could be applied to the cultivation of cotton; but they forgot that the Indian government was not the landowner. Throughout the whole of India there was a right of tenure as secure as it was in England, provided the proprietor paid the land tax or tribute that was imposed, and the government had no power to dictate to the ryots what particular kind of crops they should grow on their land. Take the province of Oude. He did his utmost at the time of the American war, to promote the cultivation of cotton. In that province the land was held, in large estates, by individual proprietors, and, to oblige him, they evinced their readiness to promote the cultivation of cotton. He procured seed from the Manchester Cotton Supply Association, and a large portion of that seed was sent into the province of Oude. The proprietors of the land distributed that seed among their tenants; for two succeeding years a very beautiful quality of cotton was produced, but they said it did not pay them so well as sugar. It was a mistake to suppose that the laws of supply and demand did not operate in India. As a proof of that, he would mention the enormous increase in the exports of oil seeds consequent upon the Russian war. He had gentlemen interested in this question during the American war, that if they wanted superior cotton from India they must send their agents there, must not only furnish the seed, but show the natives the sample they required, and also give an assurance that they would meet with a market on the spot, with ready-money payments for their produce. He believed that was done the demands of the home market would be readily met. With regard to roads, he believed the provinces of India and the whole of the north-provinces were admirably supplied with roads, and in the exception of the Ganges and Jumna, which in some of the principal lines of traffic were bridged with

boats, there was scarcely a stream which was not bridged wherever a road of any importance led to it. There was scarcely a part where a laden hackery cart could not go. In fact the great complaint in India at the present time was, that the price of produce had risen very greatly. Why was that? Because of the facilities of communication. When there was scarcity of an article in one part, a supply was brought from another part where the article was abundant. The question was, what could the government do to promote the cultivation of cotton. The government could do little or nothing through their present officers; they could not, as he had already said, bring pressure upon the ryots because they held their land independently of the government, but even supposing they wanted scientific instruction in agriculture, the collectors and officers had not leisure to give attention to it. Those officers were already weighed down with the various duties they had to perform. But he thought a suggestion which was made by Mr. Bazley, a few days ago, was worthy of attention, viz., that the government could establish schools of agriculture and model farms, where the best implements and modes of tillage could be shown to the natives, and where the best seeds and plants might be grown and distributed to the natives. In conclusion, he would say he had served the government for many years, and was aware of the dissatisfaction expressed in this country at the seeming backwardness of the government. He thought that was a wrong impression. He knew Sir Charles Wood had given dissatisfaction, but he thought, in many cases, the result proved he was right, especially in refusing his sanction to the sale of waste lands except by public auction, inasmuch as those who bought those lands came begging to the government to be relieved of their liabilities. On the subject of irrigation, he believed it was the intention of government to spend thirty millions in irrigation works. He thought such works as irrigation should be undertaken by the government, because they gave great returns in the improved fertility of the soil. He did not believe they would pay in the case of companies, because the mere sale of the water would never yield a large return.

The discussion was adjourned to Friday evening, June 25th, on the motion of Mr. THOMAS BAZLEY, M.P., seconded by Mr. HYDE CLARKE.

The adjourned Conference was held on Friday evening, June 25th, JOHN CHEETHAM, Esq., in the chair.

The following communication from Lord WILLIAM HAY was read:—

The importance of developing the cultivation of cotton is recognised by all parties. Probably no one is ignorant of the extent to which the natives of India have profited, both morally and materially, in consequence of the large demand for raw cotton created by the American war.

Nothing lowers the moral tone of a people more effectually than wide-spread indebtedness, and it is no exaggeration to say that the wealth poured into India in payment of its cotton, during the American war, raised not thousands but millions of our native subjects from a state of humiliating dependence to one of independence, and, in many instances of affluence. The causes which produced the exceptionally high prices prevailing in India within a comparatively recent period no longer exist.

The cultivation of cotton has shown a tendency to fall off, and it is not unnatural that those interested in the manufacture of cotton goods should be most anxious to prevent the production of that valuable article from dwindling into its former narrow limits. The merchant has thus been brought face to face with the government. The merchant charges the government with having done practically nothing to encourage the growth of

while the government replies, "On the contrary, we have done all that a government can do without violating the laws of political economy."

On Friday last, the conduct of the government was criticised in severe terms by many gentlemen of weight and knowledge. They were defended by two distinguished members, one of whom, Mr. Campbell, stated that no practical suggestion was offered for the consideration of the government. The best answer to this allegation was to be found in Mr. Campbell's own speech, in the course of which he made several recommendations which he thought ought to be adopted. They were, first, that a separate department of agriculture should be instituted; second, that practical scientific agriculture should be taught in our Indian schools; third, that measures should be introduced; and fourth, that gentlemen appointed to the post of cotton commissioner should be practical men, conversant not only with the details but with the science of agriculture.

Now, here we have a considerable catalogue of measures, which even a warm defender of the government believes might be advantageously, but have not been, carried into effect; and let it be remembered that they are neither new nor original. The principal one, viz., that of a separate department of agriculture (a plan which I myself prefer to the introduction of mercantile members into the council), having been proposed, three years ago, by Mr. Ayrton, in an elaborate speech in the House of Commons on the night of the Indian Budget.

The truth is, that every measure which has been adopted within recent years for the extension of cotton cultivation has been the result of strong external pressure brought to bear upon an unwilling government. Such trifling measures as the appointment of a commissioner, and of three or four experienced gentlemen, would never have occurred if such pressure had not been used. The practical lesson to be drawn is, that nothing will be done by the Indian government except in obedience to a strongly expressed public opinion, and therefore the motto of the merchant should be—*agitato—agitato*.

It is quite true that there are some things which the government can, and some which it cannot be called upon to undertake. It cannot, for instance, be asked to increase the breadth of land devoted to cotton. The natives must be left to themselves to decide what they shall grow in their fields. To employ any sort of compulsion would be to follow the short-sighted policy which is now embarrassing the Dutch in Java.

The government must confine its efforts first to such indirect means as improving communications both by land and water; and secondly, to showing, by experimental farms and other similar methods, how "two pounds of cotton may be made to grow where only one grew before."

Again, the law that a demand will always produce an adequate supply must not be taken literally in a country with such peculiar conditions as India. Take, for instance, the cultivation of cinchona. In no country in the world is the want of quinine more constantly felt, but that want has produced no cinchona, and we should have no quinine if government had not been introducing the cinchona plant into India. The same may be said of tea. Indeed, it would be interesting to have a comparative estimate of the sum of money spent by the government on the extension of cotton cultivation. We suspect that the sum would have been reckoned out of *jejeune* to it, and as an article of *jejeune*, and it is curious to note that, in the Indian accounts laid the other day upon the table of the House of Commons, not a farthing appears to have been spent upon promoting cotton.

Mr. Cheetham declared that our government in India was constantly infringing the laws of political economy; but he would have been still more correct if he had said that India was precisely in that condition recognised by

political economists as being in violation of the ordinary laws of that science. Indian statesmen are to be criticised on this example was given by Mr. Campbell—on which occasion, rather than on any other, he had economy hundreds of thousands of our people were allowed to die of starvation.

But besides, the government of India is not true to its own economical doctrines. At this moment it is spending annually immense sums of money upon a telegraph through Persia, and it is not doing all in its power to promote one private enterprise, the detrimer of another. It is this inconsistency which has more than anything else, and the unpopularity of the Indian government. The following passage from the writings of Mr. Mill should be written in letters of gold on the wall of every Indian school.

It is, however, no part of the duty of government to command the individual to do that which defines the cases in which the particular circumstances of the individual there is scarcely anything really important to the general interest which it may not be desirable, or even necessary, that the government should take upon itself, not because private individuals cannot effectually perform it, but because they will not. At some times and places there will be no roads, docks, harbours, canals, works of irrigation, hospitals, schools, colleges, printing-presses, unless the government establish them, the individuals are either too poor to command the necessary resources, or too little advanced in intelligence to acquire, or not sufficiently practised in conducting, the means. This is true, more or less, of all countries inured to despotism, and particularly of those in which there is a very great disproportion between the people and the government. It is, however, no part of the duty of government to be conquered and to be ruled by a more enlightened and more powerful people.

It is quite true that there are some things which the government can, and some which it cannot be called upon to undertake. It cannot, for instance, be asked to increase the breadth of land devoted to cotton. The natives must be left to themselves to decide what they shall grow in their fields. To employ any sort of compulsion would be to follow the short-sighted policy which is now embarrassing the Dutch in Java. The government must confine its efforts first to such indirect means as improving communications both by land and water; and secondly, to showing, by experimental farms and other similar methods, how "two pounds of cotton may be made to grow where only one grew before." Again, the law that a demand will always produce an adequate supply must not be taken literally in a country with such peculiar conditions as India. Take, for instance, the cultivation of cinchona. In no country in the world is the want of quinine more constantly felt, but that want has produced no cinchona, and we should have no quinine if government had not been introducing the cinchona plant into India. The same may be said of tea. Indeed, it would be interesting to have a comparative estimate of the sum of money spent by the government on the extension of cotton cultivation. We suspect that the sum would have been reckoned out of *jejeune* to it, and as an article of *jejeune*, and it is curious to note that, in the Indian accounts laid the other day upon the table of the House of Commons, not a farthing appears to have been spent upon promoting cotton. Mr. Cheetham declared that our government in India was constantly infringing the laws of political economy; but he would have been still more correct if he had said that India was precisely in that condition recognised by political economists as being in violation of the ordinary laws of that science. Indian statesmen are to be criticised on this example was given by Mr. Campbell—on which occasion, rather than on any other, he had economy hundreds of thousands of our people were allowed to die of starvation. But besides, the government of India is not true to its own economical doctrines. At this moment it is spending annually immense sums of money upon a telegraph through Persia, and it is not doing all in its power to promote one private enterprise, the detrimer of another. It is this inconsistency which has more than anything else, and the unpopularity of the Indian government. The following passage from the writings of Mr. Mill should be written in letters of gold on the wall of every Indian school. It is, however, no part of the duty of government to command the individual to do that which defines the cases in which the particular circumstances of the individual there is scarcely anything really important to the general interest which it may not be desirable, or even necessary, that the government should take upon itself, not because private individuals cannot effectually perform it, but because they will not. At some times and places there will be no roads, docks, harbours, canals, works of irrigation, hospitals, schools, colleges, printing-presses, unless the government establish them, the individuals are either too poor to command the necessary resources, or too little advanced in intelligence to acquire, or not sufficiently practised in conducting, the means. This is true, more or less, of all countries inured to despotism, and particularly of those in which there is a very great disproportion between the people and the government. It is, however, no part of the duty of government to be conquered and to be ruled by a more enlightened and more powerful people.

Mr. Bazley, M.P., after expressing his thanks to the Chairman for presiding over the conference, and to the Society of Arts for the facilities afforded for discussing this important subject, said that some years ago he had the honor to occupy the chair, when the late Prince Consort honoured him by occupying the chair; and he then stated at considerable length the views which, he was sorry to say, were not the present time as patent as they were then. The trade at that time was largely supplied from the Southern States, and he felt convinced that the Southern States were disastrously affected on occasion he asked this pertinent question, "Might not disease or revolt materially destroy the culture of cotton by the Southern planters of America?" The prediction

had been lamentably fulfilled, and at the present time, in the cotton trade, perhaps there was a degree of suffering and distress never previously existing. Capital was diminishing in amount, the labouring classes were deprived of their ordinary comforts, multitudes were unemployed, and many had diminished means of subsistence. Now the question was, where should we turn to obtain the relief that was so much needed? We had seen that America had failed us. At the time he had referred to, America was supplying us with 85 per cent. of the cotton we consumed, and at that time the British dominions only supplied us with 7 per cent., whilst other sources sent us the small balance of difference. Well, now we were in the position of having to some extent altered the condition of things, for the American supply had been unavoidably diminished, and he was glad to do India the justice of saying the supply from that great dependency was increased. Before going further into the questions touching the general interests of the cotton question, he would refer to the great fact that the Chamber of Commerce of Manchester had, for a considerable period of time before the period he referred to of 1851, made efforts to induce the East India Company to form roads, to introduce railways, to construct canals, and to promote irrigation, he was sorry to say, without much effect. At the same time he would do full justice to the East India Company for having had the spirit to send to the States of America for a number of cotton-planters, to initiate the cultivation of cotton in India. He need not tell them that was a failure. The Chamber of Commerce felt the difficulties were so great of governing India by a commercial company, that at last they determined to apply for the substitution of an Imperial government. That Imperial government was established under the government of which Lord Stanley was a member, and he issued a most enlightened proclamation. In 1858, the East India Company ceased to exist as a governing power in India, and the Imperial government was called into existence. It would have been well if that new policy had had the practical application which Lord Stanley put forth. He would not deny the progress that had taken place since the Imperial government had been established; on the contrary he admitted perhaps no country in the world had made progress so rapid as British India since the establishment of the Imperial government. But that government stood almost alone. We knew quite well that in India there was scarcely a public opinion existing. We knew quite well that there were no capitalists in India, as in this country, willing to engage in different enterprises, none who would have projected railways, none who would have projected public works, none who would have entered into the cultivation of the soil with any spirit, and very few indeed who were prominent as leading merchants. At the same time there were bankers who had great wealth, and who had evinced by their pecuniary transactions all the avidity for pecuniary accumulation that other men had; and he would do the Parsees the justice to say, that there were few cleverer men than the Parsee merchants of Bombay; but there was no public opinion and no enterprise on the part of wealthy middle-class men; and, with the paternal government which Mr. Campbell referred to the other evening, it was clear unusual and important duties devolved upon the Imperial government. They stood in the position of controllers of that great territory which had been accumulated by a commercial company—a company that did very little for commerce, but paid a great deal of attention to the addition of territory to territory; but the present Imperial government, he hoped, having consolidated the empire, would not aggrandise by additions which would not add to the power of their position, but would rather pursue a course of conciliation and improvement which would benefit the great body of people, and raise them in the scale of civilisation amongst the nations of the earth, while the intercourse between Great Britain and India should give rise to a prosperity to

which alike India and this country were both strangers. He would now proceed to the analysis of this great question which they had met to discuss. We must have public works established; we should, he ventured to say, have not less than twenty millions expended as quickly as possible in great public works, in additional railways, and roads of communication that would be feeders to the railways. We ought to have canals, and above all a great increase in the means of irrigation. The quality of Indian cotton was very inferior; but he condemned the powers that ruled in India by an authority peculiarly their own. He had the pleasure of knowing the late Dr. Royle, the botanist of the East India Company, and a more enlightened and intelligent man he had rarely met with; he was sorry that death had deprived them of his services. Dr. Royle had put on record this clear and explicit statement. He said:—"Facts respecting quality and price afford sufficient proofs that India is capable, in many parts, of producing good and serviceable cotton, and at a rate cheap enough to contend even against the large returns of America." Now, we had beautiful specimens of cotton, from time to time, from model farms, and from gentlemen who had speculatively directed attention to the growth of a little cotton, and he had seen specimens of cotton from India as good as we could desire to possess. He had been so anxiously desirous of doing everything in his power to direct public attention to the necessity of having large supplies of cotton from new sources, that thirty years ago he was himself induced to make experiments in the cultivation of cotton in the city of Manchester. He was then successful in producing cotton that had never been excelled in quality in any part of the globe. He had brought specimens of that cotton with him, and that article which he produced in Manchester took the highest position, while the Indian cotton at that time took the lowest position. When the American planters were on their way to India, and came through Manchester, he took them to see his plants, of which he had a considerable number, and they did him the honour to say that they never saw stronger or better plants in the States of America. The plants grew to a height of six feet, and produced cotton abundantly. If, then, he could produce cotton of that quality in the gloomy climate which Manchester was reputed to possess, surely in a country where the plant was indigenous, and where it had been cultivated for 2,000 years, it was possible to improve its quality and increase its growth to an almost indefinite extent. He felt confident that might be accomplished, if more attention and decided application were given to the matter on the part of those who had the direction of affairs in British India. The Cotton Supply Association of Manchester had assiduously prosecuted the attempt to get increased supplies of cotton from India; but he could not say that their labours had been crowned with that success he thought they were entitled to, though he thought they had done much good, but such services as they had rendered had been surrounded by difficulties. They sent out to India the New Orleans cotton-seed; and he was glad to see a friend of his, Mr. Cassels (of the firm of Peels, Cassels, and Co., in the room), because it was through that house they were enabled to send a supply of American seed to the cotton-growers of India. He did not attach blame exclusively to the Imperial government or the East India Company, for unless an effort was made by the commercial community, as well as by the governing power for the time being, we should effect no improvement in the cotton cultivation of India. He took a more favourable view of the prospects than his hon. friends the Chairman and the Member for Stockport had done; however, he believed that reasonable suggestions to her Majesty's present Governor-General, through the Secretary of State for India, would lead to reasonable efforts being made, to which he thought the great industry of the cotton trade was really entitled. He believed by agricultural reforms a great result might be

achieved. He was glad to hear the very excellent remarks of Lord William Hay on the subject of sending inspectors, gardeners, &c.; and, to the credit of the Marquis of Tweeddale, he sent out a gardener to the cultivation of cotton. The results he had not yet heard; but he felt that if an additional number of cotton inspectors were appointed, with a suitable number of assistants, for the purpose of showing the people fairly in the principles of improved agriculture, the results would be very beneficial. Now, in this great and enlightened country we had a Royal Agricultural Society, and he did not hesitate to say the result of the action of that society had been to increase the yield of the soil of Great Britain, perhaps to an extent of more than 25 per cent. He found that, not only had the yield of wheat and other grain been greatly increased, but the improvement of the breeds of cattle had been very much promoted; and if, in a great wealthy country like this, it was found necessary to have a great organisation for the purpose of teaching farmers who had not been acquainted with those very principles on which their prosperity was founded, how much more necessary was it in India, with a population unaccustomed to European civilisation and to the cultivation of the soil on enlightened principles, to make every effort for the attainment of the objects we had in view. He had himself represented to the Marquis of Salisbury how desirable the appointment of a Minister of Agriculture for India would be. He believed Lord W. Hay made the same suggestion. It was known that in France the Minister of Agriculture exercised very important functions, and was a very useful member of the government. He did not know that there could be better service performed by any Minister of State than that of increasing the yield of the soil. After peace was settled, and good and honest laws had been established, he thought the development of the industrial resources of the country should be first and foremost. Therefore, he trusted reasonable representations made to her Majesty's government would be made to remove obstacles and give every possible aid for increasing the production of cotton in British India. In the year 1860, the consumption of Indian cotton in this country amounted to about 3,000 bags per week; but at that time we exported to Europe a considerably larger quantity of that cotton than we used. We then exported to Europe about 8,000 bags of Indian cotton per week. The quality being so inferior, and the American being so excellent, the British spinner would not even look upon Indian cotton. In the last year, he was glad to acknowledge, the quantity of Indian cotton we consumed amounted to 15,000 bags per week, or about thirty per cent. of the consumption during the year. The American consumption last year amounted to about 40 per cent. of the whole consumption, or about 20,000 bags per week, having been, in 1860, 85 per cent. of the consumption. But even last year we exported to Europe a large quantity of East Indian cotton. We exported it to the large extent of 12,000 bags per week, which we still refused to use on account of its inferiority; and yet, of course, the English spinner was not unwilling that the Indian cotton should possess the advantage of the highest price he could obtain, and no doubt higher prices were obtained on the Continent than in England, and therefore it was shipped to Europe. In his opinion, the great effort should be to promote the execution of public works; after that the science of agriculture should be engrafted on the people. Now, in his own experiments in the growing of cotton, he founded his labours upon such knowledge as he was enabled to obtain through friends and from published works on the subject of cotton cultivation, and he formed the soil of a mixture of good alluvial soil with sand and saline manure; but above all, he took care to give depth to that soil, and to sow the seeds of his future plants. Nothing could have been more successful. The cotton-plant threw out a deep, long root, called the tap-root, and it must have a soil that it could penetrate to obtain nutriment

and moisture. They knew that the ploughing operation in India did not exercise any great disturbing effects upon the soil. The plough did not penetrate probably more than three inches. He submitted there should be penetration, by ploughing or digging, to the extent of from twelve to fifteen inches, and the plants should have dressings of guano and salt, or of other saline manure. Guano found its way to every part of the globe save India. He knew, from his own experience, it was a successful means of stimulating the plant to yield abundance of excellent cotton. He could state the gratifying fact that, in the States of America, they had recently begun to use guano and salt as a dressing for the cotton-plant. Cotton was an exhausting plant to the soil, and either new soil was required, or dressing the soil with saline manure. The yield of cotton in Georgia in the States of America had hitherto had not been more than 500 lbs. per acre, and was produced in the great valley of the Mississippi; while the yield there was, on an average, more than 500 lbs. an acre, Georgia did not produce more than 250 lbs. or 300 lbs. per acre; but a personal friend of his own, who was interested in the cultivation of estates in Georgia, had informed him that, by the dressing of guano and salt, the yield of cotton in Georgia had been doubled, and was now quite 500 lbs. per acre, the same as in the valley of the Mississippi. He believed the Chairman thought the yield of America was not so much as he asserted, but he could state, for his information as well as that of his audience, that Mr. Edmund Ashworth, at a recent meeting in Lancashire, expressed his belief that the yield was little short of 500 lbs. per acre. The application of guano and salt to the soil, that, on an average of past years, the yield of cotton in India had not exceeded 50 lbs. or 60 lbs. per acre. There were exceptional instances where as much as 300 lbs. per acre had been produced. Previously to the American convulsion, the yield, in a pecuniary point of view, did not exceed, perhaps did not approximate to an average of 10s. per acre. The simple solution of the problem would be this—If, instead of cultivating the soil with cotton, the ryot cultivated one acre, and cultivated that one acre well, he believed the yield would approximate 400 lbs. per acre; but then he was assuming that the earth should be disturbed in such a manner that the roots of the plant could penetrate into it and obtain nutriment and moisture; that the plants should be supplied with the nutriment of saline manure; and that all the advantage of modern cultivation should be given to that one acre, instead of the attempt to cultivate a great number of acres imperfectly. If they came to a product of 400 lbs. per acre, and estimated the value of that at the normal rate of 6d. per lb., the yield would be exactly £10 per acre. Surely, with such inducement as that, it ought to be an effort made to secure the adoption of such a system; but at the present moment such cotton would be worth 1s. per lb., therefore the yield at that rate would be £20 sterling per acre. Without the effort to improve the cultivation, he was sure there would be no beneficial result. As had been stated in this room, the cultivation of indigo had been vastly improved; no indigo was grown superior to that from British India. They knew also that sugar had been immensely improved; and he was glad to acknowledge that excellent tea was to be had, the growth of India, though all the tea-planters there had not been particularly successful. He believed that was in a great degree owing to persons being sent out to superintend the plantations who had little or no knowledge of agriculture, or of the special cultivation of tea. Let them not send persons to cultivate cotton who did not understand the first principles of agriculture. He was glad to acknowledge that Mr. Carnack had rendered eminent service in the superintendence of cotton plantations, and he believed, during the last seven years, the quality of cotton had improved. Mr. Campbell stated he attributed the improved value of cotton to the better process of

cleaning, but he was glad to differ from that gentleman, and say that he thought the fibre was better and longer; and he had seen cotton from India, grown under ordinary circumstances, equal to middling American. He felt if the difficulty of growing cotton in India were fairly grappled with, the object of increased supply and higher quality would be obtained, but it would require the co-operation of government to take that position which, in the absence of public effort in India, must take the place of spontaneous effort in other countries. When we saw the state of the labouring classes in this country, we were bound to do what was in our power to ameliorate their condition; and a more melancholy spectacle he did not know than that of men able and willing to work, and not finding employment; and yet such was the case in our own country in the present day. But humanity had little to do with governing principles; at the same time, self-interest had a great deal to do with every government effort, and he was only surprised that the government of India had not, acting upon the great principle of self-interest, developed the agricultural resources of that great country. He would conclude his remarks by exhorting public opinion in this country to direct its attention to a source of wealth that only needed development to be secured to us, and he hoped her Majesty's Indian government would second the efforts of capitalists and the labouring classes engaged in the cotton trade, and that there would be less acrimony and more meritorious co-operation than had hitherto been witnessed. This week a number of labouring men came up to London, to seek an interview with the Duke of Argyll; his Grace received them kindly, and promised to give such facilities as the government could do without interfering unduly with private effort. For himself, he asked for nothing that could not be accepted within the rules of political economy. It had been said that a man was a benefactor of his race who raised two blades of grass where only one grew before; now, if they only got two bales of cotton grown where one only had grown, the promoter of that desirable result would indeed be a great benefactor. If we increased the quantity of the yield of cotton in India, it arose from two causes. If we could double the length of fibre, and doubling the length would only make it equal to ordinary American, generally speaking, we should double the yield by that process alone; but when we could increase the number of fibres as well as double the length, we should indefinitely increased the yield, and, at the same time, added to the value of the article very considerably indeed. He hoped the measures which had been so strongly urged upon the government would meet with a proper response, and contribute to the revival of the progress of the cotton trade in this country, and to the enduring benefit of India.

Mr. PADE CLARKE (late Cotton Commissioner in Turkey) said he had derived very great information from the remarks which had just been addressed to them, and he had felt the more encouragement in this the last of their Indian Conferences this session, because they were now in a position, in some degree, to measure the work in which they were engaged. There had now come to hand Indian newspapers containing the proceedings of the first conference on tea cultivation. The *Calcutta Englishman* and other papers had given those proceedings at considerable length, and there could be no doubt they were producing a large amount of good in India; and he had much gratification in learning, from the secretary of one of the tea companies, that he had eliminated the practical points of those conferences, and sent them to the managers of the company with whom he was connected. He could not but feel assured that the proceedings in which they were now engaged would lead to no less useful results; in fact, he was in some degree confirmed in this by those whom he hardly dared call the opponents of the increase of cotton cultivation in India, but those officials of the government who had spoken in defence of the proceedings of the government.

Their friend, Mr. George Campbell, had shown plenty of reasons for doing what was right, though he apprehended neither that gentleman nor any other member of the government had shown any reasons against doing what he (Mr. Clarke) thought was pretty well proved to be right in reference to this matter of cotton management. In fact, if the government was not in a position to carry out any measures for the extension of cotton cultivation, he should consider it a great reflection on the government of India and the able men concerned in carrying out its administration. It was an unfortunate difficulty they had in dealing with a question of this kind, that those who were the best authorities on India—those who had lived there and had the best knowledge of it—were in the habit of giving very contradictory statements, and this partly arose because they spoke of different parts of the country. Thus, there was one remark made by Sir Charles Wingfield, in corroboration of others who had spoken, in which he affirmed that the roads of India gave full satisfaction, and that the government of India had done its duty in that respect, and consequently, so far, the complaints of those interested in cotton cultivation had not adequate foundation. They knew the high position which Sir Charles Wingfield occupied; they knew, likewise, that neither he, nor any one of those who had spoken, was capable of making a deliberate misrepresentation of the facts, but he apprehended there must be a wide divergence of opinion as to India in general between those who maintained that the roads were adequate and those who complained that they were far from being satisfactory for such purposes. It was agreed on all hands that, before the improvements of the government, there was scarcely a road in India generally; and if we looked to the book published every year showing the progress of India, and looked to the department of Roads and Public Works, we should find there very little to prove that India could be adequately supplied. Considering that India was deficient in roads 30 years ago, even if the 30 years since had been altogether periods of absolute improvement, instead of the expenditure having been checked by various causes, it was not easy to see how that want of roads had been supplied from the funds available. These funds have been the ferry funds, which have not been so very big in operations, which were very small in their original amount, and which, except in some collectorates, are still very limited. The municipal funds are only of recent institution. The imperial funds have been limited, sometimes stopped in times of financial difficulty and revolt, and have been chiefly applied to the main trunk roads. The Act No. xxii., "For Works of Public Utility by Private Persons and Companies," was only passed in 1863, and can hardly have had much effect as yet. It was not the cotton people solely who complained of the want of roads, but every one who came in contact with the government on that subject. In the case of the Bombay and Baroda railway, the company reports as a cause having operated prejudicially on the traffic, "the want of roads in the stations." The Chairman (Lieut.-Col. French) said (*Herapath's Railway Journal*, p. 614), "the reason the present section of the line would not pay better was that there were no roads to the stations." In reference to the Oude and Rohilcund Railway, the engineer (*Herapath's Railway Journal*, p. 612) reports—"The course taken by the lines in Rohilcund is over a country very favourable for the construction of railways; the traffic met daily, passing over roads anything but good, is particularly heavy, and highly promising for the commercial success of the line." Then a point had been made that certain products were confined to particular soils and districts, and that there they had received adequate encouragement. Indigo was pointed to, but if we looked at those products which received great development, such as indigo, jute, oil-seeds, &c., we should find these were produced in districts well provided with cheap means of water transport; but cotton was an article which could be grown all over India, and it was a pro-

particularly required a cheap means of transport, and it wanted water transport, or something equivalent to it. In a great part of India there was no water transport for cotton, and if it had to be carried in bullock-hackories, as Sir Charles Wingfield said, the cost of such transport was very heavy—10d. and 1s. per ton per mile. He had to investigate these figures some years ago, and he was helped being struck with the fact that, however heavy the charge appeared when calculated upon transport on bullock-carts, yet it came to 8d. or 9d. per ton per mile. It was a matter of the greatest importance to bring down those rates of transport if we were to encourage a cultivation like cotton. He would like to say a few words about the American planters who had been alluded to, but he would simply call attention to the fact that the Ottoman government likewise invited American planters, he believed it was about the same time that the Indian government invited American planters to go to India. They failed in Turkey, throwing a very heavy loss upon the government, and upon a great many private individuals. But did the Ottoman government then on that account? No; the government set to work again, and succeeded where the American planters failed. We must not be disheartened by results arising from such circumstances, which had no real relation to the question itself. With regard to transport, it was of the greatest importance to cotton that the cost of transport should be reduced, inasmuch as the growing price of that as well as other articles was the price at the port of shipment; therefore, the price to the cultivator was the price at the port of shipment, less the cost of transport there. If they took the price given by Mr. Bazley at 6d. per lb., the cultivator would receive 3d. per lb. If we could reduce the price of transport a halfpenny or a penny, that money went into the pocket of the cultivator, enabling him to extend and improve his cultivation. In conclusion he would say two or three words with regard to the question of a Minister of Agriculture, which so many speakers had supported. Only the other day, at the Statistical Society, Mr. Walowski, a member of the French government, triumphantly spoke of the fact that, through the action of the government—because we all know that the government and not the public—the production of wheat in France had been increased from a measure of 90 to 130. Comparisons had been talked of between the governments of France and India. The people of France were not the people of India, but the people of France were much freer than the people of India; and if under such circumstances they could derive so much advantage from the intervention of a Minister of Agriculture, we might derive some advantage from it. He would say with regard to the question of political economy—he would go further than Mr. Mill, and say the science of political economy was one thing and the science of politics was another; and though in a country like this we might come nearer to pure science, yet in a country like India we must look to the practical application of the science of politics itself.

Mr. Looms, C.E., began by drawing attention to the mode of cultivating cotton in the North-Western Provinces, and said that it was sown "broadcast"; therefore it was necessary to flood the whole field. He said that very little irrigation was used, and that cotton had to be sown in the rains, the first to moisten the soil, and the second during the hot and dry season, which was in June. He then went on to state that irrigation was carried on from wells, each watering being to a depth of about 2½ inches, and that for a crop of cotton such waterings were sufficient, or, in all, that where canal-water was used, two or three waterings as much water was expended; so that, in his opinion, the natives injured the cultivation very often

by using too much water. In comparing the cost of water raised from wells an average height of 30 feet, he stated that the cost of one continuous discharge of one cubic foot a second, in the Punjab, he had found cost the cultivators £383 12s., while the cost of the same volume from a canal was only £50 a year. Mr. Login said he would not give his personal experience of the yield of cotton in the Punjab area, but gave an example of the yield of sugarcane, under proper cultivation, which yielded six times the value of produce to what the natives were able to get from an equal area. This experiment was made 30 years ago, at the Jaharmpoor Botanic Garden, and Mr. Login believed that a similar result would be obtained from the cultivation of cotton. He then went on to say that even now, with canal water, by his calculations irrigated land could support 1,319 inhabitants per square mile, while Lieutenant Scott Moncreif, in his work on irrigation, states that in Valencia, in Spain, no less than 1,774 are fed by the produce of one square mile of irrigated land. Mr. Login, therefore, drew the conclusion that, as the Doah had on an average 466 inhabitants per square mile, if all could be matured the land could feed three times its present inhabitants, and therefore one-half of the thickly inhabited part of India might be set apart for the cultivation of sugar, indigo, cotton, &c., for the European market. Mr. Login next stated that the catchment basin of the Ganges was estimated by Colonel Kennedy at 760,000 square miles, and if only one-eighth of this area was set apart for produce for the European market, this would represent an area of nearly 100,000 square miles, and, as the climate was as good as any in the world, there need be no longer any want of cotton in our markets. In discussing the question of transport, Mr. Login advocated navigable canals in Northern India, to be carried as far down country as Allahabad, where the Ganges becomes navigable all the year round, and he believed that could be done with advantage to the present and all future railways, by relieving them of the transport of bulky and cheap goods. After stating that the North-Western Provinces had several good roads, some of them better than any in England, though in Northern Bengal there were hardly any, in proof of which he spoke of a road known by the name of the Panch Coss ka Sirich (the ten mile road) from a traveller being able to go over it a distance of ten miles during the rains, Mr. Login concluded by drawing attention to what was said by Sir Charles Wingfield at the previous meeting, about the natives complaining of the English rule having made food dearer, and said this was a remark he also often heard, and he himself had known wheat selling at 10s. the quarter in some districts, but probably in other parts of the country the inhabitants were starving. Canal officers had, perhaps, more than any of hearing what the people said, and he mentioned an intelligent zemindar, when speaking to Mr. Login of the beneficial effects of the Ganges Canal in 1860, the famine year, said the villagers from being "kastcars" are now "sowcars," that is, from being ploughmen are now men of property. In support of what fell from Sir Charles Wingfield, he had drawn on the board a diagram showing the rise of the price of wheat along the line of the East India Railway during 1866, the year of the famine in Orissa, and great scarcity in Bengal. Meerut is highly irrigated, and so is Alighur, yet for all that the prices were much higher at Alighur, because it was on the line of the railway and nearer to Bengal, the place of demand. By the calculations he gave in a letter of his, which he read in the *Calcutta Engineers' Journal* of 1866, he proved not only that the price of grain was higher where it was away from the highly irrigated districts, but that the profits at Cawnpore, Allahabad, and Benares, were one and the same, namely, 26 per cent. on the outlay of the corn-dealers. This diagram, therefore, at once showed how improved communications raise the prices of food in some localities. In that year

the prices were 23s. a quarter at Delhi, 29s. 7d. at Alighur, 41s. 9d. at Cawnpore, 44s. 8d. at Allahabad, and 47s. 1d. at Benares. During the present winter, at Delhi the average price of wheat was 40s. a quarter, or double the average, though the produce of the neighbouring district, Alighur, was only 12½ per cent. below that of a good season. So some idea may be formed of the scarcity in other districts, and of what benefit the railway and the roads in Upper India must have been to the country in a year like that just gone by. Regarding model farms, Mr. Login stated that he had advocated their introduction for more than a dozen years back, and he was now glad to see abler and stronger advocates were now coming forward in support of them.

Mr. CASSELS (of Bombay) remarked that a good deal had been said about roads, principally, he believed, with regard to the North-Western Provinces and Bengal. He would say a word or two about the Presidency of Bombay, which was the most important with regard to this question. If roads were wanting, it certainly was in the southern Mahratta country. A railroad there, with roads branching out, would bring cotton to market in large quantities before the monsoon in better condition than it would after the monsoon; and the roads would open up the trade of the great province of Mysore, which was now shut up. In Guzerat, roads were wanted to feed the Great Trunk Railway. It was fair to add, there was difficulty in making roads, as there was nothing but black soil, and the metal would have to be procured to make them. This was a question which had always been one of great interest to him, and he was one of those who took a gloomy view with regard to future supplies from America. He never expected the same quantity again as before the American war. He believed labour in the Southern States, under the burning sun, would never be congenial to the white man, and he believed the negroes, when left to themselves, instead of multiplying and increasing would decrease, and ultimately die off the face of the earth; consequently, it was more and more necessary that the attention of the government and the public at large should be given to India, for from that country alone could we obtain cotton to feed the mills of Lancashire. The quality of East India cotton, during the last fifteen years, had greatly improved; he thought he might say it was 30 per cent. better than it was twenty years ago. What they wanted was, in the first place, good roads. They could not put compulsion on the natives to grow improved cotton. The land they held was heritable and transferable. It could be bequeathed or sold so long as the tax was paid to the government, and there were many reasons of state policy why we should not compel the natives to grow certain produce. But what the government could do was to carry out works of irrigation by means of large loans. They ought not to be afraid of doing it. He believed the government might lay out fifty millions of money with the greatest advantage. He thought a great mistake was made in paying so much money out of the revenue to public works, by which a large deficit was shown which really did not exist. The cost of keeping up works should be paid out of revenue, but not the cost of constructing them. Almost all public-works might be considered as reproductive works, even barracks, if carried out with a proper regard to sanitary science, would save many valuable lives. If the government would not be timid, but would raise large loans to open out the country right and left, it would greatly increase the quality of cotton from India.

Mr. ALLAN said the few remarks he would offer had reference to Western India. He had the honour of being sent, three years ago, at the instance of Mr. John Fleming, to obtain a local knowledge of the country, and the results of his six months' tour from Scinde to the Deccan enabled him to form an opinion as to what might be one of the most effectual means of promoting the object now under discussion, viz., the improved and extended culti-

vation of cotton. There could be no doubt the first object was the establishment of good roads, and throughout Western India there was a lamentable want of good roads. They had now a main line of railway from Bombay to Nagpore, 500 miles through the cotton growing districts. There was also a line through the Deccan, to the extent of 300 miles. Those two lines were now bringing the cotton as fast as it was delivered to them. The want of cross-roads had been severely felt as also the maintenance of the existing district roads in a better state of repair. The line through Central India would open out that part of the country immensely. Many of the local roads leading to the main-line to Delhi and also to Calcutta, were being put in order, especially he believed that from Kundewar to Indore, which, at the time he was there, was a most miserable road. From what was told him at Nagpore it was contemplated to proceed vigorously with that road. He thought one of the most practical means of promoting the objects in view was the establishment of a Department of Agriculture in India. If a Minister of Agriculture were appointed, with a cotton commissioner in each district, that would be a means by which practical results would be quickest and best obtained; and there could be no doubt the appointment of a cotton commissioner in Western India had been one of the main causes which had led to the development and improvement of cotton cultivation which had already taken place. He could speak of this personally, from what he had seen in Kandeish and Central India. He could also bear his testimony to the efforts of Mr. Carnac in stimulating the production of cotton, and bringing it in the best condition to the market. He had established an excellent market in the district, and everything had been conducted by him on the most systematic principles. In this course he had been zealously aided by the ryots themselves, who saw that in all that was done there was the single desire to benefit them; and this had been, he believed, more or less the conduct of all the cotton commissioners. What was wanted was that government should appoint a Minister of Agriculture, and cotton commissioners throughout the country. If that were done, no doubt an immense and rapid improvement would be observed.

Dr. ARCHIBALD CAMPBELL remarked that he had never been stationed in any great cotton-producing district, but he had a recollection of the manner in which the roads leading to the Ganges were blocked up with cotton carts, and the difficulty with which the packages were piled upon the rafts like haystacks. That was to a great extent remedied by the railway, which was a trunk line along the great river, with but few feeders from the interior. He knew many large districts where cotton might be grown to a large extent, but that there was no real internal communication. People at Allahabad imagined they were in the interior, but it was merely a large trunk road. What was wanted were village roads between one producing part and another. As far as Bengal was concerned, there might be said to be no roads at all. With regard to Mr. Bazley's experiments in Manchester, he (Dr. Campbell) made some experiments in the Darjeeling Terai, at the foot of the Himalayas, with Sea Island cotton. He got the seed from England, and sowed it on the low lands of the Terai. Having no practical knowledge of the cultivation, he gained such information as he was able from the natives, and he followed their plan, except that he took care to keep the plants clean, and not mix them with other crops, as the natives did. The result was, the production of cotton which, when sent to England, was pronounced of long fibre and excellent staple, and would be a valuable article in the market. That experiment, if it had been followed up as it ought to have been, might have led to large results; but it was sufficient to prove the fact that Sea Island cotton could be grown on waste land at the foot of the Himalayas, of superior quality to the cotton of the country; and if manure was applied,

would rise in the ratio Mr. ... of land in an impoverished ... 50lbs. of cotton, it was quite certain it ... or six 50lbs. if it was nourished with ...

... hills, which we had ... acquired. ... it was a reasonable ... that the government should begin, though it ... in the day, with cotton as they did twenty ... ago with tea. With regard to the American ... sent to ... seeing them there, ... and he believed ... two causes. It was ... they should not succeed, ... were not the most competent men. The ... was Bundicund, where the climate ... there was no ... were shown ... January. The ... and grew rapidly. He ... tried at the foot of the ... and. He entirely agreed ... the admirable suggestion of Mr. Bazley, that ... attempts should be made by the government to ... the cultivation of cotton, by placing it under ... dependence of persons practically versed in ... and horticultural science.

... said, having ... of his life in ... and having had ... of the American ... referred to, he had large opportunities of ... this subject, with regard to the increased ... and improved quality of Indian cotton. The ... Company had been at work for upwards of ... trying to grow cotton, by all manner of means, ... kinds of experiments, and with the assistance of ... kinds of men. He believed they had spent upwards ... a million of money in those experiments in the last 50 ... as the hon. member for ... They still continued to ... of cotton from India, ... was spoken of, which no doubt ... roved agriculture. The natives of ... of people. They were ... vastly superior to ... of the United States, and ... they were altogether ... of people that England ... ought to take the greatest care of, because while almost ... of the races capable of working in hot climates were ... dying out, these men were able to labour in India and ... to cultivate the products of tropical climates to an ... advantage, without risking the sacrifice of European ...

He would further remark that the cotton ... of India was a totally different plant to that ... sea, both in habits and product. The American ... grows rapidly under a nearly tropical sun with ... constant showers of rain, which continued during ... nearly the whole growth of the plant. The best ... in Western India, and the ... in the cotton-fields at Broach ... were something wonderful to look upon, and ... that part of the country were famous for their ... agriculture; they had a thorough appreci ... of manure and rotation of crops. It was wonderful ... find this knowledge in men who had no education in ... matters, except what they derived from their fore- ... bers. He believed the produce of the Broach planta- ... tions was quite equal to 100 lbs. per acre, and was of a ... staple which he was sure Mr. Bazley would approve of, ... and adapted to half the looms of Manchester. Having ... contrasted the produce of agriculture in this country fifty ... what it is at the present time, Dr. Burn ... remarked that he approved of the idea of ... instructing the natives of India in the principles of agri- ... culture, and bringing under their notice improved imple- ... ments of agriculture. He thought it was a mistake to ... irrigation as the salvation of India. It would, ... tend to mitigate the miseries of famines, but

would not wholly prevent them. The ... against such visitations was ... of former days, viz., by the ... of grain and water, as well as ... for their cattle, because it was ... grain occurred in that country.

The Chairman, in closing ... that he would find, from the ... had been ... confirmation of the ... pressed in his opening remarks ... this country would not succeed ... quantity or the quality of ...

... so at a time when the ... its labours and pres- ... garded it as a fortunate ... commenced its labour ... out. They were then ... every part of the globe, and it was ... find that, though in various parts of the ... was not only ... for the ... yet ... blood ... to extend the cultivation of cotton ... India, we find there two remarkable th- ... not be forgotten—first, that they grew ... the earth; and ... acre. II ... to get up a cotton ... showed at the ... waste land ... have grown ... within the ... whole community of ... and what little the country ... whereas, if the government ... upon hundreds of thousands of ... the country—an influence which ... produce from 60lbs. to 120lbs. ... whole of the work would have ... that influence to be brought to ... that the introduction ... been the cause of in ... in Dharwar. The quantity ... that plant were carried into ... vast improvement in the ... wanted the government to do, and what they had ... promised time after time for years to do, was to ... give instructions on this subject to the collectors of ... every district where cotton was cultivated, to stimulate ... them to it by increased salary or civil distinction, and ... then the work would be ... and Mr. Ashburner. ... were so much occupied ... that they would not ... matters, it was urged upon ... the Government should appoint cotton commis- ... sioners charged with a specific duty. They could get ... nothing for ... good, but they pressed upon ... and to Bombay. There was ... actually no tenure of land; there was no protection of ... the rights of the ryot; and he was driven to the thirty ... years' tenure. Then they found there were neither roads ... nor railways; and he assured the meeting, from his ... personal labours in that office, nearly every railway in ... India had been forced ... the government. Then they asked ... agricultural department of the ... to cotton alone, but embracing the whole agriculture of ... the country. Look what had occurred within the last

If the ... have been ... specially

... which should ... most infan-

India. As he ... taken up the

three weeks, in consequence of the absence of such a provision. The Cotton Supply Association received a letter stating that the seed in Kandeish had failed through drought, and unless £10,000 was provided for the purchase of fresh seed in other parts of the country, they could not cultivate cotton for the forthcoming year. This matter was represented to the Duke of Argyll, and when he ascertained what the state of things was, he telegraphed to the government at Bombay, directing that sum of money to be paid over to Mr. Ashburner for the purchase of seed. It was said at the last meeting the cotton interest had not stated what it was they wanted. He replied, first, cotton commissioners; then they wanted them to plant in some districts exotic seed, and in others indigenous seed; then they asked them to introduce the most improved descriptions of agricultural implements. The Cotton Association had, at its own cost, sent out manures and fertilisers to have them tried. Look at the predicament they were in. There was no public officer in Bombay to receive them; and it was only through Messrs. Peel, Cassels, and Co. that they were sent to Mr. Ashburner to be distributed by him to such cultivators as he could get hold of. At this moment there were thousands of operatives in Lancashire willing to work; they could not work; many of the mills were closed. Hundreds had taken ship from Liverpool, to transfer their experience and their labour and energy to the States of America. All this he laid at the door of the Indian government, boldly and openly. The only pressure put upon them had been a long official letter, recounting the failures of those American planters who were thought to be dead and buried. The exceptional thing the government had done was to appoint two cotton commissioners and four gardeners, and this latter petty cost was all they had done to preserve a trade which was now thirty millions per annum, and he saw no reason why it should not be forty or fifty millions. He could not talk calmly on such a state of things when his thoughts turned to the thousands of operatives at this moment suffering from the diminution of labour; he hoped some of his friends in Parliament would not let the session pass without bringing public opinion to bear upon the state of things described.

Mr. J. C. Wilson writes on this subject as follows:—
 "I cannot help remarking, in a few words, upon the position which it seems to me the Indian government occupies upon this question. That position is this:—Its members say to us, 'We recognise the importance of your question; we are willing to assist you, but what can we do?' Is that, I ask, a position which is worthy of a government which professedly represents the intelligence of a nation? It is surely deplorable to be told, as we have been told by Mr. Bazley, Mr. Cheetham, Mr. Smith, and Mr. Cassels, that they—gentlemen representing the cotton interest of this country, one of its most important trades—have been vainly knocking at the door of the Indian administration for the past fifteen years, seeking to gain an entrance into its councils, for the purpose of inducing it to take real action in this matter of improving and extending the cultivation and supply of cotton in India, a matter which, if skilfully pursued, must end by unfolding a perfect mine of wealth to the country, seeing that, whereas there is only grown there at present from 40 to 50 lbs. of clean cotton per acre, there might be grown, under intelligent direction, from 300 to 500 lbs., this increased quantity being simultaneous with improved quality, and therefore of many times increased value. Surely, a government, which is really a government of India, ought not to require even any external pressure to induce it to take up that which I will venture to call its proper position, viz., the lead in such a matter. Now, what is the cause of this supreme unwillingness to deal with this and similar questions? We have such a very

patent effect, there must be of necessity an equal potent cause. I think, and I say it with sentiments of respect, and without wishing to raise a class question that it is to be found in this fact, viz., that the functions of government in this country, and more especially in that of India, are drawn too much from the upper classes of society—classes which, however estimable in themselves, have not had that education, in an experience of the pursuits of trade, which alone gives intimate and special knowledge and familiarity with its subjects such as to enable a man to enter confidently upon the path of progress and reform, and courageously encounter those difficulties which are certain to be found there, and with genius and skill overcome them. This being the case, what is the remedy? What would Mr. Bazley do, if he wanted to improve the cultivation and supply of cotton upon a property of his own in India? He would not attempt to fumble with the matter himself but would create a department specially charged with the duties of that particular business, and put an able man at the head of it, to act under his inspiration, and that not also the clear cause which the Indian government ought to pursue? Supposing such a department created—viz., a government trade department for the cultivation and supply of cotton in India (under a Minister of Agriculture, it may be), with its headquarters say at Bombay, and ramifications throughout all the cotton-producing districts of the country, what would be the results which might be fairly expected to follow? The position of the Indian government would be at once improved, for it would be recognised to have taken an important step towards the solution of a pressing problem; the cotton interests of this country would be satisfied, for they would find themselves in direct communication with a central agency of their own in India, open to their advice, and ready and able to disseminate their views and wishes, hints and experiences, throughout that vast country; and the growers of cotton might be expected to rejoice in finding an organisation established for their benefit, instead of the distraction and uncertainty which now prevail. They would very soon find out that they were free to resort to it for information and advice, and all questions relating to manures, implements, and seed would quickly come under its notice. Indeed, I can see it might be possible to make this institution self-supporting. But it must always be under government control, in order to give it unity, strength, and authority; and because it is essentially a revenue department, not for its collection merely, but for its creation. It might have the very important duty to perform of reporting to the higher powers of government what public works were found to be necessary in its practice or experience (such as roads, railways, canals, or improved river navigation), for the purpose of promoting the supply of cotton by means of cheaper carriage alone. And there is the question of irrigation. In truth, if presided over by men well-acquainted with their business, such a department might very soon be engrossed in most useful work. And is it not really needed? We have lately heard it argued in the Society's rooms by a late governor of Madras, an able and eminent man in his way, that because a cast-iron wheel of a threshing machine, when broken, could not be quickly or certainly replaced at present in the country districts of India therefore, it was undesirable and impolitic to encourage the importation of agricultural machinery into that country. To anyone acquainted with the subject, it would seem more intelligent to say that all machinery likely to be beneficial to India ought to be imported, and if village foundries are required to execute repairs, let them be by all means established. They would constitute another industry, if only in the first instance for repairs. Further, we have been told by some of the officials of government in India that they are already overburdened with the number of their duties, and each of them is yearly in-

ing in amount with the increase of population. There is no other good reason why they should not be enabled to take those duties which relate to their own interests which they are comparatively unacquainted with. These Indian Conferences that have been held under the auspices of the Government are more than the ordinary ones of the government. They have done much good both to the country and to the people. We shall have more extensive trade and more employment. They are not mere talkers, nor yet of any great practical value, and progressive Englishmen.

... writes as follows:—"It is a fact that the country is being not only upon the highest interests of the inhabitants of India, and therefore of the government, but upon an enormous manufacturing population in this country, that the Government should withhold my small share of the produce of the soil and association with the people. One gentleman, who has been in the management, will produce 25s. per acre, while, for the same land, the ryot, after deductions, can hardly be said to receive more than 25s. for his present crops. Now, after such a fact as this being admitted, can any one doubt the enormous value of the production of this country to the people of that country, or the necessity and importance of making all considerations subsidiary to its production, which all profess to desire? It is said by some that efforts have been made and failed, to induce the native population to take to this profitable mode of cultivation; but to me it appears very important to know by whom, and in what manner, these efforts were made. One gentleman, who has been in the various appliances for the preparation of articles being introduced to the notice of the natives, they were much pleased, spoke very much in its favour, used them, but the moment your back was turned threw it aside, saying it was different from what they were accustomed to, and that their fathers and grandfathers did not use it. It is likewise said that Lord Tweeddale had a great interest in improving the cultivation, with Denison and other gentlemen, but that all had given up the matter in despair. Now, I must be pardoned for saying that I very much prefer an experiment, upon which such valuable results depend, being carried out by a practical person, intimate and acquainted with all the habits of the native population, and whose fortune, more or less, depends upon the result. We have incontestible evidence in that country of the success which has attended similar efforts when well and perseveringly conducted. There are two questions which have been asked of natives, three or four years ago, and answered as follows:—"India, when any change is wished for in their customs. The one is, that their fathers and grandfathers did not do it; the other, that they will lose caste if they do it. But experience constantly shows that they will do it, and will even lose caste when they get confidence in any change which will improve their condition."

... business of a cotton-mill... expect to see it in this country... discussion, in which an... could not reel silk as it was required, the solu-

tion of that apparent mystery was very simple. A practical gentleman told me it was a question of money; when I asked what that meant, he said, I mean that, as required, they had...

... by one of the eminent... with great success; the natives... the art, and practised it with great... and I believe large sums of money. If we turn to the preparation of... the same result, that is, an... its whole production... the closest attention... greatest care, the native, having been constantly and unceasingly tutored, does produce the finest art in the world without, if necessary, even the presence of European. I am entitled to speak with some authority on this matter, as although the value and... may say that on two occasions the... the country came from where I was, and... to me. Then, from the Mofussil or... India I turn to the various... I will go no further than... carpenters, tailors, shoe-makers, smiths, blacksmiths, &c., and themselves with marvellous... a month. I hope I have seen... and prejudice are not so deep-seated in the native population as is generally supposed, and that they are wanting in teachable ability. If I were... opinion, I should say, properly trained and... were equal to the least advanced of European. I recollect hearing the well-known Dr. Duff say, in his splendid orations, that the great pioneer of China was the destruction of the caste; but I have had a Rajpoot and a Brahmin in my service, who, when they saw my necessities, performed which I knew to be utterly destitute. Can it be supposed for a moment... indicated has been accomplished.

... because whatever, are incapable... I believe it is a great injustice... now come to another portion of... gentleman, very... of the population... the observation, that political economy forbids it. The gentleman adverted to the contract law, and he is met by the assertion that all jurists have... opinion that a breach of contract can only... Now, political economy... comparatively speaking, a... advanced state of civil... the European nations... out of place to... forms are were fit

... satisfied with one. Take... of sugar (the date sugar), and I believe... admitted that might supply the whole world at a fabulously price, but the population do not enter into it, all...

... the next not a true is to... ering and improving in... population until they are... career of... them in the hands of modern... It has been stated at these... remarkable how... we had... the native population; the... the Himalaya mountains... roots took... the surface... by the first storm, and this... possession of the country for... I know no better way of inducing these roots to grow

onwards than encouraging a great enterprise, such as cotton cultivation; and if I am asked for one of the best agents for the material progress of India, I should say it was an Englishman carrying on a cultivation of this remunerative character amongst hundreds and thousands of the native population, implanting in their minds the justice of all his transactions, settling their disputes, assisting them in their poverty, and exercising a wise discretion in all his relations with them, irrespective of all considerations of political economy, or the dictum of jurists. There are just three ways in which this cotton cultivation, it seems to me, can be carried out:—The one is, by the government taking up and carrying out the whole scheme, until it is matured and taken up by the natives; the other, that the parties interested should send out a commissioner and authorities of their own, on the distinct condition that they shall be effectually supported by the government, for, as has well been observed, the natives are very fond of authority, and more readily take to a novelty coming from persons in authority than any private individual; and the third is, that this shall be purely a matter of private enterprise. In the latter event, the only effectual way is to have a tenantry of your own, by under-

leasing an estate from a zemindar, where it is known there is a great deal more land in the hands of the ryot than they pay for, and where there is a good deal of excellent waste land, that the want of enterprise in the zemindar and the poverty of the tenant prevent being cultivated. In such an estate there ought to be a profit in the rental of five per cent., and much of the unpaid-for and uncultivated land might be utilised for cotton purposes; but I must emphatically warn those who may be interested in this matter from making large advances to the native population for these purposes. They may rest assured that the native mind is governed by two influences, fear and self-interest; that morality, truth, and honour are utterly unknown; that fraud, forgery, perjury, and the whole catalogue of vice which demoralise a community, flourish, and go very far to paralyze any efforts that may be made to reclaim them. I will just conclude with this, that if a proposition of this magnitude to that country and to this is to be looked upon coldly by authority, it is tantamount to saying that no further progress can or ought to be made, by the population of a country who have shown, to those best able to understand them, that they are capable of unlimited advancement.

DEPUTATION TO THE SECRETARY OF STATE FOR INDIA.

At a meeting of the Committee, held June 17th, the following resolutions were passed:—

That the Council of the Society move the Indian Government to offer a money premium for the best "Tea Cultivation," affording the greatest benefit to the intending planter.

That the Council of the Society move the government of India to take steps for providing, by means of a Department of Agriculture or otherwise, for the diffusion of information and for the encouragement of production in the manner of France and other countries. To which such recommendation would more particularly apply are:—Information regarding waste lands and the opportunities for acquiring or renting them; the various methods of agriculture which are or may be adopted in India; agricultural results and statistics; the use of manures; the cultivation of tea, cotton, silk, wool, and the other staples.

That a deputation wait on the Secretary of State for India, with a view to urging such recommendation."

His Grace the Duke of Argyll received the deputation from the Council and India Committee on Tuesday, the 13th inst., at three o'clock. The deputation was introduced by Mr. Thomas Bazley, M.P., and consisted of Sir Charles Wingfield, M.P., Major-General Clarke, Colonel Haly, Captain Thackeray, Dr. Archibald Campbell, Messrs. Edwin Chadwick, C.B., Thos. Eriggs, Hyde Clarke, J. Cheetham, jun., Maxwell Turnbull, Frederick Hendriks, W. S. Thompson, Andrew Cassels, J. Meppen, Charles Horne, and Thomas Login, C.E., with the Secretary and Assistant-Secretary of the Society.

Mr. THOMAS BAZLEY, M.P., in introducing the deputation, remarked that it was no new-born zeal which had actuated the Society of Arts in this matter, the Society for many years been desirous of improving the condition of British India, which it conceived could be done by developing its agricultural resources. His Grace was so fully aware of the necessities of India, it was unnecessary to trouble him with a detailed repetition of them, but he might refer to the matter of seed as being one of great importance. Any system by which sound, good seed could be furnished to provinces where it was known to be defective, could not fail to be of great advantage, particularly as his own examination of Indian seed this year proved to him that

a great deal of it was shrivelled and feeble, showing great want of vitality. He did not think one-tenth of what he had come under his own observation was really so good seed. This was seed sent to England for mercantile purposes. The great cause of bad seed he believed was lack of nutriment in the soil for the proper growth of the plant, which probably might be remedied by the use of suitable manures. He was not there simply to advocate the improvement of cotton-growing in India but also to mention coffee, flax, grain, and other things which might be produced with great advantage both to the cultivators in that country, and to manufacturers in England. He could not, however, forbear mentioning the lamentable news received this week of the comparative failure of the cotton crop in India.

The Duke of ARGYLL inquired what part of India the report referred to.

Mr. BAZLEY said he had only received information by telegraph, and the locality was not mentioned. He should state that Lancashire still remained in a state of great distress, capital was continually diminishing, and the working-classes were still suffering great privations with a wonderful degree of patience. Nothing could remedy this state of things but an increased supply of the raw material. American cotton was now 12½d. per lb., and good Indian 10½d. to 11d., which was nearly double the ordinary price before the American war. He was glad to find that the ryots were now beginning to reap some benefit from this advance in price, which, for a considerable period, they did not do. Indeed, an agent of the Manchester Cotton Supply Association found, two years after the commencement of the civil war in America, that in some parts of India that fact was still unknown. He felt convinced that if the government turned their attention to the development of agriculture in British India, it would have the most important results, not only in that country, but at home; and before concluding he might mention that at the various meetings which had been held recently under the auspices of the Society of Arts, the conviction seemed pretty general that more canals, roads, and means of irrigation were the main instruments required for developing the great natural resources of British India. With reference to the tea-cultivation he was able to state, from his own experience, that the commercial failure which had attended the operations of many tea companies arose solely from appointing as managers gentlemen who were, unfortunately, totally ignorant of agriculture in general, or the growth of tea in particular. He felt certain that his Grace would favourably entertain the application he now made, and that his powerful aid would ensure the success of any well-considered scheme for obtaining the objects sought.

Sir CHARLES WINGFIELD, M.P., said he had accompanied the deputation, believing that the information asked for on the subject of the different productions of India would be most useful, and that it did, in fact, exist in the records of the different governments, and only required collating and digesting in order to be made available. The dissemination of knowledge of that kind could not fail to be useful, and he believed it would be very acceptable; he also thought the establishment of a department of agriculture a matter well worthy the consideration of the government. If such a thing were determined upon, a certain number of new officials would be required as inspectors or something of that kind, for the servants of the government were already over-weighted by their regular duties, besides being deficient in the special knowledge requisite. Having conducted a great many agricultural experiments, he was in a position to speak as to the great blunders which inexperienced persons might easily make in such matters; and the natives being dependent on their crops for the payment of the revenue, it would be unjust to induce them to undertake the cultivation of articles which might not prove profitable. With regard to tea-cultivation, he was quite satisfied that the failures had arisen almost entirely from the inexperience or dishonesty of the persons who were entrusted with the management. The tea cultivation itself was not a failure, but most of the companies which had undertaken it had been ruined, the plantations being then sold to persons on the spot, who looked after them better. There might have been some little difficulties connected with the labour question, but he did not think they could have affected the result to a greater extent than five per cent. on the profit and loss account. In conclusion, he thought it right to add that, at some of the Society of Arts meetings, strictures had been passed upon the conduct both of the home and Indian governments for a series of years, but he had been obliged to state his opinion that such strictures were undeserved. He was quite certain that there never had been, on the part either of the home or Indian governments, any desire to throw any obstacles in the way of developing the resources of the country, but, on the contrary, every wish to encourage, as far as possible, the growth of cotton and any other agricultural staples which it was capable of producing.

Mr. HYDE CLARKE, as acting Chairman of the India Committee, begged leave to support the statement of Mr. Bazley. He hoped in a few days to be able to lay before his Grace, in a convenient shape, the reports of the conferences which had recently been held on this subject. The Society had exerted itself with a view to promote information on these matters in India, and had offered a medal on the subject of tea-culture. It appeared to the Committee that the government might constitute a department of agriculture for India, to act in a similar manner to the Minister of Agriculture in France and in other countries in Western Europe, not interfering with, but supporting, local improvements as far as possible. India, of course, was in a very different position to England or the United States, where parties were able to form local voluntary societies, but the Agricultural and Horticultural Societies had done a great deal of good in this direction. The Committee, therefore, begged leave to suggest that there should be a system of assisted exhibitions, such as the government had already begun in some parts of India, with a view to promoting and stimulating agriculture. They ventured to think that the government would be justified in so doing, inasmuch as it derived so much of its revenue from the land-tax, so that really any expenditure of money in this direction would, sooner or later, be reproductive. One great object to be borne in mind, of course, would be to relieve the present servants of the government from many of the demands made upon them, for every one who had had any special experience knew that it became a very burdensome tax on officials to be called upon to assist in the cultivation of cotton or tea,

of which probably they were entirely ignorant. He hoped, however, that by a greater division of labour and by the application of European intelligence, the government of India would be able more effectually to attain the great ends which they had in view.

Mr. EDWIN CHADWICK, C.B., said he attended as a member of the Council of the Society of Arts, who he believed had been of great service in bringing together the large consumers of tea, cotton, and other commodities and those who had struggled with the difficulties of producing these commodities in India. There was one topic bearing upon agriculture on which he had some special information, viz., the question of irrigation, and with respect to that he believed it would be of essential service to India if the results of experiments which were constantly being made in England and in other parts of Europe as to the application of sewage to irrigation, and so on, were systematically published in India, so as to prevent what he knew to be the case at present, experiments which had already failed in the West being repeated in the East. Most important alterations and improvements were now going on in France, which were well worthy attention. But even if only those methods which were unsuccessful were made known in India, it would be a source of great economy, and would be the first step towards arriving at perfection. For instance, one mode of irrigation which had been prevalent in Europe was one that treated marsh surfaces, and that had been carried on to an enormous extent in India, so much so that the line of one large canal could be traced by the mortality of the people living near it. From his own private information, he was enabled to state that important experiments were now being conducted in India on this subject, and it would be very desirable if the results of all such should be systematically collected and transmitted to the East.

Dr. ARCHIBALD CAMPBELL said he had been asked to say a few words on the subject of tea-cultivation in India. There could be no question that, as regards quality, the experiment had been eminently successful, and the quantity was only limited by the amount of labour that could be procured, in order to send it to England at a remunerative price. The government, after nearly twenty years' efforts to bring it fairly before the public, in the course of which it was clearly proved that it could be grown well and advantageously, had withdrawn from the cultivation; and notwithstanding the efforts made by the Agricultural and Horticultural Societies to aid in developing this branch of industry, he believed there was abundant room for the action of such a department as had been recommended by Mr. Bazley and Sir Charles Wingfield. The recommendation that a money prize should be offered for the best essay on tea-cultivation, though of secondary importance, would also, in his opinion, be highly useful.

The Duke of ARGYLL, in reply, said the suggestions which had been made were of considerable importance, and appeared well worthy of consideration. There was no doubt whatever of the immense benefit which had been derived in this country even, from the establishment of voluntary agricultural societies. The Highland Society had had a very powerful effect upon the agriculture of the country, and the corresponding society in England had also done a great deal of good. He was afraid there were not the same materials in India for getting up a purely voluntary association of such a character, but the intelligence and education of the native princes were now so much improving, that he was not at all sure that, with some assistance from the government, some such organisation could not be established, and perhaps that would be the best way of setting about it. He would, at any rate, communicate with Lord Mayo upon the subject immediately. From what had been said by the gentlemen who had addressed him, he did not conceive that the present application was made in any spirit of accusation of the government of India, and certainly he was not about to take an apologetic tone in reply.

ned that, having been examining certain statistics
 view of the financial statement, he found that in the
 the mutiny, the purely agricul-
 of opium, which, being a
 other respects exceptional.
 £23,000,000 in declared
 portion of this amount
 cotton, for in one year the amount was
 and in another year it was still more. The
 gain had also largely increased, showing that
 agricultural prosperity of India was rapidly prog-
 ing. Then, there were several items which were
 tatively new, as oil-seeds, wool, coffee, tea,
 ll of which had only appeared in any quantity
 the mutiny, but they now figured for about two
 half millions. This comparison was not taken in
 extraordinary year, but represented the increase
 which they had complete
 the year before the mutiny,
 annual year were taken, when
 ordinary prices operated, the result
 astonishing, for during one year of
 American war, the increase of exports was £27,000,000,
 total amount being £41,000,000, of which £34,000,000
 represented cotton alone. With regard to tea-cultiva-
 it might be said to be entirely the child
 but they had now, he believed, g
 plantations, and left the matter in the hands of
 commercial men, who would no doubt conduct it to much
 advantage. He was sorry to hear of the failure
 many of the earlier enterprises in that direction;
 that was too often the case in any new
 venture, especially when the risk—the first pro-
 benefit.
 on, the
 tion of tea was steadily increasing.
 BAZLEY remarked that the quality of Indian tea
 was superior to any obtained from China.
 desired to add that Mr. Dickins,
 the Silk Supply Association, and Mr.
 president of the Madras Cotton Supply
 tion, had been much indebted to His Grace for
 tion afforded to them; but in order to do any
 lasting good, there must be a systematic following

up of the subject in some such way as that which
 been suggested.

The Duke of ARGYLL inquired if it were not the
 that sufficient knowledge existed in India to ensure
 average crops under ordinary conditions.

Sir CHARLES WINGFIELD said there was sufficient
 knowledge, it only required the stimulus of high prices
 to increase the production. There were a great many
 subjects on which there were abundant statistics, if they
 were made generally available, as, for instance, the
 growth of sugar and the quantity produced per
 acre. Again, after the Russian war, an inquiry was
 set on foot as to the growth of jute and of
 the cultivation of which had since be-
 increased in every district of India, and a great deal of
 information had been collected on the subject of
 silk cultivation, which was carried on for three years in
 the province of Oude, and abandoned, simply because it
 was found that the dry heat of April, May, and June
 was destructive to the insect. There was an immense
 fund of information in the records of the different
 governments, which only needed collating and editing.

The Duke of ARGYLL said that such a course would
 be likely to save the expense of successful experi-
 ments being repeated.

Mr. CHADWICK said that was exactly what he referred
 to in regard to irrigation. Unfortunately, in Eng-
 land, most of these works were carried on by engineers
 who were not agriculturists, or by agriculturists who
 were not engineers.

Sir CHARLES WINGFIELD remarked that the canal re-
 ferred to by Mr. Chadwick as causing malaria
 was one of the ancient Mogul canals, which had been
 re-opened.

The Duke of ARGYLL said he was very sorry to find
 that the seasons had been very unfavourable in India,
 and that, but for the constant action of the government,
 thousands of people must have died. In the central
 district alone, by the last year, 1,000,000
 were actually supported
 were called relief works. In discussing this question,
 he repeated his intention of immediately communicating
 with Lord Mayo on the subject which had been brought
 under his notice.

BUDGET ESTIMATE OF INDIA.

FOR 1866-67.

DETAILS, AND OF THE EXPENDITURE OF INDIA,
FROM 1ST JANUARY 1866 TO 30TH APRIL 1867.

GRANTS.	EXPENDITURE	Actual	
		1864-65	1865-66
	Unfunded Debt	2,968,901	2,768,120
	on Service Funds and other	297,360	
3	Grants-in-aid	1,200,000	
4	Grants-in-aid	187,321	23,000
	Grants-in-aid	228,000	20,000
	Grants-in-aid	2,000,000	
5	Grants-in-aid	313,101	30,000
10	Grants-in-aid	2,368,666	1,900,000
11	Stamp	77,581	8,000
12	Mint	157,468	12,000
13	Post	42,000	
14	Telegraph	20,000	
15	Allowances to District and Village Officers	50,000	
16	Administration and Public Departments	98,000	
17	Law and Justice	2,215,000	
18	Police	2,361,011	
19	Public Instruction	571,627	
20	Education, Science, and Art	530,249	60,000
21	Statistical	118,854	1,000
22	Medical Services	1,000,000	25,000
	Printing and Stationery	12,500	148,000
	Consular Agencies and other Foreign Services	240,648	198,157
25	Allowances and Assignments under Treaties and Engagements	1,675,037	1,685,109
	Grants-in-aid	402,060	32,147
	Grants-in-aid to the Government, Retired, and Compassionate Allowances	900,000	665,147
	Grants-in-aid	1,000,000	13,406,427
	PUBLIC WORKS:—		
	Public Works	5,376,509	
	Supervision, and cost of Land for Railways		
	Loss by exchange on Railway Transactions	146,048	17,000
	Income-Tax Grant	250,000	11,000
		30,018,871	20,900,000

Statement of Cash Balances in

RECEIPTS IN INDIA IN 1866-67.	BUDGET ESTIMATE.
	£
Revenues	46,752,800
Debt (Receipts on account of)	11,149,240
Recoveries in India of Payments in England:—	
Funds, Family Remittances, &c.	1,494,249
Net Railway Earnings	2,566,667
Estimated Cash Balance on the 30th April 1866	12,859,366

£74,822,3

FORT WILLIAM, }
 FINANCIAL DEPARTMENT, }
The 24th March 1866.