CIRCULATION.—COUNTRY BANKS.

Average amount of Promissory Notes in Circulation in ENGLAND *and* WALES, *on Saturday, in each Week during the* SECOND QUARTER (*April—June*) *of* 1863; *and in* SCOTLAND *and* IRELAND, *at the Four Dates, as under.*

	ENGLAND AND WALES.			SCOTLAND.				IRELAND.		
DATES.	Private Banks. (Fixed Issues, 4·30.)	Joint Stock Banks. (Fixed Issues, 3·30.)	TOTAL. (Fixed Issues, 7·60.)	Four Weeks, ended	£5 and upwards.	Under £5.	TOTAL. (Fixed Issues, 2·75.)	£5 and upwards.	Under £5.	TOTAL. (Fixed Issues, 6·35.)
1863.	Mlns. £	Mlns. £	Mlns. £	1863.	Mlns. £	Mlns. £	Mlns. £	Mlns. £	Mlns. £	Mlns. £
April 4	3,26	3,05	6,31	April 4	1,47	2,41	3,88	2,70	2,68	5,38
„ 11	3,33	3,10	6,43							
„ 18	3,33	3,07	6,40							
„ 25	3,31	3,02	6,33							
May 2	3,28	2,98	6,26	May 2	1,51	2,44	3,95	2,86	2,62	5,48
„ 9	3,28	3,06	6,34							
„ 16	3,24	2,99	6,23							
„ 23	3,15	2,93	6,08							
„ 30	3,07	2,83	5,90	„ 30	1,75	2,72	4,47	2,87	2,50	5,37
June 6	3,04	2,79	5,83							
„ 13	2,99	2,77	5,76							
„ 20	3,01	2,80	5,81							
„ 27	3,05	2,82	6,87	June 27	1,72	2,66	4,38	2,68	2,40	5,08

FOREIGN EXCHANGES.—*Quotations as under,* LONDON *on Paris, Hamburg & Calcutta; —and New York, Calcutta, Hong Kong & Sydney, on* LONDON—*with collateral cols.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Paris.				Hamburg.				Calcutta.				
DATES.	London on Paris.	Bullion as arbitrated.		Prem. or Dis. on Gold per mille	London on Hamburg.	Bullion as arbitrated.		New York.	India House.	At Calcutta on London.	Hong Kong.	Sydney.	Standard Silver in bars in London.
	3 m. d.	Agnst. Engd.	For Engd.		3 m. d.	Agnst. Engd.	For Engd.	60 d. s.	60 d. s.	6 m. s.	6 m. s.	30 d. s.	pr. oz.
1863.		pr. ct.	pr. ct.			pr. ct.	pr. ct.	pr. ct.	*d.*	*d.*	*d.*	pr. ct.	*d.*
April 4 ..	25·50	—	0·2	½ pm	13·8	—	0·5	170	23 7/8	24 7/8	57	1 p.	61¼
„ 18 ..	·52½	—	0·2	„	·8	—	0·6	„	23½	„ ½	„	„	62⅛
May 2 ..	·47½	—	0·2	„	·7 3/4	—	0·6	166	„	„ ½	„	„	61⅛
„ 16 ..	·47½	—	0·1	„	·7 3/4	—	0·6	„ ⅛	„	„ 3/8	„	„	61⅛
June 6 ..	·50	—	0·3	„	·8	—	0·6	165	„ ¾	„ ¾	„	„	61⅛
„ 20 ..	·50	—	0·1	1 pm	·8¼	—	0·1	160	„	„ ½	„	„	61⅛

Vol. XXVI.] [Part IV.

JOURNAL OF THE STATISTICAL SOCIETY,

DECEMBER, 1863.

The EXPENDITURE *of the* UNITED KINGDOM *for* COLONIAL PURPOSES. *By* FREDERICK PURDY, *Principal of the Statistical Department of the Poor Law Board, and one of the Honorary Secretaries of the Statistical Society.*

[Read before the Statistical Society, 21st April, 1863.]

CONTENTS:

I.—*Sources of Information.*

THE charges thrown by the British colonies and dependencies upon the taxation of the mother country is a topic which has been much and recently discussed, both in Parliament and in the public press. A Select Committee of the House of Commons, over which Mr. Arthur Miles presided as Chairman, took evidence and reported in 1861 upon "Colonial Military Expenditure." Since the publication of that Report, the Colonial Office has issued several important papers relative to the expense for military and civil services, in which the Home Government is at present involved by the maintenance of its colonial empire. The statistics of the following paper are principally derived from these two sources. I have here, however, to acknowledge the great facility afforded to me in its preparation by the courtesy of Mr. T. F. Elliott, the Assistant Under Secretary of State for the Colonies, who kindly placed at my disposal an early proof of the parliamentary return, from which the first and principal table of the Appendix was compiled.

The end proposed in this communication is a purely statistical one—whether any, or what amount of taxation should be paid by the United Kingdom for colonial purposes, has not been discussed—to exhibit compendiously, and according to the best information obtainable, the prominent facts of the inquiry, has been alone attempted.

II.—*Statistics of each Colonial Group.*

The Colonies, with the other dependencies of the British Crown, are arranged in seven groups, chiefly according to their geographical affinities, in the following manner:—

1. The North American Group.
2. The West Indian Group.
3. The West African Group.
4. The South African Group.
5. The Eastern Group.
6. The Australian Group; and
7. The Mixed Group, containing places not in any of the foregoing divisions.

The statistics of each group, in this division of the paper, are briefly discussed under five heads:—(1) *Area and Population.* (2) *Trade.* (3) *Colonial Revenue and Debt.* (4) *Imperial Expenditure;* under which section the charges defrayed in 1860 by the mother country, for the benefit of the colonies, are set out; and (5) *Progress;* which is exhibited by collating the population and trade, according to the latest returns, with the corresponding information for the year 1838.

1. *North American Group.*

This group contains seven colonies, viz.:—

1. Canada,
2. Nova Scotia,
3. New Brunswick,
4. Prince Edward Island,
5. Newfoundland,
6. British Columbia, and
7. Vancouver Island.

Area and Population.—The aggregate territory of these colonies covers 512,169 square miles; the population, according to the latest returns, was 3,294,561, of whom 34,807 were people of colour.

Trade.—The value of the imports and exports in 1860, and the extent of the trade with the mother country, are shown by the next figures:—

	£	£
Imports from—		
The United Kingdom	4,882,000	
Other countries	7,038,000	
		11,920,000
Exports to—		
The United Kingdom	3,618,000	
Other countries	7,174,000	
		11,792,000
Total	—	23,712,000

One-third of the commerce of this group is carried on with England; the greater part of the remainder goes to the United States.

Colonial Revenue and Debt.—The whole amount raised for the year was 2,064,313*l.*, which is equal to a poll tax of 12*s.* 7*d.* The public debt at the end of the same year was 14,232,502*l.*

Imperial Expenditure.—The charges defrayed with respect to the colonies, by the British Parliament, are for military and civil services.

The military expenses are returned under three heads; the civil disbursements, being very small, are stated here in one sum. But some of the particulars will be found in Table II in the Appendix. Further details for a subsequent year will be found in Table III.

	£	£
Military Services—		
Troops	368,770	
Transports	20,359	
Fortifications and barracks	25,535	
		414,664
Civil Services—		
Various heads	—	15,320
Total	—	429,984

Progress.—The material advancement may be estimated by the following comparisons:—In 1838, there were *five* colonies in this group. British Columbia and Vancouver Island have since been added. The population was, in the year stated, 1,282,000; it is now 3,294,561; being an increase of 157 per cent.; the aggregate value of the imports and exports was then 9,185,000*l.*; it is now 23,712,000*l.*, equal to an increase of 158 per cent.

2. *West Indian Group.*

This group contains seven colonies, viz.:—

8. Jamaica,
9. Honduras,
10. Turk's Islands,
11. British Guiana,
12. Trinidad,
13. Windward Islands, and
14. Leeward Islands.

Area and Population.—Excluding Turk's Islands, the area of

which appears not to be known, this group measures 99,090 square miles. The population at present is 1,075,395 persons, the most of whom are coloured. The exact numbers in those colonies where the distinction of race has been observed in the enumeration of the inhabitants are 54,650 white, and 967,294 coloured.

Trade.—In 1860, the value of the goods imported and exported was as given below:—

	£	£
Imports from—		
The United Kingdom	2,627,000	
Other countries	2,710,000	
		5,337,000
Exports to—		
The United Kingdom	4,653,000	
Other countries	1,178,000	
		5,831,000
Total	—	11,168,000

The United Kingdom has the largest share of this commerce, as it takes more than *seven millions* of the aggregate value.

Colonial Revenue and Debt.—The sum for 1860 was 919,697*l.*, or 17*s.* 1*d.* per head on the population. The debt at the end of the year was 1,495,967*l.*

Imperial Expenditure is shown by the following figures:—

	£	£
Military Services—		
Troops	325,798	
Transports	18,477	
Fortifications and barracks	18,424	
		362,699
Civil Services—		
Various heads	—	57,528
Total	—	420,227

Progress.—There has been a considerable increase in the population, but a falling off in the value of the imports and exports since 1838. Then the population consisted of 675,000 persons; it is now 37 per cent. above that number. The value of the trade was then 12,700,000*l.*, or 12 per cent. greater than at the present time.

3. *West African Group.*

This is a very small group; it contains three dependencies:—

15. Sierra Leone, | 16. Gambia, and
17. Gold Coast.

Area and Population.—The total surface is 6,488 square miles; the population 199,909 persons, of whom 392 only are whites.

Trade.—The figures for 1860 express the annual value thus:—

	£	£
Imports from—		
The United Kingdom	233,000	
Other countries	125,000	
		358,000
Exports to—		
The United Kingdom	205,000	
Other countries	319,000	
		524,000
Total	—	882,000

Colonial Revenue and Debt.—The sum raised in 1860 was 49,581*l.*, or 4*s.* 11*d.* per head on the population; the debt was then 2,304*l.*

Imperial Expenditure.—The circumstances of these dependencies are peculiar. The charges borne by Parliament are much in excess of the sum raised locally as revenue:—

	£	£
Military Services—		
Troops	68,951	
Transports	3,643	
Fortifications and barracks	2,399	
		74,993
Civil Services—		
Various heads	—	10,230
Total	—	85,223

Progress.—The population since 1838 has increased by 5,493 persons; and the value of the trade, comparing 1860 with 1838, by 269,000*l.*, or 44 per cent.

4. *South African Group.*

Two colonies only are comprised in this group, viz.:—

18. Cape of Good Hope, and, 19. Natal.

Area and Population.—The extent of the two colonies is 119,268 square miles; the population, at the latest return, was 388,906. Of that number 114,106 were white, and 274,800 coloured.

Trade.—The value of the imports and exports in 1860 is represented by the following figures:—

	£	£
Imports from—		
The United Kingdom	2,116,000	
Other countries	705,000	
		2,821,000
Exports to—		
The United Kingdom	1,392,000	
Other countries	828,000	
		2,220,000
Total	—	5,041,000

Colonial Revenue and Debt.—The amount raised was 612,078*l.*, or 31*s.* 6*d.* per head on the population; the debt in the same year, that is to say 1860, was 418,400*l.*

Imperial Expenditure.—The amount for each branch is thus stated:—

	£	£
Military Services—		
Troops	387,873	
Transports	57,598	
Fortifications and barracks	11,187	
		456,658
Civil Services—		
Various heads	—	41,000
Total	—	497,658

Progress.—In 1838 we had but one colony in South Africa—Natal has since been settled. In the year named the population amounted to 147,341; it is now 388,906, which is equivalent to an increase of 164 per cent.

The combined value of the imports and exports was then 1,424,000*l.*; it is now 5,041,000*l.*, which represents an increase in that interval of 254 per cent.

5. *Eastern Group.*

Four dependencies are placed in this group, viz.:—

20. Ceylon,	22. Hong Kong, and
21. Mauritius,	23. Labuan.

Area and Population.—The total extent is 25,485 square miles; the population is 2,351,300 persons, of whom only 11,186 are whites.

Trade.—The value of that which is represented by the imports and exports is shown as under:—

	£	£
Imports from—		
The United Kingdom	1,622,000	
Other countries	4,736,000	
		6,358,000
Exports to		
The United Kingdom	3,085,000	
Other countries	1,738,000	
		4,823,000
Total	—	11,181,000

This is exclusive of the Hong Kong trade, which, according to the return, "cannot be ascertained;" the statistics of import trade being published with those of the other ports in China with which we traffic.*

* As regards Hong Kong, the imports are returned in connection with the China trade. The value of the exports from the United Kingdom in 1860 was 2,536,000*l.*

Colonial Revenue and Debt.—In the year of which we are treating, 1,403,206*l.* revenue was raised; this sum is equal to 11*s.* 11*d.* per head on population. There was no debt.

Imperial Expenditure.—In this year, the military expenses charged in the return to Hong Kong appear to be exceptionally high, in consequence of the expeditions to China and Japan.

The figures below include a sum of 173,364*l.* ascribed to this dependency. Distinguishing the military from the civil services, we obtain this statement, viz.:—

	£	£
Military Services—		
Troops	365,459	
Transports	44,634	
Fortifications and barracks	26,526	
		436,619
Civil Services—		
Various heads	—	7,649
Total	—	444,268

Progress.—Since 1838 two places have been added to our Eastern possessions; namely, Hong Kong and Labuan. In 1838, the colonial population was 1,382,000; it is now greater by 969,000, or by 70 per cent. The value of the trade in the earlier year was 2,884,000*l.*; it is now 11,184,000*l.*, whence it is seen that the increase is 288 per cent., exclusive of the Hong Kong trade.

6. *Australian Group.*

Seven colonies are now embraced in this most important and prosperous group, viz.:—

24. New South Wales,	28. Western Australia,
25. Victoria,	29. Tasmania, and
26. Queensland,	30. New Zealand.
27. South Australia,	

Area and Population.—The extent is enormous, being upwards of 2,582,000 square miles; the population 1,358,381 persons, of whom 113,115, or less than *one-tenth*, fall under the class termed "coloured."

Trade.—The commerce of our Australian colonies greatly exceeds that of any other group. The value of the imports and exports in 1860 is expressed by the following figures:—

	£	£
Imports from—		
The United Kingdom	16,748,000	
Other countries	10,970,000	
		27,718,000
Exports to—		
The United Kingdom	13,039,000	
Other countries	9,192,000	
		22,231,000
Total	—	49,949,000

Colonial Revenue and Debt.—The revenue raised in these colonies

is very great; it amounted this year to 5,759,312*l.*, or 84*s.* 9*d.* per head on the population. The debt is also large, namely 10,678,584*l.*

Imperial Expenditure.—In relation to the trade and revenue of these colonies, the charge to the mother country is small, when compared with the corresponding circumstances of several of the other groups. This will be readily perceived by the aid of the next figures:—

	£	£
Military Services—		
Troops	225,314	
Transports	26,091	
Fortifications and barracks	938	
		252,343
Civil Services—		
Various heads	—	18,685
Total	—	271,028

Progress.—There are now *seven* colonies in this group; in 1838 there were but *three*. Victoria, South Australia, New Zealand, and Queensland are the new possessions of the Crown. In 1838 the population amounted to 145,680 persons only; it is now 1,358,381. Hence, in twenty-two years it has increased 832 per cent. The value of the trade in the earlier year was 3,720,000*l.*; it is now very nearly *fifty millions* sterling. This is inclusive of the trade in gold. The value of the imports and exports of this group has increased in twenty-two years by the extraordinary ratio of 1,242 per cent.

7. *Mixed Group.*

This group is made up of *eight* dependencies, not conveniently referrible to any of the other sections. *One* is in the German Ocean, *three* are in the Mediterranean, and the remainder in the North and South Atlantic. These places are respectively—

31. Heligoland,	35. Bermuda,
32. Gibraltar,	36. Bahamas,
33. Malta,	37. St. Helena, and
34. Ionian Isles,	38. Falklands.

Area and Population.—The combined territory contains 11,750 square miles; the population is 441,270 persons, of whom 36,119 are coloured.

Trade.—Excluding Gibraltar, for which place there is no return under this head, the value of the commerce, in 1860, was in respect of—

	£	£
Imports from—		
The United Kingdom	620,000	
Other countries	4,299,000	
		4,919,000
Exports to—		
The United Kingdom	2,066,000	
Other countries	1,138,000	
		3,204,000
Total	—	8,223,000

Colonial Revenue and Debt.—The sum raised in 1860 was 429,198*l.*, or 19*s.* 6*d.* per head on the population. The debt was then 333,462*l.*

Imperial Expenditure.—The expenses of this group, from the military character of the Mediterranean stations, are very great. The Ionian Islands alone entail a charge upon this country of 280,000*l.* a-year. For the eight dependencies the account stands thus:—

	£	£
Military Services—		
Troops	1,190,560	
Transports	85,933	
Fortifications and barracks	67,774	
		1,344,267
Civil Services—		
Various heads	—	16,810
Total	—	1,361,077

Progress.—Since 1838 the Falklands have become a dependency of the Crown. The population of the entire group has increased about 10 per cent.

Summary of the Seven Groups.

Area and Population.—The *thirty-eight* colonies and dependencies of the British Crown have a collective territory of 3,356,320 square miles, supporting, according to the latest returns, a population of 9,109,722 persons, of whom 5,084,061 are "white," and 3,965,766 "coloured;" the proportion being as 5 to 4, very nearly. In two or three of the smaller colonies the population has been returned without discriminating the races, which accounts for the discrepancies in the totals just mentioned. The colonial population, according to these figures, is equal, very nearly, to *one-third* of the population of the United Kingdom.

Trade.—Relying upon the value of the imports and exports, as the sufficient exponent of colonial traffic, we arrive at the following results:—

	£	£
Imports from—		
The United Kingdom	28,849,000	
Other countries	30,583,000	
		59,432,000
Exports to—		
The United Kingdom	28,059,000	
Other countries	21,567,000	
		49,626,000
Total	—	109,058,000

Colonial Revenue and Debt.—The whole sum raised within the colonies as revenue, in 1860, by taxation, by sale of lands, and by licences, was 11,237,385*l.*, or 24*s.* 8*d.* per head on the population. On the 31st December of the same year, the total of colonial debts

was 27,161,219*l.* The national debt is 818,000,000*l.** The aggregate of the colonial debts was, therefore, nearly *one-thirtieth* of the national debt.

Imperial Expenditure.—The total burthen cast by the colonies on the taxation of this country, is exhibited by the annexed statement:—

	£	£
Military Services—		
Troops	2,932,725	
Transports	256,735	
Fortifications and barracks	152,783	
		3,342,243
Civil Services—		
Various heads	—	167,222
Total	—	3,509,465

Progress.—In 1838 we had twenty-five colonies and dependencies, peopled by 4,090,000 persons; at the present time we possess thirty-eight colonies and dependencies, with a population more than *twice* as numerous as it was twenty years ago. Between 1838 and 1860 the trade has risen from 33,000,000*l.* to 109,058,000*l.*, or in *more than a threefold* proportion.

III.—*Cost of Military, Naval, and Civil Services.*

I believe it is unknown to what extent our colonial possessions and dependencies swell the naval estimates. It is perhaps impossible to say how much of the British navy exists solely for the defence of the colonies. Though it is admittedly very great, the Select Committee on "Colonial Military Expenditure" conclude their report with the expression of opinion, that it is better "to trust "mainly to naval supremacy for securing against foreign aggression "the distant dependencies of the empire."

The naval estimates, however, contain a sum of 100,411*l.*, as voted last year by Parliament, for "Her Majesty's establishments abroad."† That amount is thus divided:—

	£	£
Nine Naval yards	21,714	
Wages	52,950	
		74,664
Eight Victualling establishments	4,134	
Wages	9,380	
		13,514
Five Medical establishments	7,762	
Wages	4,471	
		12,233
Total	—	100,411

* In 1861, "Miscellaneous Statistics," part 4, presented to Parliament in 1862.
† Navy Estimates, 1863-64.

The whole expenditure borne by the taxation of the mother country, in respect of her colonies and other dependencies, comes under three heads, namely:—

	£
Military services	3,342,243
Naval „	100,411
Civil „	167,222
Total	3,609,876

Twenty-four years previously, that is to say in 1836, the charge for similar objects was 2,646,410*l.*, namely, for—

	£
Military services	2,030,059
Naval „	39,364
Civil „	486,154
	2,555,577
St. Helena (not classed)	90,833
Total	2,646,410*

The dependencies of the Crown fall under two very distinct categories. 1. Colonies proper, and 2. Dependencies chiefly maintained for imperial purposes.

The Select Committee on "Colonial Military Expenditure" divide a sum of 3,225,081*l.*,† set down as "Imperial Military Expen-"diture," between each class, in the following manner:—

	£
For (1) Colonies proper	1,715,246
„ (2) Dependencies	1,509,835
Total	3,225,081

It is evident this is a political distinction to be fully borne in mind whenever the colonial expenditure to be met by the home revenue is under discussion, lest dissimilar questions be confounded.

But of the colonies proper, there is another division to be effected. We have to separate the self-governing communities from the other colonies. According to Mr. Chichester Fortescue, the Under Secretary of State for the Colonies,‡ the following dependencies, fourteen in number, are self-governing colonies; the cost to the imperial revenue for their military defences, in 1860, is given opposite to each:—

* House of Commons' Paper, No. 632, "Colonial Expenditure," Sess. 1840.
† Report, p. 4.
‡ "Hansard," vol. clxv, 1862, p. 1052.

	£
Canada	206,264
New Brunswick, Nova Scotia	149,495
Prince Edward Island	Nil.
Newfoundland	20,807
Vancouver Island	38,098
New South Wales	43,039
Queensland	Nil.
Victoria	36,557
South Australia	6,836
New Zealand	104,852
Tasmania	35,113
Cape of Good Hope and Natal	456,658
Total	1,097,719

The total sums respectively expended for military purposes in each colony, during the year 1858, are stated in Table V (Appendix), in which the proportion borne by the colonies is distinguished from that paid by the imperial exchequer.

The subsequent statement of the sums paid by the colonies for their defence is taken from the report of Mr. Arthur Miles's Committee. It relates to the year ended 31st March, 1860.

For Maintenance of Local Forces—	£
St. Helena	482
Sierra Leone	562
Gambia	423
Gold Coast	234
Cape of Good Hope	56,176
Canada	13,393
Nova Scotia and New Brunswick	198

For Pay and Allowances to British Troops, and for various Military Purposes—	£
New South Wales	33,806
Victoria	72,110
South Australia	7,172
Ceylon	97,198
Mauritius	25,354
Malta	6,200

For Construction of Works, Barracks, &c., including the Cost of Constructing Works described as "Sea Defences" in Demerara—	£
Jamaica	1,637
Windward and Leeward Islands, with Guiana	29,279

For General Purposes of Defence, in pursuance of a Convention executed under the Treaty of Paris—	£
Ionian Islands	25,000
Total	369,224

These colonial disbursements were made in addition to the expenses defrayed by the Home Government. Five colonies contributed to Her Majesty's exchequer 73,315*l.*; the remainder "was "expended within the dependencies for various military purposes."

The places which paid anything towards the military services provided by the funds of the mother country were:—

	£
New South Wales	14,712
Ionian Islands	18,449
Mauritius	10,000
Malta	6,200
Ceylon	23,954
Total	73,315

IV.—*Numbers Employed in the Military and Civil Services.*

It will be desirable to give some information as to the numbers employed in each service at the cost of the imperial exchequer.

The military strength afforded to the colonies in 1860, under the various branches of the service, amounted to 41,567 men and officers, thus divided:—*

	Number.
Infantry	35,335
Artillery	3,867
Engineers	1,494
General Civil and Medical Staff	762
Total	41,458

The "pay and allowances" for the year are placed at 1,560,909*l.*; this is equal to 37*l.* 13*s.* for officers and privates. The cost of provisions, clothing, and arms is 622,473*l.*, or 15*l.* -*s.* 2*d.* a man.

The distribution of the troops in each colony is stated in Table IV (Appendix); with respect to each group the strength was thus allotted:—

	Total Strength.
1. The North American Group	4,685
2. „ West Indian Group	4,311
3. „ West African Group	1,040
4. „ South African Group	4,981
5. „ Eastern Group	4,024
6. „ Australian Group	3,195
7. „ Mixed Group	19,222
Total	41,458

The troops at Hong Kong are excluded from the reckoning of this table.

* House of Commons' Paper, No. 423, "Report on Colonial Military Expen- "diture," 1861.

The total force in the British dependencies borne on the strength of the imperial army, on the 31st day of March, in each of the eleven years ended with 1861, is shown in the next table:—

Years.	Colonies, &c. (except Hong Kong).	Hong Kong.	Total.
1851	42,498	1,052	43,550
'52	43,678	1,068	44,746
'53	45,848	1,068	46,916
'54	40,242	745	40,987
'55	39,637	546	40,183
1856	45,147	589	45,736
'57	50,547	731	51,278
'58	38,501	1,484	39,985
'59	37,883	1,400	39,283
'60	40,566	10,818	51,384
'61	44,481	7,979	52,460

Note.—Abstracted from report on "Colonial Military Expenditure," p. 275.

The colonial civil service, at present chargeable to the English exchequer, consists of 144 officers of various ranks and duties, namely:—

Designation of Office.	Number.	Total of Salaries and Allowances.
		£
Governors	22	34,350
Judges	5	2,178
Magistrates	22	9,925
Bishops	8	12,400
Other ministers of religion	75	13,827
Other officers	12	5,347
Total	144	78,027

These salaries have been included under the head of "Civil "Services" in the previous divisions. Of the magistrates, twenty-one are designated in the return* as "special magistrates in the "West Indies." They were appointed at the time of the emancipation of the slaves, and their salaries, so far as they are payable out of the imperial funds, will cease with the present holders of the office.

The total salaries and allowances, as set out in the last table, include 400*l.*, the amount paid to "other clergymen;" but the number who are thus classed is not stated.

* House of Commons' Paper, No. 147, "Colonies," Sess. 1863.

The range of salary allotted and paid to the colonial civil service is thus shown:—

Designation of Office.	Lowest Paid.	Highest Paid.
	£	£
Governors	500	4,000
Judges	100	800
Magistrates	300	475
Bishops	500	2,500
Other ministers of religion	18	800

With respect to the magistrates, it should be observed, there is only one who enjoys the higher salary, all the others receiving 300*l.* each. The lowest paid under the class, "other ministers of religion," are catechists in the diocese of Antigua.

V.—*Recapitulation.*

For some years past 40,000 to 50,000 British troops have been maintained for the defence of the colonies and dependencies at the expense of the imperial revenue. Between 1838 and 1860, the charge for military services has risen from 2,030,059*l.* to 3,342,243*l.*, or by 65 per cent.; the cost of the naval services, so far as any separate record can be obtained, has increased from 39,364*l.* to 100,411*l.*, or 155 per cent. On the other hand, the payments for civil services have fallen from 486,154*l.* to 167,222*l.*, which is equal to a decrease of 66 per cent. The total imperial expenditure for colonial purposes, including in 1838 a sum for St. Helena of 90,833*l.*, which is not divided and assigned to the different services, has increased in *twenty-two* years from 2,646,410*l.* to 3,606,876*l.*, which is equivalent to a rise of *thirty-six* per cent.

During the same interval, however, the population of our colonial empire has grown from 4,090,000 to 9,110,000 persons, or by 123 per cent., while its commerce has swollen from 33,000,000*l.* to 109,000,000*l.*, or by *two hundred and thirty* per cent.

APPENDIX.

(I.)—*Statement of the Area and Population, and of the Revenue, Debt, and Commerce and the Amount of Imperial Expenditure in each for Colonial*

Colonies, &c.	Area, Square Miles.	Population according to latest Return.	Revenue Raised in the Colony in the Year 1860. (000's omitted.)	Amount of Debt on 31st December, 1860. (000's omitted.)	Commerce in 1860. Value of Imports. (000's omitted.)	Commerce in 1860. Value of Exports. (000's omitted.)
I. NORTH AMERICAN GROUP.			£	£	£	£
1. Canada	210,020	2,506,755	1,499,	11,971,	7,078,	7,116,
2. Nova Scotia	18,671	332,264	177,	1,004,	1,702,	1,324,
3. New Brunswick	27,105	252,047	179,	1,036,	1,417,	916,
4. Prince Edward Island	2,173	80,857	29,	41,	230,	202,
5. Newfoundland	40,200	122,638	128,	175,	1,206,	1,223,
6. British Columbia	200,000	Not ascertained	53,	5,	257,	11,
7. Vancouver Island	14,000	„	—	—	—	—
Total	512,169	3,294,561	2,065,	14,232,	11,920,	10,792,
II. WEST INDIAN GROUP.						
8. Jamaica	6,400	441,255	262,	738,	1,203,	1,226,
9. Honduras	13,500	25,635	36,	Nil	232,	293,
10. Turk's Islands	Not ascertained	4,372	11,	1,	42,	34,
11. British Guiana	76,000	155,026	180,	527,	1,146,	1,513,
12. Trinidad	1,754	84,438	185,	136,	829,	715,
13. Windward Islands	777	258,933	157,	35,	1,368,	1,455,
14. Leeward „	659	105,736	89,	59,	517,	596,
Total	99,090	1,075,395	920,	1,496,	5,337,	5,832,
III. WEST AFRICAN GROUP.						
15. Sierra Leone	468	41,624	32,	Nil	173,	304,
16. Gambia	20	6,939	10,	„	73,	109,
17. Gold Coast	6,000	151,346	7,	2,	112,	111,
Total	6,488	199,909	49,	2,	358,	524,
IV. SOUTH AFRICAN GROUP.						
18. Cape of Good Hope	104,931	231,323	525,	368,	2,466,	2,680,
19. Natal	14,337	157,583	87,	50,	355,	140,
Total	119,268	388,906	612,	418,	2,821,	2,220,

APPENDIX.

of the British Colonies and Dependencies, in the Year ended 31st December, 1860, Purposes, during the Year ended 31st March, 1860.

Imperial Expenditure for Colonial Purposes, 1859-60. Military. Troops.	Military. Transport.	Military. Fortifications and Barracks.	Military. Total, Military.	Civil.	Total, Civil and Military.	Colonies, &c.
£	£	£	£	£	£	I. NORTH AMERICAN GROUP.
188,634	10,092	7,538	206,264	5,332	211,596	1. Canada
125,740	8,247	15,508	149,495	3,088	152,583	2. Nova Scotia / 3. New Brunswick
—	—	—	—	1,500	1,500	4. Prince Edward Island
17,396	922	2,489	20,807	500	21,307	5. Newfoundland
37,000	1,098	—	38,098	4,900	42,998	6. British Columbia
Nil	Nil	Nil	Nil	Nil	Nil	7. Vancouver Island
368,770	20,359	25,535	414,664	15,320	429,984	Total
						II. WEST INDIAN GROUP.
108,118	6,325	3,842	118,285	17,200	135,485	8. Jamaica
27,301	2,298	1,022	30,621	—	30,621	9. Honduras
—	—	—	—	—	—	10. Turk's Islands
190,379	9,854	13,560	213,793	6,700 / 950 / 16,950 / 15,728	254,121	11. British Guiana / 12. Trinidad / 13. Windward Islands / 14. Leeward „
325,798	18,477	18,424	362,699	57,528	420,227	Total
						III. WEST AFRICAN GROUP.
25,397	1,265	640	27,302	2,000	29,302	15. Sierra Leone
25,491	1,185	1,234	27,910	4,230	32,140	16. Gambia
18,063	1,193	525	19,781	4,000	23,781	17. Gold Coast
68,951	3,643	2,399	74,993	10,230	85,223	Total
						IV. SOUTH AFRICAN GROUP.
387,873	57,598	11,187	456,658	41,000 / —	497,658	18. Cape of Good Hope / 19. Natal
387,873	57,598	11,187	456,658	41,000	497,658	Total

(I.)—*Statement of the Area and Population, and of the Revenue, Debt*

Colonies, &c.	Area, Square Miles.	Population according to latest Return.	Revenue Raised in the Colony in the Year 1860. (000's omitted.)	Amount of Debt on 31st December, 1860. (000's omitted.)	Commerce in 1860. Value of Imports. (000's omitted.)	Commerce in 1860. Value of Exports. (000's omitted.)
V. EASTERN GROUP.			£	£	£	£
20. Ceylon	24,700	1,919,487	767,	Nil	3,551,	2,551,
21. Mauritius	708	310,050	541,	,,	2,769,	2,260,
22. Hong Kong*	32	119,321	94,	,,	Cannot be	ascertained
23. Labuan	45	2,442	1,	,,	38,	13,
Total	25,485	2,351,300	1,403,	Nil	6,358,	4,824,
VI. AUSTRALIAN GROUP.						
24. New South Wales	323,437	365,635	1,309,	3,820,	7,519,	5,072,
25. Victoria	86,831	548,944	3,039,	5,118,	15,094,	12,963,
26. Queensland	678,000	56,000	179,	Nil	742,	710,
27. South Australia	383,328	126,830	439,	870,	1,610,	1,784,
28. Western ,,	978,000	15,691	61,	2,	169,	89,
29. Tasmania	26,215	90,211	268,	390,	1,006,	1,025,
30. New Zealand	106,259	155,070	465,	479,	1,548,	589,
Total	2,582,070	1,358,381	5,760,	10,679,	27,718,	22,232,
VII. MIXED GROUP.						
31. Heligoland	½	2,172	3,	5,	13,	9,
Mediterranean:						
32. Gibraltar	1⅔	15,462	34,	Nil	Cannot be	ascertained
33. Malta	115	141,220	146,	78,	2,982,	2,301,
34. Ionian Islands	1,041	228,669	172,	227,	1,489,	776,
Total (part.)	1,157⅔	385,351	352,	305,	4,471,	3,077,
Islands in the North and South Atlantic:						
35. Bermuda	24	11,450	16,	1,	153,	23,
36. Bahamas	2,921	35,287	36,	23,	131,	78,
37. St. Helena	47	6,444	21,	Nil	124,	11,
38. Falklands	7,600	566	1,	,,	27,	6,
Total (part.)	10,592	53,747	74,	24,	435,	118,
Total	11,750	441,270	429,	334,	4,919,	3,204,
Grand Total	3,356,320	9,109,722	11,237,	27,161,	59,432,	49,626,

* Hong Kong. The military expenses in respect of this station are *computed* from the
1860, because the whole of the China expedition passed through that place.

and Commerce of the British Colonies and Dependencies—Contd.

Imperial Expenditure for Colonial Purposes, 1859-60. Military. Troops.	Military. Transport.	Military. Fortifications and Barracks.	Military. Total, Military.	Civil.	Total, Civil and Military.	Colonies, &c.
£	£	£	£	£	£	V. EASTERN GROUP.
102,549	6,924	795	110,268	—	110,268	20. Ceylon
94,157	30,728	20,773	145,658	1,350	147,008	21. Mauritius
161,424	6,982	4,958	173,364	—	173,364	22. Hong Kong*
7,329	Nil	Nil	7,329	6,299	13,628	23. Labuan
365,459	44,634	26,526	436,619	7,619	444,268	Total
						VI. AUSTRALIAN GROUP.
34,737	8,300	2	43,039	1,300	44,339	24. New South Wales
33,757	2,798	2	36,557	—	36,557	25. Victoria
Nil	Nil	Nil	Nil	Nil	Nil	26. Queensland
6,420	416	,,	6,836	,,	6,836	27. South Australia
22,733	3,088	125	25,946	11,385	37,331	28. Western ,,
32,853	1,451	809	35,113	6,000	41,113	29. Tasmania
94,814	10,038	—	104,852	—	104,852	30. New Zealand
225,314	26,091	938	252,343	18,685	271,028	Total
						VII. MIXED GROUP.
Nil	Nil	Nil	Nil	960	960	31. Heligoland
						Mediterranean:
372,806	23,066	24,823	420,695	Nil	420,695	32. Gibraltar
426,650	25,845	30,678	483,173	,,	483,173	33. Malta
250,657	22,255	7,149	280,061	,,	280,061	34. Ionian Islands
1,050,113	71,166	62,650	1,183,929	Nil	1,183,929	Total (part.)
						Islands in the North and South Atlantic:
74,770	10,727	2,090	87,587	4,050	91,637	35. Bermuda
29,250	1,775	1,255	32,280	1,200	33,480	36. Bahamas
34,373	2,202	1,779	38,354	6,533	44,887	37. St. Helena
2,054	63	Nil	2,117	4,067	6,184	38. Falklands
140,477	14,767	5,124	160,338	15,850	176,188	Total (part.)
1,190,560	85,933	67,774	1,344,267	16,810	1,361,077	Total
2,932,725	256,735	152,783	3,342,243	167,222	3,509,465	Grand Total

army estimates of the year. The separate cost for Hong Kong could not be ascertained for
Note.—Abstracted from House of Commons' Paper, No. 147, "Colonies, &c.," 1863.

(II.)—*Statement of Particulars of Imperial Expenditure for Civil Services in British Colonies and Dependencies, in the Year ended 31st March, 1860.*

Colonies, &c.	Judicial, Police, &c.	Ecclesiastical.	Civil Service.	Miscellaneous.	Total.
	£	£	£	£	£
I. NORTH AMERICAN GROUP—					
1. Canada	—	2,990	—	2,312	5,332
2. Nova Scotia	—	3,088	—	—	3,088
3. Prince Edward Island	—	—	1,500	—	1,500
5. Newfoundland	—	500	—	—	500
6. British Columbia	—	—	4,900	—	4,900
II. WEST INDIAN GROUP—					
8. Jamaica	6,600	7,100	3,500	—	17,200
11. British Guiana	3,600	3,100	—	—	6,700
12. Trinidad	450	500	—	—	950
13. Barbadoes	900	4,025	4,550	—	9,475
13. St. Vincent	450	150	1,300	—	1,900
13. Grenada	450	150	1,300	—	1,900
13. Tobago	600	225	1,300	—	2,125
13. St. Lucia	1,350	200	—	—	1,550
14. Antigua	—	3,068	3,600	—	6,668
14. Montserrat	—	181	500	—	681
14. St. Kitts and Anguilla	1,000	275	1,300	—	2,575
14. Nevis	450	36	500	—	986
14. Virgin Islands	628	210	800	—	1,638
14. Dominica	1,800	80	1,300	—	3,180
III. WEST AFRICAN GROUP—					
15. Sierra Leone	—	—	2,000	—	2,000
16. Gambia	—	—	4,230	—	4,230
17. Gold Coast	—	—	4,000	—	4,000
IV. SOUTH AFRICAN GROUP—					
18. Cape of Good Hope	—	—	—	41,000	41,000
V. EASTERN GROUP—					
21. Mauritius	1,350	—	—	—	1,350
23. Labuan	—	—	6,299	—	6,299
VI. AUSTRALIAN GROUP—					
24. New South Wales	—	—	—	1,300	1,300
28. Western Australia	9,585	—	1,800	—	11,385
29. Tasmania	6,000	—	—	—	6,000
VII. MIXED GROUP—					
31. Heligoland	—	—	960	—	960
35. Bermuda	—	—	4,050	—	4,050
36. Bahamas	—	—	1,200	—	1,200
37. St. Helena	—	—	—	6,533	6,533
38. Falkland Islands	—	—	4,067	—	4,067
Total	35,213	25,928	54,956	51,175	167,222

Note.—Abstracted from House of Commons' Paper, No. 147. Sess. 1863.

*** In the column headed "Judicial, Police, &c.," the two first items are contributions to police and gaols in Australia on account of the presence of British convicts. The whole of the remaining items, with two exceptions, are salaries of stipendiary magistrates in the West Indies and Mauritius, expiring with the present holders of office. The exceptions are a small salary of 100*l.* to the Chief Justice of Anguilla, and 178*l.* to the Chief Justice in the Virgin Islands.

In the column headed "Ecclesiastical," the three first items are salaries to North American clergy, expiring with the present holders of office. All the remaining items are salaries of bishops and clergy in the West Indies, charged on the Consolidated Fund under the following Acts of Parliament: 6 Geo. IV, c. 88; 7 Geo. IV, c. 4; 5 and 6 Vict., c. 4.

(III.)—*Public Officers Employed in the British Colonies and Dependencies, Appointed and Paid by the Home Government in the Year* 1862, *as* 1. *Governors;* 2. *Bishops and Clergy;* 3. *Special Magistrates; and* 4. *Other Officers.*

1. GOVERNORS.

Colony.	Office.	Salary.	Remarks.
NORTH AMERICA.		£	
Prince Edward Island	Lieutenant-Governor	1,500	
Bermuda	Governor and Commander-in-Chief	2,200	
Vancouver Island	" "	1,800	The Governor of British Columbia has received for the past year a special allowance of 1,200*l.* from the colonial revenue.
British Columbia	" "		
WEST INDIES.			
Jamaica	Captain-General and Governor-in-Chief	3,500	
Bahamas	Governor and Commander-in-Chief	1,200	
Barbadoes & Windward Islands	" "	4,000	Allowances: 300*l.* for private secretary, and 250*l.* for clerks and stationery.
St. Vincent	Lieutenant-Governor	1,300	
Grenada	" "	1,300	
Tobago	" "	1,300	
Antigua and Leeward Islands	Governor and Commander-in-Chief	3,000	Allowances: 300*l.* for private secretary, and 300*l.* for clerks and stationery.
Montserrat	President and senior member of the Council administering the Government	500	
St. Christopher	Lieutenant-Governor	1,300	
Nevis	President and senior member of the Council administering the Government	500	
Virgin Islands	" "	800	
Dominica	Lieutenant-Governor	1,300	
AFRICAN POSSESSIONS.			
Sierra Leone	Captain-General and Governor-in-Chief	2,000	
Gambia	Governor and Commander-in-Chief	1,000	
Lagos	" "	500	Receives also a salary of 500*l.* as consul, and allowance of 200*l.* for office expenses.
AUSTRALIAN POSSESSIONS.			
Western Australia	" "	1,800	
EASTERN COLONIES, FALKLAND ISLANDS, AND HELIGOLAND.			
Labuan	" "	800	
Falkland Islands	" "	900	
Heligoland	Lieutenant-Governor	500	
Total salaries and allowances of Governors		34,350	

(III.)—*Public Officers Employed in the British Colonies, &c.—Contd.*

2. BISHOPS AND CLERGY.

Colony.	Office.	Salary.	Remarks.
		£	
Canada	Bishop of Quebec	1,000	
	Archdeacon of Quebec	500	
	Rector of Quebec, allowance for house rent	400	
		90	
	Rector of Montreal	300	
	Minister of Trinity Chapel, Quebec	200	
	Rector of Three Rivers	200	
	" Frelighsburg	100	
	" Clarenceville	100	
	Presbyterian minister, Argenteuil	100	
Nova Scotia	Archdeacon	300	
	Eleven missionaries*	1,662	
	Minister of Scotch Church	75	
Newfoundland	Bishop of Newfoundland	500	
Jamaica	Bishop†	1,400	
	"	2,000	
	Archdeacon of Surrey	600	
	" Cornwall	600	
	" Middlesex	800	
	Fourteen clergymen	2,100	
Bahamas	Bishop	1,000	
	"	2,500	
Barbadoes	Archdeacon of Barbadoes	500	
	" Trinidad	250	
	Eleven clergymen, Barbadoes	775	
	Three clergymen, St. Vincent	150	
	Two " St. Lucia	200	
	Six " Trinidad	500	
	Two " Grenada	150	
	Three " Tobago	225	
Antigua	Bishop	2,000	
	Archdeacon of Antigua	500	
	" St. Kitts	250	
	Eleven clergymen and teachers	268	
	Two clergymen and one catechist, Dominica	130	
	Four clergymen and three catechists, Montserrat	181	
	Two clergymen and one catechist, St. Kitts	75	
	Two catechists, Nevis	36	
	One clergyman and two catechists, Anguilla	200	
	Two clergymen, Tortola	210	
British Guiana	Bishop	2,000	
	Three clergymen	700	
	Other "	400	
Total salaries of bishops and clergy		26,227	

* These are Missionaries of the Society for the Propagation of the Gospel in Foreign Parts. The payments are made under an agreement with the Society, concluded in the year 1834, and will cease with the lives of the recipients. Twenty-two additional are paid by the Society.

† Retired in ill-health under arrangement sanctioned by Treasury in 1855, according to which the retiring bishop retained 1,400*l.* out of the whole salary, 3,000*l.*, attached to the office of bishop, while the co-adjutant receives the rest of the salary, 1,600*l.*, and half the salary of the archdeaconry, 400*l.*

(III.)—*Public Officers Employed in the British Colonies, &c.—Contd.*

3. SPECIAL MAGISTRATES IN THE WEST INDIES.

Colony.	Office.	Salary.	Remarks.
		£	
Jamaica	Nine magistrates	2,700	1,350*l.* for house and horse.
British Guiana	Five "	1,500	750*l.* "
Trinidad	One magistrate	300	150*l.* "
Barbadoes	" "	300	150*l.* "
St. Vincent	" "	300	150*l.* "
Dominica	Three magistrates	900	450*l.* "
Nevis	One magistrate	300	150*l.* "
Total salaries and allowances of magistrates		9,450	

4. OTHER OFFICERS.

Colony.	Office.	Salary and Allowances.	Remarks.
		£	
Bahamas	Judge in Admiralty, and Commissioner of Wreck Court	300*	* Is also Chief Justice of the Bahamas, and for that office receives 950*l.* from the colonial revenue.
Anguilla	Chief Justice	100	
Virgin Islands	"	178	
	"	800	
Bermuda	Colonial Secretary	700	
	Attorney-General	500	
	Chief Justice	800	
Gambia	Colonial Secretary and Treasurer	300	
	Civil Commandant (M'Carthy's Island)	130	
Falkland Islands	Magistrate	475	
	Chaplain	350	
	Surgeon	350	
	Surveyor-General	350	
	Colonial Secretary	350	
Labuan	Treasurer and Police Magistrate	500	
	Surgeon	417	
	Chaplain	350	
	Harbour Master	300	
	Surveyor-General	300	
	Superintendent of Convicts	150	
Pitcairn's Island	Schoolmaster	300	
Total salaries of "other officers"		8,000	
Grand total of the four classes		78,027	

(IV.) — *Statement of the Force stationed in the British Colonies and Dependencies, during the Year ended 31st March*, 1860.

Colonies, &c.	Infantry.	Artillery.	Engineers.	General Civil and Medical Staff.	Total Strength.
I. NORTH AMERICAN GROUP.					
Canada	2,176	218	8	75	2,507
Nova Scotia and New Brunswick	1,612	177	92	48	1,929
Newfoundland	237	1	1	10	249
II. WEST INDIAN GROUP.					
Jamaica	1,336	91	3	40	1,473
Honduras	329	24	2	11	366
Windward and Leeward Islands	2,249	136	7	80	2,472
III. WEST AFRICAN GROUP.					
Sierra Leone	356	—	—	15	371
Gambia	334	—	—	16	350
Gold Coast	306	—	—	13	319
IV. SOUTH AFRICAN GROUP.					
Cape of Good Hope	4,451	176	239	115	4,981
V. EASTERN GROUP.					
Ceylon	2,202	135	7	26	2,370
Mauritius	1,449	133	48	24	1,654
Labuan	—	—	—	—	—
VI. AUSTRALIAN GROUP.					
New South Wales	507	106	32	8	653
Victoria	618	—	6	7	631
Tasmania	324	—	2	21	347
South Australia	93	—	7	2	102
West Australia	88	—	86	9	183
New Zealand	1,166	45	41	27	1,279
VII. MIXED GROUP.					
Bermuda	878	159	91	26	1,154
Bahamas	386	11	1	11	409
St. Helena	418	77	2	12	509
Falklands	37	—	—	—	37
Gibraltar	4,537	1,079	309	50	5,975
Malta	5,645	779	304	57	6,785
Ionian Islands	3,601	487	206	59	4,353
Totals	35,335	3,867	1,494	762	41,458

Note.— Abstracted from pp. 279—80 of "Report on Colonial Military "Expenditure," House of Commons' Paper, No. 423, Sess. 1861.

(V.)—*Statement of the Sums Expended for Military Purposes in the Colonies in* 1858 ; *distinguishing the Amount Paid by the Home Government from that Paid by the Colonies.*

Colonies, &c.	Expenditure from		Total.
	Imperial Funds.	Colonial Funds.	
	£	£	£
I. NORTH AMERICAN GROUP—			
1. Canada	233,565	35,176	268,741
2. Nova Scotia	147,414	92	147,506
3. New Brunswick			
5. Newfoundland	18,190	Nil	18,190
Total	399,169	35,268	434,437
II. WEST INDIAN GROUP—			
8. Jamaica	117,502	182	117,684
9. Honduras	30,231	Nil	30,231
13. Windward Islands	201,935	32,481	234,416
14. Leeward „			
Total	349,668	32,663	382,331
III. WEST AFRICAN GROUP—			
15. Sierra Leone	26,685	385	27,070
16. Gambia	27,246	161	27,407
17. Gold Coast	16,763	330	17,093
Total	70,694	876	71,570
IV. SOUTH AFRICAN GROUP—			
18. Cape of Good Hope	538,372	40,467	578,839
V. EASTERN GROUP—			
20. Ceylon	129,507	85,851	215,358
21. Mauritius	85,129	22,634	107,754
22. Hong-Kong	Nil	—	—
23. Labuan	6,897	Nil	6,897
Total	221,524	108,485	330,009
VI. AUSTRALIAN GROUP—			
24. New South Wales	22,032	29,887	51,919
25. Victoria	49,924	40,400	90,324
27. South Australia	8,054	5,172	13,226
28. Western „	24,561	Nil	24,561
29. Tasmania	38,781	„	38,781
30. New Zealand	111,339	„	111,339
Total	254,691	75,459	330,150
VII. MIXED GROUP—			
32. Gibraltar	322,014	Nil	322,014
33. Malta	341,520	6,200	347,720
34. Ionian Islands	201,909	25,000	226,909
35. Bermuda	80,550	Nil	80,550
36. Bahamas	34,193	96	34,289
37. St. Helena	36,251	453	36,704
38. Falklands	1,709	Nil	1,709
Total	1,018,146	31,749	1,049,895
Grand Total	2,852,264	324,967	3,177,231

Note.— Abstracted from House of Commons' Report on "Colonial Military Expenditure," No. 423, 1861, pp. 297—301.

On the Vital *and* Sanitary Statistics *of our* European Army *in* India, *compared with those of* French Troops *under like conditions of* Climate *and* Locality. *By* James Bird, M.D.

[Read before Section (F) of the British Association, at Newcastle, August, 1863.]

If the progress of intelligence and advance of civilization have widened the source of some diseases, by developing to a greater extent the fatal results of vicious habits and disorderly passions among the multitude, some compensation for such will be found in the present advanced state of the several sciences, and more particularly of preventive and curative medicine, to which statistics have been successfully applied, in proof of the deductions that are made in regard to health. The practical application of the precepts of *hygiène*, by removing the sources of many diseases, has rendered them less frequent, and less fatal, in all climates, than they proved to be in former ages. Since the beginning of the present century, a remarkable and advantageous change has been thus effected; and, through such means, the ravages of epidemic diseases, and the mortality-rate of prisons, hospitals, and poor houses, existing for the use of our civil population, have been greatly diminished. Thus the disturbing influence of burial-grounds, filthy and undrained localities in London, of the seasons, and over-crowding on the life of man, which gave rise to prevailing diseases from the plague years 1593, 1603, 1625, 1636, and 1665 to that of 1838, have been so far ameliorated, according to the second report of the Registrar-General, as to cause a reduction of the mean mortality, from 25 to 2·81 per cent.* In proportion also as the salubrious condition of London has been improved, the distribution of deaths, among the various periods of the year, has been more and more equalized, till the maximum of mortality for late years has ceased to correspond, as formerly, to the hot months of July, August, and September.

What has been so happily accomplished for the improved health and comfort of our civil population, can in a great measure be secured for our soldiers, both at home and abroad. The practical measures carried out after the Report of the Commissioners, appointed in 1857, to examine into the condition and administration of our army hospitals, and into the operation of regulations in force to prevent disease in our army, both at home and abroad, have been followed

* "Second Report of the Registrar-General," p. 89, London, 1840.

by a reduction in the rate of mortality of our infantry, at home, from 15·5 per 1,000 effective men in 1828, to 8·77 in 1859 and 1860.* Dr. T. Graham Balfour's report, for this last year, has also stated the mortality of infantry of the line at home, for fifteen years, 1839-53 inclusive, to have been 16·9 per 1,000. But for the credit of the medical department of the royal army, the fact must not be passed over, that the army statistical reports, begun in 1835 by Mr. Henry Marshall, Deputy Inspector General of Hospitals, while associated with Lieutenant Tulloch, 45th Regiment (now Major-General Sir A. M. Tulloch, K.C.B.), and continued by the latter, with the assistance of Dr. T. Graham Balfour (now Deputy Inspector General of Hospitals), first called attention to the condition of the soldier in regard to health, and the various deteriorating agencies which affected it. These reports led to the expediency of establishing the Registrar-General's Department, through which accurate information, on the extent and causes of mortality among the civil population, has been obtained. In 1838 the Commissioners' report, on the sanitary condition of the British army, was published and laid before Parliament, followed by that on the organization of the Indian army in 1859; and in this the present year, 1863, we are favoured with the very valuable and elaborate report of the Commissioners, appointed in 1859, to inquire into the sanitary state of the army in India.

In endeavouring to bring before you a short digest of the important information, collected in these volumes, regarding the influence of hot climates on the health of Europeans, and more particularly India, I propose to make free use of these reports, and of the statistical, sanitary, and medical reports of the army medical department, for the years 1859 and 1860; as well as the collateral information, obtainable from the various reports on the mortality and sickness of English troops in India, published in the several volumes of the Statistical Society's *Journal*. For the facts on which a comparison may be made between the sanitary statistics of English and French troops, in hot climates, I shall chiefly have recourse to those supplied by M. Boudin in his "Traité de Géographie et de "Statistique Médicales, et des Maladies Endémiques," Paris, 1857, and in his other publications on this subject.

We can scarcely overestimate the importance of ascertaining the causes and extent of losses sustained by armies, even in their native country, and in times of peace, from the ravages of disease; inasmuch as we cannot otherwise determine the expense

* The former is the death-rate of troops serving in Ireland for thirty-two years, from 1797 to 1828. See Boudin's "Statistique de la Mortalité des Armées de "Terre et de Mer," Paris, 1846, p. 2, and Dr. Balfour's "Statistical Report "for 1860," p. 13, where the mean of the two years is as stated.

of efficiently maintaining them, both at home and abroad. Independently of the annual decrements in armies, produced by various contingencies, as the good and bad materials that compose them, their ever-varying conditions under service, according to time and place, we must endeavour to fix the rates of their losses from disease, according to age and climate, and their ever variable reductions by war and invaliding. Military service, when performed under apparently most salubrious conditions of both locality and climate, whether at home or abroad, is generally found associated with a higher rate of mortality than that incident to the indigenous inhabitants of the soil; and as this difference is not so strongly marked among officers, subject to like climatic influences, as among the non-commissioned officers and men, it is for the most part produced by a greater amount of intemperance and other vicious habits among the latter, and by overcrowding in the barracks. The proof of this will be manifest from the following ratios of mortality among the civil male population of England and Wales generally, of the officers of the royal artillery serving in England during the year 1860, and of the infantry of the line from 1839 to 1853:—

	Mean Mortality, per 1,000.
Civil male population, England and Wales generally*	9·28
Officers of the foot artillery, at home, 1860.....	7·04
Infantry of the line, at home, for fifteen years, 1839-53	16·8

The proportion of mortality among the civil population of France, between 20 and 30 years of age, rises to 12 per 1,000; that of the infantry of the army at home, 22·3 per 1,000,† and of the non-commissioned officers 10·8.

Since the sickness and sanitary condition of armies, therefore, may be derivable from mixed causes of locality, overcrowding in barracks, meteorological climate, dietetic errors, and vice, it is necessary to carefully sift and separate such mixed causes, and assign to each their due influence, in the production of increased ratios of military sickness and mortality. Much may be otherwise laid to the deteriorating influences of climate, which are only effects of insalubrious localities, overcrowding, dietetic errors, and vicious habits.

Sickness and increased ratios of mortality among European masses, removed to new climates, seem inseparably associated with

* The data for England and Wales generally, have been obtained from Dr. Farr's life table, in the twelfth volume of the Registrar-General's "Reports," and from the "Army Statistical and Sanitary Report," 1860, p. 141, and Table 55 in Appendix to the Sanitary Commissioners' Report "On the Regulations "affecting the Sanitary Condition of the Army," London, 1858, p. 476.

† M. Boudin's "Statistique Médicale des Armées," p. 8, and "Statistique de "l'Etat Sanitaire et de la Mortalité des Armées de Terre et de Mer," Paris, 1846, p. 16.

smaller numerical degrees of latitude, as we advance nearer the Equator; and even in France we find that, for the provinces of its northern latitudes, the average mortality is 1 in 44, but for those of the south 1 in 33. How much more then must such averages increase among English troops, serving in the tropical climates of India, or of French troops in other hot climates, under like insalubrious conditions. The localities occupied by either, and which come properly under the denomination of hot climates, lie from the equator to the thirtieth and sometimes the thirty-fifth degree of north or south latitude. In Asia, and regions of the south, these are India on this side and beyond the Ganges, Ceylon, Arabia, Persia, and Cochin China; in North Africa, Algeria, and on the west Senegal; and to the south, the African islands of Réunion, Mauritius, Bourbon, and Madagascar; and in South America, Guiana, the French Antilles, or Martinique and Guadeloupe, and the English Antilles, or islands in the Gulf of Mexico, with all that part of our possessions called the West Indies.

It is not less evident, from Dr. Forry's report of the sickness and mortality in the army of the United States, that the ratios of military mortality in that country increase, as we proceed from the north to the south:—

North	18·8	deaths for	1,000	effective strength.
South	52·3	„	„	„
Centre	44·2	„	„	„

the causes for such increase being the combined insalubrious agencies of increased temperature and malarious localities. The greatly increased proportion of *miasmatic endemic diseases*, which we find admitted into hospitals from such places, clearly indicates that they have their origin more from endemic influences of locality, than the peculiar meteorological condition of the climate. It was for these reasons I stated in my evidence before the Royal Commission, appointed in 1859, "that in *tropical latitudes* the mortality must be "higher than in *temperate latitudes*, even after all that may be done "for the troops by the very best prophylactic measures, both *endemic* "and *dietetic*."

After these preliminary observations on the mortality and sanitary state of English and French troops, employed in their native country, I proceed to briefly consider their relative mortality, and sanitary condition, when serving in *tropical climates*, more particularly India: and for the state of the former, past and present, I cannot do better than refer for information to the "Report of the Royal Sanitary "Commission," just published.

The ratios of mortality, deduced from given numbers of men, are at once the measure of their lives, and the healthiness of the places

they inhabit. They differ for the different countries of Europe, and for the localities, according to the greater or less salubrity of particular regions and their geological formation; and are always lower for the indigenous inhabitants of the soil, than for those who migrate there from other countries. Those for Europeans, exposed to the climatic vicissitudes of military life, and other contingencies of service, show an increase, in proportion to the proximity of residence to the equator, and unremoved sources of endemic disease there, as bad water, bad drainage, filthy locality, overcrowded and ill-constructed barracks, in combination with dietetic errors, vice, intemperance, and want of suitable clothing, occupation, and exercise, according to the conditions of climate and seasons. It would be quite impossible, amidst such extended subjects of inquiry, to select more than a tithe of them for illustration on this occasion; and I shall, therefore, confine myself to the three following heads:—

1st. Mortality, and other ratios of decrement of the effective strength of European troops, serving in India, and other hot climates.

2nd. The sanitary ameliorations of the sickness and mortality effected of late years.

3rd. The sanitary measures still necessary for application to English troops in India.

TABLE I.—*Annual Rate of Mortality in Periods of Years, from* 1770 *to* 1856, *in each of the Indian Presidencies.*

Years.	Deaths Annually to 1,000 Strength.				Remarks.
	Bengal.	Bombay.	Madras.	India.	
1770–1800	70·6	78·2	37·5	54·7	The siege of Seringapatam and conquest of Mysore
1800–10	91·5	84·5	54·8	73·7	General war in the Carnatic
'10–20	68·7	99·6	97·0	84·8	Conquest of Dutch and French islands, Mahratta war, and cholera
'20–30	84·5	97·9	95·2	90·7	Burmese war
'30–40	60·1	46·3	55·5	55·7	
'40–50	79·5	68·3	43·5	65·4	
'50–56	67·8	31·1	44·3	50·7	
Total	—	—	—	67·9	

Note.—This table is copied from Table 10 of the Précis of the "Commissioners' "Report of the Sanitary State of the Army in India," London, 1863, p. 178.

According to this table, copied from No. 10 in the Appendix to the "Report of the Commissioners on the Sanitary State of the

"Army in India," the average rate of military mortality there, for eighty-six years, is given at 67·9 per 1,000; being at the same time stated, in the body of the report, at 69 in 1,000 during the present century. The following are the words of the report:*—"The "deaths in the fifty-six years, 1800-56, among all the Company's "non-commissioned officers and men, including invalids, in India, "amounted to 40,420 out of an aggregate of 588,820 years of life, "obtained by adding up the average annual strength in those years; "so the annual rate of mortality has been 69 in 1,000 during the "present century.

"The mortality-rate was as high as 134 in the first Mahratta "war, and it was as low as 41 in 1852. It was high again in the "years of mutiny, and it has been subsequently lower than the "Indian standard. From the rate of 55 in 1770-99, the rate rose to "85 in the thirty years, 1800-29; and the mortality fell to 58 in "the twenty-seven years, 1830-56; so that the death-rate of the "British soldier, since the first occupation of the country down to "the present day, has oscillated round 69 per 1,000."

TABLE II.—*The Mortality of the French Army in Hot Climates, except Algeria, for Ten Years, from* 1838 *to* 1847, *is thus Distributed in Ratios per* 1,000.

Years.	Martinique.	Guadeloupe.	Guiana.	Senegal.	Réunion.	Average.
1838.....	79·1	192·6	48·0	152·5	32·4	110·6
'39.....	165·2	158·8	25·0	43·1	25·5	117·4
'40.....	103·5	156·9	19·1	65·5	20·0	98·4
'41.....	102·8	129·5	39·5	75·2	84·8	98·8
'42.....	86·8	42·1	26·5	62·0	30·5	52·1
1843.....	103·2	68·9	29·8	82·5	45·5	73·3
'44.....	78·0	72·1	19·2	66·2	28·1	58·8
'45.....	53·3	45·6	19·2	41·3	13·5	38·2
'46.....	93·6	25·6	16·6	27·6	19·7	37·4
'47.....	60·3	28·0	12·5	38·9	25·5	37·2
Mean	90·4	89·0	25·3	61·7	30·5	69·5

It is quite true that, in this next table for French troops in tropical climates, a like average of 69·5 per 1,000 is given; and the contrast is remarkable to show how much the rate is caused by hot climates and localities, and is not chiefly caused there by intemperance and vicious habits; a conclusion long since arrived at by Dr. Edward Balfour's statistics, and observations on the means of maintaining troops in health, read before the Statistical Section of this Associa-

* "Report and Précis of Evidence," p. 18.

tion, at Swansea, in August, 1848.* It is with earnestness he protests against partial deductions on this subject, and says, "Exer- "tions solely devoted to check intemperance, even if successful, can "only palliate, but never remove, the evils that spring from climate. "It may, likewise, by withdrawing attention from one great, and I "believe the greatest cause of sickness, the noxious influence of "particular localities, tend to retard the day, which I hope to see, "when healthy sites having been selected for cantonments, the "English soldier shall enjoy, in India, almost as good health as in "his native country." There can be hardly a difference of opinion as to the important part vice and intemperance play, in increasing the sickness and mortality of English soldiers abroad, and for the imperative necessity "of discontinuing the sale of spirits in the "canteens of India," and of adapting the soldier's diet to season and latitude. Still these unremoved sources of the sickness and mortality there, are not the main causes of the increased ratios of both; as Miss Nightingale's summary of the evidence, in the stational returns, proves† that the miasmatic diseases of fevers, diarrhœa, cholera, and dysentery, are produced under elevated temperature, by bad water, misplaced lavatories and cesspools, bad drainage, filthy bazars, and overcrowding in barracks, huts, and sick-wards.

But reverting to the mortality-rate, 69 per 1,000, as being hitherto the normal one for sickness and disease, in India, it is scarcely a true representation of the deduction that should be drawn, from the facts collected in the various statistical tables, published in the Appendix to the Commissioners' own Report, sufficient allowance not being made for the increased casualties of war, cholera, and invaliding, during the period of fifty-six years, 1800-56, assumed for the basis of some of the calculations in the report. Of these fifty-six years, twenty-five, including the Sikh war, 1845-46, and the Punjaub campaign, 1848-49, were periods of war and cholera; this last disease, according to Inspector-General Burke's Indian returns, 1826-32, having for these six years increased the mortality 11·5 per 1,000 of the effective strength.‡ Besides the average difference of mortality, between the war-rate and that of peace, or 27 per 1,000, as shown in the following table for Madras troops, not having been deducted, while the rate of invaliding in India is included, and thought of no importance, the assumed average of death, and decrements from natural causes, is thus raised to 69. It was not without good reason, therefore, that the Secretary of State for India, in his place in the House of Commons, the 23rd of July last, said, "that

* "*Journal* of the Statistical Society," vol. xii, p. 34, 1849.

† "Royal Commissioners' Report," vol. i, folio, p. 347.

‡ Quoted by M. Boudin, p. 52 of his "Etat Sanitaire et Mortalité des Armées "de Terre et de Mer," Paris, 1846.

TABLE III.—*Madras Troops.*

Years.	Service.	Number of Years.	Number of Deaths.	Average Annual Mean Strength.	Annual Average Number of Deaths.	Ratio per 1,000 of Deaths to Mean Strength.
	WAR.					
1793-98....	Carnatic	6	1,549	5·696	258	49
'99-1800	Mysore and conquered countries	2	1,548	6·967	774	111
1801-5	General war in the Carnatic, conquered countries, and the Deccan....	5	3,691	8·355	738	88
'10-11....	French and Dutch islands	2	1,844	13·328	922	69
'17-19....	Pindaric war in the Deccan, and Malwa in Hindostan	3	2,993	13·585	997	73
'24-26....	Burmah.....	3	3,646	10·144	1,215	119
	Total	21	15,271	8·796	727	82
	PEACE.					
1806-9	Peace.....	4	2,645	9·318	661	70
'12-16....	Marching	5	3,460	12·133	692	57
'20-23 ...	Peace.....	4	2,468	10·916	617	56
'27-38 ..	„	12	6,221	10·660	518	48
	Total	25	14,794	10·781	592	55

"the general conclusion as to the mortality, being based on facts "going far back, does not afford a very good index of the sanitary "state of the Indian army at the present moment."* When we turn to Table IV in the Appendix of the Report, in which the rates of mortality for periods of service in the three presidencies, 1847-56, are given, we find that 51·2 per 1,000, inclusive of other casualties, was the average annual mortality of the late East India Company's European troops for those ten years. It is stated, in a foot note to the table, that the mortality for this period was considerably below the previous average in Madras and Bombay; but it is doubtless a more close approximation to the true rate of the mortality in India, for the last twenty-six years, than the one taken for the basis of the Sanitary Commissioners Report. In Dr. T. G. Balfour's summary of the health of the royal army previous to 1859,† the following two tables give the rates for the three presidencies:—

* "Times" newspaper of the 24th July, 1863, p. 7.

† "Statistical, Sanitary, and Medical Reports of the British Army for the "Year 1860," pp. 133 and 138, London, 1862.

	1830-37.	1838-56.
Madras	52·2 per 1,000	41·5 per 1,000
Bombay	33·1 ,,	60·9 ,,
Bengal	44·5 ,,	76·2 ,,
Average	43·3 ,,	59·5 ,, (for 26 years)

The mean of these two tables being 51·4 or the average mortality of the late East India Company's European forces, as given in the table of the report before quoted. Additional proof of this average being nearer the true one, for late years, than that assumed in the Commissioners' Report, may be drawn from the rate per cent. of invaliding for fifteen years' service.

Among the effective non-commissioned officers and men of the late Company's European forces, during the years 1847-56, as

TABLE IV.—*The Casualties in the Effective Non-commissioned Officers and Men of the Local European Forces in India during the Years* 1847-56.

Years of Service.	Strength. (Years of Life.)	Casualties. Deaths. (D.)	Invaliding. (I.)	D. + I.	All Causes.	Rate per Cent. Deaths. (D.)	Invaliding. (I.)	D. + I.	All Causes.
1	14·390	938	45	983	1,547	6·52	·31	6·83	10·75
1–2	11·630	623	88	711	1,085	5·36	·75	6·11	9·32
2–3	9·220	518	83	601	872	5·62	·90	6·52	9·45
3–4	9·530	470	121	591	907	4·93	1·27	6·20	9·51
4–5	10·120	446	128	574	871	4·41	1·26	5·67	8·60
5–10	41·860	1,968	468	2,436	4,048	4·70	1·12	5·82	9·67
10–15	21·440	1,131	597	1,728	2,949	5·28	2·78	8·06	13·75
15–20.....	9·976	429	598	1,027	1,424	4·30	6·00	10·30	14·28
20 and upwards....	43·090	193	779	972	1,207	6·25	25·21	31·46	39·06

Note.—This table is compiled from the tables of casualties of effectives in the presidencies. Under "invalided," are included here, besides the true invalids, the following casualties:—1. Discharged by purchase. 2. Discharged on account of term expired or otherwise. 3. Promoted. 4. Transferred to town major's list. 5. Transferred to other corps. 6. Deserted. 7. Missing, &c. 8. Other causes. Those on the town major's list of Bengal are included among the effectives.

given in Table IV; and which rate, 27·8, deducted from 64·3, the mean casualty-rate of the last twenty-five years, 1838-62, inclusive of invaliding and cholera, would leave the normal death-rate of late

years for India 36·5 per 1,000: the mean death-rate of our European troops in the three presidencies from 1850-51, being only 40·4.*

According to that table, the rate per cent. for deaths and discharges, among men who had served ten to fifteen years, is 5·28 per cent.; which, when raised for 1,000, would give 52·8 as the mortality-rate. In the same table 2·78 is given as the rate per cent. of invaliding at the above period of service, and when this is raised for 1,000 it gives the other casualties of service, 27·8, the difference, as already shown, between the war and peace rates of mortality in India, previous to the year 1838. Perfect reliance cannot then, I think, be placed on the returns of the East India Company's troops, prior to this year, as the mortality-rates obtained from them include many abnormal casualties of service.

But descending from general statistical principles, for securing trustworthy conclusions on the subject of military mortality, let us enter on the statement of particular facts, regarding the increase and diminution of military death-rates for war and peace, brought together in Table V.

In this, the annual rate of mortality per 1,000, for the line forces of India, during the thirty-nine years, from 1817 to 1855 inclusive, is calculated from the table at p. 319 of the report. We here see that during the first Burmese war and the siege of Bhurtpoor, the rate rose as high as 158 per 1,000; and varied in times of peace from an average of 75 to 32·5 per 1,000. For seventeen years of war the death-rate was 80 per 1,000; and for twenty-two years of peace, 51·3: averages that correspond very nearly with those given in Table III.

But while the average mortality of the British army in India, from 1830 to 1837, was only 43·3 per 1,000, according to Dr. Balfour's summary before quoted; in the next period, from 1838 to 1856, it rose to 59·5, including the mortality from wounds and service during the Afghan war, the Cabul massacre, the Sind and Gwalior campaigns, the Sikh war, 1845-46, and the Punjaub campaign, 1847-48, with the Second Burmese war, 1852-53; and when we deduct the casualties of war and service for this last period, the mortality-rate, 42·5 per 1,000, would, I believe, be a nearer approach to the normal standard of India during peace, than the mean of the two tables, 51·4.

* This is the mean taken from the Report of the Commissioners, appointed to inquire into the organization of the Indian Army, presented to Parliament in 1859; and has been quoted by the "Army Statistical Report, 1860," at p. 111. A well-written article, in the "Times of India," September 9th, 1863, says, "A total "mortality of 2,360 men, upon a strength of 73,000, gives about 32 per 1,000 as "the average of all India; the Commissioners make it 70; and we are persuaded "that, if their figure be divided by 2, the result will give about the right "average."

TABLE V.—*Showing the Annual Rate of Mortality per* 1,000, *for the European Line Forces of India, during Thirty-nine Years, from* 1817 *to* 1855 *inclusive; calculated from the Table at* p. 319 *of the* "Sanitary "Report." 1863.

Years.	Rate of Deaths per 1,000.	Remarks.
1817	69	Pindaree war
1818	85	Average mortality 75 per 1,000 in peace
'19	80	
'20	77	
'21	68	
'22	73	
'23	67	
1824	129	Burmese war
'25	157	Siege of Bhurtpoor
'26	158	
1827	75	Average mortality 53 per 1,000 in peace
'28	66	
'29	50	
'30	36	
'31	41	
'32	47	
1833	63	Coorg war
1834	70	Average mortality 50 per 1,000 in peace
'35	34	
'36	43	
'37	53	
'38	52	
1839	76	Afghan war — Average mortality 74 per 1,000
'40	95	
'41	90	Cabul massacre
'42	107	
1843	77	Sind campaign
'44	81	Gwalior „
1845	124	First Sikh war
'46	85	
1847	47	Second Sikh war
'48	65	
1849	67	
1850	42	Average 42 per 1,000 in peace
'51	42	
1852	63	Second Burmese war
'53	49	
1854	35	Average mortality 32·5 in peace
' 55	30	

It was stated by Sir Charles Wood, in his speech already referred to,* that "during the mutiny in India, the mortality in twenty "regiments which were sent from this country, but which were not "in action, was only 34 per 1,000," which must be exclusive of war casualties, I should think; and in the next table, or No. VI, which

TABLE VI.—*Annual Rate of Mortality and Invaliding of Her Majesty's Troops serving in India,* 1861, *exclusive of late Honourable East India Company's Troops.*

	Bengal.	Madras.	Bombay.	Total. — India.	Deaths per 1,000 Strength.
Mean effective strength, 1861	37,483	10,739	83,60	57,082	—
Admitted into Indian hospitals	73,233	13,471	15,649	102,353	—
Number of days under treatment (average sick time to each soldier)	29·30	21·04	26·65	25·66	—
Deaths in Indian hospitals	16·42	156·	204·	2·002	35·3
Killed in battle	None	None	None	None	—
Deaths on board ship, on passage home, and in hospitals at home	66·	14·	15·	95·	1·67
Invalided.....	Returns not received	38·2	255·	Bengal returns not received	33·3
		6·37			

is a return of mortality and invaliding of Her Majesty's troops serving in India, 1861, the actual mortality in India from locality and climate is 35·3 per 1,000; the other casualties for invaliding and deaths on the passage home being 33·3. All such sources of discrepancy, as direct and indirect results from warfare, and other contingencies, must be eliminated from our statistical data before a true estimated rate of the mortality, from natural causes of locality and climate, is attainable. If such peculiarities of service are not attended to, and minutely enumerated for all comparisons, we can arrive at only vague and by no means satisfactory conclusions.

Colonel Sykes' paper,† on the Sickness, Mortality, and Invaliding in the East India Company's European and Native Troops, from

* "Times" newspaper, 24th July, 1863.

† This, which is quoted from the *Statistical Journal*, vol. x, p. 100, forms Table 28, "Appendix of the Commissioners' Sanitary Report," 8vo, p. 195.

1825-44, the last being the year previous to the Sikh war, gives the rate per cent. of European mortality 5·409, and that of invaliding 2·884 per cent., which rates, when raised for 1,000 men, become respectively 54·09 and 28·84. The former rate, however, includes 7·24 per 1,000 of deaths from cholera; and which, when deducted from the aggregate death-rate, leaves that of ordinary deaths from other natural causes 46·85 per 1,000. The rate for invaliding is a little higher than that I have employed for deduction, to obtain the hitherto normal rate of European mortality in India.

The Sanitary Ameliorations of the Sickness and Mortality effected of late Years.

I find, in regard to the health of the British Army at home, exclusive of the Horse Artillery, that for fifteen years, previous to 1854, the average death-rate was 14·7, and that of invaliding, 32·3 per 1,000; but that in 1860, and since the practical application of sanitary measures, adapted to climate and locality, these rates have respectively fallen to 7·32 and 21·30,* indicating a gain to the effective strength of 18·38 per 1,000. The proportion admitted for enthetic (or syphilitic) diseases, and constantly in hospital, was 23·69 per 1,000. In the hot climates of Jamaica, Ceylon, and Mauritius, where, from the 1st of January, 1830, to the 31st March, 1837, the death-rates were 91·49 and 34·6 respectively; these had fallen, in the year 1860, to 20·2, 19·6, and 23·8 per 1,000.

With the introduction into India of improved sanitary improvements, adapted to climate and localities, with restraints on vice and intemperance, corresponding decreasing rates, to indicate augmented health among our troops, must follow as natural results. The present army medical statistics, in reference to India, as I stated in my evidence, are not of any value in determining the question of how much reduction in the rates of mortality may be ultimately effected for that country; for, when uncombined with meteorological and medical observations, on the physiological and pathological effects of localities and climate, and classified arrangement of the prevailing endemic diseases, they are but relative proofs of hitherto unremoved sources of such diseases. The first right step in this direction was the organization of a statistical branch of the medical department of the army, with the introduction of new forms of returns, after the Report of the Sanitary Commission of 1858; but a sufficient period has not yet elapsed for the production of those accurate and trustworthy statistical data, which we may confidently look for in the course of time.

Nevertheless well marked reductions in the death-rates of English

* See pp. 16 and 141 of the "Army Sanitary Report," 1860.

troops, serving abroad, have been effected. During the period anterior to 1836, the rates for the Mediterranean stood as follows:—

Gibraltar	22·0	deaths per 1,000 men.
Malta	18·7	,,
Ionian Islands	28·3	,,
Mean death-rate	23·5	,,

During the period from 1844 to March, 1846, the mortality had fallen to the following numbers:—

	Effective Mean Strength.	Mortality.			Death-rate per 1,000 Men.
		1844.	1845.	Total.	
Gibraltar	3,371	41	41	82	12·2
Malta	1,858	36	31	67	18·
Ionian Islands	2,537	35	33	68	13·4
Total for the Mediterranean	7,766	112	105	217	14·5

For the period again 1859 and 1860, the diminution stood thus:—

	Effective Mean Strength.	Mortality.		Death-rate per 1,000 Men.
		1859.	1860.	
Gibraltar	5,381	40	62	9·41
Malta	5,630	101	63	18·8
Ionian Islands	3,875	46	29	9·8
Mediterranean	14,886	187	154	12·6

The results of these two last periods present in their favour, when compared with 1836, the following diminution of the mortality:—

Gibraltar	11·2	deaths per 1,000.
Malta	0·3	,,
The Ionian Islands	11·2	,,
Mean for Mediterranean	7·5	,,

The annual mean difference being a gain of 16 men per 1,000 of the effective strength in our healthy colonial commands.

Turning to British possessions, reputed the most unhealthy, we find according to Sir A. Tulloch's statistical investigations, and the Army Report 1860, that the results of sanitary ameliorations there have been yet more striking and satisfactory; and have followed measures for abandoning low, undrained, and filthy stations, and occupying the higher ground as the sites of well constructed barracks and hospitals, with attention to all other sanitary precautions, that have of late years been deemed necessary for securing the health of our soldiers abroad. The colonies, in which such improvements have been carried out, are Mauritius, Jamaica, the Antilles with British Guiana, and Ceylon. Previous to 1836, the mean mortality of our forces occupying these colonies, was 84·2 per 1,000; which, during the period from 1844-45, on an effective strength of 7,194 men, had been reduced to 42·1 per 1,000; and in the last year 1860, for which we have authentic returns, the mean mortality, including invalid deaths of the four stations, was only 17·57 per 1,000 of the effective mean strength. In applying the mortality-rate, before 1836, to an effective strength of 7,194 men, it will be found that we permitted 1,212 of these to die annually; but from 1844 to 1845, only 606 died; and in 1860 less than 303, being more than an annual saving of life of 1,000 men for every effective force of 7,194 soldiers. In proof of the mortality-rate for 1860, it may be well to here append, from the "Army Statistical Report," the particulars of those four colonies:—

	Effective Mean Strength.	Mortality, 1860.	Death-rate per 1,000.
			Mean.
Mauritius	1,886	45	23·86
Jamaica	594	12	20·20
Antilles and Guiana	1,255	7	5·58
Ceylon	916	18	19·65
Total	4,651	82	17·17

With regard to India it is, as M. Boudin remarks, that part of the English army over which military authority has not hitherto exercised any control, regarding the choice of places of encampment, or the duration of residence in certain insalubrious localities, and the relief of the troops. I would speak, says he, of the East Indian army, as that part of the British army, which is far from having gone through those sanitary ameliorations, which have comparatively followed the rules of *hygiène*. The following table epitomizes, for

the years 1845 and 1846, the effective strength of European troops, and the rate of mortality, in each of the three presidencies of Bombay, Madras, and Bengal:—

	Effective.	Deaths.
Bombay, 1845	6,324	824
" '46	4,710	337
Madras, 1845	7,850	276
" '46	7,535	351
Bengal, 1844	11,003	1,028
" '45	11,280	984
Total	48,702	3,800

According to this document it follows that from an effective mean of 24,351 men, 1,900 are lost annually by death, or 78 men per 1,000. Now though M. Boudin is perfectly correct as to the rate per 1,000 during those years, yet they formed the period of the Sikh war, and 27 or 28 for casualties of wounds, and war service in climates not Indian, ought to have been deducted therefrom, leaving the mortality, from natural causes, at 50 per 1,000. This is a further illustration of the necessity of avoiding all sweeping conclusions, as to the mortality-rate, without perfect records and knowledge of all contingencies influencing the results. Still the mortality-rate of 50 per 1,000, as caused by preventible causes, is much beyond what it ought to be for India. The Commissioners' Sanitary Report of 1863 presents, on this subject, an overwhelming amount of evidence, and without exaggeration shows that in India there has been a fatal neglect of the conditions which injure the health of soldiers and increase the mortality; and that the Indian Goverment have not hitherto carried out what was essential to improve the sanitary state and well-being of their soldiers.

It is but just to say, however, that no inconsiderable ameliorations of their sanitary state have been effected of late years, as the following statistical data indicate. The death-rates in India for five years, 1850-54, stood as follows for the three presidencies:—

Bombay	26·09	deaths per 1,000 men.
Madras	39·76	"
Bengal	55·56	"
Mean	40·4	"

In 1860, these proportions for the British Army, including invalids, were considerably reduced, giving a mean diminution of 9·3 per

1,000 of our soldiers. The admissions and deaths occurred in the following proportions, the mean mortality ratio per 1,000 being less than that in Table VI for 1861:—

	Average Strength.	Admissions into Hospital.	Deaths.			Ratio per 1,000 of Mean Strength.	
			In India.	Of Invalids.	Total.	Admitted.	Died.
Bombay	11,388	22,013	332	29	361	1,933	31·70
Madras	10,696	15,901	193	49	242	1,487	22·63
Bengal.....	42,371	85,693	1,569	99	1,668	2,023	39·37
Total	64,455	123,607	2,094	197	2,271	5,643	31·1

In thus reviewing the rates of Indian mortality, and the sanitary ameliorations effected of late years for the British army, let us turn for a moment to consider the statistics of French military mortality under like conditions of climate and locality. I have already noticed that, for their tropical settlements of America and Africa, Table II sets down their mean mortality for ten years, 1838 to 1847, at 69·5 per 1,000. While the mean mortality of the civil population of France, at the soldier's age, is 12 per 1,000, that of the infantry of the line rises to 22·3. From 1819 to 1838, this in Senegal became 123·8, in Guadeloupe 101·3, in Martinique 102·8, in French Guiana 32·3, and in Bourbon 25·6 per 1,000. In Algeria, on an effective strength of 108,000 men for ten years, from 1837 to 1846, the mean death-rate was 75·8 per 1,000; from which probably the average casualty-rate for war and service ought to be deducted. This would reduce the mortality to nearly the same standard as for India; but whether such reduction is allowable, I know not, being altogether ignorant of the contingencies of that period. M. Boudin, however, adds that the simple comparison of the results, with those among English troops, proves better than all reasoning how much of the way is yet open for the French to accomplish in regard to military *hygiène*. In Table VII, which I have copied from him, regarding the losses of the French troops in Algeria 1846, it would appear that from an effective of 99,700 men, the deaths in the African hospitals were 68·8 per 1,000; and that the other casualties of discharged and sent to France, killed in battle, deaths in the hospitals of France, pensioned and invalided, amounted to 28·3; and would raise the total decrements of the troops to 97·1 per 1,000.

TABLE VII.—*Of the Losses of the French Troops in Algeria, for* 1846, *on a Mean Effective Strength of* 99,700 *Men.*

	Numbers.	Ratio per 1,000 Strength.
Admitted into the African hospitals	121,138	—
Number of days under treatment in Africa	2,497,181	—
Discharged and sent to France.....	2,089	20·9
Deaths in the African hospitals	6,862	68·8
Killed in battle	116	1·1
Deaths in the hospitals of France	246	2·4
Pensioned	130	1·5
Invalided	267	2·6

The Sanitary Measures still necessary for English Troops in India.

My great object by the preceding observations has been to show "that the present death-rate for the whole of India," instead of being 69 per 1,000, as assumed in the Sanitary Commissioners' Report, has been, for many years past, little more than half this rate of death from ordinary and natural causes; inasmuch as the above-mentioned high rate is not simply the *mortality*, but includes other rates of *decrement* from the effective strength, as those of *invaliding*, and of *extraordinary war-service*, in climates and localities not Indian. The high death-rate given is that of Bengal European troops, rather than that of soldiers serving at Madras and Bombay. It was chiefly caused by extraordinary war-service of the former, during the Cabul massacre and Afghan war, and in the Burmese and China campaigns. A comparison, then, of the death-rate of troops, so employed out of India, with the death-rate of troops more comfortably housed, and adequately provided in the garrisons and stations of India, is manifestly a vague representation of Indian mortality, and must necessarily mislead as to what that rate is. At the commencement of the report the death-rate among the Company's troops, including invalids, from 1800 to 1856, is stated as 69 per 1,000; but while recapitulating this statement, at p. 165, it is said:—

"*The annual death-rate for the whole of India has hitherto been* "*about* 69 *per* 1,000. *The proposed European establishment is* 73,000 "*men, and will, at the present rate of mortality, require* 5,037 *recruits* "*per annum, to fill up the vacancies caused by death alone.*"

This rate of decrement, for both *mortality and invaliding*, might be certainly taken as a basis for correctly estimating the number of recruits hitherto necessary to fill up vacancies, but is not so for the mortality alone. Indeed, there is good reason to believe that 2,518, or half the Commissioners' figures, would be sufficient to make good

the annual losses by death; and are yet further susceptible of great reduction, by the introduction into India of improved sanitary appliances, adapted to climate, localities, and seasons, and with restraints on vice and intemperance. By the latest return of the British Army in India, exclusive of the late Company's troops, the death-rate had sunk to 35·3 per 1,000; and the invaliding, with deaths on the passage home, caused a further loss of 33·3 per 1,000; being altogether a decrement of the whole strength of 68·6 per 1,000. Invaliding, even at home, has hitherto caused a decrement of 32·3 per 1,000, so that this cause of loss in India is not greatly in excess.

While I have thus fairly stated my objections to the manner in which the Commissioners' Report has brought forward the death-rate of India as hitherto 69 per 1,000, I cannot help noticing the inconsistency of this assumption with the facts set forth in other tables, appended to the report; Table IV of which shows that, for all India, 1847-56, it was only 51 per 1,000. This was seven years ago; and from which time the ameliorations have been progressive.

In regard to other matters of the Report, the causes of sickness and mortality, and the means of preventing them, I entirely agree with the view taken by the Commissioners. 1st. That by far the larger proportion of the mortality and inefficiency of the Indian army has arisen from *endemic diseases*, and notably from fevers, diarrhœa, dysentery, cholera, and from diseases of the liver. 2nd. That the predisposition to these diseases is in part attributable to *malaria*, in conjunction with extremes of temperature, moisture, and variability. 3rd. But that there are other causes of a very active kind in India, connected with *stations*, *barracks*, *hospitals*, and the *habits* of the men, of the same nature as those which are known, in colder climates, to occasion attacks of these very diseases, from which the Indian army suffers so severely. In examining into these causes, we find, say they, that the stations generally have been selected without reference to health, and mainly from accidental circumstances, or for political and military reasons. Many of them are situated in low, damp, unhealthy positions, deficient in means of natural drainage, or on river banks close to unwholesome native cities or towns. Both barracks and hospitals are built at or close to the level of the ground, without any thorough draught between the floors and the ground. And the men, both in barrack-rooms and sick-wards, are exposed to damp and malaria from this cause, as well as from want of drainage. The ventilation is generally imperfect, and, from the arrangement of doors and windows, men are exposed to hurtful draughts. Many of the rooms are too high, and, as a consequence, there is much *surface overcrowding* both in barracks and hospitals, *although with large cubic space.**

* "Report of the Commissioners, with Précis of Evidence," 8vo., pp. 160—162.

The greater or less *sickness and mortality* of all races in India are in proportion to the bad or good sanitary conditions, with moderate elevation of the site and localities where they live; and, in the present state of Indian drainage and agriculture, the Commissioners truly say, "that for all practical purposes, heat, moisture, and malaria "are constantly present, and everywhere influencing the sanitary "condition of the country, aided by filthiness of the stations, impurity "of the air in certain stagnant states of the atmosphere, by surface "overcrowding and want of ventilation in a barrack, by impurity of "the water supplied, and occasionally unsuitable diet."

No stronger evidence can be given in support of the truth of the above conclusions, that those are the chief causes of disease among European soldiers in India, than the statistical data which show, the rates of sickness and mortality, *from miasmatic diseases*, are greater or less in proportion to the *unimproved* or *improved* sanitary condition of places and localities. In the Bengal and North West presidencies, the most malarious districts of India, the mortality for Dum Dum and Calcutta is cited at 77 per 1,000; at Hazareebaygh, 1,900 feet above the sea, during two years, 34 in 1,000; at Meerut, for nineteen years, 32 per 1,000; and Jullunder, 37 per 1,000.

The most frequent cause of epidemic outbreaks of Indian cholera and fever will, I believe, be found in certain stagnant conditions of the atmosphere, which favour the *accumulation of putrid animal matter* in the air of barracks and of stations, rendering it impure. When, in addition to this cause, bad food and bad water are allowed to contribute their share in impairing the nutrition of the system, and sapping the foundation of bodily strength among troops, the very worst features of sickness and mortality among them become manifest. These facts are prominently set forth in Dr. Hathway's Punjaub Sanitary Report, lately published; where he judiciously recommends that all barracks should be provided with flues, and that the barrack air should be, at all times, tested by an instrument invented by Dr. Angus Smith.

The great defect, in most Indian barracks, is that the *superficial area* per bed by no means corresponds with the cubic contents, and is sure to be followed by all the disastrous effects of *surface overcrowding*, when larger numbers of European soldiers are assembled at stations, than can be conveniently accommodated in the barracks and hospitals.

European troops are exposed to other causes of disease than those before enumerated; such as *intemperance* and *syphilitic* diseases. And while both greatly increase the numbers on the sick list, they ultimately tend to swell the rates of *mortality* and *invaliding*. They are not, indeed, the more *immediate* and *chief causes* of Indian mortality, though contributing largely to it, and should never

be allowed to withdraw sanitary attention from those more general and prominent causes of sickness and mortality that require special measures of prevention.

With a view of removing all preventible causes of disease in India, the Commissioners' recommendations are embodied in thirty-nine suggestions, which are set down without any order as to the importance or priority of either. Having endeavoured to point out, in the preceding observations, that diseases of miasmatic origin are the main causes of the mortality, I may enumerate in abstract the more prominent of these suggestions, and in their relative order of importance.

First. As to *morbid causes*, associated with *season*, *localities*, and *barracks*, the Commissioners recommend—

That no recruit be sent to India under twenty-one years of age, nor until he has completed his drill at home; and that recruits be sent direct from home to India so as to land there early in November.

That the strategical points of the country which must be occupied, be now fixed, with special reference to reducing, as far as possible, the number of unhealthy stations to be occupied.

That hill stations, or stations on elevated ground, be provided; and that a third part of the force be there located in rotation.

That the period of service be only ten years in India.

And, That the sanitary regulations, now in force in England, be applied to India, along with the extension, to all Indian stations, of the present system of army statistics, and a code of sanitary regulations issued under authority.

In connection with this part of the subject there are also recommendations for remedying defective drainage, for supplying pure water, for erecting barracks and hospitals on raised basements, with air circulating under the floors; that the ventilation of barracks and hospitals be sufficiently secured independently of doors and windows; and that ablution and bath accommodation be provided for both these classes of buildings.

Second. In regard to *dietetic errors* and *clothing*, they recommend—

That no spirits be issued to troops on board ship, except on the recommendation of the medical officer in charge.

That the sale of spirits at canteens be discontinued, except in specific cases, on the recommendation of the medical officer, and only malt liquor or light wines allowed.

That the rations be modified to suit the season; and that flannel be introduced as under-clothing, and a better system of supplying boots introduced.

That the hospital diet tables, in use at home stations, be adopted in India, as far as practicable, and the hospitals supplied with properly-trained cooks.

Third. In regard to *exercise* and *recreation*, it is recommended—

That the means of instruction and recreation be extended to meet the requirements of each station. That covered sheds for exercise and gymnastics be provided, and that such gymnastic exercises be made a parade. That reading-rooms, with books and periodicals, be provided, and lighted at night. That only coffee, tea, and other non-intoxicating drinks be sold to the men at those rooms. And that workshops and soldiers' gardens be established, in connection with the stations, wherever practicable. And lastly, that soldiers of good character should be selected and educated for subordinate offices of the administrative departments.

Fourthly. That, with the most reasonable hope of *lessening intemperance*, and *diminishing* the *prevalence of syphilitic diseases*, the soldiers' condition in the way of occupation, instruction, and recreation be improved, as the most moral and rational means of leading men away from the canteen and vice. They also recommend that additional means of cleanliness should be provided for the men in all barrack lavatories; and that the *reorganization of repressive measures of police*, formerly adopted in the three presidencies, for lessening the scourge of syphilitic diseases, should be carried out, according to the necessities of each locality. Although police supervision of prostitution for the large cities of Europe has proved an entire failure, yet the condition of native society in India is such as to promise better and less embarrassing expectations of success.

Fifthly. That, in order to secure the gradual introduction of the above-mentioned sanitary improvements for barracks, hospitals, and stations, whether at the seats of Government, or throughout towns in proximity to military stations, "*Commissions of Public Health*" should be appointed, and that they should be so constituted as to represent the various elements of civil, military, engineering, medical, and sanitary knowledge.

Sir Hugh Rose, the Commander-in-Chief in India, by issuing orders, in July last, headed "Sanitary and Conservancy Regulations," has, in a great measure, anticipated the practical execution of this last recommendation for Bengal, where it was most needed, and will probably be followed by correspondingly-successful results.

A Statistical Account *of the* Parish *of* Bellingham, Northumberland. *By* William Henry Charlton, *of Hesleyside.*

[Read before Section (F) of the British Association, at Newcastle, August, 1863.]

At the former meeting of this Association, at Newcastle, in 1838, I had the honour of reading a short paper on the statistics of my native parish of Bellingham,* in the county of Northumberland. After the lapse of a quarter of a century, I deem myself fortunate to be able to recur to this subject, and to direct attention to the changes which, during that period, have taken place in this parish, and which are not only of some importance in themselves, but still more so as affording indications of tendencies which, I believe, exist more or less throughout many of the rural districts of Great Britain.

The parish of Bellingham is situated in the western part of the county of Northumberland, and is divided unequally by the valley of the North Tyne river. Its extent is 20,212 acres. The lowest land in the parish is about 400 feet, the highest about 1,300 feet above the level of the sea. A very large proportion of the parish is covered with heath or coarse grass, although the extensive works of drainage, which commenced about eighteen years since, have, in many parts, effected a great improvement in the quality of the pastures. The proportion of arable land is very small, much less than it was in 1838, the farmers having found it more profitable to lay down their land to grass. The climate, though rainy and sometimes severe, is remarkably healthy. The average annual fall of rain is about 45 inches, being almost double the amount of rainfall at the mouth of the Tyne, forty miles to the eastward. The highest temperature observed during the last twenty-five years was 83° Fahrenheit in the shade, the lowest 10° below Zero Fahrenheit. The mean temperature of the twenty-four hours of Christmas-day, 1860, was 0° Fahrenheit, the maximum temperature having been + 5°, the minimum — 5°. This day, it will be remembered, was remarkable throughout Great Britain for its intense cold.

The geology of the parish belongs to the lower portion of the great northern coalfield. The coal seams are, however, very inferior to those in the more eastern parts of the county, being only from 20 inches to 3 feet in thickness, and not generally of good quality.

* The paper alluded to will be found in vol. i of the *Statistical Journal*, pp. 420 *et seq.*

There are four small coal pits now worked in the parish, which employ altogether not more than seven men and seven boys. The price of coal at the pit's mouth is 2*s.* 4*d.* per cart load, or 7*d.* per horse load. In 1838, I find the price recorded to have been 2*s.* per cart load, and 6*d.* per horse load. There is a small lead mine in the parish, but it has never been profitable. The parish has several excellent quarries of freestone, one or two of which are of fine quality. The limestone beds are thin, and generally lie deep. There are five limekilns in the parish, but they burn little or no lime at present, owing to the abundant supply of lime now brought by railway from the great limestone beds in the neighbourhood of Hexham. The price of lime brought to Bellingham by railway is 7*s.* per ton at the station. Ironstone is tolerably abundant. In the year 1841, a blast furnace was erected at Bellingham, by the Hareshaw Iron Company. The ironstone and limestone were procured in the immediate neighbourhood of the furnace, the coal was brought by a tramway from a pit about three miles off. The furnace was "blown out" in 1848, previous to which two other furnaces had been built, but were never in operation. Since 1848 the iron works have never been resumed, and as the whole of their "plant" was sold last year, there is little or no likelihood of their being so, particularly since the discovery and working of the great Cleveland ironfield, in Yorkshire. The ironstone of Bellingham is, however, of remarkably good quality, so much so, that it was largely used in the construction of the High Level Bridge at Newcastle in 1847.

The length of public roads in the parish is about 28 miles—in 1838 it was 16 or 17 miles. This great addition to the roads has been caused almost entirely by the enclosure of Hareshaw Common, containing between 8,000 and 9,000 acres, and wholly in the parish of Bellingham. Most of these roads are in tolerable condition, and are likely to be still further improved, as the parish has this year been included in a district under the new Highway Act. There is no turnpike road or pontage in the parish.

The population of the parish was by the census returns—

	Persons.
In 1821	1,396
„ '31	1,460
„ '41	1,730
„ '51	1,594
„ '61	1,662

It will thus be seen that the population of the whole parish is nearly stationary, but it is well worthy of remark, that the parish is divided into six townships, one of which, the township of Belling-

ham, consists almost entirely of a small, but very ancient market town, and that in this township alone there has been a steady increase of population during the last twenty years, the numbers being—

1811.	1851.	1861.
Persons. 672	Persons. 770	Persons. 866

Of the other five townships composing the parish of Bellingham, four exhibited a large decrease in population, and only one a very slight increase, in 1861, as compared with 1841. The population of these five townships may be looked upon as completely agricultural.

In 1854 and 1859 Acts of Parliament were obtained for the construction of a railway, called the Border Counties Railway, from a point near Hexham, up the valley of the North Tyne, to Riccarton Junction, on the Border Union Railway between Hawick and Carlisle. The Border Counties Railway, which is nearly 42 miles in length, was opened throughout on the 1st of July, 1862, simultaneously with the Border Union Railway, thus placing the parish of Bellingham within an easy distance, in point of time, from Newcastle, Carlisle, Hawick, and Edinburgh. One of the first results of this facility of railway communication was the establishment last year of three annual fairs, or trysts, at Bellingham, namely, one in July, for the sale of wool; one in August, for the sale of lambs; one in October, for the sale of ewes and wethers. These fairs have been well supported since their establishment, and are likely to assume a considerable degree of importance.

There are five schools in the parish, three of which are situated in or near to Bellingham. The number of scholars is considerable for the population, and as education is generally valued, there are very few adults in the parish, who cannot, at least, read and write.

In 1831, the declared annual value of the parish of Bellingham was 6,435*l*. In 1863, the declared annual value of the same was 8,351*l*., being an increase of nearly one-fourth. The average annual expenditure for the relief of the poor in the parish, during the three years ending 25th March, 1835, was 681*l*. The same for the three years ending 25th March, 1863, was 377*l*., being a decrease of nearly one-half. This decrease has been more marked during the last year or two, in consequence of the important alterations lately made in the Law of Settlement and Removal, and perhaps still more so by the improved mode of assessment, which latter came into full operation in the autumn of last year.

I shall now proceed to answer a series of queries put forth

by the Statistical Society of London many years ago, and of which I availed myself in my statistical account of the parish, in 1838.

1. The number of acres in the parish is 20,212.
   Owing to the want of an accurate survey, the quantity given by me in 1838, was "about 18,000."
2. The number of farms in the parish is 76. In 1838 it was 77.
3. The mode of letting the land is now generally upon *leases of from seven to fifteen years*. In 1838, the land was generally let *from year to year*.
4. The size of the several farms varies from 800 to 20 acres.
5. The soil is generally light, rather sandy in the valleys, black peat earth upon the hills.
6. The subsoil is partly cold clay and partly sand.
7. In 1838 the state of drainage was very bad, though in some few places it was beginning to improve. Since that date drainage has, for the last eighteen years been going on extensively, and with most beneficial results. There are in the parish two kilns for the manufacture of draining tiles.
8. The number of acres under the plough is 800. In 1838 it was 1,582. This important change may be traced to the high price of stock (viz., cattle and sheep, particularly the latter), which has caused a great quantity of tillage land throughout the country to be laid down to grass within the last ten years.
10. The quantity of pasture land is about 6,500 acres.
11. Of meadow land, about 1,500 acres.
12. The number of acres of wood is 450.
13. The number of acres of heath, marsh, &c., is 11,550.
14. The average quantity of hay is 1,440 acres of natural grass, or meadow hay, and 60 of artificial grass.
15. Number of acres of wheat in 1863, 40; in 1838, 200.
16. The same of barley in 1863, 70; in 1838, 300.
17. The same of oats in 1863, 300; in 1838, 400.
18. Rye, beans, and peas, none.
19. Potatoes in 1863, 30 acres; in 1838, 38.
20. Number of acres under fallow in 1863, 200; 180 sown with turnips; 140 fed off with sheep on the ground, and 14 drawn off. In 1838, 400 acres fallow; 200 sown with turnips, of which 100 were fed off with sheep, and 100 drawn off.
21. The number of horses employed for agricultural purposes in 1863, 66; in 1838, 119.
22. Number of horses employed for other purposes in 1863, 56; in 1838, 17.

23. Number of grazing cattle, exclusive of milch cows, in 1863, 660; in 1838, 50.
24. Number of milch cows in 1863, 220; in 1838, 460.
25. Number of calves bred in 1863, 220; of which 160 reared, and 60 made fat for meat; in 1838, 410 for rearing, 50 for meat.
26. Number of Leicester sheep in 1863, 110; in 1838, 22.
26. Number of short-woolled sheep, being Cheviot, black-faced, and a cross between the black-faced and Leicester, in 1863, 9,800; in 1838, 5,080.
27. Lambs of all descriptions bred in the year 1863, 5,000; about 400 fattened and 4,600 for keeping; in 1838, 1,150; of which 300 fattened, and 850 for keeping.
28. Number of sheep shorn in 1863, 8,000; in 1838, 4,800.
29. Quantity of cheese (old milk) made in 1863, 60 cheeses; in 1838, 1,120 cheeses.
30. Butter made in the year, 300 firkins, or about 17,000 lbs. it being mostly sold in lbs.

The usual rate of wages daily for common labourers, in summer and winter respectively, is 3*s.* in summer and 2*s.* 6*d.* in winter. In 1838 it was 2*s.* 6*d.* and 2*s.* Women employed as day-labourers are paid at the rate of 1*s.* per day, except in harvest, when they have at least 2*s.* In 1838, women had from 9*d.* to 10*d.* per day for ordinary work. Children earn 6*d.* or 7*d.* per day for ordinary work, and 1*s.* in harvest. A male farm-servant, or hind, is usually hired by the year, and receives now 16*s.* per week. In 1838, he received from 12*s.* to 13*s.* Women farm-servants are hired by the half-year, and receive now 8*l.* for the summer half and 4*l.* for the winter half-year. The hiring usually takes place in May and November. In 1838, women farm-servants received about 6*l.* 10*s.* for the summer, and 3*l.* for the winter half-year. Shepherds now receive from 16*s.* to 17*s.* per week, money wages. In 1838, they were always paid *in kind*, having a portion of the stock set apart for their own use and profit; often forty or fifty sheep, and a cow or two.

The rental of many farms in the parish has risen considerably during the last twenty-five years, owing principally to the rise in the prices of sheep and of wool. The highest rental of any farm in the parish of Bellingham is at present 440*l.* per annum, the farm being partly pastoral and partly agricultural.

Since 1838 there has also been a great improvement, not only in the farmhouses and their outbuildings, but in the cottages of the labouring classes. Gardens have sprung up everywhere, and many of the farmers and labourers take an interest in the cultivation of flowers. The cheapness of fuel is also a most important element as regards both the comfort and health of the labourers. A good fire

of coal, which is kept up all the year round, gives both warmth and ventilation to the cottages.

Before concluding this paper, I would again direct attention to the *character* of the changes which the lapse of twenty-five years has brought about in this parish, as in many others of the North of England.

1. The diminution of *arable*, and the increase of *grass land.*
2. The increase in the quantity of stock fed upon such land.
3. The improvements which drainage has effected in such land.
4. The increased annual value and higher rental of the land.
5. The increase of the wages of farm-servants and day-labourers.
6. The diminution of the poor rate.
7. The stationary, or rather retrograde, state (as regards numbers) of the *rural or agricultural* population, and the increase of the *town* population, even where there are no manufactures to stimulate it.

Whatever may be the ultimate effect of these changes, it is certain that they have hitherto worked beneficially for all classes, and that, generally speaking, the inhabitants of the parish of Bellingham, and of this part of Northumberland, have never been so well off as they are at the present time. May those who shall be living twenty-five years hence, be able to give as satisfactory a report!

Reports *of the* Official Delegates *from* England *at the* Meeting *of the* International Statistical Congress, Berlin, *September*, 1863.*

1. Report of Dr. William Farr, F.R.S., F.S.S.

Gentlemen,—In fixing on Berlin as the next place of meeting for the Statistical Congress, after learning that it would be agreeable to the Government of His Majesty the King of Prussia, the English Organization Commission carried out the expressed wish of the official delegates of the Governments of Europe, assembled in London. The Congress had met in Brussels, in Paris, in Vienna, in London; and it was an agreeable office to us to have the honour of placing it under the friendly protection which we knew it would enjoy in Berlin, the capital of a kingdom in which all the sciences have been cultivated with signal success. The expectations which were entertained by the commission and by the delegates, of whom I have the happiness to see many around me, will, I see—despite of some untoward circumstances—be justified by the event.

The progress of statistics in England since the last meeting has been on the whole satisfactory; in some instances success has been only partial; in others we have altogether failed to carry out measures good in themselves, and sanctioned by the Congress.

The several departments of the Government, and some royal commissions, have displayed great activity, and have not only published tabulated facts of great importance, but have accompanied them by explanations and deductions of practical value; various papers, and reports too, by members of scientific societies and others, have also appeared. It is in this direction that success has been achieved. For the division of labour, on the principle laid down by Descartes, has been carried out to the greatest extent in England; and particular fields have been well cultivated. But it is in the synthesis of our work that we have hitherto failed. We have no central statistical board, and there is a want of co-ordination in our publications.

This was pointed out by the Prince President of the Congress of London in his luminous address, and had he lived, I believe, it might now have been remedied.

Our principal statistical operation since the last Congress has

* The report of Mr. Valpy, of the Board of Trade, one of the Delegates, will be published in a future number.—Ed. *S. J.*

been the census; upon which the Registrar-General, my colleague Mr. Hammick, and myself, in England; Mr. Dundas and Dr. Stark, in Scotland; Mr. Donnelly and Mr. Wilde, in Ireland, have been incessantly engaged. As recommended by the last Congress, the census was taken on one day (8th April, 1861), by paid enumerators; and it was *by names* inscribed on schedules (bulletins), distinguishing sex, age, conjugal condition, relation to head of family, profession, birth-place, in fact all the particulars which the section declared to be indispensable. Our census is decennial. The population was 29,321,288. The language spoken, the religion, and the ability to read and write were distinguished in the census of Ireland; not in that of England or of Scotland.

The great facts respecting the population are these:—the population of England, Scotland, and Ireland inclusive has increased by 1,575,339; the population of England proper and of Scotland has increased, and the population of Ireland has decreased by emigration. The industry and productive power of the nation have increased faster than the population; and as the towns are the seats of industry, the increase of population has been chiefly in the towns. In England, exclusive of Scotland and Ireland, the town population amounted to 10,960,998, the country population to 9,000,000; for the cultivation of the soil—by improved methods and implements—has not apparently demanded more hands than were employed ten years ago. The registered emigrants from our shores of English origin, during the ten years 1851-60, were 2,054,823, exclusive of 194,532 foreigners; so nearly 7 per cent. left England to settle in other lands, where they are laying the foundations of new communities. The emigration was at its maximum in the year 1852, and was at the rate of 1,000 a-day (368,764); but after 1855 the emigration declined, and was represented by 121,214 souls in 1862.

Emigration is effected at a certain expense, and is, in fact, a transfer of living capital from one land to another. How it has been effected in Ireland, it may be worth while to mention. For some years Ireland evidently had contained more people than its industry and skill could sustain. One of the first of our economists said, that to transport the people at the public expense to the colonies, would be a violation of principle; and as the people had themselves no capital, nothing could be done. Well, the people of Ireland themselves found out the remedy. The young men sailed across the Atlantic in the cheapest vessels; they laboured with success, and saved a portion of the earnings, which they transmitted home—with that family affection which characterizes the Celtic race—and carried off their fathers, mothers, brothers, and sisters to places where employment and subsistence were plentiful.

I beg leave to call the especial attention of the members of the

Congress to our tables, which distinguish the number and age of persons in each separate occupation. Those facts lie at the foundation of statistical science, and hitherto they have been given in no other country.

We have constructed a new life table in England, and have found out methods by which the principal series for determining the value of annuities on single and joint lives can be calculated, and stereoglyphed by the beautiful machine, invented by the Scheutzes, countrymen of our colleague, Dr. Berg. The volume will be shortly published.

The Registrar-General has undertaken from the censuses, and from the registered deaths of ten years, 1851-60, to calculate the mortality, at thirteen ages, of the males and females living in the 631 districts into which England is divided. The causes of death will at the same time be shown; and it is expected that this simple and decisive demonstration of the causes of death, and of its attendant sickness, will lead to immense improvements in the public health. The people themselves will demand and pay for the means of healthy life; pure water, pure air, clean streets, and clean dwellings; containing none of the matter which is everywhere so intolerably offensive in houses, and is a source of fertility in fields.

The British army consisted in 1861 of 227,005 officers and men, and 82,156 of them belonged to regiments in India. Since the acquisition of that part of the empire, the losses of our troops in men have been at the rate of 69 in 1,000 annually; the mortality of men of the same age at home being 9 in 1,000. This is the result of the great inquiry which was instituted under Lord Herbert into the health of our army in India, and has been continued by a commission over which Lord Stanley has ably presided. Our first impression was, that the excessive mortality was due to the tropical climate of India; and it is true that the inundated and undrained valleys of the Ganges are the prolific sources of malaria in its intensest forms; but, at some of the stations in the hottest regions the mortality of the soldiers did not exceed 20 in 1,000; the mortality of the officers, subject to malaria as well as the men, was at the rate of 38 in 1,000, and the mortality of civilians in the same climate was 20 in 1,000. Again, the diseases were dysentery and liver disease, diarrhœa, cholera, and paroxysmal fevers; precisely the diseases which were as fatal in London during the seventeenth century, as they are now in India. Bad water, spirits, the want of work, both of muscle, bone, and brain, the want of land-drainage and culture; the same dirt which annoys our senses in London, in Berlin, and in all our towns, as well as other obvious causes, have destroyed the men's lives. We expect that the mortality in India will be reduced to the normal standard, by placing the troops on high lands, and supplying

them with the necessary means of healthy existence. Each man we lose is worth 250*l.*, and hence the economy of hygienic measures, which is further apparent, when we consider the efficiency in the field of armies of healthy troops. The Secretary of State for India, Sir Charles Wood, has directed the principal measures which the commission recommended to be carried out; and among the recommendations is this:—"That a system of registering deaths and the "causes of death be established in the large cities of India, and be "gradually extended, so as to determine the effects of local causes "on the mortality of the native, as well as of the European popu-"lation; the results to be tabulated and published annually by the "commissions." This will extend the domain of the Congress to more than 100,000,000 Indians.

The people of India have a great aptitude for figures; they are partly the founders of our science, for it is to them we owe our system of notation. We must repay them by endowing them with our European system of statistics, and all the modern instruments of science, health, and civilization. I place upon the table the report of the commission, and a valuable paper by Miss Nightingale, to whom the army of England is so deeply indebted.

I may add here, that in Ireland one of the most flagrant defects of our home statistics has been recently remedied, by a measure which Sir Robert Peel introduced; the births and deaths, and causes of death are there to be duly registered. Singularly enough, the marriages of the Catholics of Ireland will remain unregistered; and this great protection of the sanctities of life does not exist.

The agricultural statistics of Ireland are still ably conducted by Mr. Donnelly, the Registrar-General of Ireland; the amount of land under different kinds of culture is returned every year, and the produce is estimated. This plan which the Congress adopted and recommended in London has not, however, yet been carried out in England or in Scotland. Of the utility to the world of this fundamental determination of the area of cultivated land, and of the amount and value of the productions of the soil, I need not speak in this assembly. And Her Majesty's Government is, I believe, quite willing to accept any measure for the advancement of the science of agriculture, such as this, which the enlightened men at the head of that great interest demand. Something will probably be proposed next session for carrying out one of the weightiest decisions of the Congress.

Mineral statistics have been continued and extended, under the able superintendence of Mr. Hunt.

Prices have been investigated by Mr. Jevons, formerly of the Sydney Royal Mint, who, by the investigation of the prices of 118 commodities, shows that there has been a depreciation of the

value both of gold and silver. There is novelty in the methods which Mr. Jevons has employed, as well as great interest in his facts, collected from the best authorities. Professor Rogers, of Oxford, has commenced an elaborate inquiry into the history of prices. The first portion of the inquiry will be found in the *Statistical Journal*.

These are the principal subjects which occupied the last Congress, with the exception of weights and measures, and decimal money. Mr. Samuel Brown and Dr. Levi will report to you the proceedings of the commission up to the present day.

Mr. Valpy, of the Board of Trade, will report the proceedings of his department in statistics; and Mr. Hammick will report on a subject in which, I know, you will feel an interest.

Gentlemen, I am authorized on the part of Her Majesty's Minister of Public Works, who was one of our Vice-Presidents (Mr. Milner Gibson being the other), to express his regret that he is unable to attend this meeting in Berlin, and at the same time to express his confidence that your labours, under the auspices of the Government of His Majesty the King of Prussia, will be crowned with success; a confidence which the presence of so many practical men, the able arrangements of Dr. Engel, and the presidency of your Excellency (Count Eulenberg), justify; and which is placed beyond doubt by the discriminating appreciation which, yesterday, His Majesty the King so graciously expressed, followed as it is to-day by the presence in this assembly of His Royal Highness the Crown Prince of Prussia, who thus shows the Congress the same favour as that Prince, with whom he is so intimately allied. (Applause.)

On the motion of Dr. Engel, seconded by M. Legoyt, the report on English statistics was ordered to be printed in the "Prussian "Gazette."

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2. Statement by Mr. Hammick, F.S.S.

Gentlemen,—Having been requested to furnish the Congress with some information concerning the measures which we have adopted in England with a view to mitigate the distress unhappily still prevailing in the cotton manufacturing districts, I have much pleasure in presenting to your notice a few facts which are not exclusively of domestic interest.

You are aware that by the law of England every poor and destitute person is entitled to relief from a public fund,—in food, clothing, lodging, and medical attendance, according to his necessity —no question being raised as to the country, sex, age, character, or

conduct of the destitute person. The fund is a local contribution, called the "poor rate;" it is raised from a limited district (the *parish*), and is administered by unpaid local functionaries and their paid officers, according to rules laid down by the Poor Law Board, which is the department of Government charged with the general administration of the poor law. The parishes are, for the most part, grouped into "poor law unions," and in each, or nearly each, of the 655 unions in England and Wales, there is at least one workhouse* where entire relief is given; relief is also given out of the workhouse, but this is usually of a partial and temporary character.

During the ten years, 1851-60, the total amount expended on the relief of the poor in Great Britain and Ireland was 67,350,000*l.* sterling, equivalent to an annual charge of 4*s.* 9½*d.* per head on the population. In England and Wales, the sum expended in the same period amounted to 55,000,000*l.* sterling, being at the rate of 5*s.* 9½*d.* per head on the population. These figures refer to ordinary times, but since the outbreak of the civil war in America, an entirely exceptional state of things has prevailed. By the failure of the cotton supply consequent upon that event, nearly a million of persons, including the families of the operatives, were suddenly, through no fault of theirs, deprived of their usual means of support. The whole nation was moved with sympathy, and united in the effort to diminish the privations of these poor people; while the efficiency of the system of poor law relief was tested in the severest manner. Although the power of levying rates for the relief of the poor may be extended to the enforcement of a contribution equal to the full annual value of the property assessed, the extreme application of this power would have been ruinous in its consequences to the distressed districts. The public, therefore, at once came forward with liberal voluntary subscriptions, and not only did the British colonies, but even some foreign countries join in the good work. It is estimated that the contributions in money and clothing have exceeded one million sterling. The manufacturers, besides being themselves heavy sufferers, and bearing the burden of greatly increased local taxation, have rendered the most generous aid in preventing the workpeople, whom they could no longer employ, from feeling the extremity of want.

The first legislative measure adopted to meet this emergency provided for an extension of the area within which a higher contribution to the poor rate might be levied,—*the whole* of the counties within which the distressed districts are situated being required, in case of need, to contribute in the same high proportion as the districts themselves. In these counties—Cheshire and Lancashire

* There are 700 workhouses in operation; but a few unions, principally in Wales, have no workhouse.

—no less than 421,400 persons were in receipt of relief on the 1st January in the present year, being 203,500 persons, or 97 per cent. more than on 1st January, 1862,—an increase of distress quite sufficient to justify a departure from the ordinary methods of raising the amount required for the relief of the poor.

But a measure of greater importance, and one calculated not only to meet the present emergency, but to benefit every class of society within the distressed districts, is the Act passed in the last session of Parliament, empowering the Government to make advances to the extent of 1,500,000*l.* sterling, to enable the local authorities in the cotton manufacturing towns to provide employment for the distressed workpeople, by the execution of works of public utility and sanitary improvement. The money is to be advanced on the security of the local rates, and to bear interest at the rate of $3\frac{1}{2}$ per cent., or about $\frac{1}{4}$ per cent. higher than the interest in the public funds; the principal and interest to be repaid by annual instalments within a period not exceeding thirty years. Several towns have already applied for loans amounting, in the aggregate, to 800,000*l.*, and during the coming winter it is expected that more than one million sterling will be absorbed in various public works. The operatives will be employed, of course with a due proportion of skilled workmen, in constructing sewers, cleansing and covering up open drains and ditches, making new public roads, deepening and cleansing rivers, constructing reservoirs and other works for improving water supply, forming new parks and recreation grounds—in short, in any description of work of permanent public benefit. In every case the local authorities will devise and carry out the execution of the works, the Government neither dictating nor controlling the expenditure, nor in any way interfering further than to ensure a useful outlay of the money. The Congress, therefore, will be pleased not to form the idea that the British Government is engaged in establishing national workshops, or employing engineers to devise works merely for the sake of affording employment to the operatives; it simply helps the local authorities to help themselves by means of readily-applied laws, and by loans of money at a low rate of interest not involving loss to the public at large.

I rejoice to hear that little distress has been felt in Prussia from the causes which have so painfully affected large numbers of our industrial population in England. In France and Belgium, as I regret to learn from our honourable colleagues from those countries, much distress has existed; but the special measures which have been adopted by the respective Governments have tended, in some degree, to mitigate its effects. Where, however, the law makes no certain provision for the poor and destitute, the people must of necessity endure great privations during the depression or interruption of any important manufacture. In England, notwithstanding the large number of operatives thrown out of employment, and the severe pressure upon those charged with the administration of the poor rates, no case has been brought under the notice of the authorities of a failure to supply all destitute persons with relief. The working classes have conducted themselves with admirable patience under their privations; and the winter once tided over, it is confidently believed that a supply of cotton will be furnished, chiefly from new sources, which will again call into activity this important branch of our national industry.

I should not omit to mention that ample statistics relating to the fluctuations in the number of persons relieved, and to other matters of importance connected with the crisis, have been published at short intervals by the Poor Law Board, under the able superintendence of Mr. F. Purdy, and that the information thus imparted has been of great interest to the country at large. (Applause.)

On the Progress *of* Official Statistics *in the* Netherlands (1858-63); — *with a* New Dutch Life Table *by* Dr. von Baumhauer; *contributed by* Frederick Hendriks, F.S.S.

[Read before the Statistical Society, 17th November, 1863.]

In the Continental States, as indeed in England, various views are taken of the comparative advantage, or the contrary, of centralization in official statistics. With some, centralization under a single commissioner or commission, is most in vogue; to others, it seems preferable to allot to each ministry or government a separate statistical office, allowing the departments to report in their own way, without requiring one general model for the returns, or a reference to one common statistical centre or general commission.

The Netherlands at first adopted the centralized system. This has, however, been suspended by the departmental system. The late Professor Van Ackersdyck, the eminent jurist and statistician who represented the Netherlands at the London meeting (1861) of the International Statistical Congress, and who is recollected by many of us as one of the most earnest and painstaking members at that meeting, may be said to have been the introducer into the Netherlands of the centralized statistical system. The central commission was instituted 5th November, 1858. It held monthly meetings from March, 1859, to December, 1861. Van Ackersdyck was its president during 1859 and 1860, and on his resignation in December, 1860, a successor to the cares of his difficult task was sought for without success, and the departmental system was resorted to. The central commission printed two reports, one of an official character, containing a statistical review for the years 1859 and 1860, and the other a review printed at the expense of the members—of their labours during 1861, at the close of which year, the second Chamber of the States General threw out the budget of the commission for 1862. It is very likely that the budget, or estimate of expense, of such centralized commissions will, in several countries, as it has been in the Netherlands, be found the main cause of their dissolution. On the other hand, in the departmental system, the expense, divided amongst several sections of the administration, although greater in the aggregate, is less patent, less subject to the attacks of over zealous financial reformers, and thus has less chance of adverse criticism.

Dr. von Baumhauer* attaches great importance to the labours of private individuals in elaborating and scientifically criticizing the official returns. Functions such as these, frequently exercised by members of the Statistical Society of London, are in Holland taken up by a corporation of about one hundred members, which has its place of meeting and its library at Amsterdam. Its direction consists of seven members, and there are several general meetings each year. The statutes of this corporation were approved by royal decree, 4th July, 1862. Such transactions or papers as are intended for the public eye, appear in the pages of the "Political and "Economical Annual," published since 1849, at Amsterdam, under the chief editorship of the eminent Professor De Bosch Kemper.

In the Dutch East Indies it is intended to establish statistical departments. The Governor-General, Baron Sloet van de Beele, is known as a statistician, having published an esteemed work on the statistics of Guelderland. Two Dutch functionaries, one of whom was chief of the provincial bureau of statistics in Guelderland, were to have gone out to these colonies last month.

Dr. von Baumhauer has furnished us with a notice of the statistical works published by the departments of the Netherlands Government during the last three years. The following is an abstract:—

Ministry of Finances. — 1. "Reports on Trade and External "Navigation for 1859-60-61."

2. "Annual Budgets of Expenses and Receipts, with detailed "Reports upon Financial Administration."

Ministry of Justice. — 1. "Statistics of Criminal and Civil "Justice."

2. "Prison Statistics."

3. "Police Statistics."

Ministry of Colonies.—1. "Reports upon the Condition and "Administration of the Colonies, 1858-59-60."

2. "An Annual Report upon Trade and External Navigation" appears at Java and Madura, the last for 1861; and upon "Educa-"tion," the last for 1860.

Ministry of the Interior.—1. "Statistical Annual" (*Statistisch Jaarboek*), tenth and eleventh years, in one volume, containing population statistics for 1859 and 1860, and an abstract of the last decennial census of 31st December, 1859.

2. "Statistics of Education: Higher, Middle, and Primary."

3. "Reports upon Beneficent Institutions." It appears that annual reports upon education and upon beneficent institutions have been published from 1816.

* *Aperçu des Travaux Statistiques dans le Royaume des Pays Bas.* Report to the Berlin Meeting of the International Statistical Congress, September, 1863.

4. "Reports upon Lunatic Asylums." Annual reports have appeared from 1844.

5. "Agricultural Statistics for 1859 and 1860." Published annually from 1851.

6. "Statistics of Sea Fisheries for 1859-60-61." Published annually from 1854.

7. "Reports upon Public Works for 1859-60-61." Published annually from 1853.

8. "Reports upon Electric Telegraphs for 1859-60." Published from 1853.

Each of the eleven provinces of the Netherlands has its statistical office, which presents an annual report to the provincial council. The provinces have published their reports separately since 1840.

A commission for the statistical description of the province of Groningen was instituted in 1854, having for its president the royal commissioner Van Royén, and for its secretary, Dr. L. Ali Cohen. The commission possesses a library and archives, and divides its labours into four sections: (1) geographical and topographical description; (2) population and cognate subjects; (3) social institutions; (4) industry and wealth. Two volumes of transactions have already been published, and the third is in progress, under the title of "Documents upon the Present Condition of the Province "of Groningen." They are said to contain very interesting information.

Dr. von Baumhauer has recently calculated for the Dutch Government two tables of mortality, arranged in the usual form of numbers living and dying, equation of life, and expectation of life. Each of the two periods, he observes, for which these tables have been constructed, viz., the duo-decennial (1840-51), and the decennial (1840-51), has had its favourable and its disastrous years. Amongst the former, he reckons the quinquennial periods, 1840-45 and 1850-54, particularly the two years 1850-51; amongst the latter, 1846 and 1847, years of scarcity; 1848, and especially 1849, ravages of Asiatic cholera; 1855, great mortality in childhood from measles, and in adult age from catarrhal fever, typhus, and cholera; 1857, especially great mortality amongst children; 1858 and 1859 particularly, small pox, malignant fevers; and 1859, cholera again.

The results given in the following table are an abstract of the results as regards average expectation of life; to which we have added corresponding results for England and Sweden. It will be seen that the mortality in the Netherlands compares unfavourably with that experienced in England and Sweden. It may be that some of the greatest triumphs of sanitary improvement in diminishing the death-rate, are still reserved to stimulate the endeavours of statesmen and philanthropists in a country like the Netherlands, where

stern battles against natural disadvantages have been the rule instead of the exception.

Whilst these remarks are assumed to be applicable to the mass of the community, the general population, there is reason to believe that in its select classes, such for instance as annuitants and members of provident institutions, the average expectation of life and longevity, is not materially different from that experienced by the like classes in other countries. Modern statistics of the mortality of what is technically called "select life," as observed in the Netherlands, would be a desirable addition to the stock of knowledge on these matters. The old observations upon the lives of annuitants and tontine nominees, investigated by de Witt and Kersseboom, showed the value of life in Holland to be quite equal to the corresponding value afterwards ascertained in France and England as prevailing in like classes.

Age.	Netherlands. Average Expectation of Life.				Sweden. Average Expectation of Life.		England.* Average Expectation of Life.	
	Males.		Females.		1841-55.		1841.	1857.
	1840-51.	1850-59.	1840-51.	1850-59.	Males.	Females.	Males.	Females.
0	33·83	34·12	36·63	36·43	41·28	45·60	40·36	42·04
1	43·46	45·67	44·92	45·27	48·29	51·95	46·95	47·36
2	46·30	47·54	47·82	48·12	49·27	52·92	49·20	49·38
3	47·57	48·59	49·12	49·16	49·68	53·26	50·03	50·25
4	47·83	48·82	49·41	49·39	49·68	53·22	50·28	50·56
5	47·96	48·68	49·24	49·23	49·40	52·96	50·21	50·53
10	44·88	45·91	46·56	46·51	46·48	49·99	47·47	47·86
20	37·36	38·26	39·21	39·17	38·55	42·12	39·99	40·65
30	31·21	31·75	32·48	32·40	31·22	34·45	33·21	34·06
40	24·56	24·96	26·27	26·36	24·33	27·21	26·46	27·50
50	18·48	18·46	19·84	19·73	18·02	20·11	19·87	20·84
60	12·64	12·78	13·44	13·31	12·31	13·48	13·60	14·49
70	7·72	7·91	8·07	8·07	7·40	8·04	8·55	9·12
80	4·52	4·36	4·64	4·47	3·88	4·32	4·97	5·34
90	2·68	2·36	2·81	2·67	2·42	2·76	2·80	3·09
95	2·40	2·51	2·67	2·62	2·00	2·58	2·11	2·38
100	1·00	1·00	1·00	1·00	—	1·00	—	1·86

* From Dr. Farr's life tables; the male lives published in the twelfth, and the female lives in the twentieth "Annual Report of the Registrar-General."

The Industrial Progress *of* Victoria *as connected with its* Gold Mining. *By* H. S. Chapman, *of Melbourne.*

[Read before the Statistical Society, 17th November, 1863.]

I propose, in the following paper, to exhibit the present condition of the colony of Victoria. The year just ended (1862) has been, in many respects, eventful, considered in relation to the present condition and future prospects of the colony. On the one hand, we have a marked development of our internal resources; on the other, the rival gold fields of New South Wales and New Zealand have attracted and are still drawing off a considerable number of our people. In six years the production of gold has fallen off nearly one-half. It is the effect of these and other changes which I propose to trace. I may remark, at the outset, that all the colonies are subject to great fluctuations. Generally their condition is progressive; but their progress, always rapid, often remarkably so, is subject to great checks, and at times the superficial observer, and those who are constitutionally desponding, are apt to conclude that their prosperity has come to an end. I know of no case in which this is true of any colony. The abundance of land, in proportion to capital and labour, imparts to colonies a remarkable vitality; and where, as in the case of Victoria, they have one or more especial sources of wealth, periods of depression are always temporary, and if the times of comparison are so chosen as to include fluctuations from high prices to low prices—from prosperity to depression, with their reactions—the result of such comparisons invariably exhibits a great balance of progress in population, wealth, and social improvements.

Not only is Victoria no exception to this rule, but it exhibits it, in what I shall venture to call, a remarkable degree. In 1835, one enterprising family, the Messrs. Henty, established themselves at Portland Bay, in the western district. In the following year, Batman's party settled on the site of Melbourne. Soon after, Fawkner's party ascended the Yarra, and first put the plough into the soil on the south side of the river. In 1837, a magistrate was sent from Sydney, and Government was organized. In September, 1838, the population of the infant settlement was 3,511. Its sole dependence was then on its grass. Pastoral pursuits were alone attended to, and at the time the above humble figure of population was ascertained, the infant colony owned 310,946 sheep, 13,272 head of cattle, and 524 horses. This was its "germ of future increase"

until 1851—the commencement of the golden era. In that year, the wool-created colony, only fourteen years old, contained (2nd March) 77,345 people, who owned 6,032,783 sheep, 378,806 head of cattle, and 21,219 horses; and a city, also wool-created, had grown up, containing 25,000 souls. It was in that year (1st July) that the district of Port Philip separated from New South Wales, was created into a colony under the name of Victoria, with a single Legislative Chamber, consisting of two-thirds elected members and one-third nominees of the Crown—a legislature efficient, perhaps, for the then circumstances of the colony, but soon to be rendered effete by the remarkable revolution in its prospects, which took place during that very year. It was a few months before the first council met, that gold was discovered. In August, 18 ozs. were brought into Melbourne. In December, the quantity for the month had swelled to 140,000 ozs., which was nearly equal to a year's production of New South Wales, where the discovery was about four months earlier. Many of your readers must recollect the impression produced in London by the arrival of the "Melbourne," the first gold ship from the colony, with its 54,000 ozs. followed within a month by four other ships, conveying together 126,000 ounces more. The result is, that in 1862, *i.e.*, in eleven years, our population has increased to 550,000, our exports to the extent of 12,000,000*l.*, and imports to the same amount, and the city and suburbs of Melbourne have a population of 138,000. We have 220 miles of railway in operation, with other marks of prosperity, to which I shall presently have occasion to refer; whilst the aggregate population of these colonies, including New Zealand, increased from about 400,000 to more than 1,250,000.

The most striking feature in the commercial condition of Victoria, during the last few years, is the annual decrease in the production of gold, and the substitution of other enterprises. It will be seen hereafter, that I do not regard this as at all detrimental to our future prosperity, or injurious to our present condition, and I, therefore, see no good reason why the "Argus" should have lately ceased to compare the quantity of the current week, month, and quarter with that of former years. I shall not shrink from such comparisons, though they may *apparently* tell against the colony; and I think I shall be able to show that they do not justify any inference that we are in a condition otherwise than progressive; whilst I may use the true state of facts as a warning to your commercial readers as to their future "operations" with the colony. The export of gold reached its culminating point in 1856, when it was nearly three millions of ounces, and, as the quality is above the Mint standard, the value was about 12,000,000*l.* I may mention here that the value of pure gold is an insignificant fraction under 4*l.* 5*s.* per oz., and some of our gold has sold for 4*l.* 2*s.* 6*d.* Some years ago, I saw some gold which, on a

very scientific examination, was pronounced to be chemically pure. It was from Ballaarat. In order to show the actual decrease since 1856, I take the following table from the official returns of Mr. Archer, the Registrar-General, a very trustworthy authority; and here, let me remark, that this very gold of ours has enabled us to *buy* (and I purposely put it in this vulgar but sound light) appropriate talent in every department of our Government. His statement, except the last year, which I take from the "Argus," scarcely less trustworthy, is as follows:—

	ozs.
1856	2,985,696
'57	2,761,528
'58	2,528,188
'59	2,280,676
'60	2,156,661
'61	2,072,359
'62	1,711,508

There is every reason to believe that this decrease is still going on. The quantity removed by the escorts, during the thirteen weeks ending 13th March, was 359,260 ozs., which would give only 1,437,040 for the year. The first three months, however, are usually the lowest in the year. It is the dry season of a dry country, and this has been the driest of all the dry seasons for years past. When I say this is a dry country, I must explain myself. More rain, *in inches*, falls here than in England, but it descends in torrents, and rushes to the sea in floods, and when we want it, it is all gone. We have not yet adopted means to keep it until we want it, but we are beginning to think of that too. To show that the supply of the first thirteen weeks affords no criterion for the whole year, last year we had 389,255 ozs., and the year before 471,947 ozs., both considerably less than one-fourth of the production of the year. Still we cannot expect that the production of 1863 will equal that of 1862; probably it will be somewhere between 1,500,000 and 1,600,000 ozs.

Before I proceed to show in what manner other productions have replaced, and indeed more than replaced, every ounce of gold that has ceased to be produced; and, consequently, that our general resources have continued to be, and still are, progressing, it may be as well to consider the production of gold generally in Australia from the English point of view. If an undiminished quantity of gold from the southern hemisphere continue to pour into England, keeping up an unimpaired demand for British manufactures, it is of no importance to her and to her trade, whether that gold is derived from this or that part of Australia or from New Zealand. And, in point of fact, this is the case; that while Victoria has produced and shipped quantities decreasing from year to year since 1856, there has been a corresponding, or nearly a corresponding, increase from other fields. Let us begin with New South Wales. That colony preceded Victoria in the discovery of gold by about four months, but the wonderful richness of our first discovered gold fields of Mount Alexander and Ballaarat, and soon after of Bendigo, drew off the miners of New South Wales and effectually checked gold mining in that colony. The following is a complete return of the quantities produced from 1851 to 1862:—

	ozs.		ozs.
1851	161,880	1857	148,126
'52	199,500	'58	255,585
'53	173,960	'59	293,574
'54	148,900	'60	355,328
'55	107,250	'61	403,139
'56	134,950	'62	584,219

The average of the first seven years is 153,510 ozs. per annum, or in round numbers, about 600,000*l.* value per annum; the average of the first ten years is under 800,000*l.* per annum; whereas the value of the gold produced in 1862, is 2,336,670*l.*; and this year it will, in all probability, reach or exceed 2,500,000*l.* This increase is attributable to the rapid development of the gold fields on the River Lachlan. This appears from the following statement of the sources of supply in 1861 and 1862:—

	1861.	1862.
	ozs.	ozs.
Western (Lachlan)	131,881	326,672
Southern.....	235,604	231,207
Northern.....	35,654	26,640
Total	403,139	584,519

New Zealand, however, as a gold-producing country, is fast eclipsing New South Wales, and, in the opinion of many, is likely, within a short time, to approach Victoria in productiveness. It is now about seven years since gold was discovered on the west coast of the Middle Island, in the province of Nelson, but the reward for great labour and no small privation has been small, and the miners few in number. Lately, however, the quantity of gold there has increased, and some considerable successes are recorded. From a volume of statistics lately published by the Government, it appears that from April, 1857, to June, 1862, the total quantity of gold exported from Nelson has been 50,766 ounces. Gold has also long been known to exist at Coromandel, near Auckland, and at one time it was honoured with a "rush," but it appears that the quantity produced has

hitherto been infinitesimal, namely, 615 ozs. only. It is since the return of June that the increase has taken place in the province of Nelson. It was not until the middle of the year 1861 that Otago took rank as an established gold field. An escort was established in August of that year, and a report drawn up by Mr. Pyke, the Chief Commissioner of the Gold Fields, gives the following as the monthly yield during the first twelve months:—

1861.	ozs.	ozs.
August	7,879	
September	15,300	
October	19,889	
November	74,177	
December	70,452	
		187,697
1862.		
January	65,464	
February	61,946	
March	43,359	
April	18,946	
May	45,747	
June	16,513	
July	17,569	
		269,544
Total	—	457,241

The statistical tables of the Government put the matter in a different way. They give the total export from Otago, up to September, 1862, which is fourteen months, as 489,446 ozs., and for the whole colony, 538,560 ozs. I have no complete return for October, November, and December last, so that I cannot state the precise quantity for the year 1862, so as to correspond with our returns; but an approximate calculation gives 144,000 for the three months, which will give the total of 1652 as 445,902 ozs.

Thus, then, the gold produced in Australia and New Zealand, in 1862, stands as follows:—

	ozs.
Victoria	1,711,508
New South Wales	584,519
New Zealand	445,902
Total	2,741,929

Hence at appears that the actual supply of gold from all sources is very little short of what it was in 1857; and even if the quantity produced in Victoria should continue to decrease, the accounts from the Lachlan, and from Nelson and Otago, justify the conclusion that the shipments in 1863 will not fall short of, and will possibly exceed, those of 1862, as above stated.

I now proceed to examine the case from our own point of view. We exported—

	ozs.	£
In 1856	2,985,696	= 11,942,784
„ '62	1,711,508	= 6,846,942
Decrease	1,274,188	= 5,095,842

How is this enormous loss of purchasing power compensated? In the year of the greatest production of gold, the total value of our exports was 14,363,250*l.* Deducting from that figure the value of our gold, 11,942,784*l.*, the balance furnished by all other articles was 2,420,466*l.* In the year of the least production of gold (1862), the total value of our exports was 12,314,062*l.*; deducting from this figure, in like manner, the value of gold exported, 6,846,942*l.*, the balance furnished by all other articles was 5,467,120*l.*, being an increase of all articles, except gold, exceeding 3,000,000*l.*; or, to put it in another shape, although our export of gold has decreased by a sum slightly exceeding 5,000,000*l.*, our total purchasing power, our external trade has only fallen off by a sum of 2,000,000*l.*; which sum, so far as our internal condition is concerned, is more than compensated by the production of consumable articles which we formerly acquired in exchange for our gold and wool, in terms much less advantageous to the colony. But even this decrease of our purchasing power, though now, in 1863, for the first time real, has been only apparent during the last four years. During that period we have transmitted to London debentures amounting to 7,000,000*l.* These have really performed the functions of an export. I think it was Mr. Samson Ricardo who first applied the apt phrase "import of "securities," in discussing the balance of the export and import trade between England and the continents, as affecting the exchanges; and the expression was as happy as it is sound in principle. But that resource is now dried up, and the exporting merchants should be cautious in adapting their shipments to the means at our disposal for the purchase of them; and the figure of our exports for the last two years may now be taken as the measure of our purchasing power, which we may set down at 1,000,000*l.* per month; about two-thirds of which goes to England.

The imports for the first seven weeks of this year (1862), exceed the exports by 405,000*l.*, or about 18 per cent., and exchange is at a premium of $1\frac{1}{2}$ per cent., but it is too early in the year to draw any useful inference from this; and we learn by the January mail, that exports to Australia exhibit a decrease. My own impression is, that if shipments to these colonies, and especially to Victoria, were regulated wholly by the advices of our merchants, we should seldom have to deplore any ruinous excess of supply and consequent depres-

sion of prices. Fluctuations to some extent are, no doubt, inevitable; but in past years they have in a great measure been caused or aggravated by the operations of the consigning merchants at home; though I believe that practice has been much checked of late years, and our trade, though not always so active as our merchants could wish, has, on the whole, been steady and sound. Insolvencies we have had, but they are small, and there have been very few great commercial failures.

But the above-named increase of 3,000,000*l.* in our exports other than gold (wool, tallow, hides, tin-ore, &c.), by no means indicates the beneficial change which has for some years been going on in the fields of production. We now produce an immense number of consumable articles, which we used formerly to import and pay for with our gold. Many of these are, no doubt, of trifling value, but in the aggregate, they represent a value greatly exceeding the value of that portion of gold which we have ceased to produce. I begin with agriculture. In 1856, the year of the greatest production of gold, we had only 115,135 acres of land in cultivation. The population was then in round numbers 400,000, and to provide for all their wants would have required the cultivation of about 600,000 acres. In March, 1860, the land in cultivation had increased three-fold, being 358,728 acres, whilst the population had only increased by one-fourth. In March, 1861, the cultivated land was 419,380, and at this time it is about 540,000 acres, though the exact returns are not yet completed. This, though still insufficient for the wants of the population, yields a large value for consumption which was formerly derived from abroad. I shall content myself with a comparison of the quantity of wheat and oats alone. In 1856 the crop was 1,148,011 bushels; in 1860, it was 2,296,157; in 1861, it was 3,459,914 bushels, which is the last return completed. The annual increase for the last four years has averaged 22 per cent. Allowing only 20 per cent., however, the crop of 1862 should be 4,152,000 bushels, being an increase of 3,000,000 since 1856. Value about 750,000*l.* This, however, does not indicate the saving effected by producing our food instead of purchasing it with our gold. In 1856 and 1857 the price was about 60 per cent higher than at present; so that the saving is nearly a *million and a quarter*. The crop of oats has increased from 614,679 bushels in 1856, to 2,633,692 bushels in 1861; the gain calculated as above, being about 400,000*l.* Barley, potatoes, maize, hay, have all increased, but not in so great a proportion. But the great increase of comfort and health, as well as an important source of wealth, arises from the greater abundance and cheapness of dairy produce, eggs and poultry, vegetables and fruits. The importation of Cork butter used to be enormous. Fresh butter found its way to the tables of a very few. Eggs were 6*s.* per

dozen, milk 1*s.* 4*d.* per quart, cabbages 1*s.* and 1*s.* 6*d.* each, fruits extremely dear. Most of these articles were drawn from Van Dieman's Land, and paid for with part of that very 5,000,000*l.* worth of gold which we have ceased to produce; but instead thereof, we produce the articles themselves, cheaper and better, because fresh instead of stale and often in a state of incipient decomposition. It would obviously be a matter of very great difficulty to estimate all the above, even approximately, in money; but I believe they yield more than a full compensation for our decrease of external trade.

There are two industries, partly agricultural and partly manufacturing, which have lately excited a good deal of attention, and have made such progress as to rank among the established industries of the country, and at some future day, not perhaps very distant, will yield a surplus for exportation—I mean wine and tobacco. The vine has been successfully cultivated since 1843. In that year 4 acres were planted by a Swiss vigneron, near Geelong. In 1853, 107 acres were planted, and 4,500 gallons of wine produced. It is, however, only within the last four or five years that the cultivation of the vine has engaged the attention of men of energy and means, and during the last four years, the growth of this important industry has been very great.

The following is a return for the last four years:—

Years.	Acres.	Number of Vines.	Grapes Sold.	Wine.	Brandy.
			cwts.	galls.	galls.
1859	547	993,602	3,578	7,740	72
'60	811	1,896,939	4,473	13,966	150
'61	1,138	2,838,114	7,979	12,128	220
'62	1,464	3,818,335	16,972	47,568	79

At present very few of the vines are in a productive condition, so that within the next few years the increase of wine will be greater than the extension of planting. This is shown by comparing the last two years. The vines planted have increased about 30 per cent. whilst the grapes sold have increased just 100 per cent., and the wine manufactured nearly 300 per cent. The ages of the vines, therefore, form an important element in our exportations, and are given in the following extract from the Registrar-General's statistical notes:—

	Number of Vines.
Under 1 year	711,674
1 to 2 years	546,563
2 „ 3 „	558,171
3 and upwards	1,393,211
Unspecified	608,716
Total	3,818,335

New South Wales and South Australia are far in advance of Victoria in the cultivation of the vine and the production of wines. In the former colony, the great promoter of this industry is Mr. McArthur, whose father, one of the earliest settlers, first introduced the Merino sheep (see article "Wool and Woollen Manufactures," in the "Encyclopœdia Britannica," 7th edition, written by the author of this paper). The wines of New South Wales and South Australia are now largely consumed here. They are gradually reforming our taste, which has hitherto rather affected stronger drinks, and are preparing the public palate for a wholesome appreciation of our own wines. It is not until after the fourth year that the vine becomes productive; and until 1862 the large demand for fruit and the small supply have diminished the quantity available for wine making; but as the young vines in the above table come into their fourth year, the quantity of wine produced will rapidly increase, and the town gardens will be more than enough to supply our tables with fruit. Nearly every private garden around Melbourne, and they are numerous, has from 100 to 300 vines, and these, I believe, are not included in the agricultural returns. These are also increasing from year to year, and in a very few years they will supersede imported wines to a great extent. It is, in fact, a great industry, well and successfully commenced.

Tobacco is another article for which the soil and climate of Victoria are admirably suited, and which has been long enough grown in the colony on a small scale to encourage its cultivation more largely. Let me here state that writers in favour of a particular colony, in speculating as to the productions likely to succeed, are in the habit of taking zones of climate, and concluding that as the vine, the orange, the olive, &c., succeed within certain latitudes in Europe, they must also succeed in colonies which are within similar latitudes. Such speculations are very useful, as they induce systematic experiments. But I am not here speculating on possibilities or probabilities. I am stating what has been done, and what is now doing, and my conclusions are deductive rather than inductive. With regard to tobacco, in 1860 the Registrar-General only felt himself justified in writing thus vaguely and briefly:—

"Tobacco has been pretty constantly raised by squatters for use in "dipping sheep for scab, but the quantity grown has never been "considerable. In 1841, 72 acres were returned as producing 1,440 "cwts., and in 1859 there were 66 acres enumerated, which are said "to have yielded 873 cwts. Between these two periods the quantity "of land returned as cultivated for tobacco, varies from 2 acres to "76 acres." These returns between 1841 and 1859 are not to be relied on. No one thought of cultivating as a business. Grown only in small patches as "sheep wash," no one deemed it of sufficient

importance to require "a return." My impression is, that for many years the colony has had from 80 to 100 acres in tobacco, producing from 12 to 15 cwts. to the acre; but, in truth, this ought not to be deemed tobacco at all. It was not, in fact used—it was never intended to be used—as tobacco. It was seldom called tobacco. It was merely "sheep wash;" and, as such, might have been put in the same class as arsenic and blue stone. Even then, however, it includes the list of those products which superseded imported articles, and thus comes within the principle of my argument. Since 1860 the returns have been more accurate; they are as follows:—

	Acres.	Produce.
		cwts.
1860.....	50	463
'61.....	91	1,235
'62.....	220	2,552

There is every reason to believe that the production will be very considerably increased during the present year. A wholesale tobacco merchant, who retired from business a few years ago, has introduced some experienced cultivators from America, with seeds of several varieties. He has commenced a tobacco farm on some rich alluvial land, at Dandenong, about twenty miles from Melbourne, where he has 30 acres of several kinds of the best tobaccos of America in a very flourishing condition. The "Argus," of the 13th March, has a very full report of Mr. Politz's experiments. It is stated, I believe on his own authority, that his first crop will pay well, in fact, more than cover his first expenditure. Others are entering into the business in other parts of the country. There are duties on the importation of tobacco, which, although imposed for revenue and not for the purpose of protection, have the latter operation. These duties are 3*s*. per lb. on cigars, and 2*s*. per lb. on manufactured and leaf tobacco. We have no excise, and therefore the protection is at present enormous. Moreover, the experimental trial of new enterprises is happily the prevailing sentiment in the colony. It has been stimulated by the Acclimatization Society and by the press of the colony. A very wholesome spirit prevails in this respect. The man who introduces a new animal, or exhibits a new and useful product, is wisely clothed with a certain degree of popular respect. The public journals also teem with suggestions. Many of these are perhaps impracticable on economical grounds, from the large proportion of labour which enters into the composition of the articles suggested. For instance, a few years ago a smelting house for the

reduction of tin ore to metalic tin, was established at North Melbourne. Some splendid tin was produced, and the concern was apparently successful, but it was stopped by the price which the Melbourne merchants offered for the black sand from which the tin was produced. This price was of course governed by that which the English smelter could afford, and he could afford more than this Melbourne smelter, because labour, fuel, and all his other outgoings were less. Of iron ore we have also abundance; but I apprehend it will be many years before we can compete with Europe in iron-making, owing to the cheapness of labour and of fuel, and the lower rate of profit with which the English capitalist is, I will not say content, but rather to which he is compelled to submit. We have coal, which will probably be shortly produced in sufficient quantity and at a price to dispense with some portion of our present importations from New South Wales; but at present the price of coal is about five times as high as it is at the pit's mouth in the iron-making counties of England.

I will now very briefly enumerate other enterprises which have grown up of late years, all of which, to some extent, dispense with importations. Some of these are of marked importance, others are trifling in amount, but, as I have already stated, they make up a great aggregate.

Machinery is now pretty exclusively made in the colony. We have three extensive engineer's establishments in Melbourne, two or three in the suburbs, and several at the great towns on the gold fields. Most of the machinery now used on the gold fields is of home manufacture, and some improvements are the subject of local patents. In the early years of our mining enterprise no machinery was used, and when, in consequence of deep sinking and the opening of the quartz reefs, it was introduced, repairs were almost impracticable. Now the work is well performed in well ordered establishments at Ballaarat, Castlemaine, Sandhurst, and other mining towns.

Railway carriages, which were imported for the first railway opened to Hobson's Bay, are now extensively manufactured in Melbourne. Private carriages of every description are also made, though there is still a large importation from America.

Refined sugar is now produced in the colony. A sugar refining company was established at Sydney about twenty years ago, and about five years since a company commenced business at Sandridge, the port of Melbourne, where they have extensive and suitable premises. They also distil from sugar or molasses.

Illicit distillation has long been extensively carried on, stimulated no doubt by our high duties. Now and then the police "spring "the plant," and convictions take place, but still the trade flourishes. Lately, however, distillation has been legalized and regulated, and

the illicit trade will be checked. Still, whether legally or illegally conducted, distillation is a manufacture which dispenses with some importation. Of course we good citizens hunt down the rascals when we get on their trail, and convict them and punish them if possible, but they are producers for all that.

Woollen cloth, of the kind called tweed, used to be manufactured in Sydney, and the children of the colonies were patriotically clothed in Sydney tweed. Being made of fine wool, it was far superior to that of the West Riding of Yorkshire. The manufacture was, however, put a stop to by two circumstances. The gold made money cheap, and everything else, labour included, dear; and the reformed tariff of 1852 abolished the *ad valorem* duty of 10 per cent., which encouraged the Sydney looms. Lately, however, it has been revived without protection, and a small factory has been set up at Richmond, near Melbourne.

Of *lead pipes*, by hydraulic machinery, there are several makers in Melbourne, and two persons have imported an invention, patented by one of them, for the manufacture of *papier maché* pipes. There is a contest in our courts as to the patents, but that, of course, does not touch the fact that the manufacture is *un fait accompli*.

I will conclude this part of my paper by merely naming some other articles which occur to me, without pretending to exhaust the list:—

Breweries; saw mills; wire fencing (*wire drawing*, suggested but not yet adopted, that I am aware of); *furniture; soap, candles; biscuits* (by steam machinery); *bricks, tiles*, and *red pottery; confectionary* (*i.e.*, made of sugar); *kaolin, cement, lime; oils* from the Eucalyptus; *leather* and *tanned skins; hats* and *caps; iron rolling-mills; jewellery; paper bags* and *pasteboard boxes* for tradesmen.

Let it be remembered, that when 400,000 people produced and had the handling of 12,000,000*l.* worth of gold, most of these manufactures were impossible. It was cheaper to produce gold and buy these things elsewhere; but when 550,000 people have only 6,000,000*l.* of gold, they are constrained to turn their hands to something else; and this they have done and are doing with great energy. Let not the trifling nature of some of the above-named articles be despised. A few years ago a patent was applied for, for an alleged invention to cement together two pieces of what is called "edging" for women's caps, previously "goffered" by an English patented invention. It was opposed before the then Attorney-General, and it came out in evidence that the contest was for a trade of 40,000*l.* a-year! Am I not right in concluding that a host of these small articles make up a great aggregate?

I will now, with a view to certain inferences, compare the bank

returns for the last quarter of the year of the largest production of gold with the same quarter of the year of the smallest production.

	1856.	1862.
	£	£
Notes in circulation	2,325,263	1,605,253
Deposits	6,070,983	8,119,593
Coin and bullion	3,450,000	2,350,645
Debts due to the bank	6,595,892	10,005,342
Liabilities	9,435,982	9,927,079
Assets	11,944,512	13,369,102
Undivided profits	1,151,838	1,386,022

Now the general conclusions which I draw from this return are, (1.) A great increase in the aggregate wealth of the community, as indicated by an increase in the deposits of about 34 per cent. (2.) A vast increase of internal trade and in exchange, as shown by an increase of 50 per cent. in the accomodation afforded by the banks to the commercial community, the kind of debts due to the bank being almost exclusively of discounts of mercantile paper. During the interval the population has increased only 26 per cent., so that the difference between 26 per cent., and 34 per cent. indicates an increase of wealth, whilst the difference between 26 and 50 per cent. indicates an increase of internal trade. I say *an* increase rather than *the* increase, because there are other indications, such as the number of joint stock companies, which have grown up since 1856, the great extension of commercial buildings, and other facts, which would require more space than I can venture to claim. I am here dealing only with broad features without pretending to exhaust details. The third conclusion which I draw from the above comparative table, is the improved condition of the banks themselves, as indicated by the large increase of assets as compared with the small increase of liabilities, and the improvement of the reserved fund of undivided profits. Whilst the liabilities of all the banks have only increased half a million, the assets have increased a million and a-half; and whilst they have one and all continued to pay good dividends—generally 10 per cent.—their reserved funds have increased about 20 per cent. The most striking feature in the table is the falling off of their note circulation, and the consequent absence of any necessity for keeping up so large a stock of coin. Of late years the coinage of the Sydney Mint has filled the channels of circulation, and the banks have found that it was very little worth their while to keep up a large note circulation, which entailed the necessity for keeping a large stock of gold in their vaults. As there are nine banks of issue in the colony, with their numerous branches, the share of each bank has become insignificant, hence most of them have become indifferent

to their note circulation, and cheques are paid in sovereigns on the counter as often as in notes, without the question "how do you want "it?" So that frequently when notes are wanted they must be asked for.

While these marks of prosperity have been developing themselves, the population of the colony has been very nearly stationary during the last two years. At the end of 1860 the Registrar-General computed the total at 548,412, but there is always a difficulty in getting at the loss and gains between Victoria and New South Wales inland, across the Murray river; and in April, 1861, when the census was taken, the total was found to be 540,322. Notwithstanding the excess of males over females, the increase, by excess of births over deaths, is about 4 per cent. per annum. In 1861, indeed, it was $4\frac{1}{6}$ per cent., but in the latter half of 1862 I find the numbers give $3\frac{1}{3}$ per cent. only. Adding the actual increase by births, and deducting the balance of emigration by sea in the nine months of 1861, subsequently to the census, we have a total of 549,204 at the close of 1861. Six months later, namely, in June, 1862, the published computation gives 548,944, and on the 30th September, 549,901. The actual increase, during the last half year, would be about 10,000, but we must have lost that number since that time by the steady emigration to Otago; and in round numbers our population may now be stated at 550,000. This very small increase of about 10,000, since the census of 1861, two years since, in spite of a natural increase of more than 40,000, and an immigration of about as many, is owing, in a great measure, to the attractiveness of the Lachlan and New Zealand gold fields. We may certainly regret that our population is not now 600,000 as it might have been, but I cannot regard the result as an evil. The three great "rushes" to Otago, have been attended with two very beneficial results, and I think there is a third in prospect. First, the emigration has consisted almost entirely of males, so that the proportion of the sexes in this colony has been greatly improved. This appears very clearly from the return up to September last. There was during the quarter an increase in the female population of 1,345 souls, and a decrease of the male population of 4,951 souls. These are the figures by immigration and emigration; but taking the whole increase and decrease, male and female, by births and migration, we have a net increase of 3,649 females, and a net decrease of 2,692 males; and the proportions are improved from 59·32 males to 40·68 females per cent. in June, to 58·68 males to 41·32 females per cent. in September, 1862. If in future we correct the disproportion by 1 per cent. per quarter, we should have the sexes equalled in about two years and a half. Not that I expect that result. Wherever immigration is voluntary, there will always be a considerable excess

of males. It is so in America to this day, and a civil war is certainly a severe remedy to reform the discrepancies of a population, and preserve the integrity of a principle in political economy. The natural cure is to be found in the free migrations of the people—just what is now being voluntarily carried out. Another benefit derived from this emigration to New Zealand, consists of the enormous trade created thereby. We have several large and powerful steamers running between Otago and Melbourne as fast as they can load and discharge; these are nearly all owned in Melbourne. Sailing vessels also find freight in this trade. Our surplus stock of goods finds a market in Dunedin. If our consumers go thither, we must of course send the objects of their consumption after them. Melbourne has secured by the wealth and energy of her merchants by far the greater part of this trade, and it has undoubtedly saved the colony from great depression, if not from a glut and revulsion. As to the future benefit to which I have alluded, it is this:—The Otago gold fields constitute a new attraction to England, similar to Victoria in 1853-54, though in a mitigated degree. If every person who was attracted to Victoria in 1852-53-54 had remained, our population by this time would have *exceeded a million*. At first we drained New South Wales, Tasmania, and South Australia of people; then came the great influx from Europe. These gradually spread over the other colonies, so that Victoria, by the attractiveness of her gold fields, re-peopled the countries which she had before partially depopulated. There is not one colony which did not suffer materially from the superior attractiveness of Victoria in the early years of gold; there is not one colony that has not since been wonderfully benefited by the same cause. Otago is now the lode-star of immigration, and the same sort of overflow will take place in two or three years, which we witnessed a few years since, and are, to some extent, still witnessing here. Victoria raised the population of Australia in twelve years from four hundred thousand to a million and a-quarter. Otago steps in at the happy moment to take up the *role*, and will in a few years raise it to a couple of millions, and that, too, without that destructive effect on all production except gold, which was the immediate consequence of the first discovery. In Victoria, in 1851-52, no one would do any work except dig for gold. Tailors abandoned their shop-boards, clerks their desks, and lawyers their briefs. You could not get a cabbage, because all the gardeners had "gone to the diggings." It is not so in Dunedin. The men who go there, go to keep to their trades. I know one man who went down to start coaches from Dunedin to the diggings; I know another who went expressly to grow cabbages, and others to follow their trades—in 1852 they would have gone to Ballaarat to dig. This sticking to their trade is, in fact, the wholesome feature of the new rush. In the early part of

last year the railway from Geelong to Ballaarat was opened, but the double line not being then completed, the department was not in a condition to carry goods to any extent. In October the Melbourne and Murray River line was opened to Sandhurst. The distance of the two is, in round numbers, 200 miles. There are also short railways having their termini at, and radiating from, Melbourne, constructed by four distinct private companies. These connect the surrounding suburbs with the city, and are of great convenience to the inhabitants; but it is only one of these (that which connects Hobson's Bay with the metropolis), which is of great commercial importance. The total extent of railways in operation is 222 miles. The Government has in its hands the means of completing the northern line to Echuca, on the banks of the Murray, where the Camtaspe empties itself into that river. The embouchure of the Goulbourne is only a little to the eastward. This line measures a trifle over fifty miles. These Government lines have been constructed with borrowed money, as everybody knows, 7,000,000*l.* raised in England, 1,000,000*l.* raised here. There was a premium of 385,000*l.*, and they would have been constructed for some hundreds of thousands less than the original estimates, had not the Government obtained the sanction of the Legislature to purchase the Geelong line of the private company, which, with the repairs to that line, will require about 300,000*l.* or perhaps 400,000*l.* in addition. This the Government have authority to raise in the colony. Upon these loans the annual charge is half a million. It is not easy as yet to ascertain what the net revenue from the Government lines will be. They are scarcely yet in a condition to do all the work they will ultimately be capable of, and undoubtedly the revenue will be greatly increased when the line is open to Echuca. The revenue at present is 45,000*l.* per month, and is increasing. This will give 540,000*l.* for the year. The working expenses are roughly estimated at one-half, but I am informed they will not exceed, and will probably be kept below, 250,000*l.* In round numbers we may call the net revenue 300,000*l.* for the year 1863, to go towards the payment of the interest which is charged on the consolidated revenue. This net revenue is $3\frac{3}{4}$ per cent. on the capital. I do not think there can be any reasonable doubt that in two or three years the net revenue will be worked up to the interest, or 6 per cent. I am not, however, upon conjecture or speculation, but upon the facts as I find them; and the fact with which I am now to deal is a deficiency of 200,000*l.*, which the people of this colony now have to meet out of taxation. Not that we should care to be taxed less if that were not the case, but we should have 200,000*l.* more to expend on other improvements. Is that 200,000*l.* a loss to the community? I answer it is not. It is in the nature of a guarantee premium, to secure the great economical gain to the country from

the cheapness of transport generated by these railways. There is no country in the world which has illustrated, and still illustrates, this so perfectly as Victoria. Our existence has been of such short duration, and our progress so rapid, that everything may be said to have passed before the eyes of everybody. We can all recollect our roads in the condition in which General Wade is said to have found them in the north of England. In 1852-53 we saw these roads "before they were made"—1854-58 was the era of macadamization —1859-62 that of railways. The revolution from the second to the third period was not so marked as from the first to the second. More than 100*l.* per ton has been paid for the carriage of goods to Bendigo; 40*l.* and 50*l.* was not uncommon. As Macadam moved, Melbourne cartage got down to 18*l.*, then to 12*l.*, and latterly to 5*l.* and 6*l.* per ton. We now think that enormous. The Government charge is 50*s.* to Sandhurst and 42*s.* to Ballaarat, and in proportion for shorter distances, and the public are actually agitating for reduced rates. At present I have not data to make an exact calculation of the gain, but I can make one which will certainly be on the safe side. At present, as I have said, the goods traffic is in its infancy, but if we take the twelve months at no more than the first two months, the number of tons conveyed will be, on the Sandhurst line, 128,073; on the Ballaarat line, 72,840; on both, 200,913. Deducting one-third for short distances it is equal to 134,000 tons carried the whole way. In 1860, the winter rate of cartage to Bendigo was 6*l.* 10*s.*; the summer rate, 5*l.* 10*s.*; mean rate, 6*l.* per ton; and even then the carriers have the benefit of twenty miles of railway. In 1861, the winter rate was 5*l.*, the summer rate 4*l.* 5*s.*, mean 4*l.* 12*s.* 6*d.* This makes an average saving of 2*l.* 6*s.* 6*d.* per ton, or a total of 311,550*l.* gain, against the revenue deficiency of 200,000*l.* In this calculation nothing is allowed for the superior condition of the goods when delivered; nothing for time; nothing for the absence of depredation, which used to be considerable; nothing for passengers and their convenience; and nothing for the revenue of the Echuca line when completed, for the 200,000*l.* is charged on the whole. Taking all these into account, I do not doubt that the economical advantage distributed over the whole country is at least *half a million*, secured at a guarantee or insurance charge of 200,000*l.*; and as the charge is not subject to increase, but may be reduced as the traffic extends, the advantage must be deemed progressive. The Echuca line will add a fourth to the length of the lines, and ought, consequently, to add one-fourth to the net revenue; that will reduce the deficiency to 125,000*l.*; but it will also add one-fourth to the sum of economical advantages. Englishmen, who only know the change from our four-horse coaches, so splendidly appointed and worked, to the railway, can form no conception of the revolution which we have

experienced. It is a change from misery to comfort—a sudden jump from the eighteenth to the middle of the nineteenth century.

Though the Ballaarat line connects Melbourne with the rich gold fields and trade of the west, and will no doubt hereafter be extended by private enterprise, the northern line is pregnant with far more momentous consequences to the trade of Melbourne. The line to Echuca will, to use the expression of Mr. Gideon Laing, a Murray river squatter, tap the whole trade of the Murrumbidjee district. I do not think the English public are at all aware of the extent of natural inland navigation on our northern frontier. From Goolwa to Albury the Murray is navigable, except in the summer season, for a distance of 1,754 miles. Its tributaries, the Edward, the Wakoul, &c., are navigable for nearly 300 miles. The Murrumbidjee, with its lakes, Gunga, Lala, Waldura, &c., has been navigated as far as Gundagai, a distance of over 900 miles. The Darling is navigable beyond Fort Bourke, where it is called the Barwon, a distance of about 800 miles. The Lachlan has also been ascended, but I cannot ascertain how far. Here we have an inland navigation of some 4,000 miles, and according to some estimates 4,500. In the driest season of the year this navigation becomes impracticable even on the Murray. The Murray is at all times deep enough, but it is so obstructed by snags that it is impassable, and we must wait for more population, and more wealth and trade, before it can be improved. Even now the effect of the snags is not worse than that of the frost of Canada, which shuts up their splendid rivers for many months. This navigation is not merely speculative or prospective. There were last year ten steamboats, and, I believe, as many barges, navigating the Murray and its tributaries. The aggregate tonnage is 2,373, and the horse-power 400. There are names of places on our colonial maps which are not to be found in the maps published in England, but if your readers will take the trouble to turn to any good map they will understand the distances which I am about to give. The boundary dividing South Australia from Victoria and New South Wales runs north and south, and cuts the Murray near a little lake marked as Lake Victoria. The place is called Chowilla, and is so marked in some maps. Below that, and to the westward, the Murray flows through South Australia, and the distance is 493 miles. From that point to Albury, 1,261 miles, the Murray forms the boundary between New South Wales and Victoria. From the boundary to the mouth of the Darling is 155 miles, and thence to the mouth of the Murrumbidjee, 260 miles further. The Lachlan falls into the Murrumbidjee. From the mouth of the Murrumbidjee to Echuca is 450 miles, and thence to Albury is 376 miles. This shows how well situated Echuca is to "tap" the trade of the Murray, the Darling, the Lachlan, and the

Murrumbidjee. On the north side of the Murray, opposite Echuca, the New South Wales township is called Moama. Albury is on the New South Wales side, and it has lately gained a character for producing good wine. The Murray is bridged at Albury and Echuca. I may also mention that the River Goulbourne, which flows north and enters the Murray to the east of Echuca, is navigable for about 200 miles, but is obstructed by snags like the other rivers. It is now the favourite locality for the establishment of vineyards, a Melbourne company having planted a very large block of land.

Note.—I find it necessary from information obtained since writing the above, to correct what I have too hastily assumed as to the conditions of iron-making in these colonies. In New South Wales, a company has been for some time in existence, called the Fitzroy Iron Company. In the land they occupy, they enjoy four of the requisites necessary to the production of iron, namely, an ore free from sulphur, and capable of being easily smelted, an extensive seam of coal, several (I think my informant said four) feet thick, limestone in abundance, and pure clay in an unlimited quantity. The works are now complete, and the company is ready to make iron, and can produce pig-iron at a price rather lower than the price in Wales. I am assured that the coal can be raised at a lower price than in Yorkshire, and that the high price of coal throughout these colonies, arises from expenses incurred after the coal leaves the pit's mouth. I was also shown a correspondence with the Government relative to the supply of railway iron, and the Government express themselves willing to contract with the Fitzroy Iron Company for 10,000 tons of rails at 12*l.* per ton. I did not see such an acceptance of this offer as would convert it into a valid contract, but I was informed, in so many words, that the contract was complete, and that the company is preparing to execute it. I believe that in Wales the price of pig-iron is now as low as 31*s.* or 32*s.* per ton; my informant, who is connected with the Fitzroy Company, assured me that they can produce iron at even a lower price; of course this would not be necessary to secure the markets, as the freight to Australia is in itself a large protection; and if they can produce at the same price as in Wales, they will enjoy a monopoly price until they are met by some competition in the colonies. And even this is not unlikely to take place in Victoria. Coal is now being raised at Cape Paterson, and I learn that the mere cost of raising it does not reach 5*s.* per ton. But the great difficulty is in conveying it to the Melbourne market. First, they want a tramway from the pits to the sea; then they require some improvements in the way of wharfage; then there is the freight to Melbourne wharf, and then the landing charges. With all this, however, the Cape Paterson Coal Company expect shortly to deliver coal at Melbourne some shillings cheaper than the lowest price of Newcastle (Sydney) coal. Some two years ago the company sent me a bushel of the coal, and I gave it a fair trial, and it appeared to me to be equal to, indeed scarcely distinguishable from, the Sydney coal. I now learn for the first time that the Cape Paterson Coal Company have, as well as the Fitzroy Company, abundance of iron ore in close proximity with their coal—the ore over-lying the coal-seam. They have, also, fine clay, but no limestone for flux; that, however, is to be found within a reasonable distance, and there seems every probability that iron-making in Victoria will not be very far behind that enterprise in New South Wales.

I may add here what I omitted before, that a company is forming—is indeed, I believe, formed—to work the silver ore of St. Arnaud, whilst antimony is obtained at McIvors, about eighty miles north of Melbourne.

BRITISH ASSOCIATION, 1863.

THIRTY-THIRD *Meeting of the* BRITISH ASSOCIATION *for the Advancement of Science, held at* NEWCASTLE-UPON-TYNE, *26th August—2nd September*, 1863.

Section (F).—*Economic Science and Statistics.*

President.—WILLIAM TITE, M.P., F.R.S.

Vice-Presidents.—Christian Allhusen; Neilson Hancock, LL.D.; James Heywood, F.R.S.; Sir John Ogilvy, Bart., M.P.; Colonel W. H. Sykes, M.P., F.R.S.

Secretaries.—Frederick Purdy; Edmund Macrory; Thomas Doubleday; James Potts.

Committee.—Edmund Ashworth; S. A. Beaumont, M.P.; I. Lowthian Bell, Mayor of Newcastle; James Bird, M.D.; W. M. Bond; C. H. Bracebridge; William Camps, M.D.; Walter Elliot; Rev. William Emery, B.D.; Henry Fawcett; J. G. Fitch; Sir J. D. Hay, Bart., M.P.; Joseph Heald; Professor Hennessy; Professor Jowett; Sir Robert Kane; Alderman Neild; J. H. Orpen, LL.D.; Colonel Torrens; Sir Harry Verney, Bart., M.P.; Joseph Watson; Thomas Webster, F.R.S.; Thomas Wilson.

The following Subjects occupied the attention of the Section:—

Thursday, 27th August, 1863.

President's Opening Remarks.

Dr. James Bird.—On the Vital and Sanitary Statistics of our European Army in India, compared with those of the French Army under like conditions of Climate and Locality.

C. H. Bracebridge.—Coventry Freehold Land Society.

Frederick Purdy.—On the Decrease of the Agricultural Population of England, 1851-61.

Henry Fawcett.—On the Effects of the Recent Gold Discoveries.

Friday, 28th August, 1863.

Discussion on Mr. Fawcett's Paper on the Effects of the Recent Gold Discoveries.

James Heywood.—On the Opening and Extension of Durham University Academical Endowments.

Dr. Camps.—On the Sanitary Condition of the Troops in India.

Saturday, 29th August, 1863.

Discussion on Dr. Camps's Paper, On the Sanitary Condition of the Troops in India.

Colonel Torrens.—On Transportation in connection with Colonization.

Frederick Purdy.—On Mortality in Lancashire.

James Heywood.—Remarks on Native Colonial Schools and Hospitals, from the Sanitary Statistics of Miss Florence Nightingale.

The late T. C. Angus.—Statistics of the Tanning Trade of Newcastle-on-Tyne.

Monday, 31st August, 1863.

Thomas Webster.—Report of the Committee on Technical and Scientific Evidence in Courts of Law.

William Henry Charlton.—A Statistical Account of the Parish of Bellingham.

Colonel Sykes.—Military Budgets of English and French Armies, for 1863-64, statistically compared.

William Neilson Hancock, LL.D.—On the Difference between Irish and English Poor Law.

Tuesday, 1st September, 1863.

The President.—The Statistics connected with the Architectural Improvements in the City of Paris.

Henry C. Allhusen.—The Volunteer Force; its Comparative Cost, Development, Present State, and Prospect.

W. Fallows.—On the Origin of the Stockton and Darlington Railway.

Thomas Robins.—Observations on Criminals.

John Lamb.—On the Reduction of the Death-rate in Gateshead by Sanitary Measures.

PROCEEDINGS OF THE STATISTICAL SOCIETY.

[Continued from vol. xxiii, p. 387.]

Session 1860-61.

First Ordinary Meeting, Tuesday, 20th November, 1860.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

W. J. Bovill, Esq. | Archibald Hamilton, Esq.
George Porter, Esq.

The following Paper was read:—

"On the Criminal Returns, 1854-59, with Special Reference to "the Results of Reformatories." By T. B. Lloyd Baker, Esq.

Second Ordinary Meeting, Tuesday, 18th December, 1860.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

Henry G. Bohn, Esq.	Pliny Miles, Esq.
Moses C. Cooke, Esq.	A. G. Ramsay, Esq.
W. Gilstrap, Esq.	W. L. Sargant, Esq.
G. R. Haywood, Esq.	E. Stephens, Esq.
Stewart Helder, Esq.	Chief Justice Temple.
M. Henry Marsh, Esq., M.P.	W. V. Venables, Esq.

Captain Edward Walter.

The following Paper was read:—

"On the International Statistical Congress, London, 1860." By J. T. Hammack, Esq.

Third Ordinary Meeting, Tuesday, 15th January, 1861.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

I. R. D. Legg, Esq.	William Purdy, Esq.
Herbert C. Miles, Esq.	J. Stephenson, Esq., M.D.

The following Paper was read:—

"On the Progress of the Public Expenditure of the United "Kingdom." By Leone Levi, Esq.

Fourth Ordinary Meeting, Tuesday, 19th February, 1861.

Charles Jellicoe, Esq., in the Chair.

The following Paper was read:—

"On the Effect of the Gold Supplies, on the Foreign Exchanges, "and on the Price of Silver." By F. Jourdan, Esq.

Fifth Ordinary Meeting, Tuesday, 19th March, 1861.

The Right Honourable Sir John S. Pakington, Bart., M.P., President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

Colonel Hannyngton. | W. C. Plowden, Esq.
James Waddell, Esq.

The following Paper was read:—

"On the Taxation of Enjoyments (Jouissances)," by M. de Parieu. By Frederick Hendriks, Esq.

Sixth Ordinary Meeting, Tuesday, 16th April, 1861.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

John Flint, Esq. | John Messent, Esq.

The following Paper was read:—

"On the Fallacy of Mr. Warburton's Argument in favour of an "Indiscriminating Income Tax." By W. L. Sargant, Esq.

Adjourned Ordinary Meeting, Tuesday, 23rd April, 1861.

James Heywood, Esq., Vice-President, in the Chair.

The following Paper was read:—

"On Serf Emancipation in Russia (by M. Von Buschen)." By J. T. Hammack, Esq.

The adjourned discussion on Mr. Sargant's Paper was resumed.

Seventh Ordinary Meeting, Tuesday, 21st May, 1861.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

A. R. Adams, Esq., D.C.L. | George Ridley, Esq.

The following Paper was read:—

"On the Earnings of Agricultural Labourers in England and "Wales." By Frederick Purdy, Esq.

Eighth Ordinary Meeting, Tuesday, 18th June, 1861.

Charles Jellicoe, Esq., in the Chair.

The following Candidate was elected a Fellow of the Society, viz.:—

William Evans, Esq.

The following Paper was read:—

"Statistical Analysis of the Patients treated in Guy's Hospital "from 1854-60 inclusive." By J. C. Steele, Esq., M.D.

SESSION 1861-62.

First Ordinary Meeting, Tuesday, 19th November, 1861.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidate was elected a Fellow of the Society, viz.:—

W. R. D. Gilbert, Esq., A.I.A.

The following Paper was read:—

"On the Growth of the Human Body in Height and Weight in "Males, from 18 to 30 Years of Age." By J. T. Danson, Esq.

Second Ordinary Meeting, Tuesday, 21st January, 1862.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

R. C. Christie, Esq., M.A. | J. Cheetham, Esq.
J. A. Horner, Esq. | H. Twelvetrees, Esq.
T. Bazley, Esq., M.P.

The following Paper was read:—

"On the Vital Statistics of Sweden." By F. Hendriks, Esq.

Third Ordinary Meeting, Tuesday, 18th February, 1862.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

H. W. Acland, Esq., M.D. | A. Day, Esq.
M. Carpenter, Esq. | C. J. Kain, Esq.
H. B. Carter, Esq. | R. Lewis, Esq.
J. S. Cudlip, Esq. | F. Reynolds, Esq.
L. H. Courtney, Esq. | Rev. J. Williams, B.D.

The following Paper was read:—

"On the Progress and Economical Bearing of Public Debts in "this and other Countries." By Dr. Leone Levi.

Special Sessional Meeting, Tuesday, 4th March, 1862.

Right Hon. Sir J. S. Pakington, Bart., M.P., President, in the Chair.

The following Paper was read:—

"On the Sources of Popular Education in England and Wales; "Present and Future." By Horace Mann, Esq.

Fourth Ordinary Meeting, Tuesday, 18th March, 1862.

James Heywood, Esq., F.R.S., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

W. D. Biden, Esq. | H. Thomson, Esq.
Dr. Washbourne.

The following Papers were read:—

"Observations on the Statistics of Illegitimacy." By W. G. Lumley, Esq.

"On Prison Statistics and Discipline in Lower Bengal." By Dr. Mouatt.

Fifth Ordinary Meeting, Tuesday, 15th April, 1862.

Edwin Chadwick, Esq., C.B., in the Chair.

The following Paper was read:—

"On the Earnings of Agricultural Labourers in Scotland and "Ireland." By Frederick Purdy, Esq.

Sixth Ordinary Meeting, Tuesday, 20th May, 1862.

Right Hon. Sir J. S. Pakington, Bart., M.P., President, in the Chair.

The following Candidate was elected a Fellow of the Society, viz.:—

T. A. Readwin, Esq.

The following Paper was read:—

"On the Power of the Enclosure Commissioners, and the Prin-"ciples upon which they have exercised them." By J. W. Tottie, Esq.

Seventh Ordinary Meeting, Tuesday, 17th June, 1862.

Dr. Farr, F.R.S., Treasurer, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

J. Beal, Esq. | B. Newbatt, Esq.
G. A. Cape, Esq. | C. E. Newbon, Esq.
J. E. Leyland, Esq. | C. H. Ogbourne, Esq.

The following Paper was read:—

"On the Statistics of Tonnage during the First Decade under "the Navigation Law of 1849." By J. Glover, Esq.

SESSION 1862-63.

First Ordinary Meeting, Tuesday, 18th November, 1862.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

W. A. Porter, Esq., M.A. | Don José Emilio de Santos.

The following Paper was read:—

"On the Vital Statistics of Tasmania." By Dr. E. S. Hall.

Second Ordinary Meeting, Tuesday, 16th December, 1862.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

J. H. Evens, Esq. | H. Jeula, Esq.
J. E. Farley, Esq. | C. F. Macdonald, Esq.
A. Harvey, Esq. | Rev. J. H. Ward, M.A.
T. Hattersley, Esq. | T. Wilson, Esq., M.A.

The following Paper was read:—

"On the Recent Population Statistics of the British Colonies "and Dependencies." By J. T. Hammick, Esq.

Third Ordinary Meeting, Tuesday, 20th January, 1863.

Colonel Sykes, M.P., Vice-President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

A. S. Burnett, Esq. | H. D. Macleod, Esq., B.A.
E. G. Noott, Esq.

The following Paper was read:—

"On the Cotton Trade and Manufacture, as affected by the "Civil War in America." By Dr. Leone Levi.

Fourth Ordinary Meeting, Tuesday, 17th February, 1863.

W. Newmarch, Esq., F.R.S., in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

W. F. Furgusson, Esq. | W. H. Ransford, Esq.
R. Williamson, Esq.

The following Paper was read:—

"On the Rationale and Working of the Patent Laws." By Rev. J. E. T. Rogers, M.A.

Fifth Ordinary Meeting, Tuesday, 17th March, 1863.

James Heywood, Esq., Vice-President, in the Chair.

The following Candidate was elected a Fellow of the Society, viz.:—

J. Lambert, Esq.

The following Paper was read:—

"On the Recent Financial and Taxation Statistics of the United "States." By Cornelius Walford, Esq.

Sixth Ordinary Meeting, Tuesday, 21st April, 1863.

Colonel Sykes, M.P., President, in the Chair.

The following Paper was read:—

"On the Direct Imperial Expenditure for the Colonies." By Frederick Purdy, Esq.

Seventh Ordinary Meeting, Tuesday, 19th May, 1863.

Colonel Sykes, M.P., President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

J. Edgcome, Jun., Esq. | J. W. Gibson, Esq.
Leedham White, Esq.

The following Paper was read:—

"On the Pay of the Soldier as compared with the Wages of the "Agricultural Labourer." By Major-General Sir A. M. Tulloch, K.C.B.

Eighth Ordinary Meeting, Tuesday, 16th June, 1863.

Colonel Sykes, M.P., President, in the Chair.

The following Candidates were elected Fellows of the Society, viz.:—

J. Beddoe, M.D. | W. Ewart, Esq., M.P.
J. G. P. Child, Esq.

The following Paper was read:—

"On Sufficient and Insufficient Dietaries, with special reference "to the Dietaries of Prisoners." By Dr. W. A. Guy.

MISCELLANEA.

CONTENTS:

I.—Note *on* Criminal Returns. *By* W. M. Tartt, F.S.S.

As it may sometimes be thought desirable to record the practical results of suggestions or inquiries made by the Statistical Society, or in connection with its proceedings, I beg to submit the following particulars in reference to some improvements in our *Criminal Returns.*

At a meeting of the British Association at Cheltenham, in 1856, it was felt by the Committee of Section F, that the information on this subject was very imperfect either for judicial or statistical purposes.

A report upon such returns was consequently directed to be prepared,* which was presented at the meeting of the Association, the following year, and printed *in extenso* in vol. xx of this *Journal.* An abridgment of it was also given in the Transactions of the Association for 1857.

Two of the points insisted upon, as calculated to give "a better knowledge of the classes whom we have to punish or reclaim," were (1) to ascertain "whether the crimes committed in any particular district were by residents or non-residents," the former indicating something in the social state of the locality which required to be remedied; the latter being merely accidental; and (2) it was suggested as desirable to have a record of offenders similar to the *Casiers Judiciaires* of France; which were fully described in the report.

The subject was again incidentally referred to at the meeting of the Association at Leeds, in 1858. In a conversation at that time with the late Mr. Talbot Baines, he mentioned that in Lancashire, where he was Chairman of the County Sessions, returns of offences and punishments were printed and circulated at the end of each quarter, but they were confined to convictions under the "Juvenile Offenders" and "Criminal Justice" Acts. This was at least a beginning; and with a view to extend its adoption, it was moved at the Trinity Sessions for Gloucestershire, 1860, and carried, that similar returns should be made; but only printed annually. They

* "On the Present Mode of Framing our Criminal Returns, and on the best Means of Improving them; having due regard to the recorded Experience of the French and Prussian Governments."

contained, in columns, the date of commitment, name, age, offence, term of imprisonment, previous convictions, personal description, and other indications. Whether they were adopted in any other counties I am not informed.

In this state the matter rested till the Winter Assizes of 1862, when the increase of crime consequent upon the lenient treatment of liberated convicts, had caused alarm throughout the country, and the Grand Jury at Gloucester made a presentment in which they ventured to hint at the necessity of an enactment to secure a *systematic record* in criminal courts of each previous conviction of an offender," and they prayed the Judge to bring it before the Home Department.

In anticipation, however, of any action by Government, Mr. Baker, of Hardwicke Court, at the Epiphany Sessions for Gloucestershire, 1863, obtained the appointment of a committee to take this requirement into consideration, and upon their report it was determined that a return of *all* convictions should annually be printed according to the subjoined form:—

Proposed Return of Convictions in the County of Gloucester.

Date of Commitment.	Name.	Known or Not Known to Police.		If Known, how long?			Age.	Offence.	Term of Imprisonment.	Convicted Before, and how Often.		Description.				
		N.	K.	Less than a Year.	1 Year and not 5.	5 Years and upwards.				Of Felony.	Of Misdemeanor.	Height.	Hair.	Eyes.	Complexion.	Other Marks (*if any*).
1863.												ft. in.				
June 4	John Smith	N.	—	—	—	—	20	Attempting to pick pockets	1 month	—	—	5 9	brown	grey	sallow	Scar on little finger of left hand
„ 10	Samuel Jones	—	K.	10 mo.	—	—	18	Stealing coal	6 weeks	once	—	5 8	black	dark	dark	None
„ 14	Isaac Williams	—	K.	—	2 yrs.	—	24	„ lead	4 days	—	—	5 8½	light	grey	fresh	Mole on left neck
„ 20	William Green	—	K.	—	—	7 yrs.	32	„ boots	2 months	—	twice	5 10	grey	„	ruddy	Blind right eye

Note.—The above are summary convictions. The same columns will be used for convictions at the sessions and assizes.

It would have been well, when in committee, to have moved the adoption of an additional column for any "alias" that might be ascertained to have been assumed; but this may be done hereafter.

Should the example of Gloucestershire be followed by other counties, it will be an approach to the more perfect records which have been kept in France since 1851, where we are assured that the police find them "one of the most valuable and ready modes of obtaining information."*

One of the practical advantages of the returns under the "Juvenile Offenders" and "Criminal Justice" Acts has been, that

* "Compte Rendu de la Deuxième Session du Congrès International," p. 86.

a comparison of sentences, in different petty sessional divisions, has led to that greater uniformity of punishment which is important in order to prevent its being a lottery; but the great object of the more extensive movement now referred to is to prevent a mistaken treatment of old offenders, and to afford that knowledge of the criminal classes, which is so necessary a guide, whether they are to be punished or reclaimed.

It is essential that the returns should be adopted by every county in the kingdom, and this makes it more desirable that the subject should again be noticed in the *Statistical Journal*. To make them uniform or general some legislative or official influence may be required.

The only objection I have seen urged against such a system of registration arises out of consideration for the convict himself. It is contended, that after he has suffered the penalty of his crime, it would be unjust to brand him with the additional disgrace of appearing on such a record. This is scarcely the place for inquiring how far such feelings should extend. It must be remembered, however, that the proposed returns are intended only for judiciary purposes, and will not be made accessible to idle or malevolent curiosity.

II.—*Spanish Post Office Returns*, 1847-62.

The following statistics of the Spanish post office are derived from official sources;* we are indebted to Mr. Hendriks for their arrangement in the present form.

* *Vide Revista Peninsular Ultramarina de Caminos de Hierro, Telégrafos, Navegacion é Industria*, Nos. 355 and 357 (1863); also the *Revista General de*

"Statistics of letters which passed through the Spanish post office in the year 1862:—

Home correspondence	Private letters	53,961,752
	Official „	4,165,175
		58,126,927
Colonial correspondence		2,214,440
Foreign „		3,118,516
Total		63,459,883

"*Increase* in the number of letters, year 1862 compared with year 1861:—

Home correspondence	2,749,195
Official „	793,658
Colonial „	325,532
Foreign „	143,636
Total	4,012,021*

"The following table shows the total number of letters, exclusive of official letters, from 1847 to 1862, with the proportion to each inhabitant, from 1817 to 1862:—

Years.	Number of Letters.	Proportion of Letters to each Inhabitant.
1847	19,782,714	
'48	20,201,208	
'49	20,374,503	1·35
'50	20,488,472	
'51	20,776,096	
1852	21,965,511	
'53	23,221,582	
'54	25,235,889	1·73
'55	28,838,032	
'56	30,241,473	
1857	35,583,001	2·30
'58	37,708,583	2·44
'59	44,015,059	2·85
'60	50,590,936	3·23
'61	56,055,001	3·58
'62	59,294,708	3·78

"This increase is due not only to the growing prosperity of Spain, but to the improvements introduced of late years into the postal service, and notably to the reduction of the rates of postage in 1854.

"On comparing these with English statistics, it will be found that the number of letters passed through the Spanish post office in 1862 is about equal to the number delivered in England and Wales (exclusive of franks) in the year 1839, that is, just prior to the postal reform.* The number of letters delivered during the year 1862 was as follows:—

	Number of Letters.	Proportion of Letters to each Inhabitant.
England and Wales	497,031,000	24
Ireland	51,060,000	9
Scotland	57,380,000	19
Total, United Kingdom	605,471,000	21

"The postal circulation, *comparatively with population*, is therefore about five and a half times as great in the United Kingdom as in Spain. The absolute number of letters is about ten times as great. The net postal revenue in Spain cannot be ascertained from the returns, but the gross revenue is not one-tenth of the corresponding result in the United Kingdom. The latter, for 1862, amounted to 3,646,889*l.*, whilst the Spanish gross receipts were only 34,952,242 *reals*. The increase from previous years was, however, considerable. In 1840 the gross revenue from the post office was only 15,533,636 *reals*; in 1853, 25,502,942. Comparing the gross revenue with the gross absolute number of letters, it does not appear that, on the average, the postage per letter is higher in Spain than in the United Kingdom."

Estadistica, article by Don J. Jimeno Agius, "*Datos estadisticos sobre correos*" (June, 1863).

* The *Revista Peninsular* gives 5,012,021 as the number,—evidently a typographical error.

* The total for England and Wales in 1839 was 59,983,000; for Ireland, 8,302,000; for Scotland, 7,623,000. The estimated number of franks in the same year was 6,563,000. The following is the Postmaster-General's statement for 1839-62:—

Period.	Totals for Great Britain and Ireland, 1839-62.	Increase per Cent. per Annum.
1839 (including franks)	82,471,000	—
'40 (postal reform, and franks abolished)	168,768,000	122¼
'41–45 (average of 5 years)	227,777,000	10
'46–50 „ 5 „	327,006,000	5
'51–55 „ 5 „	410,166,000	5¾
'55–60 „ 5 „	522,898,000	4¼
'61 (1 year)	593,240,000	5¼
'62 (1 „)	606,471,000	2

III.—*Coventry Freehold Land Society.*

Mr. C. Holte Bracebridge read before Section (F) of the British Association, at the recent meeting at Newcastle, a paper upon the working

of a freehold land society at Coventry. The statistical notes which formed the principal part of Mr. Bracebridge's communication, are printed hereunder :—

Statistical Notes.

Date of commencement of society, 1848.

Date of final settlement, except as to sums together of less than 100*l.* in the aggregate, 1863.

Number of allotments, 1,108

„ (besides roads, &c.) to each acre, 10.

	£	*s.*	*d.*
Price of allotment originally (viz., cost of land)	16	10	9
„ charging all improvements.....	33	6	6
Total cost of land	18,252	18	6
„ improvements, roads, culverts, &c.	18,468	4	5
Weekly contribution per share.....	—	1	6

"The roads are laid out 30 to 40 feet wide, well-formed, with deep foundation, and macadamized, with culverts and pipe-tile drains, levels being left for gas and water pipes, both of which have been subsequently introduced at Earlsdon and some of the other estates. On each estate the general outfall is attended to. With a small exception, all the land is above level of the general building sites of the town, from 10 feet above the river (of the Sherborn) level, to 40 feet summit level, which is shown by the old water works reservoir on one side the city, and on the other side by the great plateau of Earlsdon, 2 feet below which lies that estate.

"By an agreement with the society's solicitor, the legal expenses on each allotment are reduced to 32*s.* The original title deeds are referred to in each title, and are deposited in the mayor's chest. The whole amount withdrawn from the society by subscribers, is 2,651*l.* 14*s.* 6*d.* The allotments were offered to each subscriber according to the date of his subscription, and on refusal of the senior subscriber, were balloted for. The weekly contributions of 1*s.* 6*d.* per share, were continued until two-thirds of the price was paid up, when each shareholder received his title deed, with the option of leaving the remainder as a mortgage. About two-thirds of the members mortgaged their share, but ten only remain unpaid at present, the unpaid mortgages being on twenty-five shares, and the whole amount owing less than 100*l.*

"The corporation have opened streets for communication between these estates and the heart of the city.

"*The Buildings.*—The houses built upon the land are probably in the proportion of two-thirds, the result of the operations of a building society, which is totally distinct from the land society. Every member has been free to build as he pleased upon his own allotment, excepting that in the agreement of sale he was bound to leave about 25 feet in the rear of the house not built upon, so that each allotment has been a parallelogram, containing one-tenth of an acre, having the small end towards the road, and a garden behind the house, thereby securing many sanitary objects as well as privacy. All streets and buildings have been approved by the Board of Health.

"The statistics of the cost of the land and of its proportion for building purposes; of the number of allotments, and of the estimated value of the houses erected therein, are shown by the subjoined table:—

Names of Estates, &c.	Distance from City Boundary.	Distance from the Centre of Town.	Cost of Land.	Cost of Streets, Culverts, &c.	Total Cost.	Number of Lots.	Average Number of Yards.	Number of Houses Erected.	Population.	Estimated Value of Houses.
	Miles.	Miles.	£	£	£					£
1. Geoffrey Wood's Cross ..... 2¾ acres, purchased 1819 (about 140*l.* per acre).	within	¼	385	283	668	29	450	28	126	4,150
2. Stoke estate ..... 49¼ acres, purchased 1850 (about 88*l.* per acre).	¼	1¼	4,400	3,681	8,081	256	800	125	562	15,480
3. Earlsdon ..... 50¾ acres, purchased 1852 (about 130*l.* per acre).	¼	1¼	4,000	3,705	7,705	250	500	104	477	21,235
4. Lant's ..... 9 A. 30 P., purchased 1852 (about 350*l.* per acre).	within	¼	3,220	2,323	5,543	190	200	175	787	24,150
5. Smith's ..... 2 A. 2 R. 32 P. purchased 1852 (about 240*l.* per acre).	within	¼	655	660	1,315	42	200	108	486	11,650
6. Spittalmoor ..... 15 A. 2 R. 10 P., purchased 1855 (about 360*l.* per acre).	within	⅛	5,593	7,816	13,409	341	200	198	891	39,210
Total area ..... 110 A. 1 R. 32 P., at about 165*l.* per acre	—	—	18,253	18,468	36,721	1,108	—	740	3,329	115,875

IV.—*The Price of a Quartern Loaf.*

THE following letter, signed "Mark Lane," appeared in the *Times* of the 28th October last. It is important as showing the relative price of wheat, flour, and bread:—

"Sir,—A little explanation from a practical man, neither miller nor baker, may be of service in enlightening your readers as to the real facts of the 'price of bread' question, which recent letters in the *Times* have rather obscured than elucidated.

"Let us first deal with the miller. Excellent red English wheat of the last crop, weighing 63 lbs. and over per imperial bushel, is now selling in London at 40*s.* per quarter. New wheat alone, however, will not make satisfactory bread, and a certain proportion, varying in different seasons, of old or foreign, must be used to mix with it. This costs higher than the other, and at the present time a perfectly satisfactory 'grist,' or mixture of red wheat, cannot be bought to stand less than 43*s.* per quarter all round in the mill. This will make as good flour as any man need wish, but if superior colour be required, the finest white wheat, English and foreign, must be employed in greater or less proportion, so that the very best mixture used by the first or top price millers, as they are called, would stand them to-day 50*s.* per quarter in the mill.

"Assuming, then, the wheat to cost the miller 43*s.* and 50*s.* respectively, he can afford to deliver the flour into the baker's shop at 32*s.* and 37*s.* cash per sack

of 280 lbs. net, and make a fair working profit. Good coloured and wholesome flour may now be had from country millers under 30*s.* per sack, and a great deal of it is used in London; but to make bread to please the Londoner, the baker must mix with it American or other flour containing foreign wheat, and it may be assumed that few good bakers are now using flour costing them on the average less than the 32*s.* per sack above referred to. We have now got the flour to the baker's shop, and find it costs him from 32*s.* to 37*s.* per sack. To make it into bread and leave him a fair profit, we must allow him 10*s.* per sack, which will raise the above prices to 42*s.* and 47*s.* Let us see how much he should charge for the loaf.

"A sack of flour of good strong quality will produce about 94 4-lb. loaves of pure bread, or, in other words, 3 lbs. of flour will absorb sufficient water to make 4 lbs. of bread. The baker, it is well known, uses a great many potatoes; but at the present low price of flour the saving is not great, and we will leave it out of the account. Our sum now stands thus:—42*s.* and 47*s.* ÷ 94 = 5⅜*d.* (nearly) and 6*d.* respectively; so that at present prices the baker can sell the 4-lb. loaf at prices varying from 5⅜*d.* for good, to 6*d.* for the very best bread, with fair profit to himself. Now, in these calculations cash prices have been assumed, and the disturbing element of bad debts left out of the account. The London bakers, however, are for the most part men of no capital, and no small percentage of them fail annually. Few of them can pay cash to the miller, and therefore where he gives credit you must allow him to charge from 1*s.* to 3*s.* per sack additional, according to the presumed solvency of his buyer, as an insurance fund against bad debts, and to pay loss of interest. Then, again, the baker, if he has to run accounts with his customers, as is usual in the better neighbourhoods, must have an additional price to pay his loss of interest and to protect him from bad debts.

"At the present moment in all the more populous parts of London, where competition is active, excellent bread (I use the word relatively, as will be seen below) may be bought at 5*d.* to 5½*d.* (per 4 lbs. weighed off) across the counter for cash. If the above figures are correct, no one can say that these prices are too high.

"In the more fashionable quarters, and in some of the suburbs where there is not much competition, the best bread is charged 7½*d.* delivered at the house, credit being given for from one week to six and even twelve months. Nevertheless, 7½*d.* is too high, and to customers paying within a month the very best bread should not anywhere exceed 6½*d.* or 6¾*d.*

"On the whole, there is not much reason to complain. The poor man buys his bread as cheap, in proportion to the price of wheat, as anywhere in the world; and if the rich are mulcted of ½*d.* or ¾*d.* per loaf, it is their own fault, and is the result of their indifference. The London bakers, as a body, are very hardworking men, and the few rich among them is a proof that their profits are not exorbitant. The London millers, as a body, though always grumbling, are well-to-do, but there is sufficient competition among themselves and from foreign flour to prevent their unduly raising prices.

"In some parts of the Continent the Government interferes to fix the price of bread, and some shortsighted people advocate the establishment of the system here. The French, however, have found the evil of this plan, and have just abandoned it. The true principle in this, as in all trade matters, is *laissez faire*. Competition and the supervision of a free press and intelligent public are the best safeguards against overcharges.

"Before concluding let me add that, with the greatest variety and the finest qualities of wheat in the world always obtainable in the London market, so bad is our system of *panification* that the London bread is inferior to that of any large city of Europe. Let the public learn what good bread is, call for it, and rely upon it, it will soon be forthcoming."

The second letter also appeared in the *Times* on the same day; it is from a London Baker, and, so far as it goes, corroborates the statements in the first communication:—

"Sir,—Your correspondent of Devizes may be correct in his information that the contractor for the Pewsey union is only charging 4¼*d.* per 4-lb. loaf for excellent bread, but if he is so, many of us poor London bakers would like to buy our flour from the same source. As an instance, I am paying from 34*s.* to 38*s.* 6*d.* for flour, per 280 lbs., and the usual expectation is to make about 95 4-lb. loaves per sack. Sometimes it will produce a little more—that is if the flour has been ground from good dry wheats—but occasionally only 91, or even less may be nearer the truth; however, say 95 as an average, and allow 6*s.* per sack to pay for manufacture, as rent, taxes, gas, coals, men's wages, waste, &c., making with the flour, say 42*s.* 6*d.*, or nearly 5½*d.* per 4-lb. loaf. Now, in all the lower districts of London 5*d.* to 5½*d.* is the price, and unless a man can bake at least twenty sacks per week, he will get no more than journeyman's wages at that price. As to Belgravia, I can quite understand 1½*d.* or 2*d.* per loaf increase being demanded for keeping books, credit being the bane of high quarters. Some people think the baker is impertinent if he asks for money under six or twelve months. There is no doubt, bakers can sell good well-made bread at 5½*d.* now for cash over the counter."

A Regent Street Baker replied to the letter of "Mark Lane." The principal passage bearing upon the price of bread in London is here given:—

"Again, Sir, 94 loaves is allowed by 'Mark Lane' as the return of a sack of flour. I admit he is not very wide of the mark in that, but from the same source as I gathered the expenses, I found that 93 was the produce; but we can never sell the 93 at full price, as some are split, burnt, &c. Take the amount at 91, we have then 91 at 7½*d.* Flour 41*s.* 6*d.* (*plus* potatoes), leaving 15*s.* 6*d.* per sack, 6*d.* less than the lord mayor used to allow, and I at once admit that our profits, such as they are,are now better than they have been for years; but we could not sell at 7*d.* From a printed statement now before me, dated 1813, the price fixed by law, with flour at 40*s.*, is 7½*d.*"

This writer observed that in his own case he used 36 lbs. of potatoes to 1,680 lbs. of flour, or six sacks.

The assize of wheaten bread, as fixed according to the price of wheat by 53rd Geo. III, cap. 116, is stated hereunder.

Wheat, per Quarter.	Quartern Loaf to Weigh 4 lbs. 5½ oz.	Wheat, per Quarter.	Quartern Loaf to Weigh 4 lbs. 5½ oz.
s. *d.*	*d.*	*s.* *d.*	*s.* *d.*
39 8	7	69 8	– 10¾
41 8	7¼	71 8	– 11
43 8	7½	73 8	– 11¼
45 8	7¾	75 8	– 11½
47 8	8	77 8	– 11¾
49 8	8¼	79 8	1 –
51 8	8½	81 –	1 –¼
53 8	8¾	83 –	1 –½
55 8	9	85 –	1 –¾
57 8	9¼	87 –	1 1
59 8	9½	89 –	1 1¼
61 8	9¾	91 –	1 1½
63 8	10	93 –	1 1¾
65 8	10¼	95 –	1 2
67 8	10½	97 –	1 2¼

MARRIAGES, BIRTHS, AND DEATHS IN GREAT BRITAIN.

No. I.—ENGLAND AND WALES.

MARRIAGES IN THE QUARTER ENDED 30TH JUNE, 1863; AND BIRTHS AND DEATHS IN THE QUARTER ENDED 30TH SEPTEMBER, 1863.

AFTER a season of depression which extended over two years the marriage-rate rallied in the first quarter of the current year, and rose decidedly above the average in the subsequent quarter. The improvement indicates increased confidence in the minds of the people, in respect to their ability to earn a sufficient and comfortable subsistence. The births were more numerous than they had ever been in the summer quarter before; and the proportion they bore to the population in which they occurred was higher than usual. But while the aspect of the returns is favourable as regards marriages and births, a tale of deaths, which is heavier than that of any summer quarter since the year of epidemic cholera, 1854, shows that the public health was far from being in a satisfactory state. The death-rate was considerably higher than it had been in any of the corresponding quarters that have intervened since 1854. Epidemic diseases spread with destructive force amongst the young; and apparently the season was less salubrious than it usually is to older persons.

ENGLAND:—MARRIAGES, BIRTHS, *and* DEATHS, *returned in the Years* 1857-63, *and in the* QUARTERS *of those Years.*

Calendar YEARS, 1857-63:—*Numbers.*

Years.....	'63.	'62.	'61.	'60.	'59.	'58.	'57.
Marriages No.	—	163,991	163,706	170,156	167,723	156,070	159,097
Births..... ,,	—	711,691	696,406	684,048	689,881	655,481	663,071
Deaths..... ,,	—	436,514	435,114	422,721	440,781	449,656	419,815

QUARTERS *of each Calendar Year*, 1857-63.

(I.) MARRIAGES:—*Numbers.*

Qrs. ended last day of	'63.	'62.	'61.	'60.	'59.	'58.	'57.
March .....No.	35,454	33,976	33,274	35,150	35,382	29,918	33,321
June ..... ,,	44,058	40,771	42 012	43,777	42,042	39,890	41,267
Septmbr..... ,,	—	40,585	39,884	40,541	39,803	38,599	38,669
Decmbr. .... ,,	—	48,659	48,536	50,688	50,496	47,663	45,840

QUARTERS *of each Calendar Year*, 1857-63.

(II.) BIRTHS:—*Numbers.*

Qrs. ended last day of	'63.	'62.	'61.	'60.	'59.	'58.	'57.
March .....No.	186,653	182,005	172,933	183,180	175,532	170,959	170,430
June ..... ,,	189,611	185,638	184,820	174,028	175,864	169,115	170,444
Septmbr..... ,,	173,125	172,237	172,033	164,121	168,394	157,445	161,181
Decmbr. .... ,,	—	171,811	166,620	162,719	170,091	157,962	161,016

(III.) DEATHS:—*Numbers.*

Qrs. ended last day of	'63.	'62.	'61.	'60.	'59.	'58.	'57.
March .....No.	128,524	122,192	121,215	122,617	121,580	125,819	108,665
June ..... ,,	118,375	107,555	107,558	110,869	105,631	107,142	100,046
Septmbr..... ,,	112,384	92,225	101,232	86,312	104,216	98,142	100,528
Decmbr. .... ,,	—	114,542	105,109	102,923	109,354	118,553	110,576

MARRIAGES.—The number of persons married in the June quarter was 88,116; they were married at an annual rate of 1·72 to a hundred persons in the population. The average rate for the same quarter is 1·69 per cent. In the two corresponding quarters of 1861-62 the rates were 1·68 and 1·61. A certain number of the prospective alliances of those two years, deferred in expectation of better times, would doubtless attain their consummation in the present year.

The number of marriages was 44,058, against 42,012 and 40,771 in the corresponding quarters respectively of 1861-62. In London and in all the groups of counties into which England is divided in the tabular arrangement, the marriages were more numerous than they had previously been in the June quarter of 1862. In London they rose from 7,198 to 7,790; in the South-eastern counties from 3,324 to 3,657; in the West Midland from 4,944 to 5,362; in the North Midland from 2,645 to 2,811; in the North-western, which embrace Cheshire and Lancashire, from 6,401 to 7,000; in Yorkshire from 4,161 to 4,532; in Monmouthshire and Wales from 2,454 to 2,796. Of forty English counties only five appear in which there was a decrease; these were Kent, Northamptonshire, Devonshire, Cornwall, and Shropshire. Many of the districts of which the counties consist are unimportant in numbers; and not a few, more or less important, might be cited, which exhibit a decrease; but increase is the rule, and as such tends to show that the view which the marriageable part of the community were enabled to take of their position was on the whole satisfactory to themselves.

Liverpool and its neighbouring districts Birkenhead and West Derby mainly contributed to that improvement which is manifested in the marriage registers of the North-western division. In those three districts the marriages in the June quarter of 1862 were 1,534; in that of 1863 they were 1,756. In Manchester and Salford together they were 1,202 and 1,337; in Ashton 219 and 259; in Blackburn 200 and 269; in Preston 213 and 240. The district of Stockport exhibits a decrease; and there are others, in the seat of the cotton manufacture, which, if they show little decrease in the marriages, were not able to furnish an increase. In such localities, as in others, it is probable that occupation was partially restored and distress alleviated; but the movement of young men and women in quest of work was sufficient to depress the marriage returns more than it did in other districts.

ENGLAND:—*Annual Rates per Cent. of* PERSONS MARRIED, BIRTHS, *and* DEATHS, *during the* YEARS 1857-63, *and the* QUARTERS *of those Years.*

Calendar YEARS, 1857-63:—*General Percentage Results.*

YEARS	'63.	Mean '53-'62.	'62.	'61.	'60.	'59.	'58.	'57.
Estmtd. Popln. of England *in thousands* in middle of each Year....	20,554	—	20,337	20,119	19,903	19,687	19,471	19,257
Persons Married Per ct.	—	1·670	1·612	1·628	1·710	1·704	1·604	1·652
Births.... ,,	—	3·427	3·500	3·461	3·437	3·504	3·366	3·443
Deaths.... ,,	—	2·211	2·146	2·163	2·124	2·239	2·309	2·180

QUARTERS *of each Calendar Year*, 1857-63.

(I.) PERSONS MARRIED:—*Percentages.*

Qrs. ended last day of	'63.	Mean '53-'62.	'62.	'61.	'60.	'59.	'58.	'57.
March....Per ct.	1·404	1·394	1·360	1·346	1·422	1·464	1·252	1·410
June..... ,,	1·722	1·693	1·610	1·678	1·766	1·716	1·646	1·722
Septmbr. ,,	—	1·607	1·582	1·570	1·614	1·602	1·570	1·592
Decmbr. ,,	—	1·975	1·890	1·906	2·012	2·026	1·934	1·880

(II.) BIRTHS:—*Percentages.*

Qrs. ended last day of	'63.	Mean '53-'62.	'62.	'61.	'60.	'59.	'58.	'57.
March....Per ct.	3·698	3·594	3·644	3·500	3·707	3·631	3·576	3·604
June .... ,,	3·705	3·587	3·666	3·690	3·512	3·588	3·488	3·555
Septmbr. ,,	3·337	3·292	3·356	3·388	3·267	3·389	3·204	3·316
Decmbr. ,,	—	3·236	3·338	3·272	3·230	3·414	3·205	3·304

(III.) DEATHS:—*Percentages.*

Qrs. ended last day of	'63.	Mean '53-'62.	'62.	'61.	'60.	'59.	'58.	'57.
March....Per ct.	2·546	2·498	2·447	2·453	2·481	2·515	2·631	2·298
June..... ,,	2·313	2·191	2·124	2·147	2·237	2·155	2·210	2·087
Septmbr. ,,	2·166	1·982	1·797	1·994	1·718	2·097	1·997	2·068
Decmbr. ,,	—	2·178	2·226	2·064	2·043	2·195	2·406	2·269

BIRTHS.—The annual birth-rate in the summer quarter (July, August, September) was 3·34 per cent., against an average of 3·29. The total number of births was 173,125; in the same quarter of 1853 the number was 147,602. That part of the English nation from which the natural supply of population is drawn has so far increased in ten years as to produce more children by 25,523 than it did in a similar period in 1853.

The births registered in London were 24,254. The four Northern counties, with their population of less than 1,200,000, as returned at last census, registered as many births (11,200) as Monmouthshire and Wales, with a population exceeding 1,300,000. In all the eleven divisions, with only a few considerable exceptions, the births were more numerous than they had been in either of the two previous corresponding quarters. There was a decrease on the mean of those quarters in the Eastern counties amounting to 2·8 per cent.; in the North Midland to 2·3 per cent.; and in the North-western (Cheshire and Lancashire) amounting to 3·4 per cent.

INCREASE OF POPULATION.—As the births were 173,125 and the deaths 112,384, the natural increase of the population was 60,741. The increase was at the rate of 660 daily.

The number of emigrants who left ports in the United Kingdom at which there are Government emigration officers was 58,320 in the quarter, of whom 20,008 were of English origin.* 36,496 were bound for the United States; 6,538 for the North American colonies; 14,075 for the Australian colonies; and 1,211 for other places. The emigration was greater than it had been in any September quarter since 1854, and nearly three times as great as it was in that of 1861. There was an increase in the emigration to Canada and Australia, but it was insignificant as compared with the extraordinary result which the temptation of employment with high wages in the United States has produced by stimulating the movement, chiefly of the Irish people, to that country. But the temptation does not appear to operate on the Scottish mind, for it deserves to be noted, that while 2,059 emigrants sailed from ports in Scotland for British North America, and 1,224 for the Australian colonies, none went to the United States. Nor was there any emigration to the country last mentioned from Scotch ports in the September quarter of 1862; and there was almost none in that of 1861. It has declined since 1851, when in the corresponding three months it embraced 2,854 persons.

PRICES, PAUPERISM, AND THE WEATHER.—Wheat and potatoes were both cheap; the latter esculent ranged for the best quality from 70*s.* to 105*s.* per ton at the waterside market, Southwark, a price which is lower than what has been obtained at the same place at any previous time since the September quarter of 1859. The average price of wheat was 45*s.* 7*d.* per quarter, which is less than at any other time since March 1860; it has been falling during the last eighteen months. The average price of the better and worse qualities of beef sold by the carcase in the city markets was 5$\frac{3}{8}$*d.* per lb.; that of mutton, 5$\frac{3}{4}$*d.*

The following figures show the average number of paupers relieved on the last day of each week in the last three summer quarters:—

September quarter,	1861	In-door,	112,932	Out-door,	693,649
,,	'62	,,	119,592	,,	789,914
,,	'63	,,	120,189	,,	819,795

This statement exhibits an increase in the present year, which arises from the circumstance that many recipients of relief in the distressed manufacturing districts have been transferred from the local committees to boards of guardians, and have

* Return with which the Registrar-General has been favoured by the Emigration Commissioners: the number returned as of English origin was 17,758, while the birthplace of 6,559 emigrants was not distinguished; in the above statement a proportional number of these has been added to those returned as of English origin.

thus prevented that decrease in the above returns of pauperism which the improvement in the condition of those districts would otherwise have effected. The number of poor persons relieved out-door by the guardians in the cotton districts in the three months ending 30th September, 1863, was 398,988. In administering relief to 148,228 of that number the boards were aided by the local committees.

CONSOLS, PROVISIONS, PAUPERISM, *and* TEMPERATURE, *in each of the Nine* QUARTERS *ending 30th September*, 1863.

1	2	3	4	5	6	7	8	9
Quarters ending	Average Price of Consols (for Money).	Average Price of Wheat per Quarter in England and Wales.	Average Prices of Meat per lb. at Leadenhall and Newgate Markets (by the Carcase), with the *Mean* Prices.		Average Prices of Potatoes (York Regents) per Ton at Waterside Market, Southwark.	Pauperism. Quarterly Average of the Number of Paupers relieved on the *last day* of each week.		Mean Temperature.
			Beef.	Mutton.		In-door.	Out-door.	
1861	£	s. d.	d. d. d.	d. d. d.	s. s. s.			°
30 Sept.	91 3/8	52 1	4 1/4—6 1/2 5 3/8	4 7/8—7 5 7/8	85—110 97	112,932	693,649	60·4
31 Dec.	93 2/8	59 3	4—6 1/4 5 1/8	4 3/4—6 3/4 5 3/4	110—130 120	128,533	716,096	45·5
1862								
31 Mar.	93 1/8	60 1	4—6 1/4 5 1/8	4 3/4—6 1/2 5 5/8	130—155 142	143,926	804,272	41·1
30 June	93 6/8	56 8	4—6 5	5—7 6	180—200 190	127,863	781,858	53·3
30 Sept.	93 2/8	56 10	4 1/4—6 1/4 5 1/4	5 1/4—7 6 1/8	100—130 115	119,592	789,914	58·7
31 Dec.	93 5/8	48 2	4—6 1/4 5 1/8	5 1/4—6 3/4 6	90—110 100	132,663	907,493	45·0
1863								
31 Mar.	92 4/8	46 7	4—6 1/4 5 1/8	5—7 6	120—130 125	143,661	948,212	42·6
30 June	93 1/8	46 2	4 1/4—6 1/4 5 1/4	4 3/4—6 3/4 5 3/4	110—130 120	127,852	879,241	53·0
30 Sept.	93	45 7	4 1/2—6 1/4 5 3/8	4 3/4—6 3/4 5 3/4	70—105 87	120,189	819,795	58·8

Col. 6 is deduced from the Weekly Tables published in the *Economist*. The *average* of the highest and of the lowest *weekly* prices is here shown in cols. 4, 5, and 6, and not the *absolute* highest or lowest price quoted at any period of the quarter.

Cols. 7 and 8 are deduced from the Returns of the Poor Law Board. The Returns now relate to 655 Unions, &c., comprising a population of 19,885,921 (in 1861), and do not include the paupers of parishes, &c., incorporated under Gilbert's Act, or still under the 43rd Elizabeth; Lunatic Paupers in Asylums and Vagrants relieved in the above Unions are also excluded. They amounted on January 1st, 1860, to—Insane Persons, 31,554; Vagrants, 1,542. The rest of the paupers on that day amounted to 817,800.

The weather in the quarter, as observed and described by Mr. Glaisher at Greenwich, was characterised by alternations of heat and cold till the middle of the

period, and by cold attended with much wet during the last six weeks, circumstances which could hardly fail injuriously to affect the public health. From the beginning till the middle of July, the mean temperature of the air exceeded the average by two degrees; thereafter to the end of the month it was below the average nearly four degrees. Heat followed in the first fortnight of August, three degrees and a-half in excess. For the remaining portion of the three months there was an almost daily defect of about two degrees in the temperature. The mean temperature of the whole period was 58·8°, which is about one degree below the average. The amount of rain measured was six inches, which is nearly two inches less than the average; but half of it fell in September, which was a moist month, when the two months which preceded it had been dry. Both days and nights in the earlier half of August were warm, but in September both were cold. Though the weather has been less favourable to health than it was in previous summers, the report of the registrar of Preston may be quoted here, for it is applicable to other districts besides his own:—"The bountiful harvest which we have had, and the abundant crop of potatoes, will be an invaluable blessing, and will greatly assist in mitigating the sufferings of the working classes during the winter."

DEATHS; AND THE STATE OF THE PUBLIC HEALTH.—The total number of deaths in the last quarter was 112,384, against 101,232 and 92,225 respectively in the two previous summer quarters. In the same period of 1860 the number was only 86,312, and if last summer had been as healthy, it may be stated in round numbers that at least 23,000 persons would have been living when autumn came whose names were enrolled in the registers.

The increase of deaths on the mean of two previous corresponding quarters (1861-62) was equal to 12·7 per cent. in London, 15·2 per cent. in the South-eastern counties, 21·6 in the South Midland, 13·9 in the Eastern, 18·6 in the South-western, 19·3 in the West Midland, 16·6 in the North Midland, 14·8 in the North-western (Cheshire and Lancashire), 21 in Yorkshire, 17·8 in the Northern counties, and 7·3 in Monmouthshire and Wales. Hence it appears that the increase was least in Monmouthshire and Wales, greatest in the South Midland counties and Yorkshire; and that in the Metropolis, in the Eastern and South-eastern counties, and in the districts of the cotton manufacture, it was from 13 to 15 per cent. The unfavourable influences that were at work pervaded the country generally, and Lancashire did not suffer more than most parts, but less than some. When the central committee for the relief of the distressed districts state in their report (19th October), written some weeks after the complaints that prevail chiefly in the warm season have subsided, that "the health of the population is generally in a satisfactory condition," probably nothing more is implied than that the families of the operatives are as healthy as they usually are in October, though they may not yet have attained that measure of health which it is hoped the sanitary works that are to be begun or are already in progress will confer upon them.

Scarlatina and diarrhœa, widely diffused over the country, were the chief immediate causes from which the increase of mortality sprang. The deaths rose to 2·166 per cent. per annum, against the average summer rate of 1·982. In the Eastern and North Midland counties the death-rate was rather below the average of England; in London it rose to 2·325; in Cheshire and Lancashire it was 2·431; in Yorkshire, 2·446. That great division, which contains the districts of the cotton manufacture, has always asserted a bad pre-eminence in the tables of mortality; but notwithstanding the distress that still prevails, and the greater distress it has suffered, it will be seen that in the present returns it may be compared with Yorkshire without disadvantage. Its density of population is much greater than that of any other division, with the exception of London, and is more than double that of Yorkshire. Lately a certain number of the working population has removed, in what amount is unknown, and Yorkshire has doubtless gained part of that which Lancashire has lost; but this circumstance can hardly affect the comparison in any material degree.

ANNUAL RATE *of* MORTALITY *per Cent. in* TOWN *and* COUNTRY DISTRICTS *of* ENGLAND *in each Quarter of the Years* 1863-61.

	Area in Statute Acres.	Population Enumerated. 1851.	Population Enumerated. 1861.	Quarters ending	Annual Rate of Mortality per Cent. in each Quarter of the Years 1863.	Mean '53-62.	1862.	1861.
In 142 Districts, and 56 Sub-districts, comprising the *Chief Towns*.....	3,287,151	9,155,964	10,930,841	March	2·705	2·688	2·661	2·658
				June....	2·478	2·336	2·265	2·271
				Sept. ..	2·404	2·239	1·977	2·193
				Dec.....	—	2·454	2·512	2·291
				Year	—	2·429	2·354	2·353
In the remaining Districts and Sub-districts of England and Wales, comprising chiefly *Small Towns* and *Country Parishes*	34,037,732	8,771,645	9,135,383	Year	—	1·970	1·894	1·938
				March	2·343	2·287	2·184	2·210
				June ..	2·102	2·031	1·949	1·999
				Sept. ..	1·864	1·694	1·573	1·753
				Dec.....	—	1·866	1·870	1·790

Note.—The three months January, February, March, contain 90, in leap year 91 days; the three months April, May, June, 91 days; each of the last two quarters of the year 92 days. For this inequality a correction has been made in the calculations, also for the difference between 365 and 365·25 days, and 366 and 365·25 days in leap year.

The death-rate in the town districts of England was 2·404 per cent., against an average of 2·239. The mortality of the country districts was, as is usual, considerably less; but it was also much in excess of the summer average, for it rose to 1·864, against 1·694. It is obvious that cities are not the only haunts of those diseases that are propagated by foul air and bad water, and in homes of penury; nor are young rustics proof against the weather. In a thousand instances the water which town populations command within their houses, the countryman in the village or on the wild can only obtain with uncertainty and toil; his rations are meagre; his walls damp; the refuse-heaps are near his door, "for as a rule, no rubbish is removed, but waits patiently the action of mere natural chemistry;"* and shut up many hours of the night with his family, he is deprived even of that which is supposed his inalienable birthright, the pure air, which invests his dwelling, and seeks on all sides, but in vain, to be admitted.

The deaths in Cumberland were 938 and 924 in the September quarter of 1861-62; they were in the last quarter 1,159, and exhibited an increase of 24 per cent. In the district of Carlisle they were in those three summer quarters 232, 209, 288; in Cockermouth, 195, 201, 218; in Whitehaven, 169, 192, and 297. In the Cockermouth district the mortality was 21 deaths to a thousand of the population; in Carlisle it rose to 25; and in Whitehaven it rose as high as 29. Measles, scarlatina, and whooping-cough have been prevalent in Carlisle; small-pox in Keswick, where there were 60 cases of the disease, and 5 fatal; and the same disease has prevailed in the town of Cockermouth. "Fever" was exceedingly fatal both in the town of Whitehaven and at St. Bees.

* Thomas Carlyle, Life of Sterling.

ENGLAND:—MARRIAGES *Registered in Quarters ended 30th June,* 1863-61; *and* BIRTHS *and* DEATHS *in Quarters ended 30th September,* 1863-61.

1 DIVISIONS. (England and Wales.)	2 Area in Statute Acres.	3 Population, 1861. (*Persons.*)	4 Marriages in Quarters ended 30th June, '63.	5 '62.	6 '61.
ENGLD. & WALES....*Totals*	37,324,883	No. 20,066,224	No. 44,058	No. 40,771	No. 42,012
I. London	77,997	2,803,989	7,790	7,198	6,916
II. South-Eastern	4,065,935	1,847,661	3,657	3,324	3,438
III. South Midland	3,201,290	1,295,497	2,092	1,989	1,984
IV. Eastern	3,214,099	1,142,580	1,661	1,548	1,690
V. South-Western	4,993,660	1,835,714	3,607	3,519	3,649
VI. West Midland	3,865,332	2,436,568	5,362	4,944	5,120
VII. North Midland	3,540,797	1,288,928	2,811	2,645	2,788
VIII. North-Western	2,000,227	2,935,540	7,000	6,401	7,055
IX. Yorkshire	3,654,636	2,015,541	4,532	4,161	4,130
X. Northern	3,492,322	1,151,372	2,750	2,588	2,726
XI. Monmthsh. & Wales	5,218,588	1,312,834	2,796	2,454	2,516

7 DIVISIONS. (England and Wales.)	8 Births in Quarters ended 30th September, '63.	9 '62.	10 '61.	11 Deaths in Quarters ended 30th September, '63.	12 '62.	13 '61.
ENGLD. & WALES....*Totals*	No. 173,125	No. 172,237	No. 172,033	No. 112,384	No. 92,225	No. 101,232
I. London	24,254	22,984	23,597	17,105	15,133	15,234
II. South-Eastern	14,877	13,992	14,343	9,080	7,368	8,400
III. South Midland	10,566	10,399	10,541	7,044	5,361	6,225
IV. Eastern	8,738	8,954	9,020	6,014	4,706	5,851
V. South-Western	14,426	14,165	14,390	8,738	7,142	7,593
VI. West Midland	21,566	21,472	21,528	13,152	10,619	11,434
VII. North Midland	10,862	11,155	11,072	6,908	5,332	6,511
VIII. North-Western	26,679	27,984	27,233	18,700	15,302	17,289
IX. Yorkshire	18,837	18,847	18,631	12,781	10,228	10,897
X. Northern	11,200	11,031	10,978	6,820	5,470	6,105
XI. Monmthsh. & Wales	11,120	11,254	10,700	6,042	5,564	5,693

REMARKS ON THE WEATHER

DURING THE QUARTER ENDING 30TH SEPTEMBER, 1863.

By JAMES GLAISHER, ESQ., F.R.S., *&c., Sec. of the British Meteorological Society.*

From July 1st to 15th, excepting two days, the temperature of the air was in excess of the average to the amount of $2°\frac{1}{4}$. A cold period followed, which continued till the 1st August, during which the average daily deficiency amounted to $3°\frac{3}{4}$, and was then followed by a warm period extending till the 16th August, the excess of temperature amounting to $3°\frac{1}{2}$. On 19th July the temperature fell to 32° in the air, and to much lower on the ground at most places north of London.

A generally cold period extended from the 17th August to the end of September, a period of 45 days, during which the daily deficiency amounted to $2°\frac{1}{4}$.

The mean temperature of July was 60°·8, being higher than in 1862, when it was 59°·1, and lower than in 1861, when it was 60°·9.

The mean temperature of August was 61°·9, being higher than any August since 1858, excepting the years 1859 and 1861, which were 63°·5 and 63°·2 respectively.

The mean temperature of September was 53°·7, being lower than any September as far back as 1841, with the exception of 1845, when it was 53°·6, and 1860, when it was 53°·4.

The mean high day temperature in July was in excess to the amount of $\frac{3}{4}°$, and in August to the amount of 1°; in September it was 4° in defect.

The mean low night temperature in July was $3°\frac{3}{4}$ in defect; in August was $\frac{1}{2}°$ in excess; and in September was 3° in defect.

Therefore the days were warm in July and August, and the nights also in August; in September both the days and nights were cold.

The mean temperature of the air in July was $\frac{3}{4}°$ in defect; in August $\frac{1}{2}°$ in excess; and in September $3°\frac{1}{4}$ in defect.

The mean temperature of the dew point was in defect in each month of the quarter, to the amount of 2° in July, $\frac{1}{2}°$ in August, and $4°\frac{1}{4}$ in September.

The degree of humidity was also in defect during the quarter.

The pressure of the atmosphere was 0·17 inch in excess in July; and in defect in August and September to the respective amounts of 0·05 inch and 0·13 inch.

The fall of rain was 0·9 inch in July, 1·8 inch in August, and 3·2 inches in September; the total fall for the quarter was 5·9 inches, being 1·6 inch below the average of the preceding 47 years.

The mean temperature of the air at Greenwich in the three months ending August, constituting the three summer months, was 60°·3, being 0°·2 above the average of the preceding 92 years.

1863. Months.	Temperature of Air. Mean.	Air. Diff. from Average of 92 Years.	Air. Diff. from Average of 22 Years.	Evaporation. Mean.	Evaporation. Diff. from Average of 22 Years.	Dew Point. Mean.	Dew Point. Diff. from Average of 22 Years.	Air—Daily Range. Mean.	Air—Daily Range. Diff. from Average of 22 Years.	Water of the Thames	Elastic Force of Vapour. Mean.	Elastic Force of Vapour. Diff. from Average of 22 Years.	Weight of Vapour in a Cubic Foot of Air. Mean.	Weight of Vapour in a Cubic Foot of Air. Diff. from Average of 22 Years.
	°	°	°	°	°	°	°	°	°	°	In.	In.	Gr.	Gr.
July	60·8	−0·6	−0·7	55·9	−1·5	51·7	−2·1	24·9	+4·4	66·1	·384	−·032	4·3	−0·3
Aug.	61·9	+1·2	+0·6	57·4	−0·2	53·6	−0·5	20·1	+0·6	65·5	·412	−·010	4·5	−0·2
Sept.	53·7	−2·7	−3·3	50·2	−3·7	46·8	−4·3	17·7	−0·8	61·7	·321	−·061	3·6	−0·6
Mean.....	58·8	−0·7	−1·1	54·5	−1·8	50·7	−2·3	20 9	+1·4	64·4	·372	−·034	4·1	−0·4

1863. Months.	Degree of Humidity. Mean.	Degree of Humidity. Diff. from Average of 22 Years.	Reading of Barometer. Mean.	Reading of Barometer. Diff. from Average of 22 Years.	Weight of a Cubic Foot of Air. Mean.	Weight of a Cubic Foot of Air. Diff. from Average of 22 Years.	Rain. Amnt.	Rain. Diff. from Average of 47 Years.	Daily Horizontal Movement of the Air.	Reading of Thermometer on Grass. Number of Nights it was At or below 30°.	Between 30° and 40°.	Above 40°.	Lowest Reading at Night.	Highest Reading at Night.
			In.	In.	Gr.	Gr.	In.	In.	Miles.				°	°
July	72	− 4	29·961	+·167	532	+ 4	0·9	−1·8	147	1	8	22	28·4	53·2
Aug.	74	− 3	29·744	−·047	527	− 2	1·8	−0·6	248	0	1	30	37·2	57·5
Sept.	77	− 4	29·693	−·132	535	+ 1	3·2	+0·8	259	3	17	10	27·7	50·2
Mean.....	74	− 4	29·799	−·004	531	+ 1	Sum 5·9	Sum −1·6	Mean 219	Sum 4	Sum 26	Sum 62	Lowest 27·7	Highst 57·5

Note.—In reading this table it will be borne in mind that the sign (−) minus signifies below the average, and that the sign (+) plus signifies above the average.

Thunder storms occurred or thunder was heard and lightning seen on July 2nd at Scarborough and Harrogate; on the 7th at Bradford, Stonyhurst, Scarborough, Otley, Thelwall, and at Eccles; on the 8th at Leeds; on the 21st at Bradford; on the 23rd at Bywell; and on the 24th at Norwich. On 1st August at Guernsey and Little Bridy; on the 2nd at Wisbeach; on the 3rd at Stonyhurst and Scarborough; on the 14th at St. Leonards and Exeter; on the 15th at Truro, St. Leonards, Exeter, and High Street, Exeter; on the 17th at Oxford; on the 19th at St. John's College, Aldershot, Great Berkhampstead, and Cardington; on the 24th at Guildhall; on the 25th at Truro, Little Bridy, Downside College, Battersea, Oxford, Great Berkhampstead, Royston, Cardington, Bradford, Grantham, Wakefield, York, Otley, Bywell, and Wisbeach; on the 27th at St. Leonards, Exeter, Liverpool, York, Harrogate, and Eccles; on the 28th at St. John's College, Camden Town, Harrogate, and St. Paul's Parsonage; on the 30th at Little Bridy; and on the 31st at Castleton, Wakefield, Stonyhurst, York, Thelwall, Harrogate, St. Paul's Parsonage, North Shields, and Wisbeach.

ENGLAND:—*Meteorological Table, Quarter ended 30th Sept.*, 1863.

1 Names of Stations.	2 Mean Pressure of Dry Air reduced to the Level of the Sea.	3 Highest Reading of the Thermometer.	4 Lowest Reading of the Thermometer.	5 Range of Temperature in the Quarter.	6 Mean Monthly Range of Temperature.	7 Mean Daily Range of Temperature.	8 *Mean Temperature of the Air.*	9 Mean Degree of Humidity.
	in.	°	°	°	°	°	°	
Guernsey	29·612	74·5	47·0	27·5	21·2	9·8	53·7	83
Exeter	29·633	84·2	40·3	43·9	33·5	15·5	49·3	72
Ventnor	29·668	74·0	45·0	29·0	22·3	9·2	52·8	75
Barnstaple	29·677	86·0	37·5	48·5	35·9	15·9	51·6	78
Royal Observatory	29·592	86·0	35·0	51·0	41·0	20·9	50·7	74
Royston	29·621	86·6	36·8	49·8	38·6	21·0	48·6	72
Lampeter	29·569	83·0	—	—	—	—	51·9	85
Norwich	29·558	80·0	41·0	39·0	32·0	16·2	51·1	78
Diss (Norfolk)	—	85·0	38·0	47·0	39·2	20·1	49·5	71
Liverpool	29·591	74·9	43·3	31·6	21·7	9·9	49·7	77
Wakefield	29·514	85·2	34·5	40·7	41·7	19·5	51·8	84
York	29·499	78·8	38·6	40·2	32·8	14·9	50·0	82
Stonyhurst	29·552	82·0	40·5	41·5	32·5	18·0	50·5	82
North Shields	29·568	75·0	40·0	35·0	30·3	12·5	46·2	79
Alnwick	29·481	79·0	38·0	41·0	34·0	17·7	47·5	80

10	11	12	13	14	15	16	17	18
	Wind.					Mean Amount of Cloud.	Rain.	
Names of Stations.	Mean estimated Strength.	Relative Proportion of					Number of Days on which it fell.	Amount collected.
		N.	E.	S.	W.			
								in.
Guernsey	1·5	8	4	8	10	3·5	34	10·4
Exeter	0·8	6	5	9	10	4·8	49	6·9
Ventnor	—	2	7	9	13	—	34	6·4
Barnstaple	1·2	6	3	11	11	4·1	45	10·8
Royal Observatory	—	4	3	10	14	6·3	30	5·9
Royston	—	5	2	7	16	5·8	40	4·7
Lampeter	1·6	7	2	8	10	6·9	42	18·0
Norwich	—	4	4	11	12	—	—	—
Diss (Norfolk)	—	4	3	13	10	5·3	24	3·7
Liverpool	0·2	8	2	8	14	—	52	9·2
Wakefield	1·7	—	—	—	—	5·8	47	7·7
York	0·7	6	4	6	15	7·9	39	15·7
Stonyhurst	—	3	5	7	15	—	—	7·6
North Shields	1·9	8	4	6	13	6·5	46	5·6
Alnwick	1·7	5	9	2	15	7·0	46	6·1

No. II.—SCOTLAND.

MARRIAGES, BIRTHS, AND DEATHS IN THE QUARTER ENDED 30TH SEPTEMBER, 1863.

This Return comprises the number of BIRTHS, DEATHS, and MARRIAGES entered on the registers of the 1,009 districts into which Scotland is divided for the purposes of registration during the quarter ending 30th September, 1863. From the returns received, it would appear that the births, but especially the deaths, had been much above the average of the corresponding quarter of the eight previous years, while the marriages had been the exact average.

BIRTHS.—26,594 births were registered in Scotland during the quarter ending 30th September, being in the annual proportion of 343 births in every 10,000 persons of the estimated population, or 1 birth to every 29 persons. This is a very high rate, and considerably above the average birth-rate of the corresponding quarter of the eight previous years, which was in the proportion of 332 births in every 10,000 persons of the population.

Of the 26,594 children whose births were registered during the quarter, 13,680 were males, and 12,914 females, being in the high proportion of 106 males for every 100 females.

The usual difference between the proportion of births in the town and country districts was observed during the quarter. Thus, in the 126 town districts (which embrace almost all the towns with populations of 2,000 and upwards), 15,087 births were registered, while in the 883 country districts (embracing the remainder of the population of Scotland), 11,507 births occurred; thus indicating an annual proportion of 368 births in every 10,000 persons in the town districts, but only 315 births in a like population in the country districts.

Of the 26,594 births, 23,945 were legitimate, and 2,649 illegitimate, being in the proportion of 9·9 per cent., or 1 birth in every 10 illegitimate. As usual, the proportion of illegitimate births was highest in the country districts; for while only 9·8 per cent. of the births were illegitimate in the town districts, 10·1 per cent. were illegitimate in the country districts. As usual, also, the northern and north-western divisions of Scotland furnished the smallest proportion of illegitimate births; the north-eastern and southern divisions the highest; for, while the former only yielded respectively 4·7 and 5·4 per cent. of the births as illegitimate, the illegitimate births constituted 15·2 and 14·4 per cent. of the births in the latter.

DEATHS.—16,354 deaths were registered in Scotland during the third quarter of 1863, being a larger number than any registered during the third quarter of the eight previous years. The mean death-rate of the corresponding quarter of the eight previous years was 181 deaths in every 10,000 persons, but 211 deaths in a like population during the third quarter of this year; so that the mortality during the quarter has been excessively high.

As usual, the deaths in the town districts were much more numerous in proportion to the population than those in the country districts. Thus, in the 126 town districts, 10,254 deaths were registered; but only 6,100 deaths in the country districts; thus indicating an annual proportion of 250 deaths in every 10,000 persons in the town districts, but only 167 deaths in a like population in the country districts.

Of the deaths, 5,665 occurred during July, 5,541 in August, and 5,148 in September; so that the daily deaths in Scotland amounted to 183 during July, 179 during August, and 171 during September.

INCREASE OF THE POPULATION.—As the births numbered 26,594, and the deaths 16,354, the natural increase of the population, by the excess of births over deaths, amounted to 10,240 persons during the quarter. From that number, how

ever, have to be deducted the number of persons who emigrated during the quarter. From a return furnished to the Registrar-General by the Emigration Commissioners, it appears that 58,320 persons emigrated from the ports of Great Britain and Ireland during the third quarter of the year. Of these 5,022 were ascertained to have been of Scottish origin; but to that number 636 must be added as the proportion of persons whose origin was not ascertained. The total number of Scottish emigrants would thus amount to 5,658 persons; which, deducted from the excess of births over deaths, would only leave 4,582 persons as the increase of the population during the quarter.

Marriages.—4,889 marriages were registered in Scotland during the quarter, being in the annual proportion of 62 marriages in every 10,000 persons of the estimated population, or the exact average of the corresponding quarters of the eight previous years. This fact speaks well for the general prosperity of the country, especially as the previous or second quarter had a higher proportion than usual of marriages, which might have led us rather to expect a proportional diminution during the third quarter.

Like the births and deaths, the proportion of marriages was much higher in the town than in the country districts. Thus, in the 126 town districts 3,315 marriages were contracted during the quarter, but only 1,574 marriages in the 881 country districts, being in the proportion of 81 marriages in every 10,000 persons of the population in the town districts, but only 43 marriages in a like population in the country districts.

Of the marriages, 2,170 were contracted in July, 1,526 in August, and 1,193 in September.

Health of the Population.—The population has been very unhealthy during the quarter, and the mortality has been high above the mean of the corresponding quarters of the eight previous years. Small-pox has prevailed as an epidemic to a greater or lesser extent over every part of Scotland, and the number of deaths caused by it has been very great. It is to be hoped that the people are taking the full benefit of the recent Vaccination Act, seeing that it has been clearly proved that most of the victims of small-pox are those who have never been vaccinated, while it mutilates the countenance of those who escape death, besides frequently producing blindness and other diseases. The registrar of Walls, in Shetland, mentions a case which ought to act as a warning to those who neglect vaccination, and in especial to the parish of which he is registrar, viz., that in a former epidemic almost the whole inhabitants of Foula were swept off by small-pox. They neglected vaccination then, they neglect it still; for in Walls it is calculated that at least 1,000 persons are unvaccinated, and hardly one in Foula.

Scarlatina and measles have been rather more prevalent than usual, and have largely increased the mortality. Diphtheria is steadily increasing, and seems to have been more prevalent and fatal in the northern than in the southern half of Scotland. Continued fever in its varied forms has been rather more common than usual in certain localities, but does not appear to have assumed the epidemic type. There is no mention of any considerable increase of deaths from the usual autumnal bowel complaints, the mean temperature never having risen so high as to render these complaints more than usually prevalent or fatal. One or two deaths occur every year from the bites of the adder (or viper), the only poisonous snake in Scotland. A child fell a victim to poison of that snake at Kirkcowan, in Wigtownshire.

Weather.—Excepting during July, the weather during the quarter has been much colder and more rainy than usual; there has been a complete absence of the usual amount of autumnal heat, and the whole meteorological agencies have been most adverse to health. Though one very warm week occurred during July, and though, from the sky being more free from clouds, there were 52 hours more sunshine than usual during the month, yet the mean temperature of the month was $0^{\circ}{\cdot}5$ below the average of former years. This result was produced by the much greater coldness of the nights, which the greater heat during the day could not counteract, so that a much greater daily range of temperature occurred than usual, viz., to the extent of $16^{\circ}{\cdot}8$, an agent most prejudicial to health. This circumstance at once accounts for the very high death-rate during July.

Scotland:—Marriages, Births, *and* Deaths *Registered in the Quarter ended 30th September*, 1863.

1 DIVISIONS. (Scotland)	2 Area in Statute Acres.	3 Population, 1861. (*Persons.*)	4 Marriages.	5 Births.	6 Deaths.
		No.	No.	No.	No.
Scotland.....*Totals*	19,639,377	3,062,294	4,889	26,594	16,354
I. Northern	2,261,622	130,422	99	899	410
II. North-Western.....	4,739,876	167,329	101	1,121	630
III. North-Eastern	2,429,594	366,783	504	3,293	1,592
IV. East Midland	2,790,492	523,822	717	4,267	2,593
V. West Midland	2,693,176	242,507	329	1,978	1,237
VI. South-Western	1,462,397	1,008,253	2,112	9,729	6,700
VII. South-Eastern	1,192,524	408,962	778	3,698	2,157
VIII. Southern	2,069,696	214,216	249	1,609	1,035

No. III.—GREAT BRITAIN.

Summary *of* Marriages, *in the Quarter ended 30th June*, 1863; *and* Births *and* Deaths, *in the Quarter ended 30th September*, 1863.

COUNTRIES.	Area in Statute Acres.	Population, 1861. (*Persons.*)	Marriages.	Births.	Deaths.
		No.	No.	No.	No.
England and Wales.....	37,324,883	20,066,224	44,058	173,125	112,384
Scotland	19,639,377	3,062,294	5,557	26,594	16,354
Great Britain.....	56,964,260	23,128,518	49,615	199,719	128,738

Trade of United Kingdom, 1863-62-61.—*Distribution of* **Exports** *from United Kingdom, according to the Declared Real Value of the Exports; and the Computed Real Value (Ex-duty) of* **Imports** *at Port of Entry, and therefore including Freight and Importer's Profit.*

Merchandise (*excluding Gold and Silver*), Imported from, and Exported to, the following Foreign Countries, &c. [000's omitted.]	First Six Months. 1863. Imports from	1863. *Exports to*	1862. Imports from	1862. *Exports to*	1861. Imports from	1861. *Exports to*
I.—Foreign Countries:	£	£	£	£	£	£
Northern Europe; viz., Russia, Sweden, Norway, Denmark & Iceland, & Heligoland	5,146,	1,770,	4,773,	1,673,	4,718,	2,137,
Central Europe; viz., Prussia, Germany, the Hanse Towns, Holland, and Belgium	11,544,	9,164,	10,231,	9,475,	10,809,	9,795,
Western Europe; viz., France, Portugal (with Azores, Madeira, &c.), and Spain (with Gibraltar and Canaries)	14,564,	7,589,	12,667,	7,152,	12,676,	6,240,
Southern Europe; viz., Italy, Austrian Empire, Greece, Ionian Islands, and Malta	1,914,	3,566,	2,121,	3,229,	3,232,	3,785,
Levant; viz., Turkey, with Wallachia and Moldavia, Syria and Palestine, and Egypt	10,249,	4,538,	7,452,	2,787,	6,452,	2,704,
Northern Africa; viz., Tripoli, Tunis, Algeria, and Morocco	197,	51,	206,	101,	204,	99,
Western Africa	561,	345,	648,	474,	419,	423,
Eastern Africa; with African Ports on Red Sea, Aden, Arabia, Persia, Bourbon, and Kooria Mooria Islands	26,	28,	—	51,	—	23,
Indian Seas, Siam, Sumatra, Java, Philippines; other Islands	843,	424,	671,	750,	570,	1,074,
South Sea Islands	19,	83,	—	—	—	27,
China, including Hong Kong	8,496,	1,858,	7,136,	1,883,	5,642,	3,204,
United States of America	9,519,	7,004,	11,221,	6,450,	32,012,	5,434,
Mexico and Central America	769,	1,058,	461,	271,	271,	452,
Foreign West Indies and Hayti	2,444,	1,281,	1,865,	1,287,	1,728,	1,037,
South America (Northern), New Granada, Venezuela, and Ecuador	370,	784,	492,	448,	322,	730,
,, (Pacific), Peru, Bolivia, Chili, and Patagonia	3,086,	1,155,	2,604,	814,	2,482,	1,308,
,, (Atlantic) Brazil, Uruguay, and Buenos Ayres	3,173,	2,475,	2,629,	2,530,	1,455,	3,505,
Whale Fisheries; Grnlnd., Davis' Straits, Southn. Whale Fishery, & Falkland Islands	12,	6,	14,	9,	5,	3,
Total.—Foreign Countries	72,932,	43,179,	65,191,	39,384,	82,997,	41,980,
II.—British Possessions:						
British India, Ceylon, and Singapore	16,461,	8,416,	10,314,	7,909,	7,722,	8,628,
Austral. Cols.—New South Wales and Victoria	2,285,	3,928,	2,451,	3,967,	2,462,	3,767,
,, ,, So. Aus., W. Aus., Tasm., and N. Zea.	1,128,	1,510,	764,	1,159,	799,	1,070,
British North America	923,	1,839,	1,539,	1,475,	1,050,	1,698,
,, W. Indies with Btsh. Guiana & Honduras	3,550,	1,709,	3,318,	1,629,	2,577,	1,249,
Cape and Natal	835,	662,	592,	949,	494,	971,
Brt. W. Co. of Af., Ascension and St. Helena	57,	175,	61,	207,	84,	165,
Mauritius	1,250,	215,	809,	256,	1,567,	289,
Channel Islands	300,	381,	345,	380,	327,	326,
Total.—British Possessions	26,789,	18,835,	20,193,	17,931,	16,082,	18,163,
General Total.....£	99,721,	62,014,	85,384,	57,315,	99,079,	60,143,

IMPORTS. — (United Kingdom.) — First Eight Months (*January — August*), 1863-62-61-60-59.—*Computed Real Value (Ex-duty), at Port of Entry (and therefore including Freight and Importer's Profit), of Articles of Foreign and Colonial Merchandise Imported into the United Kingdom.*

(First Eight Months.) [000's omitted.] Foreign Articles Imported.		1863.	1862.	1861.	1860.	1859.
		£	£	£	£	£
Raw Matls.—*Textile.*	Cotton Wool	26,862,	11,655,	30,809,	28,941,	24,039,
	Wool (Sheep's)..	7,921,	7,333,	6,455,	7,797,	6,981,
	Silk	9,502,	9,764,	5,428,	6,243,	6,965,
	Flax	2,262,	2,664,	1,474,	2,256,	2,145,
	Hemp	1,796,	1,336,	909,	835,	1,372,
	Indigo	1,926,	2,151,	1,993,	1,893,	1,602,
		50,269,	34,903,	47,068,	47,965,	43,104,
,, ,, *Various.*	Hides	1,868,	1,681,	1,404,	2,085,	1,884,
	Oils	2,512,	2,164,	1,937,	2,259,	1,917,
	Metals	2,345,	2,807,	2,106,	2,460,	2,215,
	Tallow	853,	995,	1,174,	1,586,	1,150,
	Timber.....	5,669,	4,908,	5,214,	4,513,	3,826,
		13,247,	12,555,	11,835,	12,903,	10,992,
,, ,, *Agricltl.*	Guano	2,022,	518,	1,395,	923,	1,545,
	Seeds	1,880,	1,413,	1,679,	1,850,	615,
		3,902,	1,931,	3,074,	2,773,	2,160,
Tropical, &c., Produce.	Tea	6,670,	5,652,	4,219,	5,081,	3,741,
	Coffee	2,557,	2,379,	1,491,	1,428,	1,078,
	Sugar & Molasses	9,707,	8,892,	9,487,	9,005,	8,189,
	Tobacco	1,059,	673,	713,	463,	420,
	Rice.....	772,	1,266,	1,024,	473,	284,
	Fruits	153,	185,	354,	320,	167,
	Wine	2,874,	2,468,	2,829,	3,096,	1,582,
	Spirits	1,207,	1,078,	1,084,	1,420,	1,279,
		24,999,	22,593,	21,201,	21,286,	16,740,
Food	Grain and Meal..	17,605,	23,233,	24,693,	15,819,	12,118,
	Provisions	5,230,	5,090,	4,404,	3,693,	2,044,
		22,835,	28,323,	29,097,	19,512,	14,162,
Remainder of Enumerated Articles		2,806,	2,379,	2,312,	2,455,	2,134,
Total Enumerated Imports....		118,058,	102,684,	114,588,	106,894,	89,292,
Add for Unenumerated Imports (say)		29,514,	25,671,	28,647,	26,723,	22,323,
Total Imports.....		147,572,	128,355,	143,235,	133,617,	111,615,

EXPORTS. — (United Kingdom.)—First Nine Months (*January—September*), 1863-62-61-60-59.—*Declared Real Value, at Port of Shipment, of Articles of* British *and* Irish *Produce and Manufactures Exported from United Kingdom.*

(First Nine Months.) [000's omitted.] British Produce, &c., Exported.		1863.	1862.	1861.	1860.	1859.
		£	£	£	£	£
Manfrs.—*Textile.*	Cotton Manufactures..	27,192,	24,769,	28,683,	30,947,	28,957,
	,, Yarn.....	5,463,	5,297,	7,137,	7,378,	6,889,
	Woollen Manufactures	10,973,	9,698,	8,009,	9,4 3,	9,251,
	,, Yarn	3,702,	2,753,	2,656,	2,8 3,	2,008,
	Silk Manufactures	1,503,	1,547,	1,593,	1,6 7,	1,627,
	,, Yarn.....	215,	254,	214,	205,	157,
	Linen Manufactures....	4,555,	3,666,	2,942,	3,466,	3,456,
	,, Yarn.....	1,775,	1,353,	1,127,	3,169,	1,176,
		55,378,	49,337,	52,361,	57,328,	53,601,
,, *Sewed.*	Apparel	1,935,	1,609,	1,162,	1,528,	1,540,
	Haberdy. and Mllnry.	3,131,	2,689,	2,630,	3,113,	3,332,
		5,066,	4,298,	4,092,	4,641,	4,872,
Metals	Hardware.....	2,669,	2,391,	2,496,	2,768,	2,835,
	Machinery	3,031,	2,951,	2,120,	2,644,	2,739,
	Iron	9,676,	8,364,	7,909,	9,229,	9,813,
	Copper and Brass.....	3,072,	2,141,	1,743,	2,283,	1,927,
	Lead and Tin	2,138,	2,130,	1,359,	2,006,	2,015,
	Coals and Culm	2,768,	2,892,	2,745,	2,534,	2,582,
		23,354,	20,869,	19,372,	21,465,	21,941,
Ceramic Manufcts.	Earthenware and Glass	1,537,	1,359,	1,292,	1,595,	1,438,
Indigenous Mnfrs.	Beer and Ale	1,285,	1,124,	1,105,	1,571,	1,637,
	Butter	362,	262,	379,	465,	512,
	Cheese	106,	87,	95,	82,	94,
	Candles	156,	169,	215,	184,	136,
	Salt	235,	248,	297,	277,	200,
	Spirits	348,	368,	332,	230,	197,
	Soda.....	666,	682,	436,	753,	784,
		3,159,	2,940,	2,859,	3,562,	3,560,
Various Manufcts.	Books, Printed.....	323,	296,	330,	364,	343,
	Furniture.....	216,	183,	179,	166,	171,
	Leather Manufactures	1,674,	1,859,	1,545,	1,626,	1,441,
	Soap.....	193,	174,	170,	193,	158,
	Plate and Watches	344,	353,	331,	396,	359,
	Stationery.....	246,	199,	494,	572,	630,
		2,996,	3,064,	3,049,	3,317,	3,102,
Remainder of Enumerated Articles		6,404,	6,181,	3,309,	2,951,	2,560,
Unenumerated Articles		6,403,	5,624,	7,461,	6,865,	6,963,
Total Exports		104,296,	93,672,	93,795,	101,724,	98,037,

SHIPPING. — Foreign Trade. — (United Kingdom.) — First Nine Months (*January — September*), 1863-62-61-60. — *Vessels Entered and Cleared with Cargoes, including repeated Voyages, but excluding Government Transports.*

(First Nine Months.)	1863.			1862.		1861.		1860.	
Entered:—	Vessels.	Tonnage (000's omitted.)	Average Tonnage.	Vessels.	Tonnage (000's omitted.)	Vessels.	Tonnage (000's omitted.)	Vessels.	Tonnage (000's omitted.)
Vessels belonging to—	No.	Tons.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Russia	301	91,	303	323	95,	307	91,	305	88,
Sweden	803	126,	157	714	117,	786	129,	815	126,
Norway	2,632	577,	219	2,360	483,	2,278	477,	1,978	430,
Denmark	2,305	218,	95	1,915	184,	1,821	176,	2,200	213,
Prussia and Ger. Sts.	2,992	716,	239	2,751	669,	2,777	637,	2,861	598,
Holland and Belgium	1,320	188,	143	1,279	177,	1,184	162,	1,231	170,
France	1,982	162,	82	1,415	118,	1,344	107,	1,377	115,
Spain and Portugal.....	284	87,	307	295	87,	354	84,	299	80,
Italy & other Eupn. Sts.	703	200,	285	611	172,	724	198,	732	206,
United States	563	566,	1,005	975	848,	1,572	1,342,	1,020	991,
All other States	11	3,	273	77	21,	10	3,	12	3,
United Kingdm. & Depds.....	13,896	2,936,	211	12,715	2,973,	13,157	3,406,	12,830	3,020,
	17,139	5,209,	304	15,840	4,700,	15,491	4,681,	14,596	4,206,
Totals Entered	31,035	8,145,	262	28,555	7,673,	28,648	8,087,	27,426	7,226,
Cleared:—									
Russia	291	86,	297	308	91,	304	89,	284	83,
Sweden	789	121,	154	712	116,	799	132,	828	129,
Norway	1,451	252,	174	1,535	262,	1,519	247,	1,256	228,
Denmark.....	2,600	247,	95	2,347	225,	2,377	232,	2,613	251,
Prussia and Ger. Sts.	4,179	829,	198	4,122	792,	3,832	707,	3,651	666
Holland and Belgium	1,438	220,	153	1,743	257,	1,505	213,	1,493	237,
France.....	3,438	326,	95	3,768	363,	3,957	372,	2,858	303,
Spain and Portugal	290	94,	326	300	93,	317	84,	271	72,
Italy & other Eupn. Sts.	713	214,	300	622	80,	834	233,	806	232,
United States	515	531,	1,031	897	795,	1,225	1,071,	1,150	1,091,
All other States	19	6,	316	111	31,	20	6,	12	4,
United Kingdm. & Depds.....	15,723	2,926,	186	16,465	3,205,	16,689	3,386,	15,222	3,296,
	21,707	6,083,	280	21,434	5,759,	20,730	5,252,	18,732	4,960,
Totals Cleared	37,430	9,009,	241	37,899	8,964,	37,419	8,638,	33,954	8,256,

SHIPPING CASUALTIES *Reported in Lloyd's "Register of Losses," during the Months of July, August, and September, from 1854 to 1859 inclusive. (Casualties to Foreign Coasters, or to Vessels Unidentified, are not included.)*

Note.—This information, in a different form, was originally published, at intervals, in "Lloyd's List," but is now collated and tabulated by Henry Jeula, Esq., Member of Lloyd's, F.S.S.

	Wrecked.				Sunk.			Abandoned.				Stranded.				Condemned.			Touched the Ground, sustaining Trifling Damage.	Total.	
	Totally.	Part Cargo Saved.	Whole, or nearly so, of Cargo Saved.	Total.	Lost.	Raised.	Total.	Lost.	Recovered.	Total.	Missing.	Subsequent Fate not Reported.*	Got Off.	Got Off with Loss of part Cargo.	Total.	After Striking, &c.	From other Causes.	Total.			
July—																					**July—**
1854	31	2	—	33	13	—	13	7	7	14	1	21	47	2	70	3	3	6	2	139	1854
'55	19	6	7	32	11	2	13	5	2	7	3	12	67	4	83	4	3	7	1	146	'55
'56	35	7	7	49	12	—	12	4	4	8	4	52	74	2	128	3	3	6	1	208	'56
'57	23	7	3	33	16	3	19	2	1	3	—	21	69	6	96	6	4	10	—	161	'57
'58	39	8	1	48	28	4	32	9	1	10	2	31	77	7	115	1	8	9	—	216	'58
'59	27	7	3	37	13	2	15	6	3	9	3	22	58	6	86	1	2	3	—	153	'59
Average of Six Years	29·0	6·17	3·5	38·67	15·5	1·83	17·33	5·5	3·0	8·5	2·17	26·5	65·33	4·5	96·33	3·0	3·83	6·83	·67	170·5	Average of Six Years
August—																					**August—**
1854	25	4	1	30	13	1	14	7	6	13	3	18	55	4	77	—	2	2	1	140	1854
'55	43	8	1	52	23	3	26	9	6	15	1	28	49	4	81	1	2	3	1	179	'55
'56	28	12	2	42	17	3	20	8	3	11	3	20	75	8	103	—	2	2	—	181	'56
'57	25	10	5	40	36	3	39	7	6	13	1	31	82	7	120	3	4	7	—	220	'57
'58	32	8	3	43	22	2	24	13	3	16	2	22	57	—	79	2	5	7	—	171	'58
'59	33	11	4	48	31	3	34	8	1	9	1	18	69	10	97	4	8	12	—	201	'59
Average of Six Years	31·0	8·83	2·67	42·5	23·67	2·5	26·17	8·67	4·17	12·83	1·83	22·83	64·5	5·5	92·83	1·67	3·83	5·5	·33	182·0	Average of Six Years
September—																					**September**
1854	23	3	1	27	16	2	18	12	2	14	2	23	71	2	96	1	3	4	—	161	1854
'55	44	3	3	50	18	2	20	7	2	9	1	19	77	10	106	—	1	1	—	187	'55
'56	35	7	5	47	29	7	36	6	4	10	—	54	102	3	159	2	4	6	—	258	'56
'57	42	11	7	60	35	2	37	7	3	10	1	47	89	4	140	3	3	6	—	254	'57
'58	30	5	5	40	21	—	21	7	1	8	3	28	111	6	145	2	2	4	3	224	'58
'59	43	11	2	56	29	4	33	11	3	14	1	27	104	5	136	4	4	8	—	248	'59
Average of Six Years	36·17	6·67	3·83	46·67	24·67	2·83	27·5	8·33	2·5	10·83	1·33	33·0	92·33	5·0	130·33	2·0	2·83	4·83	·5	222·0	Average of Six Years
September Quarter—																					**September Quarter—**
1854	79	9	2	90	42	3	45	26	1	41	6	62	173	8	243	4	8	12	3	440	1854
'55	106	17	11	134	52	7	59	21	1	31	5	59	193	18	270	5	6	11	2	512	'55
'56	98	26	14	138	58	10	68	18	11	29	7	126	251	13	390	5	9	14	1	647	'56
'57	90	28	15	133	87	8	95	16	10	26	2	99	240	17	356	12	11	23	—	635	'57
'58	101	21	9	131	71	6	77	29	5	34	7	81	245	13	339	5	15	20	3	611	'58
'59	103	29	9	141	73	9	82	25	7	32	5	67	231	21	319	9	14	23	—	602	'59
Average of Six Years	96·17	21·67	10·0	127·83	63·83	7·17	71·0	22·5	9·67	32·17	5·33	82·33	222·17	15·0	319·5	6·67	10·5	17·17	1·5	574·5	Average of Six Years

* The majority of these may be considered as "*Wrecks.*"

GOLD AND SILVER BULLION AND SPECIE.—IMPORTED AND EXPORTED.—(United Kingdom.)—*Computed Real Value for the* First Nine Months (*January—September*), 1863-62-61.

[000's omitted.]

(First Nine Months.)	1863.		1862.		1861.	
	Gold.	*Silver.*	Gold.	*Silver.*	Gold.	*Silver.*
Imported from:—	£	£	£	£	£	£
Australia	4,540,	—	4,650,	—	4,889,	—
So. Amca. and W. Indies	3,136,	5,095,	1,226,	4,606,	1,139,	4,118,
United States and Cal.	5,149,	616,	6,836,	83,	28,	26,
	12,825,	5,711,	12,712,	4,689,	6,056,	4,144,
France	185,	690,	89,	983,	2,471,	466,
Hanse Towns, Holl. & Belg.	309,	1,211,	402,	1,735,	703,	456,
Prtgl., Spain, and Gbrltr.	10,	66,	23,	91,	17,	120,
Mlta., Trky., and Egypt	114,	3,	8,	13,	42,	4,
China	—	—	—	—	—	—
West Coast of Africa	47,	3,	80,	3,	73,	2,
All other Countries	984,	118,	1,075,	69,	559,	31,
Totals Imported	14,474,	7,802,	14,389,	7,583,	9,921,	5,223,
Exported to:—						
France	2,293,	833,	3,900,	515,	964,	908,
Hanse Towns, Holl. & Belg.	1,023,	703,	155,	501,	14,	701,
Prtgl., Spain, and Gbrltr.	1,574,	3,	1,872,	7,	674,	3,
	4,890,	1,539,	5,927,	1,023,	1,652,	1,612,
Ind. and China (viâ Egypt)	1,608,	6,161,	—	6,534,	581,	5,708,
Danish West Indies	—	—	—	—	35,	33,
United States	35,	10,	36,	1,	7,037,	48,
South Africa	—	5,	—	—	85,	—
Mauritius	—	—	—	—	—	2,
Brazil	1,231,	50,	227,	19,	18,	119,
All other Countries	3,213,	119,	5,010,	1,024,	749,	80,
Totals Exported	10,980,	7,884,	11,201,	8,601,	10,157,	7,602,
Excess of *Imports*	3,493,	—	3,188,	—	—	—
,, Exports	—	82,	—	1,018,	236,	2,379,

REVENUE.—(UNITED KINGDOM.)—30TH SEPT., 1863-62-61-60.

Net Produce in YEARS *and* QUARTERS *ended* 31ST SEPT., 1863-62-61-60.

[000's omitted.]

QUARTERS, ended 30th Sept.	1863.	1862.	1863.		Corresponding Quarters.	
			Less.	More.	1861.	1860.
	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.
Customs	5,872,	6,201,	329,	—	5,982,	5,888,
Excise	3,922,	3,604,	—	318,	4,221,	5,089,
Stamps	2,191,	2,180,	—	11,	2,013,	2,053,
Taxes	176,	166,	—	10,	160,	166,
Post Office	905,	895,	—	10,	870,	800,
	13,066,	13,046,	329,	349,	13,246,	13,996,
Property Tax	866,	974,	108,	—	994,	2,281,
	13,932,	14,020,	437,	349,	14,237,	16,277,
Crown Lands	68,	67,	—	1,	66,	65,
Miscellaneous	411,	513,	102,	—	298,	316,
Totals	14,411,	14,600,	539,	350,	14,601,	16,658,
			NET DECR. £189,479			

YEARS, ended 30th Sept.	1863.	1862.	1863.		Corresponding Years.	
			Less.	More.	1861.	1860.
	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.
Customs	23,771,	23,863,	92,	—	23,488,	23,396,
Excise	16,992,	17,430,	438,	—	18,624,	20,070,
Stamps	9,146,	8,824,	—	322,	8,426,	8,267,
Taxes	3,193,	3,160,	—	33,	3,130,	3,257,
Post Office	3,760,	3,560,	—	200,	3,470,	3,370,
	56,862,	56,837,	530,	555,	57,138,	58,360,
Property Tax	10,605,	10,532,	—	73,	11,133,	10,310,
	67,467,	67,369,	530,	628,	68,271,	68,670,
Crown Lands	301,	296,	—	5,	292,	290,
Miscellaneous	2,725,	2,019,	—	706,	1,243,	1,850,
Totals	70,493,	69,684,	530,	1,339,	69,806,	70,810,
			NET INCR. £808,812			

REVENUE.—UNITED KINGDOM.—QUARTER ENDED 30TH SEPT., 1863.

An Account showing the REVENUE *and other* RECEIPTS *of the* QUARTER *ended 30th September*, 1863; *the* APPLICATION *of the same, and the Charge of the Consolidated Fund for the said Quarter, together with the Surplus or Deficiency upon such Charge.*

Received:—

	£
Surplus Balance beyond the Charge of the *Consolidated Fund* for the Quarter ended 30th June, 1863, viz.:—	
Great Britain ..... —	
Ireland £971,218	971,218
Income received in the Quarter ended 30th September, 1863, as shown on preceding page	14,411,501
Amount raised per Act 25 and 26 Victoria, cap. 78, on account of Fortifications, &c.	450,000
Amount received in the Quarter ended 30th September, 1863, in repayment of Advances for Public Works, &c.	338,086
	£16,170,808
Balance, being the Deficiency on 30th September, 1863, upon the charge of the Consolidated Fund in Great Britain, to meet the Dividends and other charges payable in the Quarter to 31st December, 1863, and for which the Exchequer Bills (Deficiency) will be issued in that Quarter	2,273,640
	£18,444,448

Paid:—

	£
Amount applied out of the Income for the Quarter ended 30th September, 1863, in Redemption of the Exchequer Bills (Deficiency), for the Quarter ended 30th June, 1863	1,076,065
Amount applied out of the Income to *Supply Services* in the Quarter ended 30th September, 1863	9,466,121
Charge of the *Consolidated Fund* for the Quarter ended 30th September, 1863, viz.:—	
Interest of the Permanent Debt £5,499,166	
Terminable Debt 729,572	
Interest of Exchequer Bills 81,601	
„ Deficiency „ ..... —	
The Civil List 101,307	
Other Charges on Consolidated Fund 676,812	
Advances for Public Works, &c. 63,378	
Sinking Fund 289,816	7,441,682
Surplus Balance in Ireland beyond the Charge of the Consolidated Fund in Ireland for the Quarter ended 30*th September*, 1863	457,580
	£18,444,448

CORN.—*Gazette Average Prices* (ENGLAND AND WALES), *Third Quarter of* 1863.

[This Table is communicated by H. F. JADIS, ESQ., Comptroller of Corn Returns.]

Weeks ended on a Saturday 1863.	Weekly Average. (Per Impl. Quarter.)					
	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
July 4	46 11	30 9	23 11	32 11	39 6	38 –
„ 11	46 10	30 10	23 6	31 5	40 2	39 –
„ 18	46 7	28 10	22 6	32 9	40 –	37 1
„ 25	45 11	29 10	22 9	32 8	39 3	35 11
Average for July	46 6	30 –	23 2	33 2	39 8	37 10
August 1	45 11	31 –	23 –	37 11	39 11	36 3
„ 8	46 3	31 6	23 –	31 6	38 8	34 9
„ 15	45 11	31 4	23 7	36 4	40 7	35 7
„ 22	46 5	31 1	23 –	33 2	40 4	34 9
„ 29	45 9	33 10	22 8	33 9	39 6	35 9
Average for August ..	46 –	31 9	23 –	34 6	39 9	35 5
Sept. 5	44 2	34 8	22 –	32 11	38 10	37 2
„ 12	44 1	34 7	21 8	31 –	39 10	35 10
„ 19	44 9	35 2	20 9	32 7	39 –	36 9
„ 26	43 9	35 9	20 2	32 1	38 11	37 5
Average for September..	44 2	35 –	21 1	32 1	39 1	36 9
Average for the Quarter ..	45 7	32 2	22 6	33 4	39 6	36 5

RAILWAYS.—PRICES, *July—Sept.;—and* TRAFFIC, *Jan.—Sept.*, 1863.

Total Capital Expended Mlns.	Railway.	For the (£100). Price on 2nd Sept.	1st Aug.	2nd July.	Miles Open. '63.	'62.	Total Traffic first 39 Weeks. (unit 000's omitted.) '63.	'62.	Traffic pr. Mile pr. Wk. 39 Weeks. '63.	'62.	Dividends per Cent. for Half Years. 30 Jun. '63.	31 Dec. '62.	30 Jun. '62.
£					No.	No.	£	£	£	£	s. d.	s. d.	s. d.
48,0	Lond. & N.Westn.	101	102⅜	102⅜	1,204	1,165	3,654,	3,510,	77	67	42 6	55 –	37 6
41,6	Great Western	67¼	67¼	65⅛	1,056	1,035	2,299,	2,273,	58	58	20 –	30 –	5 –
14,9	„ Northern....	125	128	128¼	351	351	1,097,	1,075,	85	81	42 6	85 –	45 –
20,2	„ Eastern ...	50⅞	53⅜	53	663	644	1,130,	1,096,	45	44	12 6	25 –	20 –
10,7	Brighton	114	117½	119	261	341	745,	751,	71	79	50 –	70 –	50 –
14,7	South-Eastern ...	93⅛	92⅜	91⅞	306	306	886,	888,	67	68	45 –	60 –	42 6
14,3	„ Western ...	102¼	106¼	106	450	400	869,	796,	45	47	45 –	60 –	40 –
164,4		93¼	95¼	95¼	4,292	4,142	10,680,	10,389,	64	63	36 9	55 –	34 3
22,4	Midland.....	127	129	129	641	614	1,607,	1,531,	65	50	57 6	65 –	55 –
19,6	Lancsh. and York.	113⅜	114⅜	112½	395	395	1,358,	1,281,	86	82	42 6	40 –	37 6
12,3	Sheffield and Man.	43⅞	45	46⅛	239	239	590,	544,	64	58	—	—	—
30,8	North-Eastern	101⅜	103¼	102⅞	1,095	1,077	1,794,	1,688,	47	47	42 6	50 –	42 6
85,1		96⅜	96⅞	97⅜	2,370	2,326	5,349,	5,044,	65	57	47 6	51 8	45 –
9,1	Caledonian	121⅜	121¾	118½	234	234	650,	614,	71	66	52 6	60 –	50 –
5,4	Gt. S. & Wn. Irlnd.	100	102	103	354	329	320,	315,	25	25	42 6	50 –	50 –
264,2	*Gen. aver.*....	96⅞	98⅜	98⅛	7,251	7,031	16,999,	16,362,	62	59	38 –	50 –	35 9

Consols.—Money Prices 1*st Sept.*, 93⅛ to 93⅛,—1*st August*, 92⅞ to 93⅛,—1*st July*, 92, 92¼.
Exchequer Bills. „ 1*s.* d. to 2*s.* pm. „ 2*s.* p. „ 4*s.* d. to par.

BANK OF ENGLAND.—Weekly Return.

Pursuant to the Act 7th and 8th Victoria, c. 32 (1844), *for Wednesday in each Week, during the* Third Quarter (*July—Sept.*) *of* 1863.

[0,000's omitted.]

1	2	3	4	5	6	7
Issue Department.					Collateral Columns.	
Liabilities.	Dates.	Assets.				
Notes Issued.	(Wednesdays.)	Government Debt.	Other Securities.	Gold Coin and Bullion.	Notes in Hands of Public. (Col. 1 minus col. 16.)	Minimum Rates of Discount at Bank of England.
£ Mlns.	1863.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	1863. Per ann.
28,87	July 1	11,02	3,63	14,22	21,14	21 May 4 p. ct.
28,61	,, 8 ...	11,02	3,63	13,96	21,36	
28,54	,, 15	11,02	3,63	13,89	21,54	
28,42	,, 22	11,02	3,63	13,77	21,61	
28,56	,, 29 ...	11,02	3,63	13,91	21,19	
28,68	Aug. 5	11,02	3,63	14,03	21,68	
28,82	,, 12	11,02	3,63	14,17	21,26	
28,90	,, 19	11,02	3,63	14,25	21,32	
29,13	,, 26	11,02	3,63	14,48	20,99	
29,38	Sept. 2	11,02	3,63	14,73	21,19	
29,19	,, 9	11,02	3,63	14,53	20,93	
29,33	,, 16	11,02	3,63	14,68	20,77	
29,30	,, 23 ...	11,02	3,63	14,65	20,75	
29,23	,, 30 ...	11,02	3,63	14,56	21,52	

Banking Department.

8	9	10	11	12	13	14	15	16	17	18
Liabilities.					Dates.	Assets.				Totals of Liabilities and Assets.
Capital and Rest.		Deposits.		Seven Day and other Bills.		Securities.		Reserve.		
Capital.	Rest.	Public.	Private.		(Wdnsdys.)	Government.	Other.	Notes.	Gold and Silver Coin.	
£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	1863.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.
14,55	3,20	10,36	16,27	,60	July 1	11,05	25,34	7,73	,85	44,98
14,55	3,21	5,59	18,60	,66	,, 8	11,05	23,50	7,23	,86	42,64
14,55	3,28	4,95	16,38	,66	,, 15	11,05	20,90	7,00	,86	39,82
14,55	3,30	5,39	14,66	,63	,, 22	11,00	19,87	6,81	,85	38,55
14,55	3,32	5,63	14,44	,63	,, 29	11,00	19,37	7,37	,83	38,58
14,55	3,42	5,58	13,79	,67	Aug. 5	11,03	19,15	7,00	,82	38,01
14,55	3,43	5,75	13,58	,68	,, 12	11,09	18,47	7,56	,87	37,99
14,55	3,45	6,13	13,00	,68	,, 19	11,09	18,32	7,58	,83	37,82
14,55	3,41	6,71	12,81	,70	,, 26	11,09	18,13	8,14	,83	38,19
14,55	3,67	6,82	13,26	,73	Sept. 2	11,09	18,99	8,19	,76	39,04
14,55	3,71	7,00	12,90	,72	,, 9	11,09	18,73	8,26	,81	38,89
14,55	3,72	7,37	13,48	,71	,, 16	11,09	19,41	8,56	,78	39,84
14,55	3,72	8,29	12,86	,76	,, 23	11,14	19,72	8,55	,78	40,19
14,55	3,73	9,27	13,72	,79	,, 30	11,14	23,51	7,71	,70	38,15

CIRCULATION.—Country Banks.

Average Amount of Promissory Notes in Circulation in England *and* Wales, *on Saturday, in each Week during the* Third Quarter (*July—September*) *of* 1863; *and in* Scotland *and* Ireland, *at the Three Dates, as under.*

England and Wales.				Scotland.				Ireland.		
Dates.	Private Banks. (Fixed Issues, 4·27.)	Joint Stock Banks. (Fixed Issues, 3·30.)	Total. (Fixed Issues, 7·57.)	Three Weeks, ended	£5 and upwards.	Under £5.	Total. (Fixed Issues, 2·75.)	£5 and upwards.	Under £5.	Total. (Fixed Issues, 6·35.)
1863.	£ Mlns.	£ Mlns.	£ Mlns.	1863.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.
July 4	3,09	2,83	5,93							
,, 11	3,11	2,83	5,95							
,, 18	3,08	2,80	5,88							
,, 25	3,02	2,71	5,80	July 25	1,56	2,60	4,16	2,66	2,33	4,99
Aug. 1	3,01	2,75	5,76							
,, 8	3,00	2,76	5,77							
,, 15	2,98	2,77	5,75							
,, 22	2,96	2,78	5,74	Aug. 22	1,53	2,58	4,11	2,60	2,27	4,88
,, 29	2,97	2,78	5,75							
Sept. 5	3,00	2,79	5,79							
,, 12	3,04	2,82	5,87							
,, 19	3,09	2,87	5,96	Sept. 19	1,18	2,62	4,10	2,64	2,40	5,04

FOREIGN EXCHANGES.—*Quotations as under,* London *on Paris, Hamburg & Calcutta; —and New York, Calcutta, Hong Kong & Sydney, on* London—*with collateral cols.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Paris.				Hamburg.				Calcutta.				
Dates.	London on Paris.	Bullion as arbitrated.		Prem or Dis on Gold per mille.	London on Hambg.	Bullion as arbitrated.		New York.	India Council	At Calcutta on London.	Hong Kong.	Sydney.	Standard *Silver* in bars in London.
	3 m. d.	Agnst. Engd.	For Engd.		3 m. d.	Agnst. Engd.	For Engd.	60 d. s.	60 d. s.	6 m. s.	6 m. s.	30 d. s.	pr. oz.
1863.		pr. ct.	pr. ct.			pr. ct.	pr. ct.	pr. ct.	*d.*	*d.*	*d.*	pr. ct.	*d.*
July 4 ..	25·52	—	0·2	½ pm	13·8½	—	0·2	156½	23⅝	24⅝	58½	1 p.	61
,, 18 ..	·57	—	0·3	,,	·8⅝	—	0·3	160½	,,	,,	,,	,,	61¼
Aug. 8 ..	·60	—	0·3	1 pm	,,	—	—	139	,,	24⅛	,,	,,	61⅛
,, 22 ..	,,	—	0·4	,,	,,	—	0·7	139½	,,	24⅝	,,	,,	,,
Sept. 5 ..	·57	—	0·3	1½ ,,	·9	—	,,	138	,,	,,	,,	,,	61¼
,, 19 ..	,,	—	,,	½ ,,	·8¾	—	0·8	145	23¾	,,	57¾	,,	,,

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YEAR 1863.

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