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REPORT  
OF THE  
SMALLPOX COMMISSIONERS,  
APPOINTED BY GOVERNMENT

WITH  
AN APPENDIX,  
CALCUTTA, 1st JULY 1850.

~~~~~  
Printed by Order of Government.  
~~~~~

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1850.



# EXTRACT

FROM

## GOVERNMENT GENERAL ORDERS,

*Fort William, 12th March, 1850.*

“APPOINTMENTS BY THE HON'BLE THE DEPUTY GOVERNOR  
OF BENGAL.

“The following Gentlemen to be a Committee for  
the purpose of enquiring by what means the exten-  
sion of Smallpox can be prevented, or rendered less  
destructive.

“SENIOR SURGEON GEORGE LAMB, - *Physician General.*

“SENIOR SURGEON JOHN FORSYTH, - *Secretary, Medical Board.*

“SURGEON DUNCAN STEWART, M.D., *Superintendent General of Vaccine  
Inoculation.*

“BABOO RUSSOMOY DUTT, - - - - *Judge of the Small Cause Court.*

“PUNDIT MODOOSOODUN GOOPTO, - *Lecturer on Anatomy in the Me-  
dical College.*

“BABOO RAMGOPAUL GHOSE, - - - - *Merchant and Agent.*

“MR. W. T. LAW, - - - - - *Superintendent of Police.*

“(Signed) J. P. GRANT,

*“Secretary to the Government  
of Bengal.”*

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## REPORT.

THE SPECIAL COMMITTEE appointed by Government on the 12th of March 1850, for the purpose of "enquiring by what means the extension of Smallpox can be prevented, or rendered less destructive," and who were empowered to Report thereupon, have endeavoured, by examination of witnesses, and by addressing circular sets of Queries in printed forms, (Appendix page xxvii) to a number of Professional and other persons in different parts of the Town and Country; *First*, to obtain full and authentic information relative to the appearance or manner of Introduction of the Disease into Town, and the Mortality caused by it among different Classes of the inhabitants in different Localities; *Secondly*, to discover the circumstances which seem to have favored or promoted the Spread or Extension of the Disease among the population; *Thirdly*, to ascertain the efficiency or otherwise of the means now employed to Lessen or Prevent its destructiveness; and *Fourthly*, to enquire into the expediency of abolishing Smallpox Inoculation (as being often useless to the individual seeking this protection, and always fraught with danger to the public,) and to suggest Measures calculated to promote the more general adoption and better success of Vaccination.

2. A mass of written evidence on these heads, obtained from the Offices of the Medical Board and of the Superintendent of Calcutta Police, from the Medical Officers of several of the large Dispensaries and Town Hospitals, from Civil Surgeons and Sub-Assistant Surgeons in charge of Jail Hospitals and Dispensaries in the Mofussil, from the Pundits of the Colleges of Nuddea and Benares, the Sanscrit College of Calcutta, and the Sudder Court of Dewanny Adawlut, are given at full length in the Appendix.

3. After carefully analysing and considering the evidence before them, the Committee have unanimously agreed to the following REPORT.

### History and Statistics.

4. Within the last 18 years, the Smallpox appears to have visited Calcutta in an Epidemic form not less than four times, each Epidemic lasting for about 12 or 16 months; while during the intervening period the complaint seemed to almost entirely disappear.

Its sudden re-appearance so often in a populous and wealthy city, at a particular season, and when the surrounding villages were perfectly free from the disease, would lead to the suspicion that the occurrence has not been wholly owing to accidental or natural causes.

5. The present Epidemic has very far exceeded all its predecessors both in fatality and duration.

That of 1832-33 carrying off 2,814 in 16 months.

of 1837-38	ditto	1,548	ditto.
of 1843-44	ditto	2,949	ditto.
of 1849-50	ditto	6,100	ditto.

Throughout its progress, however, it has preserved a striking analogy in all its leading features to the three preceding Epidemics, which furnishes the hope that it is now (1st July) on the decline, and will speedily disappear from among us altogether: yet it must be owned that a very general and profound anxiety still prevails regarding the Causes of its exceeding violence and mortality on this occasion, not unmixed with an apprehension lest the Disease should be about to become permanently domiciled in this city, and its inhabitants be left without any adequate protection against it. Nor can this panic be wondered at, when the fact is known that during the past 18 years (a period which included no less than three violent and fatal Epidemics) the average annual mortality, by Smallpox in Calcutta, did not exceed 581, while the deaths caused by that disease alone during the three months of January, February and March of the present year amount to 3,329, among a Native Population estimated at 387,398.\*

6. The commencement of the present Epidemic in Calcutta may be said to date from the occurrence of eight fatal cases in the month of November 1848. Not a single casualty from the complaint had taken place in the preceding month, only four in September, and but

\* *Cholera and Smallpox in Calcutta*:—"The Indian papers state that the Smallpox and Cholera have occasioned great mortality at Calcutta. It is a singular proof of the utter indifference to human life which is characteristic of the East, that an Epidemic, whose ravages would throw London into consternation, has scarcely been noticed even in the public journals. Estimating the destruction caused by the Smallpox at 400 a week, which we believe to be under the truth, the number of deaths in the British metropolis would be, allowing for the difference of population, 2,800 a week, and we need not say that such an entry in the bills of mortality would throw the population of London into a frenzy of terror."—*London Medical Gazette*, 17th May, 1850.

two in August. It became a matter of much interest to trace, if possible, the history of these eight cases so as to ascertain whether or not the disease was brought into the town by casual immigrants, or by the Inoculators; or whether it burst out suddenly in some of the many filthy purlieus of the Native town, where the seeds of that and every other pestilence find constant shelter: all that we have been able, however, to learn regarding them is the following particulars:

Names.	Years of Age.	Residence in Calcutta.	Caste.	Duration of illness.
1 Soores Chunder, - - -	3	Simlah, - -	Koyisto, -	14 Days.
2 Issur Chunder, - - -	30	Simlah, - -	Koyisto, -	9 Days.
3 Woma Churn, - - -	16	Amratollah, -	Brahmin, -	15 Days.
4 Coylash, - - - - -	50	Simlah, - -	Koyisto, -	11 Days.
5 Tobeeboolah, - - -	12	Mirzapore, -	Sheike, -	22 Days.
6 Beebee Bunnoo, - - -	20	Machoa Bazar, -	Sheike, -	15 Days.
7 A Child, - - - - -	1	Mirzapore, -	Sheike, -	14 Days.
8 Tunnoo, - - - - -	8	Sootanooty, -	Sheike, -	5 Days.

As respects the *Origin* of the complaint however, the Committee do not concur in the opinion "that Smallpox breaks out *spontaneously* in all parts of India every year," for although it has not been found possible to ascertain whether these eight individuals, and others who probably had the disease at the same time, but in a more favourable form, were Inoculated for it, or contracted it naturally, that is to say, by direct contact with individuals affected, or by the indirect agency of the infected atmosphere, the majority of the Committee incline to believe, with the great Boerhave, that "Smallpox is, in all cases, the produce of a specific poison derived from some one already laboring under the malady," which poison may remain for

a length of time dormant or latent till particular circumstances favour its development.

7. Whether this view of the *Origin* of Smallpox be correct or otherwise, abundance of evidence has been laid before the Committee to shew that as well by INOCULATION, by CONTAGION and by EPIDEMY the disease was subsequently diffused, and that it proved extensively and equally fatal in whatever mode produced. Indeed, the very rapid spread of the disease after its appearance in town as indicated by its daily increasing mortality, is not to be accounted for by reference to any *one* of these three Causes singly; and the Committee have anxiously endeavoured, by collating the evidence before them, to estimate, rather than to decide positively what share each of the three abovenamed Causes may have had in establishing and spreading the disease among different classes of the inhabitants.

8. Mr. Daly, who is House Surgeon of the Medical College Hospital and in charge of the Out-door Dispensary attached thereto, and who has thus had the best means and opportunities of studying the character and progress of the Epidemic among the middling and lower Classes of inhabitants in that populous neighbourhood, reports that the disease made its first appearance thereabout in the beginning of November 1849, but was known to have been prevailing in the Native part of the town for months previously, having travelled westward through Jessore, over a large tract of country between Calcutta and Dacca, in which city, according to Dr. Wise's interesting Statement in the Appendix, (page cxxii) it has made extensive ravages.

9. The Cases which occurred in November were chiefly of the malignant and confluent form, but the Disease at that time was confined to individuals among the poorer Classes of Natives who were *unprotected* by any previous prophylactic. It soon however began to spread more generally through all ranks of the Native population, and in the early part of December made its appearance among the lower order of Portuguese Christians residing in Sibtollah, Coolootollah, Mirzapore, Mullungah, and the various lanes and gullies in the vicinity of Bow Bazar, a class of persons whom Mr. Daly states, from his own knowledge, to be proverbially negligent and careless in the matter of Vaccination. The attacks were, in the first instance, principally among children and young persons who had not been Vaccinated, but subsequently as the contagion increased and became established in these crowded and unhealthy Localities, its ravages were extended to people of all ages and conditions in the immediate neighbourhood, and the old as well as the young, the rich and the poor, all alike, fell victims to the irresistible violence of the disease. From December to the end of March the pestilence continued to increase and extend its ravages on every side, but more especially throughout the Native part of the town, where its chief violence appeared to have been expended. Towards the end of April the Epidemic began to decline, but cases of a severe form still occur up to the present moment.

10. In Dr. Stewart's Annual Report on Vaccination to the Medical Board for 1838, we find it stated that: "Taking the Census of Calcutta made in 1837, to be correct, and the average of six years as afford-

ing a fair estimate of the Mortality, the annual mortality of Hindoos by Smallpox is .295 per cent., or one in 339; that of Mahomedans is only .128 per cent., or one in 782. Out of 100 *deaths* of Hindoos, five and a half are caused by Smallpox; in 100 *deaths* among Mahomedans, the number caused by Smallpox is six."

11. The annexed **Table A** exhibits at one view the mortality caused by each of the four recent visitations of Smallpox among the Hindoo and Mahomedan population of Calcutta, for each month, during the 18 past years.

**Table B** exhibits among the Native population of Calcutta the Sex of those who died of Smallpox, and the Ages at which the disease proved most fatal during the late Epidemic, *i. e.*, from 1st January 1849 to 1st June 1850.

**Table C** exhibits the fatality of the disease among the native population in each Police Division and Section of the Town, for the same period.

**Table D** exhibits the deaths caused by Smallpox among the Christian inhabitants (including European, American, and Anglo-Indian, from 1st December 1849 to 1st June 1850.)

**Table E** exhibits the monthly *Mortality by all Diseases* from 1st January 1849 to 1st July 1850; in a second column the corresponding mortality by Smallpox, and in a third column the ratio of mortality by Smallpox, in 100 deaths by all diseases.

**Table F** exhibits the Native population in every Police Thannah on the 1st of June 1850;—the mortality caused by Smallpox during the preceding six months in the same Localities; and the ratio of mortality in 1,000 then *surviving*.



Tables G and H exhibit the results of a Census of the Town Population taken during the month of May, by Mr. Law, with the sanction of Government, at the request of this Committee.

Table I is a statement showing the number of day-laborers who *enter* the town, probably every morning, and return daily to their residences in the suburbs at night.

Table A.

Shewing the Mortality by Smallpox among the Natives of Calcutta, for every month, during a period of Eighteen Years.

Months.	1832.	1833.	1834.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.
January, .....	16	321	0	1	1	1	73	10	0	0	1	0	85	1	1	1	0	97	727
February, .....	18	408	1	10	0	5	166	0	0	6	1	1	455	2	8	1	3	91	1214
March, .....	22	644	3	6	1	19	321	22	5	17	7	9	963	14	24	9	23	214	1388
April, .....	76	636	14	13	0	32	506	27	5	14	5	21	756	26	25	11	22	311	737
May, .....	104	293	6	11	12	55	250	13	4	4	6	19	375	5	13	8	16	224	316
June, .....	72	119	4	6	1	49	123	2	0	8	1	55	132	6	2	0	6	175	85
July, .....	63	93	6	6	0	44	45	0	7	1	1	107	47	3	3	1	5	119	
August, .....	42	17	0	0	0	20	19	2	0	2	0	15	13	5	1	1	2	53	
September, .....	100	6	0	0	0	6	3	1	0	1	0	12	6	2	1	1	4	35	
October, .....	47	10	1	0	1	3	1	4	0	3	1	16	2	1	0	0	0	44	
November, .....	44	0	1	0	0	1	0	0	1	0	1	13	4	0	0	0	8	47	
December, .....	75	1	0	0	0	31	0	0	0	0	1	68	2	2	0	0	18	314	
Total, .....	679	2548	36	53	16	266	1507	81	22	56	25	336	2840	67	78	33	107	1724	

Table B.

Shewing the Ages of 6,100 fatal Cases of Smallpox; 3,809 Males and 2,291 Females.

Months and Years.	Years of Age.											Remarks.				
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50		50 to 55	55 to 60	60 to 100	
1849.																
January, ... ..	3	31	27	11	7	9	6	1	2	0	0	0	0	0		
February, ... ..	3	36	14	4	6	6	12	5	2	0	2	0	1	0		
March, ... ..	8	69	33	17	31	23	14	5	7	1	3	1	2	0		
April, ... ..	21	112	59	24	38	18	16	7	7	0	5	0	0	4		
May, ... ..	12	84	44	14	21	8	16	3	12	0	5	0	3	2		
June, ... ..	3	52	34	20	27	19	8	2	3	2	4	0	1	0		
July, ... ..	2	44	30	8	9	10	7	4	1	0	0	2	0	2		
August, ... ..	2	21	13	4	5	2	4	0	2	0	0	0	0	0		
September, ... ..	2	14	6	1	3	3	3	1	0	2	0	0	0	0		
October, ... ..	1	15	9	2	7	3	4	1	2	0	0	0	0	0		
November, ... ..	2	16	12	3	1	9	2	0	2	0	0	0	0	0		
December, ... ..	16	87	55	20	37	30	36	8	9	2	3	0	0	1		
1850.																
January, ... ..	31	174	114	86	122	74	56	13	32	7	5	3	1	4		
February, ... ..	113	278	215	137	174	119	73	24	50	5	14	0	7	5		
March, ... ..	140	404	234	138	185	136	77	34	27	1	8	0	2	2		
April, ... ..	105	237	125	58	77	50	31	12	20	3	12	0	3	4		
May, ... ..	19	107	57	26	22	16	27	14	6	6	0	5	1	4		
Total, ... ..	483	1781	1081	583	772	540	392	134	184	29	61	11	21	28	6100	

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Table C.

Shewing the number of Deaths by Smallpox among the Natives in different localities of the City for Seventeen Months.

Months and Years.	Northern Division.						Middle Division.						Southern Division.						Remarks.
	Jorasaniko Station.	Coomartolly Section.	Shamooker Section.	Burtollah Section.	Sukeas' Street Section.	Jorabagan Section.	Bow Bazar Section.	Burra Bazar Section.	Colootollah Section.	Mochepara Section.	St. James' Street Section.	Mango Lane Section.	Park Street Section.	Fenwick Bazar Section.	Tollah Section.	Collingah Section.	Bann Baste Section.	Cooly Bazar Section.	
1849.																			
January, ...	4	1	5	26	28	2	2	0	2	14	13	0	0	0	0	0	1	0	
February, ...	2	3	7	18	24	3	4	4	6	1	9	4	0	0	2	5	4	0	
March, ...	12	20	8	30	26	7	10	16	16	9	60	7	0	0	3	3	0	0	
April, ...	8	44	19	41	10	7	13	34	17	16	71	3	0	1	7	6	7	0	
May, ...	17	34	20	25	19	4	10	16	6	36	47	6	0	2	2	2	0	0	
June, ...	9	39	11	23	4	7	8	8	10	24	36	1	0	0	5	0	0	0	
July, ...	1	21	12	15	4	2	4	1	4	10	24	0	0	0	1	3	0	0	
August, ...	1	8	6	6	4	2	4	2	0	2	1	0	0	0	0	0	0	0	
September, ...	3	6	4	3	2	5	2	2	5	6	2	1	0	0	5	1	0	0	
October, ...	4	3	5	5	3	5	0	2	2	6	1	1	0	0	3	0	1	0	
November, ...	1	2	4	9	0	5	2	6	3	12	2	0	0	0	1	9	2	0	
December, ...	5	36	18	16	15	25	32	39	33	28	3	3	0	32	13	9	0	0	
1850.																			
January, ...	38	40	53	31	7	70	73	66	88	131	49	2	0	27	39	20	2	0	
February, ...	50	95	73	69	27	85	136	79	104	233	88	9	1	32	75	69	9	0	
March, ...	65	128	120	98	54	124	123	30	130	199	149	2	1	25	65	57	20	0	
April, ...	24	105	84	67	45	60	29	25	77	74	80	3	0	5	19	30	10	0	
May, ...	6	33	45	34	26	18	16	2	30	56	7	0	0	1	7	16	10	3	
Total, ...	250	618	523	516	298	440	481	343	546	991	399	19	3	134	256	219	59	4	6100

[ 11 ]

Table D.

Return of Deaths by Smallpox among the Christian Inhabitants of Calcutta during the Epidemic of 1849 and 1850.

Months.	Males.							Females.							Grand Total.				
	Total Males.							Total Females.											
	Age 1 Year.	5	10	15	20	25	30	40	50	Age 1 Year.	5	10	15	20		25	30	40	50
1849.																			
December, ... ..	2	2	1	0	0	2	0	0	7	1	0	2	2	1	1	0	0	0	7
1850.																			
January, ... ..	6	10	1	2	3	3	4	2	1	32	10	9	5	3	4	2	3	1	40
February, ... ..	7	13	12	4	7	4	10	2	1	60	7	11	7	4	3	5	3	0	45
March, ... ..	14	20	11	3	1	4	5	1	0	59	6	10	2	1	5	6	3	2	35
April, ... ..	6	5	1	1	0	2	4	0	1	20	0	2	2	2	1	0	1	0	8
May, ... ..	3	5	0	0	0	0	2	0	0	10	0	2	2	1	0	2	0	1	8
Total, ... ..	38	55	26	10	11	15	25	5	3	188	24	34	20	13	14	16	8	2	143
																			331

Table E.

Shewing the Mortality among Natives by all Diseases, the Mortality by Smallpox and the ratio of Mortality in each Month.

Months.	1849.				1850.			
	Deaths by all Diseases.				Deaths by all Diseases.			
	Deaths by all Diseases.	Deaths by Smallpox.	Ratio in 100 Deaths.	Ratio in 100 Deaths.	Deaths by all Diseases.	Deaths by Smallpox.	Ratio in 100 Deaths.	Ratio in 100 Deaths.
January, ... ..	1112	97	8.72	...	1656	727	...	43.9
February, ... ..	915	91	9.94	...	1877	1214	...	64.67
March, ... ..	1152	214	18.57	...	2403	1388	...	57.76
April, ... ..	1291	311	24.09	...	1796	737	...	41.03
May, ... ..	1305	224	17.16	...	1150	316	...	27.47
June, ... ..	979	175	17.87	...	648	85	...	13.11
July, ... ..	881	119	13.5	...	...	...	...	...
August, ... ..	1027	53	5.16	...	...	...	...	...
September, ... ..	876	35	4	...	...	...	...	...
October, ... ..	938	44	4.69	...	...	...	...	...
November, ... ..	1291	47	3.64	...	...	...	...	...
December, ... ..	1692	314	18.55	...	...	...	...	...
Total, ... ..	13459	1724	12.809	...	9530	4467	...	46.86

**Chile**

Shewing the total Surviving Native Population, in different Localities on the 1st of June 1850, the Native Mortality by Smallpox during the preceding Six Months, the ratio of Mortality by Smallpox to Population in each Division and Thannah.

Population, ..... Smallpox Deaths, Ratio in 1000 ...	Northern Division.						Middle Division.						Southern Division.					
	Jorasaniko.	Coomartolly.	Shambooker.	Burtollah.	Sukeas' Street.	Jorabagann.	Bow Bazar.	Burra Bazar.	Colootollah.	Mochhepara.	St. James' Street.	Mangoe Lane.	Park Street.	Henwick's Bazar.	Totollah.	Collingah.	Bannu Bustee.	Cooley Bazar.
42188	34609	19225	39320	11220	23315	13026	56659	28497	31726	13167	3084	1853	11456	18028	20708	5507	4712	
188	437	393	315	174	382	409	241	462	701	376	16	2	112	218	201	51	3	
4.45	12.62	20.44	8.	15.5	16.38	31.39	4.25	16.21	22.09	28.55	5.1	1.07	9.77	12.04	9.74	9.26	6.36	

# Abstarct.

Division.	Population.	Deaths by Smallpox.	Ratio in 1000.
Northern,...	... 169877 ...	... 1889 ...	... 11.17 ...
Middle,...	... 146157 ...	... 2205 ...	... 15.086 ...
Southern,...	... 62264 ...	... 587 ...	... 9.42 ...

# Table

*Population of Calcutta by Census of May 1850, shewing the different Classes, (Sex and Age,) in three Divisions of the Town.*

	Northern Division.							Middle Division.							Southern Division.										
	Male.			Female.				Male.			Female.				Male.			Female.							
	Under 5 years.	Above 5 and under 20.	Above 20 and under 40.	Under 5 years.	Above 40.	Under 5 years.	Above 5 and under 20.	Above 20 and under 40.	Under 5 years.	Above 5 and under 20.	Above 20 and under 40.	Under 5 years.	Above 5 and under 20.	Above 20 and under 40.	Under 5 years.	Above 5 and under 20.	Above 20 and under 40.	Under 5 years.	Above 5 and under 20.	Above 20 and under 40.					
Europeans, ...	4	1	10	2	5	5	5	1	395	605	980	423	333	348	481	179	201	444	483	243	165	464	323	133	6,233
Turians, ...	12	13	35	2	12	21	22	5	215	312	466	178	173	280	448	109	190	609	278	139	163	455	339	159	4,615
Armenians, ...	1	0	3	0	0	0	1	0	172	151	132	39	118	131	112	31	1	0	0	0	0	0	0	0	892
Chinese, .....	0	0	0	0	0	0	0	0	50	86	421	141	39	46	43	19	0	1	0	0	1	0	0	0	847
Asiatics, .....	36	67	69	63	22	38	41	21	989	1118	1993	1544	874	1141	1757	1705	480	614	863	139	330	350	638	395	15,342
Hindoos, .....	9318	18519	30771	17757	8514	10203	24213	14052	6809	17576	31098	15521	4750	8155	12093	6312	2370	4412	8901	2807	1033	2689	4127	1940	2,74,335
Mahomedans,	1352	6720	8052	2852	1351	2709	2746	1079	3017	7397	11093	4080	2185	3229	3650	2568	3175	5724	13639	4368	2078	4598	8307	2026	1,10,918
Total, ...	10723	25326	36940	20646	9004	22066	27028	15778	11447	27245	46168	22835	8472	13340	19159	10983	6417	11804	24150	7096	4070	8856	13794	5553	4,13,182

(Signed) W. T. LAW,  
*Superintendent of Police.*



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# Table II.

[ 17 ]

	Northern Division.				Middle Division.				Southern Division.				Grand Total.
	Male.		Female.		Male.		Female.		Male.		Female.		
Europeans, ... ..	Entering by Roads and Bridges.	Entering by Ferry Boats.	Entering by Roads and Bridges.	Entering by Ferry Boats.	Entering by Roads and Bridges.	Entering by Ferry Boats.	Entering by Roads and Bridges.	Entering by Ferry Boats.	Entering by Roads and Bridges.	Entering by Ferry Boats.	Entering by Roads and Bridges.	Entering by Ferry Boats.	Total.
Natives, ... ..	15284	4591	4091	121	9167	4680	45	931	500	102	194	8	1196
	47	9	9	2	125	114	45	41	34682	323	6043	14	82165
	24154				17341				41866				83361

(Signed) W. T. LAW,  
Superintendent of Police.

12. To derive any very useful results from these Tables, the actual resident population in each locality, and of both sexes, and of every age *living at the outbreak* of the Epidemic should have been known; as also the amount of protection shared among the population, and possessed by the individual victims of the disease, whether fatal or not, from Vaccination or Inoculation; but these facts it was obviously impossible to ascertain with any degree of accuracy; and the Committee can do no more than state generally their opinion derived from the foregoing Statistical data; *first*, that certain districts of the town, which are notorious for their crowded, filthy, ill-ventilated and ill-drained condition were the chief receptacles and hotbeds of this contagious disease; *secondly*, that the poor, the ill-fed, and scantily clad Natives were the greatest sufferers from it; *thirdly*, that the very young were the first because the feeblest victims, and that both sexes seem equally susceptible and equally influenced by Epidemic agencies; *fourthly*, that the progress and violence of Epidemic Smallpox in Calcutta is greatly and uniformly affected by the course of the Seasons.

13. The Committee lament being obliged to declare their inability to elicit any statistical information whatever relative to the sanitary condition of the native population generally, or to the effects of Smallpox and other Epidemic diseases upon Mortality among the native inhabitants of any of the large and populous cities of Bengal excepting Calcutta; although from the topographical position of most of these, upon the banks of the Holy River, into which the dead bodies of *all* Hindoos, of every caste, are

necessarily consigned, (not at random, but at specified, established and *licensed* Ghats only,) nothing would appear to be easier, (and nothing more proper even as a Police Regulation) than to obtain and to record all information derivable on the spot, regarding the "cause of death," the "duration of the illness," the "name of the deceased," his "age," "parentage," and "residence," &c. &c., just as is done at the various Public Ghats and Burial Grounds of Calcutta, and has been done for the last 50 years, if not before. The passive antagonism of Native Usage, and the "cold obstruction" of Official indifference to any matter which does not present itself in the form of an *order* from the Board of Revenue, have set limits to their enquiries which were not anticipated, but which they were not competent to overcome.

14. The *general character* of the disease, during the past 16 months, as shown by the Reports of Cases treated in the Police and General Hospitals, does not appear to have been different from that of the previous Epidemics. The majority of cases occurring among Europeans were "*modified*" by previous Vaccination; but among the Native patients, unprotected either by Inoculation or Vaccination, the disease often assumed its most malignant type; 57 cases were treated in the Smallpox Hospital by Dr. Woodford, Police Surgeon, of which 40 died, 11 were discharged cured, and 6 remained under treatment, only one of the whole number had been vaccinated and one inoculated; 20 were Mahomedans, 31 Hindoos, and 6 Native Christians; 15 were females and 42 males; all were adults, but one a boy aged 7. They were all of the poorest and most miserable class, and had mostly been eight or ten days

ill before they were found and carried by the Police to Hospital. Apart from the pleasing reflection that these destitute creatures here found refuge and relief, it must always be a sufficient reason for the early establishment and opening of at least one Smallpox Hospital in times of pestilence, that thereby a certain number of its victims are placed in quarantine, and so many sources of infection and danger will be thus withdrawn from the crowded population of the metropolis.

15. The cases treated in the General Hospital, under Messrs. Macpherson and Cantor, were all Europeans, chiefly seamen from the shipping, recruits or invalid soldiers from the Barracks, and a few townsmen. The number admitted from December 1849 to 1st May 1850 has been 76, whereof 20 died and 56 recovered. Dr. Macpherson divides the cases into 46 mild or modified, and 30 severe or confluent; of these latter cases 12 are stated to have been vaccinated and exhibited good cicatrices; 13 had been vaccinated but the cicatrices were not well marked; 5 had not been vaccinated: as to Sex, all were male but 11; as to Age, there were 8 children under five years of age of whom 1 died; of the 8 children 2 were not vaccinated; about 1 in 4 has been the rate of mortality this season, very much the same as that of the Epidemic of 1844; and as was the case then, the Epidemic commenced in December, reached its climax by the end of the cold weather, and is now gradually diminishing.

In Her Majesty's 70th Regiment, quartered in Fort William for the past year, the strength of which, including women and children, was 1,168, only 5 cases have occurred, and these of *modified*

character, whereof only one died. (*Vide* Appendix page cxxvii).

### Epidemic Diffusion.

16. As regards the Epidemic spread of the disease, or its propagation by means of the atmosphere, it must be borne in mind that the infectious property of all animal miasms or emanations is greatly diminished, if not entirely destroyed by free dilution in the atmosphere; and that the constitution of the air in Epidemic seasons permits so very wide a diffusion of these germs, that it is impossible to fix with certainty the exact distance at which the Variolous or any other zymotic\* poison ceases to be energetic or effective; again, it is a well known and remarkable property of all animal poisons, that they will operate upon the healthy body without the aid of any predisposing causes whatever. A man for instance, in the most perfect health will contract Smallpox or Measles as readily as an invalid, and is even said by a high authority† to be "upon the whole more apt to take the Smallpox than those who are out of health."

17. To Epidemic influences chiefly does the Committee attribute the great prevalence of the disease lately among the *European* population of Calcutta; for in the first place it is known that to a great degree they were not exposed to the Contagion deriva-

\* *Zymotic* is the term applied to all diseases, Epidemic or Contagious, which "have the property of communicating their own action, and effecting analogous transformations in other persons."

† Dr. George Gregory.

ble from close personal intercourse with the Natives, among whom the disease mostly prevailed, and also that the residence of the great majority of the European inhabitants is in the South and Middle Divisions of the town, far removed from the Native Bazars; the ventilation is always free and uninterrupted, the dwelling-houses large and airy, with separate gardens and enclosures around each of them. In the second place, it is believed that among this class of persons not a single instance of Inoculation for Smallpox has occurred for many years. The Committee greatly regret, however, their inability to discover by any means the actual amount of mortality among the European and Christian population of Calcutta from the want of all Registration of Death, and of its causes, such as exists now in every town in England, and in most other civilized cities of Europe; nor, except from the records of the European General Hospital, to which but few townsmen resorted, has it been possible to learn what amount of *protection* the sufferers of this Class may have derived from previous Vaccination. A proximate estimate of the number of deaths among the Christian community from Smallpox during the past 6 months has been compiled (**Table D**) from the obituary notices published in the newspapers, and from the books of the several Undertakers in town. Including all ages, it is found to be not less than 331, of whom about one-half were children, but a very large portion of the remainder, were adults. The proportion of *deaths* to *seizures* is estimated as 1 in 5.

18. Epidemic influences have also tended greatly to promote the spread of the disease among the *Hindoo*

and *Mahomedan Native* population; and that this has been the chief cause of its prevalence and mortality among them, the Committee can have no doubt, since it is a well known fact that whenever the Smallpox makes its appearance in any of the great towns and populous villages of Bengal, during the Winter and Spring months, it spreads with Epidemic rapidity; thus showing that this Season is particularly favourable to its development; and the disease continues to rage with more or less violence until it is checked by the heat of April, the north-western winds of May, and the heavy rains of June and July, which prove strongly antagonistic to it, so that in September it generally has ceased entirely.

19. Nor is this peculiar effect of the climate and season confined to the Smallpox; for multiplied experience proves that its cognate disease *Vaccinia* is also subject to similar changes at the same Season, while others of the *Exanthemata* are found to be influenced by the seasons in a totally different manner; some of them (such as Measles) generally bursting out on the decline of Smallpox, and often attacking, with great violence, the convalescents from that disease. The following **Table** is quite conclusive as to the *influence* of *season* upon the Epidemic course of Smallpox; and it is the more remarkable, since the history of Smallpox Epidemics in Europe would seem to show that the disease is indifferent in that hemisphere to seasons, that the frosts of winter and the heats of summer are alike congenial to it, while on the coast of Africa, we are told, that the moist and sultry weather *succeeding* the rains is the most favourable for the development and diffusion of Smallpox.



**Table**

*Shewing the total Monthly Mortality by Smallpox during 18 successive years, from 1st May 1832 to 1st May 1850 inclusive.*

November, .....	120	March, .....	3689	July, .....	551
December, .....	512	April, .....	2846	August, .....	189
January, .....	1316	May, .....	1419	September, .....	181
February, .....	2372	June, .....	761	October, .....	134

**Contagion.**

20. To personal contact with the sick either in the exercise of the domestic virtues, or the fulfilment of domestic engagements, the spread of the disease among all Classes is secondly attributable. Among the Europeans and Anglo-Indians, the servants of an establishment, particularly those in attendance on the children, are the frequent carriers of infection into the household. Almost all the Mahomedan and many of the Hindoo servants of a family sleep and mess in their own obscure homes in the Bazar, returning to their duties only at the hours when their services are likely to be required; and in this way, should the Smallpox exist in their own dwelling or family, they are often attacked themselves, and must often have carried the infection into their Masters' household also. That this is one mode in which the disease enters families was strikingly shewn by the marked exemption from Smallpox in a large religious establishment, the Nunnery in Middleton Street, called Loretto House, where besides a great many female children who are educated by the Nuns, there resides a considerable number of these

devout ladies, who discharge for themselves and the other inmates, the whole of the household duties ordinarily left in India to Native servants, without the aid of a single domestic male or female: not one case of Smallpox occurred in this Institution until late in March 1850, and that proved a mild one, and did not spread the infection.

21. The very remarkable healthiness of the Native Troops and residents in the Garrison of Fort William, during the past 18 months, while Smallpox was decimating the surrounding population, is attributed by Dr. Montgomerie (Appendix page xlvii) mainly to the exclusion of all the known sources and carriers of contagion, by means of the admirable system of drainage and sewerage now effectively adopted within and around the walls of the Fort, and the strict enforcement of perfect cleanliness and a free ventilation of the Barracks. It has also been greatly owing to the careful avoidance by the Soldiers themselves of all unnecessary intercourse with the town people, and to their confining themselves entirely for the supply of their wants to the well-kept, and well-superintended Military market place called Coolie Bazar, in the neighbourhood of the Fort, which in consequence, doubtless of its excellent regulation, has been almost entirely free from the Smallpox this year, as on a former occasion. To the same causes undoubtedly, and to the general high discipline of that fine corps H. M.'s 70th Regiment, in respect of cleanliness of person, and healthful exercise in the open air, must be in a great measure, ascribed the almost entire exemption from Smallpox of this corps, which has garrisoned Fort

William during the whole of the past year; though to the inestimable protection and modifying power of Vaccination is owing the fact that but one casualty from the disease has occurred in the Regiment, mustering as it does 1,168 individuals, including women and children.

22. The effects of *contagion* were most perceptible, as was to be expected, among the poorer Natives living in the miserable, small, filthy, ill-ventilated and much crowded buildings of the Native town. The Localities of the City in which the greatest mortality occurred and in which the disease assumed its most malignant character, were found to be precisely those pointed out in Dr. Stewart's "Report on Vaccination to the Medical Board in 1838," and they are thus shown to be the permanent Storehouses of every pestilential disease, and likely so to continue until some great fire occurs, or some imperative necessity shall condemn them to utter and comprehensive destruction. In such crowded abodes the avoidance of immediate personal contact with the infected was quite impossible; yet many instances are known to Members of the Committee of downright refusal on the part of the unhappy dwellers in them to permit the removal of the infected, or to separate themselves from them, by quitting the loathsome tenements containing their dying relatives.

The following **Table** is from Dr. Stewart's Report above alluded to:

**Table**

*Showing the Native population and the mortality by Smallpox in ten of the most unhealthy Thanas of Calcutta in 1837:*

Thannahs.	Native Population.	Mortality by Smallpox.	Ratio of Mortality in 1000 living.
Baug Bazar, .....	5,080	32	6.32
Shampooker, .....	12,396	170	13.8
Churruckdangah, .....	4,661	42	9
Jorasanko, .....	4,868	33	6.93
Simlah, .....	9,380	103	11
Sukeas' Lane, .....	6,857	86	12.65
Machooa Bazar, ...	4,105	37	9
Coomartolly, .....	4,607	22	4.76
Hauteollah, .....	10,121	53	5.23
Jorah Bagan, .....	10,485	33	3.15
Cubberdangah, ...	6,628	20	3.02

23. It has been mentioned by some of our informants that the filthy clothing of the dead and dying, their furniture, the mats of their rooms, &c. passing into the hands of others, equally poor and wretched, have been fruitful distributors of Disease, and that the stench from the bodies before removal or during their carriage to and exposure on the banks of the river by the public scavengers often tainted the air and spread the malady among the neighbours and passengers, proving what has sometimes been doubted, that Death itself does not destroy the energy of the poison. (See the evidence of Baboo Comar K. K. Roy, Appendix page lxxix and that of Mr. J. Floyd, Appendix page xli.)

### Inoculation.

24. The third great cause of the diffusion of this fatal malady is Inoculation with the matter of Smallpox. The origin of this practice in Bengal we have been unable to trace, but there can be no doubt that it is of great antiquity, and that it is extensively practised by all classes of the native inhabitants of India, Hindoo and Mahomedan. From investigations by Dr. Wilson of Bauliah, Dr. Wise of Dacca, and others, it is probable that about 70 per Cent. of the population of Bengal are inoculated.

25. A popular belief exists, and has been industriously encouraged by designing persons, that the observance of this practice by Hindoos at some period of life is a religious duty, and its neglect criminal or at least disreputable. The Committee, therefore, instituted a most searching inquiry on this head, and have obtained distinct answers to the following Questions from the most orthodox, and most learned interpreters of Hindoo religious and law books, which, it is hoped, will settle the point for ever.

QUESTIONS SUBMITTED BY THE COMMITTEE ON SMALL-POX INOCULATION TO PUNDITS.

*Calcutta, 19th March, 1850.*

1st.—Is there in the holy Shasters any distinct commandment enjoining Smallpox Inoculation as a Religious duty; or recommending it as a commendable act?

2nd.—What religious or other observances are enjoined on those who are attacked by Smallpox?

3rd.—Is the omission to be inoculated considered a sin, or disreputable?

4th.—Is there in this world any penalty for the omission, or punishment in the next; and if so, how may it be atoned for?

5th.—Supposing it be proved that the Vaccine disease is really a modified form or variety of the Smallpox, should not all the religious ceremonies observed hitherto in cases of common Smallpox be attended to after Vaccination by good Hindoos?

26. The Replies to these questions received from the Pundits of Nuddea, who are considered to be the holiest and most orthodox of Hindoos, from the Pundits of the Benares College and of the Sanscrit College of Calcutta, as also from the Pundit of the Court of Sudder Dewanny Adawlut, are given at full length, and in their original language, in the Appendix. They are quite unanimous in declaring that although certain religious observances are proper or incumbent on all persons (being Hindoo) who contract Smallpox in any form, either casually, or by Inoculation, yet there is no sort of obligation, moral or religious, imposed by Hindoo law upon any one to subject himself or his children to the disease by practising Inoculation; moreover that neither penalty nor reproach is attached to its omission.

27. The following translation, by Dr. Ballantyne, of the Replies by the Benares Pundits, well embodies the entire of the evidence obtained on this head, and appears to the Committee quite conclusive on one point, hereafter alluded to, namely, the futility of the objections to putting down this murderous practice, on the score of its Religious character and its being a religious duty.

*Answer 1st.*—"There is no reference to Inoculation in the Holy books, but if the practice be calculated to save life, it must needs be praiseworthy.

*Answer 2nd.*—On the appearance of Smallpox, the Goddess *Situla* is to be worshipped by recitation of her praises and feeding of Brahmins.

*Answer 3rd.*—As neither praise nor blame is assigned to the practice of Inoculation in the Shastras, so neither is the practice in common life, regarded either with approval or disapproval.

*Answer 4th.*—In consequence of the absence in the Shastras of any injunction as regards Inoculation, of course there is no penalty with reference to it.

*Answer 5th.*—If it be ascertained that there is no (essential) difference between the ordinary Smallpox and the pustular disease which follows Vaccination, of course the ceremonies proper in the one case are proper in the other."

28. The Rajah of Nuddea, (Appendix page xv.) communicates the opinion of the most learned Hindoo Law Pundits of the Kishnaghur College on the above subject, and they are precisely the same as those of Benares. To question 5th the reply is somewhat equivocal, viz.

*Answer.*—"The performance of Cow-pox Inoculation is not attended with any religious hindrance to the fulfilment of Religious duties by the person so performing."

A more guarded Reply to the same query is that of the Sanscrit College Professors and Pundits, which is translated by the Secretary to that Institution, and runs thus: "In cases of *modified Smallpox* in a person who has been punctured in the English manner, the worship of *Situla* may be performed with all the usual formalities, she being the guardian Deity of Smallpox Diseases; such religious observances are necessary." But the most definite Answer is from the Pundit of the Sudder Dewanny Adawlut in Calcutta. "The Vaccine Disease is in reality a modification or

variety of Smallpox; such being the case virtuous Hindoos when vaccinated, should with veneration, faith and purity, observe the same religious ceremonies mentioned in my answer to the 4th question as they do when attacked with Smallpox." (Appendix page xxiii.)

29. The alleged efficiency of Inoculation, as a modifier of Smallpox, will be afterwards considered; the Committee desire here merely to present a brief Summary of the evidence obtained of its fatal energy as a Diffuser of the disease. From a multitude of written testimonies on this head which will be found in the Appendix, it may be enough to quote the following authentic facts as proving beyond doubt that the practice of Inoculation is by no means so harmless or safe a matter to the individual submitting to it, as has been generally alleged; but that it is destructive to a considerable number of those operated on, and produces in them a disease equally prolific of poisonous emanations as the Natural one, and is therefore, in the last respect as baneful in its effects on the population at large.

30. It was stated publicly some time ago in the *Bhaskur* (a respectable Bengally Newspaper) on the authority of its Editor, who since then pledges himself for the veracity and accuracy of his information, (Appendix page xxxvi.) that in the villages of Sonatikoree, Zillah Hooghly, nearly 1,000 boys and girls were inoculated this year of whom not less than 300 died, and the remainder after sometime have been pronounced out of danger. Again, in the village of Caderpore among 100 Children that were inoculated, more than 20 cases have terminated fatally.

Mr. Crawford, of the Chitpore Dispensary, reports—"a patient named Rohumally brought one of his



Children to the Dispensary for treatment of *ulcerated cornea* after Smallpox; he states that five Children had been inoculated in his house, when three of them took the Smallpox and died from its effects." (Appendix page lxxv.)

Baboo Issurchunder Singh of Paikparah, a village in the Suburbs of Calcutta, replies to a question regarding the fatality of Inoculated Smallpox. "To say nothing of other instances of the kind alluded to above, I know the poison propagating itself and producing death in my own family a few days after its introduction by a *Ticcadar*. There were three individuals attacked by the Smallpox, at the same time, of whom one recovered and two died." The same intelligent informant answers to another question, "as far as I am able to judge, the chief exciting cause which tends to set up Smallpox among the Hindoos of Calcutta, is the practice of Inoculation. This impregnates the atmosphere with poisonous exhalations from the bodies of the inoculated, and thus brings the disease home to the people already so liable to it, by the peculiar defects of the sanitary condition of the Town." He shrewdly adds—"suppose Smallpox arose of itself in Calcutta, it must have had a powerful auxiliary to back its progress in the practice of Inoculating, which the people resort to on the outbreak of the Epidemic. In fact, I am firmly convinced that the practice of Inoculating may protect individuals from the attack of Smallpox, but it is fraught with positive harm to the community at large." (Appendix page cxcix.)

Coomar Kally Kissen Roy replies—"I know many instances of the disease being introduced into families by *Ticcadars*, and deaths have ensued;" and again,

"I am of opinion that Inoculation is the general cause of the promulgation of the disease in Calcutta and in its vicinity." (Appendix page cci.)

Mr. Naylor, of the Gurrannah Dispensary, in the centre of the Native Town, reports—"I feel confident in asserting that the practice of Inoculation is one of the principal causes of the great ravages committed by the Disease and that it has been the chief means of diffusing the contagion." (Appendix page lxxi.)

One Native Member of the Committee gives the names and other particulars of 6 cases of Smallpox induced by Inoculation which proved fatal. (Appendix page xxxii.)

The Magistrate of the 24-Pergunnahs states that one Baboo whom he had examined "mentions 14 cases of deaths consequent on Inoculation, within his own knowledge during the last season, and says he has heard of several besides." He has also ascertained that "out of 2,586 individuals who had been inoculated by the *Ticcadars* of the Suburbs, 19 had died." (Appendix page xxxviii.)

31. Similar disastrous consequences have been frequent, not only in Calcutta but wherever Inoculation has been practised, a certain number of those inoculated falling victims to their own folly. The Rev. C. Driberg, of Barripore, informs us, from his own personal knowledge, of nine fatal cases, caused in his neighbourhood this year by Inoculation. The testimonies to this effect from all the Civil Surgeons we have examined which may be found in the Appendix, are too numerous to be quoted here.

32. Several of the *Ticcadars* practising in Calcutta were examined by different members of the Committee in the hope of ascertaining the *ratio* of

*mortality* among those inoculated ; but though most of them acknowledge that death does occasionally follow, it was found impossible to obtain an accurate statement of its frequency in any number of cases inoculated. They all evinced the greatest reluctance to give any information of their proceedings, and when pressed to explain certain fatal occurrences not to be denied, were fain to shift the responsibility of them to some other person, or to attribute the casualty to the virulent character of the prevailing Epidemic. The statements had from some of these men, are to be found in the Appendix page xxx.

33. But serious as the consideration is, that this practice is not without danger to the individuals submitting to it, it merges into insignificance when compared with the Public mischief done by it ; for Inoculation may be shown to be positively prejudicial and hurtful to the interests of Society. It is a well ascertained fact, not even denied by its advocates, that the Disease thus set up retains all its zymotic energies however mildly it may have affected the individual operated on ; the germs of the disease thus generated are not a whit less poisonous or less diffusible than those of the Natural Disease ; the exhalations or emanations from the patient's body are just as powerful as those from any sufferer under another form of the malady ; the matter, virus, pus, crusts, scabs, &c., formed on the skin of the patient are equally potent with those from any other ; the clothing, bedding, napery used by him, are equally retentive of the poison they have absorbed ; and the Variolous Disease they may chance to communicate to another, bears no relation to the mildness or virulence of that from which it was derived, but will exhibit its specific cha-

racter in the new recipient, unmodified by any antecedent of that sort. In short, every single case of Inoculated Smallpox does of necessity help to spread the disease among the population, by adding to the number of its active exciting causes.

34. Twenty years ago Dr. Cameron reported—“ It is now well ascertained that Smallpox Inoculation is the great means by which Variola is kept in existence in Calcutta.” He further stated that there were then “ no less than 10 to 15 *Ticcadars* employed annually in Calcutta for the purpose of practising Smallpox Inoculation.” In 1844 the Superintendent of Vaccination reported that the “ Smallpox is annually introduced into Calcutta by a set of Inoculators, numbering about 30, to the great endangerment of Public Health.”

35. At the present time, it is ascertained that their *number* has risen to 68. Mr. Law has succeeded in framing a Statement of the names and residences of all of them (Appendix page xxviii) and a number of other particulars regarding their operations. It appears that 42 of the number are permanent inhabitants of Calcutta, residing chiefly in the North Division or Native part of the town. They are principally of low Hindoo *castes* or *trades*, such as those of Maullee, Tauty, Koomar, and Napit, from which they derive their principal livelihood during nine months of the year, practising their Profession only during the other three. The remainder are Brahmins or Dybogyas, and these are said to come to town annually from Burdwan, Hooghly, Beerbhoom, and the adjacent West and Northern districts, generally in the month of Maugh, remaining in town for about 4 or 5 months, and inoculating on an average 70 or 80 persons each.

One of these men informs us that very poor people pay about 2 rupees to the *Ticcadar* for inoculating 2, 3, 4 or 5 children at once in a group or family, which is the custom. The middle class people pay from 3, 4 to 10 rupees to the operator for a similar party, and as much more to the Brahmins for the performance of Poojah or worship, the most expensive part of which is the *Gaun* or canticle to be sung for several successive days in honor of the Goddess *Situla*. When the operator is not a Brahmin himself, or rich enough to possess an image of the Goddess, the Poojah is performed at the nearest shrine of the Deity, and the fees are in that case paid to the officiating priest there.

36. The following is a statement of the expenses actually incurred by a respectable native of the middle class for inoculating three children in his family, the total amounting to rupees 15-4.

Items.	Paid to Ticcadars.		Paid for Poojah.		Miscella- neous ex- penses.	
The day of Inoculation cash, .....	1	0				
The day when the pustules are ripe, .....	1	0				
The day of sprinkling water on pustules, a						
Gaumcha, Rice, Pan, &c., ... ..	0	8				
On cure, ... ..	2	0				
	4	8				
Poojah, 16 days at home, at 2 annas, ...	...	...	2	0		
The last day on cure, silk and cotton cloth,	...	...	1	4		
Gold, ... ..	...	...	2	0		
Sweetmeats, ... ..	...	...	2	0		
Priest's fee, ... ..	...	...	0	8		
			7	12		
Miscellaneous, { Gaun (twice) cash, .....	...	...	...	...	2	8
{ Old cloth, Rice, &c., .....	...	...	...	...	0	8
	7	12			3	0
	3	0				
Total for 3 children, ...	15	4				

37. That some of the *Ticcadars* derive a large Professional Income there can be no doubt, particularly in seasons like the present, when besides operating for the production of the Disease, they are extensively employed as physicians, to treat those affected, whether Naturally or by Inoculation. A native member of this Committee says, that " he has been informed, on good authority, that one *Ticcadar*, named Bissonauth Maullee, has earned rupees 12,000 this year, by attending the Hindoostanee Smallpox patients." (Appendix page xxxiv.)

38. An interesting account of their mode of operating, their treatment of the inoculated, the progress and appearance of the inoculated disease, &c. &c. is published in the Appendix to Dr. Cameron's Report, from the pen of Rajah Radakant Deb. It is there stated that at that time it was customary to remove all those who had not previously had the Smallpox, as well as pregnant women, from the house where Inoculation is practised, because it is called in Sanscrit *Sunchariroga*, or a contagious disease. But this certainly is not the common or even the approved practice now.

## PREVENTIVE MEASURES.

### Inoculation.

39. The third head of enquiry relates to the efficiency or otherwise of the different means now in use among the people, with the view of lessening the violence and destructiveness of Smallpox, or of pre-



venting its periodical invasions altogether; and it is almost needless to say that the only two measures, laying any claim to specific virtues of this sort, are Inoculation and Vaccination. The former, though of much greater antiquity, has been to a considerable degree superseded by Vaccination in Calcutta, and some other cities of Bengal containing a large and a mixed population; but throughout the Rural Districts, and among the ignorant and prejudiced classes of natives, it is still preferred and very universally practised. There is, however, one class of people mentioned by Mr. Elliott, and his informant Baboo G. P. Ghose, and by Ramchand Mullick (Appendix pages xli and lxx) belonging to a particular sect of Hindoos and a numerous one, who consider it impious to resort to any precaution, or to make use of any protective influence whatever, in times of pestilential visitation; and others there are equally ignorant and unreasoning, who imagine that the Deity is to be propitiated by the death of one member of a family from Smallpox, and who will not, until this sacrifice has been completed, resort to any precautionary or preventive measure.

40. As respects the validity of the claim of Inoculation to be considered a safeguard against Smallpox, the Committee have found no ground whatever to doubt the long vaunted efficacy of this operation when practised on fitting subjects, and in a fitting manner, and at fitting seasons as a *modifier* in the individual operated on, of the Disease, which it at the same time communicates; nor to question the *degree* of future immunity it confers on him, and which is pro-

bably equal to that of Vaccination;\* but inasmuch as the Disease which is thus set up, is also known and freely acknowledged to be equally infectious and contagious as the Casually contracted Smallpox, it cannot be considered a *diminisher* or *preventive* of Smallpox among the people; nor can it be a matter of surprise that in countries where the practice is still permitted, the Smallpox shall be found to prevail as extensively and fatally as ever, unchecked by any Antidote, undiminished by any medical treatment.

41. On the other hand the effect of Vaccination, (properly performed) in diminishing the *number of deaths among the people* from Smallpox, wherever it has been generally practised, has been most apparent. Thus it is stated in the Report of a Parliamentary Commission on Vaccination in 1833, that the "proportionate mortality from Smallpox in London before 1800, when Vaccination was introduced, was about one in every ten deaths, but was then reduced to about three in every hundred deaths, and was

\* "Re-vaccination succeeds or otherwise, on persons who have had Smallpox, or Cowpox, almost exactly in the same *ratio*; thus establishing a most remarkable analogy.

"The proportion of one hundred cases of each description is as follows:

" Vaccinated after Smallpox, with success,.....	.....	.....	32
Ditto ditto modified, .....	.....	.....	26
Ditto ditto no effect, .....	.....	.....	42
			100
Re-vaccinated with success, .....	.....	.....	34
Ditto modified,.....	.....	.....	25
Ditto no effect,.....	.....	.....	41
			100"

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therefore only about one-third or one-fourth of what it was prior to the introduction of Vaccination. But no similar alteration is to be traced in the bills of mortality in the deaths from Smallpox prior to and subsequent to 1720, the period of the introduction of Inoculation," or if any, it is indicative rather of an increased mortality, after Inoculation became general.

	Total Mortality.	Mortality from Smallpox.	Proportion in 1000 who died of Smallpox.
Average of 9 years from 1701 to 1710...	21,110	1,045	49
" 10 " 1710 to 1720...	23,826	2,123	89
" 10 " 1720 to 1730...	27,361	2,257	82
" 10 " 1730 to 1740...	26,047	1,978	76
" 10 " 1740 to 1750...	26,060	2,002	77
" 10 " 1750 to 1760...	20,849	1,957	94

The obvious and unavoidable deduction from so striking an Experience on a large scale, and where neither obstacles of Climate, nor prejudices of Caste interfered to prevent the free and eager adoption of Inoculation, which was encouraged in every way, and patronized by Royalty itself is, that as a *diminisher* of Smallpox *in a community*, the practice is utterly inert and useless.

42. Some cases have been reported to us of Secondary Smallpox occurring after previous Inoculation, as happens after Vaccination and Natural Smallpox; but we believe that *death* has resulted but rarely if ever, and that the Disease in all these cases is generally mild and *modified*. Dr. Ross of Hooghly, however, mentions having attended nine cases of *Confluent* Smallpox, "the whole of whom had been *inoculated* in early life,"—(*vide* Appendix lxxxv.)

## Vaccination.

43. To Vaccination therefore, and to that *alone* can we look for efficient and general protection from Smallpox, for prevention of its ravages, and limitation of its destructiveness; though no past experience permits the hope that by this or any other means however popular, can the Disease be entirely extinguished or banished from any country. We find it stated in the public papers that even in London during the past twelve months the deaths from this cause were not short of 835; and it is known to have prevailed epidemically there, and in various other cities of Europe repeatedly during the last ten years, although Vaccination is now universally practised, and in most of these places enforced by law.

The Committee are happy to be able to assure His Honor that nothing has transpired in the course of their enquiries, which has tended to shake in the least degree their unbounded faith in the Specific power of Vaccination as an *antidote* and a *modifier* of Smallpox. It is the opinion of every medical man we have consulted, and we believe it is that of every educated man in India, that when properly and successfully conducted, Vaccination is just as efficient a safeguard here as in England; and the Appendix to this Report contains numerous striking testimonies to this effect: but the Committee deem it unnecessary to occupy His Honor's time with abstracts or details of these, since more than half a century's trial of Vaccination in India and in every part of the world has not shaken the well established validity of its original

claims, and at the present day these can neither admit of question, nor require confirmation.

44. Perhaps, however, in no place where Vaccination has been so long practised, have so fatal and so frequent invasions of Epidemic Smallpox occurred as in Calcutta, and it becomes a most grave and important enquiry, *whether* this has been owing to neglect and disuse of the Remedy on the part of the people, or *secondly*, to errors and imperfections in the mode of applying it. To each and both of these causes we much regret to state that our information leads us to attribute the recent uncontrolled havoc caused by Smallpox in Calcutta.

45. It may be in the recollection of His Honor that during the prevalence of the former Epidemic of 1843-44, a considerable increase of the Vaccine Establishment was authorized, and a new distribution of the Native Vaccinators was suggested by the Superintendent General and sanctioned by the Medical Board, having for its object a more effective system of superintending and inspecting their operations, and at the same time making the uses and advantages of the prophylactic more generally known, and more easily accessible to the poor. By these arrangements a Native Vaccinator was appointed to be in attendance, daily, at each of the three large Town Dispensaries, which are visited every morning by crowds of sick persons seeking advice and medicine from the hands of the Resident European Medical Officer. The Vaccinators were instructed to bring thither with them one or more of the children they might have vaccinated during the week in their own District of the Town, for *inspection*; and from these, under the eye of the Medical Officer, any applicants for the boon were at

once vaccinated on the spot: a simple rotation of duty made it easy for these men to occupy themselves during the week in looking about for fitting and willing Subjects, each man being ordered to attend at the Dispensary only on two days in the week. Their case-books were examined daily by the Medical Officer of the Dispensary, signed by him as authentic, and subsequently brought on the same day for registration to the office of the Superintendent General of Vaccine, whom they also supplied with "charges" of Vaccine lymph and dry "crusts" for distribution to the Mofussil.

46. At the time referred to, there were but three Dispensaries, with three Vaccinators to each, which became thus also Vaccine Depôts, and these were centrically situated. Since then, four more Dispensaries have been established by the liberality of Government in connection with the Native Hospital, to provide for the increasing wants of the Native poor, and at each of them have been stationed three additional Vaccinators; but to one only of these new Dispensaries is an English Apothecary appointed.

47. The success of this arrangement at its outset was very encouraging as respected Vaccination. The demand for its protection suddenly became very great, excited partly no doubt, by the prevalent panic, partly by the novelty of the boon to many, but chiefly it is thought, by the evident anxiety and unusual care with which the Vaccine operations were conducted and superintended by the European Medical Officers of these Dispensaries. The number of individuals vaccinated at the different Depôts or reported by the Vaccinators to have been vaccinated by them in the adjoining Districts of the Town is shewn in the following Table.

Table.

Year.	Number vaccinated.	Year.	Number vaccinated.	Year.	Number vaccinated.
1835	920	1841	6671	1847	10068
1836	1479	1842	8138	1848	8081
1837	4951	1843	10988	1849	7088
1838	7267	1844	19096	1850	} 5089
1839	5058	1845	11951	5 months	
1840	6546	1846	9997		

48. Since then, notwithstanding the multiplication of Depôts, and the large increase of the number of Vaccinators, (viz. from 9 to 21) it will be seen from the annexed Table that the demand for the antidote has varied much, seemingly in accordance with the decline or prevalence of the Epidemic, and the corresponding subsidence or increase of the panic caused by it; but that this was not the sole cause is probable when it is remembered that in these years an extensive Emigration of Coolies to the Mauritius and elsewhere was going on, and that Vaccination was then made compulsory on all of them who did not exhibit unexceptionable proofs of previous Inoculation or of previous Vaccination.

Table.

Year,	Mortality by Smallpox.	Number vaccinated in Calcutta.
1836 ..... ..	... .. 16 .....	..... 1479 .....
1837 ..... ..	..... 266 .....	..... 4951 .....
1838 ..... ..	..... 1507 .....	..... 7267 .....
1842 .. .. ..	..... 25 .....	..... 8138 .....
1843 ..... ..	..... 336 .....	..... 10988 .....
1844 ..... ..	..... 2840 .....	..... 19095 .....
1849 ..... ..	..... 1724 .....	..... 7088 .....
1850 ..... ..	..... 4376 .....	..... 5089 .....
5 months, ..... }		

49. It is evident from this figured Statement, which shews also the simultaneous Mortality occurring in Town from Smallpox that *panic* had much to do in stimulating the otherwise improvident Bengallees to seek the protection of Vaccination; but from the Reports of Dr. Stewart himself as well as the other superintending officers at the Dispensaries, the Committee are constrained reluctantly to admit that the demand for Vaccination this year has been by no means so great as might have been expected; and that this is attributable in some degree to a deterioration in the quality of the lymph, which took place early in the present year, and necessitated the total suspension of Vaccination in some Districts for several weeks. Numberless cases were stated in January to have occurred of its failure, and worse still, of its *producing Smallpox*; and hence arose a very natural distrust and apprehension in the minds of many, whereof the designing and avaricious *Ticcadars* largely availed themselves.

50. On enquiring into the cause of this deterioration of the lymph, the Committee find room nevertheless for ample encouragement, believing that it was but temporary and accidental.

The following letter, from the Medical Board to the Superintendent of Vaccine in Calcutta, bearing date the 27th May, will satisfy His Honor that the exertions made to rescue the present stock of lymph from permanent deterioration have been successful.



FROM J. FORSYTH, *Surgeon,*  
*Secretary to Medical Board,*  
 TO D. STEWART, Esq., M. D.,  
*Superintendent General of Vaccination.*

SIR,—I am instructed by the Members of the Medical Board to acknowledge your letter of the 25th Instant, and to assure you on their part, that it afforded them heartfelt satisfaction to discover, by the characteristic and very perfect appearances on the arms of the child sent by you for their inspection a few days ago, that the genuine Vaccine Disease has survived the severe trials to which it has been exposed during the last four or five months successively, owing to the prevalence of a very fatal visitation of Epidemic Smallpox, and the high temperature of the Season.

2. At such a time as this, after so much has been witnessed and said, that was calculated to lessen the confidence of the Public in the protective influence of Vaccination, it is, they think, matter for sincere and hearty congratulation that undeniable proof has thus been furnished of its vitality and vigour, in circumstances of Season and Atmospheric constitution, which are commonly believed to be adverse to its successful propagation.

3. It has been observed in other Climates that the energy of the Vaccine Virus, or the susceptibility to its influence has been more or less weakened during the extensive prevalence of Variolous Disease; and it is certainly cheering to know that even here, as elsewhere, it regains its power with the decline of the Epidemic. This, joined to the fact that the information they have been able to collect, leaves the Members of the Board room still to believe that the in-

stances were very few in which those died from Smallpox during its late visitation, who could shew unequivocal marks of previous genuine Vaccination, encourages them to hope, that by the employment of more extended and more trustworthy Agency in its propagation, the confidence which it originally enjoyed may yet be renewed in its Preventive Influence.

I have, &c.,  
 (Signed) J. FORSYTH,  
*Secretary to Medical Board.*

FORT WILLIAM,  
 MEDICAL BOARD OFFICE,  
 27th May, 1850. }

51. For several years past it has been the practice of the Superintendent of Vaccine in Calcutta to renew the stock of lymph annually, from the fresh supplies which are sent out overland, every Autumn, by the National Vaccine Institution in London, through the India House, both to him and the Superintendent of Vaccine at Simlah. After satisfying himself of the success of his trials and the genuineness of the stock thus introduced, he is always careful to submit a few cases for the approval of the Inspector General and the Medical Board, after which he directs his Native Vaccinators to cease using the past year's lymph in Town, and to propagate only from the new stock. The Committee are thus quite satisfied that the lymph which was used in Calcutta in November and December last was unexceptionable, and that it is still obtainable in perfect purity, notwithstanding the severe ordeal it has been subjected to, during the past four or five months.



52. It would appear that owing to the great prevalence of the Epidemic, its existence in fact in almost every house in the native town, and the difficulty or impossibility of separating the already affected members of a family from those whom panic led to seek the protection of Vaccination, great numbers who were *punctured* by the Vaccinators with unexceptionable lymph, exhibited within a few days after the operation, undeniable symptoms of Smallpox. The odium of this untoward occurrence was very unjustly cast upon the lymph used, the blame and the punishment fell on the unlucky Operator who had, but in vain, represented the necessity of separating his patients from those already infected, if due success was expected to follow his operations.

53. The Committee have in truth been greatly surprised and struck with the very general ignorance existing even among well informed people of the true principles on which the success of Vaccination depends; and in order that the subsequent observations may have a clear and substantive meaning we deem it necessary to state briefly what we consider to be required to render the process of Vaccination as perfect as possible. We are constrained to adopt this course from observing the great discrepancy that exists between the statements and opinions of different individuals, which we are convinced could not have happened had correctness and uniformity of observation been more common, and the true principles of Vaccination been better understood.

*First*, it may be set down as an axiom never to be forgotten, that the Vaccine Vesicle to be successful and perfect, must undergo a regular and definite course;

and that no one is qualified to judge of its effective character, or to certify to its authenticity or success, who is not familiar with its correct appearance at different stages, and has not noted its progress at suitable periods.

A *Second* point demanding unvarying assiduity is the character of the lymph employed. It never ought to be taken from a Vesicle that deviates in the least degree from the perfect standard; nor from a patient laboring under any cutaneous disease; and it ought never to be applied to an individual who is, at the time, either suffering under any illness, or exposed to any infectious disorder.

Knowing as we do the universality of Skin Disease among the Natives of Bengal, we fear this rule has not always been carefully attended to by the Native Vaccinators, and that deviations have thus arisen and been propagated, which afforded varying degrees of security according as they approached to or receded from the healthy character. The genuine disease can only be produced by pure lymph from a pure and regular source, and the proper time for obtaining this lymph from the Vesicle is between the fifth and the eighth day.

A *Third* point which we have reason to suspect is too often overlooked, is the necessity of leaving one or more of the Vesicles to run their normal course without being in any way disturbed. We believe that this caution has been often neglected, by reason of the carelessness and ignorance of parents, and the too hurried manner in which Vaccination is sometimes performed and conducted.

A *Fourth* point on which perhaps too much stress has been laid, is the appearance of the Cicatrix or

*mark* which is left on the arm. It is true that after regular Vaccination it generally assumes an uniformity of aspect well known to medical men, and on its appearance the Medical Officers of H. M. Army and Navy mainly depend, and all Recruits in whom it is not perfect are subjected to Vaccination. We are, however, satisfied that *by itself* it ought never to be absolutely trusted to as a proof of previously successful Vaccination. It is only when unceasing attention is paid to every one of these, the fundamental Jennerian principles of Vaccination in each individual case of transmission, that it is possible to preserve the Vaccine Lymph from deterioration; for if a deviation once commences it must be perpetuated, and must necessarily afford a gradually decreasing protection.

54. A *Fifth* point essential to the practical success of Vaccination in India, but which is not noticed in Europe, is the selection of the proper Season of the year for its performance. It has been long observed that extreme heat of the weather proves antagonistic to the successful propagation of the Vaccine prophylactic, as it has been shewn to be to Smallpox. The latter disease we know invariably begins to decline in April, and all the Vaccine Returns from Bengal and the Upper Provinces of India indicate a corresponding decrease in number and in success at that Season; it must be inferred that there is a diminution in its efficacy as a preventive.

So remarkable has this occurrence in the Upper Provinces become of late years, that the Medical Board submitted, not long ago, to Government a recommendation that Vaccination should be entirely

suspended there during the hot months on this account. (Appendix page cccclxvii.)

A similar deterioration of the Lymph though certainly to a much smaller degree is observable at the same Season in Bengal, and it is only with much difficulty, and among the European and wealthier classes of Calcutta society who can afford to look after their children at this season, and will take good care to protect them properly from the heat of the weather, &c. &c., that it is considered prudent to Vaccinate. Indeed, there exists among the Natives a popular prejudice against Inoculation at this time of the year, confirmatory of the above observation respecting Vaccination.

55. But the Rainy Season appears to be the most inimical to successful Vaccination in Bengal. In a letter from the Medical Board to the Bengal Government dated 16th November 1848, (Appendix page cccclvii) it is stated that "during the rainy season in some, if not all, the districts of Lower Bengal, the simple puncture for the insertion of Vaccine virus frequently produces violent inflammation, which either degenerates into foul sloughing sores, or the same degeneration succeeds to the maturation of the Vesicle. In both cases Vaccination must necessarily be suspended for a time."

56. Other untoward occurrences have been brought to our notice which it is difficult to explain except by supposing the lymph or crusts (used under the belief of their perfect genuineness) to have been designedly exchanged for Smallpox virus, or to have been at the time of using them largely diluted or mixed with that poison by the native operator; such

are the cases recorded by Dr. Wilson of Bauleah, and Mr. Beaufort, Magistrate of Jessore, (Appendix pages ccxvii and cccclxix.)

To account for them, the Committee would be greatly at a loss, did we not find it asserted in the strongest language by the Medical Board in their letter of the 25th February 1850, "that the present race of Native Vaccinators are mostly made up of the basest and most untrustworthy of their countrymen, frequently consenting for a small bribe to mix some Smallpox matter with the Vaccine lymph which they are hired and expected to propagate in purity."

57. A number of other objections have been stated to us against Vaccination, which it is not necessary here to repeat or to discuss, since they are evidently founded in ignorance of its proper uses and laws; it cannot be doubted that all of these would speedily be overcome by the light of more general education and information. We allude particularly to the notion of the non-permanence of the protective power of Vaccination, and the alleged necessity for periodical Revaccination. But one very absurd and prevalent notion deserves mention; it is, that the moment a child has been punctured or operated on, he is at once "Vaccinated," and becomes immediately safe from infection however much he may continue exposed thereto.

58. The obstacles to successful Vaccination in Bengal may be thus briefly enumerated.

*First.* An ignorant and improvident people.

*Second.* A popular and long established rival usage, and a prejudice in its favour.

*Third.* A climate, which for one-half of the year is unfavourable to successful Vaccination.

*Fourth.* A numerous and active body of Inoculators, in open and licensed competition with the Vaccinators.

*Fifth.* An indolent, untrustworthy and unprofessional set of men employed as the *stipendiary* agents for the diffusion of Vaccination.

*Sixth.* A general ignorance among all classes of the true principles, and proper management of Vaccination, together with an erroneous and exaggerated idea of its powers against Smallpox.

*Seventh.* A difficulty in procuring sufficient and qualified professional agents for the performance and management of every Vaccine operation.

*Eighth and last.* Frequent invasions of Epidemic Smallpox during the cold weather into crowded Cities.

59. With such multiplied obstacles as Vaccination has had to encounter, the Committee cannot wonder at, though they deeply lament the untoward and fatal occurrences of 1837, 1844 and 1850, which, while they have deeply affected the vital interests of the people and filled the minds of their Rulers with humane and great anxiety, have really rendered it a most difficult and delicate matter to decide what is now best to be done.

## SUGGESTIONS.

60. Deeply impressed with their responsibility, this Committee, which consists of men of varied opinions, pursuits, and opportunities of observation, has come to the unanimous determination of presenting, for His Honor's consideration, the following



propositions, which are the results of an unbiassed and deliberate conviction of their necessity.

FIRST SUGGESTION—"It is indispensable to the interests of humanity that the practice of Inoculation should now cease." Such were the impressive words of the late Dr. Cameron, Superintendent General of Vaccine, in 1831; who added, "but it is pretty evident that while any pecuniary gain is derivable from Smallpox Inoculation, individuals will be found to practise it; and while any prejudices remain against Vaccination, which it is their interest to keep up and increase, there will be no difficulty in finding subjects to practise upon."

We think that he might have truly added that, in a country where practices such as *Suttee* and *Infanticide* were, until lately, deemed justifiable on the score of Religious usage, neither will there be wanting bigots to mislead the ignorant Hindoos, and to prejudice their credulous and simple minds, against whatever may be falsely represented to them as an innovation, or an interference with their religious privileges.

61. The gentlemen who compose this Committee feel happy in being able to state that their individual and separate consideration of all the evidence now collected, and the reasoning both for and against the abolition of Inoculation which has been laid before them, has led each of them to one and the same conviction, namely, that the time has come and can no longer be deferred when this murderous trade should be suppressed; and they are not without hope that the following reasons for this opinion will have weight enough with the Bengal Government to procure its immediate and universal abolition.

*First.* It is proved beyond all denial by the unvarying and distinct testimony of the most orthodox and most learned interpreters of Hindoo Law and Theology, that the practice of Smallpox Inoculation is not a Religious Duty, that it is nowhere enjoined as such, that its omission is neither condemned nor commended, that neither reproach nor punishment, praise or blame attaches to its performance, and that the Cow Smallpox may be adopted by virtuous Hindoos without scruple in lieu of the more dangerous form of the Disease produced by Inoculation with the matter of Human Smallpox. Moreover that these two forms of disease are identically the same, and that the Divinity who presides over all those pustular diseases should be worshipped with equal veneration, faith, and purity in either case.

*Second.* It is proved and has not been even questioned or denied that however mild, generally speaking, may be the individual cases of Smallpox produced by Inoculation, it is nevertheless occasionally *fatal in these*; that it always may and very often does cause the Disease to spread by Contagion throughout a whole family, particularly in times of Epidemy; and that the disease is then just as severe and fatal as if it were caught *casually* in the streets. Every man therefore who adopts Inoculation is a wilful propagator of a mortal Disease among his neighbours, some of whom are perhaps unable to avoid him, and he personally and practically adds to the general diffusion of a death causing malady.

62. From information furnished to the Committee by Dr. Stewart and alluded to by him in his Report on Vaccination published in 1844, it was believed that



at one time the practice of Smallpox Inoculation was forbidden in Calcutta, but from the following Replies obtained from Mr. Blaquiere to the enquiries of the Committee, it would appear that the Police Regulation that was said to be then in force, was not at any time sanctioned or authorized by Government, and never became Law.

QUESTIONS TO MR. W. C. BLAQUIERE, AND HIS REPLIES.

CALCUTTA, 5th May, 1850.

*Ques. 1st.* Were you a Magistrate of Calcutta in 1804?

*Ans. 1st.* I have been a Magistrate of Calcutta since 1800.

*Ques. 2nd.* Was not Smallpox Inoculation prohibited then in Calcutta?

*Ans. 2nd.* Not so, it was only discouraged, and Vaccination in lieu thereof was encouraged.

*Ques. 3rd.* Do you think that a Government Regulation, prohibiting Smallpox Inoculation, would at that time have been submitted to?

*Ans. 3rd.* Certainly not without opposition. There was opposition on the part of oppulent Hindoos to an interference with their long established usage of Inoculation.

*Ques. 4th.* Do you think such a Regulation could be more easily enforced now?

*Ans. 4th.* No. It would be still more difficult now, owing to Vaccination having fallen into disrepute among the natives.

*Ques. 5th.* What do you attribute this to?

*Ans. 5th.* The natives say many persons have taken the Variolous infection notwithstanding Vaccination, which was not the case in the days of Shoolbred. I myself vaccinated several hundreds at my Boitacanah house about that time, and offered encouragement to any of them who would, if they contracted Smallpox afterwards, come to me and report the occurrence; only one such case was brought to my notice, and that upon investigation proved fallacious.

*Ques. 6th.* Does not the practice of Inoculation tend to disseminate the disease among the people?

*Ans. 6th.* Yes, it does; many Inoculators from the adjacent districts resort to Calcutta expressly for the purpose every year.

*Ques. 7th.* Is the inoculated disease as infectious as the natural one?

*Ans. 7th.* Certainly so, in my opinion.

*Ques. 8th.* Then ought not this practice to be forbidden, as thereby one source of disease among the people will cease?

*Ans. 8th.* I do not think prohibition would be effectual, but I am of opinion it ought to be discouraged as much as possible.

*Ques. 9th.* By public enactments and penalties?

*Ans. 9th.* I am averse to that mode of discouraging it, as it would not, I think, be effectual, and would be easily evaded and much opposed.

*Ques. 10th.* What measures then would you recommend?

*Ans. 10th.* Verbal persuasion is all that I can suggest, particularly with influential natives.

*Ques. 11th.* Would it be well to attempt again as formerly to engage some of the chief *Ticcadars*, either by the offer of a sum of money in compensation for the abandonment of their business, or by a fixed salary or fee for every successful case they might Vaccinate?

*Ans. 11th.* I do not think it would now succeed.

63. The following copies of a correspondence between the Secretary to Government, the Medical Board, and the Magistrates on this subject took place at that time; and has been placed in our hands by Mr. Blaquiere.

FROM G. DOWDESWELL, ESQ.,  
TO W. C. BLAQUIERE, ESQ.

CALCUTTA, 9th April, 1809.

DEAR SIR,—I enclose a letter from the Medical Board, and shall be obliged if you will inform me what was done with the view of promoting Vaccine Inoculation. When the question was before discussed, I did not understand that any restrictions were imposed upon the Brahmins from inoculating in the old mode, nor do I conceive such restrictions would have been considered expedient by Government

Your's sincerely,  
(Signed) G. DOWDESWELL.

(Enclosure.)

FROM THE MEDICAL BOARD,

TO JOHN LUMSDEN, ESQ.

*Chief Secretary to the Government.**Fort William, Medical Board Office, 9th April, 1804.*

SIR,—We are informed that a number of persons, calling themselves inhabitants of Kidderpore, have presented a petition to Government, stating that they do not choose to make use of Vaccine matter in the inoculation of their children, and praying that they may be permitted, as heretofore, to Inoculate with the matter of the Smallpox.

Conceiving that it will be desirable and satisfactory to His Excellency the Most Noble the Governor General in Council previously to his decision on this petition, to be possessed of the Report of the Medical Board on the progress and present state of Vaccine Inoculation in these Provinces, we request that you will state to His Excellency that the Report of the Board is now completed, and that in a very few days a fair copy of it will be submitted for His Excellency's perusal.

In the meantime we should consider ourselves highly reprehensible were we to neglect this opportunity of stating to His Excellency the apprehensions that have arisen in our minds from the possibility of a favourable reply being given to this petition; for it appears to us, that the free and licensed Inoculation of the Smallpox must immediately tend to obstruct the progress of Vaccine Inoculation, and ultimately defeat the benevolent design of the Institution.

Under these apprehensions, we beg also to state to His Excellency that the judicious restrictions hitherto imposed on the Inoculation of the Smallpox by the Police of this City, have evidently produced the most beneficial effects in diminishing the propagation of that disease and in extending the practice of Vaccine Inoculation; and that, whilst they are sufficient for these purposes, they do not seem to encroach either on the religious scruples or the civil rights of the inhabitants. The Inoculating Brahmins, it is true, will be deprived of the practice, but we presume that a little persuasion might prevail upon them to accept of an adequate remuneration, and also of employment in propagating the Vaccine disease.

As this question is more fully considered in the conclusion of the Appendix to the Report, it will be soon again presented to His Excellency's notice, and we therefore forbear to enlarge upon it further at this time.

We have the honor to be,

SIR,

Your obedient humble Servants,

(Signed) FRANCIS BALFOUR.

" W. ROSS MUNRO.

FROM W. C. BLAQUIERE, ESQ.,

TO G. DOWDESWELL, ESQ.

POLICE OFFICE, 12th April, 1804.

MY DEAR SIR,—The steps taken by the Magistrates to promote Vaccine Inoculation were, directing the Police Officers to promulgate the advertisements published.

Promulgating the purport of them by beat of Tom-Tom ; Informing the Inoculating Brahmins who annually resort in considerable numbers to the Town and its environs from Jessore, of the means adopted by Government for extending the benefits of Vaccination, and recommending them to inoculate with Vaccine matter; and upon positive refusal to assist in forwarding the humane intentions of Government, prohibiting them from counteracting the said measures by spreading the fatal contagion of Smallpox throughout the Metropolis.

We perfectly agree with the Medical Board that an unrestrained propagation of the Smallpox must materially interfere with, if not ultimately defeat, the benevolent designs of the Institution set on foot for promoting Vaccination.

Persuasion has not been wanting in endeavouring to convince the Natives of the benefit of the Institution, and several who shewed reluctance in going to the Hospital, have since resorted to it; which, having convinced others of the mildness of the Vaccine Disease, and its superiority over the former dreadful distemper, numbers have flocked to Mr. Shoolbred whose zeal in the promotion of Vaccine Inoculation has been unremitted, and does him the highest credit. (Appendix excii.)

I remain,

My dear Sir,

Yours most faithfully,

(Signed) W. C. BLAQUIERE.

64. It is pretty evident to the Committee, notwithstanding the disclaimer now made by Mr. Blaquiere,

that the necessity for some such Police Regulation, in aid of the newly discovered Prophylactic was early felt, and that he was not the man who would then have shrunk from its enforcement had the prohibitory law, so earnestly prayed for by the Medical Board, been enacted.

65. For reasons which can only now be guessed at, the Government did not however deem it expedient to uphold the Police mode of *encouraging* Vaccination by any Legislative Enactment, and the practice of Smallpox Inoculation, together with those of *Suttee* and *Infanticide*, vindicated by ancient and established usage, continued for many years to be sanctioned by English law.

66. That the Regulation, however, actually for a time existed, or was understood to exist, and was quietly submitted to by the native community under the impression that it was the law of the land, may be still readily proved.

The following is the evidence of Baboo Radanauth Dutt of Simlah, in Calcutta.

CALCUTTA, 8th May, 1850.

*Ques. 1st.* Will you be so good as to state, for the information of the Committee, what you remember about your own Inoculation ?

*Ans. 1st.* I do not recollect my own Inoculation, but I recollect that of my young brother's, which took place about 40 years ago. My mother removed with the child, then 4 years of age, to a place called Oolabariah near Budge Budge, in order to have him Inoculated there by the family *Ticcadar*.

*Ques. 2nd.* Why did she do so ?

*Ans. 2nd.* Because I have a recollection that the Government at that time prohibited Smallpox Inoculation in Town, and the practice of removing for that purpose was then general. I knew many natives who were obliged to remove in the same way for some time. After some



years the practice fell into disuse ; many objected to it on account of the trouble it caused them. I don't recollect any one being ever punished for Inoculating in Town.

*Ques. 3rd.* Do you vaccinate or inoculate your own children ?

*Ans. 3rd.* They are all vaccinated.

(Signed) RADANAUTH DUTT.

67. The Committee cannot concur with Mr. Blaquiére in expecting any more favourable results from the measures which he now recommends than were produced by them formerly. It is quite true that persuasion and encouragement, example and precept, the schoolmaster and the doctor, have done much both in Calcutta and elsewhere to promote Vaccination ; but these alone will never *put a stop to Inoculation* while prejudice and intimidation, indolence and ignorance, the bigot and the quack are combined to uphold it.

68. In opposition to Mr. Blaquiére's opinion we would quote that of Mr. Elliott, the present Magistrate of the 24-Pergunnahs, viz.

"From all I have heard on the subject I cannot but believe that Inoculation is *the evil* to be contended with ; and I am most anxious to see it altogether prohibited by legislative enactment, and severe penalties prescribed." (Appendix page lxxxix.)

Dr. Wise of Dacca, in a forcible manner, urges the "abolition of Inoculation all over the length and breadth of the land." (Appendix page cciii.)

Mr. Deverinne informs us that he himself and many other influential landholders in Kishnaghur Zillah "annually give orders to have the *Ticcadars* turned out of their villages, and that not the slightest opposition is made to it." (Appendix page clxxxix.)

69. The Committee are nevertheless fully aware that reasonable objections have been made, and no doubt, may again be raised to the enactment of the prohibitory Law which they recommend ; and they can well imagine that its enforcement may occasionally be evaded, may often prove troublesome, and may sometimes be difficult ; but in support of their proposal, it is necessary to point out that with scarce one exception the opinion of all the Medical Officers of Government in Civil employ, or in charge of Town Hospitals and Dispensaries, is in favour of the abolition of Inoculation as an essential pre-requisite *step* to the general and permanent diffusion of Vaccination ; that in several districts of the country—in Tirhoot, Bhagulpore and parts of Assam, &c., (Appendix pages cccxiv, cccxxv and cclxvi,) by the energetic and humane exertions of the Civil authorities, the practice has been already in this way suppressed, and the Inoculators excluded, and bound over not to practise again in the District ; and that at Darjeeling, Cherrapoonjee and several other places from which Inoculators are thus excluded, the Smallpox has been for years past, unknown. (Appendix pages cclxvi and cclxxvii.)

70. It is believed also that all the Magistracy of Bengal are decidedly in favour of the proposed substantive measure, and that they require only to have the given authority of Government, in order to enforce it as Law, anticipating neither great difficulty nor opposition from any body. Finally, the long lists of names of wealthy and respectable native Baboos in Calcutta, and elsewhere (Appendix page clxxiv) on the best authority, shew that already a great mass of the



intelligent, respectable and wealthy Native inhabitants of the metropolis and of the country generally, although not perhaps constituting the majority of the population, profess their perfect readiness to abandon Inoculation, and their willingness to adopt Vaccination, and in some instances their decided preference of it as a safe measure, to the undeniably dangerous one of Inoculation.

71. The above considerations we would hope will prove sufficient to afford to His Honor a satisfactory assurance both of the probable popularity, and the certain practicability, of the proposed Measure, which nevertheless the Committee has already urged upon far higher grounds, namely, its present and pressing expediency.\*

\* From the *London Medical Gazette* of 10th May the following "Medical Intelligence" is quoted.

*"The Vaccine Report for 1850."*

"The Registrar General remarks in this Report that few of the victims of Smallpox had been vaccinated, and that in one city, Norwich, between 200 and 300 persons were allowed to perish through the negligence of their parents in failing to avail themselves of the protection discovered by Jenner and placed at their disposal by the Legislature. It is complained that through the inattention of the public, sufficient statistical returns are wanting, notwithstanding repeated requests, to enable the Board to judge accurately of the extent of Vaccination in the United Kingdom. A Report to the Poor Law Commissioners is referred to in confirmation of what they have advanced, from which it appears that taking 627 Unions and Parishes in England and Wales, in the year ending September 1848, the number of persons under one year who were vaccinated, exclusive of those vaccinated at the cost of their parents, amounted to no more than 33 per cent. of the *total births* registered in the same period. Finally, attention is drawn to the absence of efficient measures of *Medical police calculated to check the progress*, or, if possible, extinguish this fatal disease. The Report concludes by a reference to the more rapid progress of Vaccination in Foreign Countries, owing to the *municipal measures or legislative enactments there adopted to promote its dissemination*, urging that unless a similar course be followed in England, it can never hope to be freed from its frightful scourge."

These latter grounds, if valid at all, ought, in our opinion, to outweigh in the eye of the Legislature all such futile objections as have their origin and support solely in ignorance, prejudice, and timidity, and which derive no countenance whatever from any religious prescription, or ancient popular usage.

72. But the Committee, in recommending the abolition of Inoculation, rely chiefly on the example of the British Legislature, which in July 1840, passed an Act of Parliament III. and IV. Victoriae, strictly prohibiting Smallpox Inoculation by any person soever, under the penalties of Felony. This Act (which is given at length in the Appendix page xiii,) provides as follows—

1st. "Poor Law Guardians to contract with the Medical Officers, or other Medical Practitioners for Vaccination.

2nd. "Guardians to conform to the Rules and Regulations of the Poor Law Commissioners.

3rd. "Medical Officers to report numbers successfully vaccinated, &c.

4th. "Contracts to be submitted to the Poor Law Commissioners.

5th. "Contracts to be annulled if not approved of by the Poor Law Commissioners.

6th. "Guardians of Poor Law Unions in Ireland to divide their Unions into districts, &c., and make annual contracts with Practitioners.

7th. "Previous provisions with respect to Unions in England and Wales, to apply to Ireland.

8th. "Punishment of Persons Inoculating, or otherwise producing Smallpox.

9th. "Interpretation of words used in this Act."

73. We would most respectfully submit that if in an enlightened country such as England, where the freedom of judgment and action is wholly unfettered; and where, in the exercise of such freedom, the practice of Inoculation was allowed to have full scope

long after it had been absolutely abolished in every other civilized Country in Europe; where Vaccination too was first discovered, and had therefore been longest practised, and its uses and benefits had become universally known to the people; where also it had all along met with the greatest public encouragement and support; it nevertheless was even there found necessary for the protection of the Community at large, and the salvation of the unthinking and improvident poor, to enact an arbitrary Law, and to expel from its shores the producers and the patrons and the promulgators of this murderous poison, then indeed is it the tenfold duty of the British Government of India to bestir itself now before further sacrifice of life is made, and to save from wilful self-destruction the ignorant and thoughtless millions, whom Providence has committed to its care and protection, and whose passive and confiding submission to British Rule should appeal more forcibly than any arguments to the humanity and generosity of Englishmen.

74. The Committee have not been able to procure any Parliamentary or other public Statistical documents, shewing the results of the above Act of Parliament since it came into operation, but it is understood to have worked well; for though not nominally so, yet in its practical effect, it became an Act for enforcing Vaccination on the whole population. With the penalties of that Act staring them in the face there was no choice, but that of accepting Vaccination, or exposure to the Casual Smallpox. The latter alternative, (coupling with it a passage through life in a state of constant and miserable suspense, the disorder perhaps seizing upon the individual at last

under circumstances the most distressing,) was such as no parent could seriously hesitate in rejecting, when once set before him. The whole population of England and Wales were, therefore, by this Act, virtually compelled to submit to Vaccination whether they liked it or not. At present in India the case is different; while Inoculation is allowed, no one can be blamed for adopting it; but this very licence, it is now seen, has mainly tended and still tends to obstruct the progress of Vaccination; and as was predicted so truly by the Medical Board in 1804, it has well-nigh at length succeeded in "defeating the benevolent designs of Government in founding a national Vaccine Institution."

75. Nor have the Committee been able to obtain documentary evidence of the mode and means by which the provisions of the Act for the better promotion of Vaccination in England and Wales have been carried out; but we are of opinion that the *Principles* on which its provisions are based are essentially sound, and are therefore perfectly applicable, and may be perfectly well adopted in India and everywhere else. These principles are—

*First.* The prohibition of Inoculation by the Supreme authority.

*Second.* The maintenance by Government of an unexceptionable Vaccine Lymph, particularly in populous cities.

*Third.* The liberal distribution of it to the poor, by trustworthy, and duly qualified Professional men.

76. SECOND SUGGESTION.—The details of any such scheme for Bengal might be entrusted to a Vaccine Board or a select body of Vaccine Commissioners,

authorized as the Poor Law Commissioners are at home, to contract with any duly qualified medical men, European or Native, or medical practitioners in particular Districts for the Vaccination of the poor; the persons so contracting being obliged to report their operations systematically and statedly to the Superintending Surgeons of Divisions, or the Local Magistrates, or some other competent Civil authority.

77. The following particulars have been obligingly supplied to the Committee by a Gentleman well qualified to do so by his position as Deputy Lieutenant of the County of Surrey, and his familiarity with the administration of the Poor Law in England; to which we beg particular attention.

QUESTIONS TO J. W. SUTHERLAND, ESQUIRE.

CALCUTTA, 5th May, 1850.

*Ques. 1st.* How long have you been a Magistrate of Croydon, and are you acquainted as such with the working of the Vaccine Extension Act of 1840?

*Ans. 1st.* I have held Her Majesty's Commission of the Peace, and acted as a Magistrate of Croydon for 14 years; also as an *ex-officio* member, and at one time chairman of the Croydon Union. I have had ample opportunity of noting the beneficial working of the Act you mention.

*Ques. 2nd.* Will you be good enough to inform the Committee what class of men are employed as Vaccinators?

*Ans. 2nd.* They are all regularly licensed Medical-men, practising in the Town of Croydon.

*Ques. 3rd.* How are they selected or nominated?

*Ans. 3rd.* They are selected and nominated by the Board of Guardians, subject to the confirmation of the Poor Law Commissioners in London.

*Ques. 4th.* How are they remunerated?

*Ans. 4th.* A fee of 1s. 6d. is paid by the Board of Guardians for every case of "successful Vaccination."

*Ques. 5th.* Do they receive fees or a salary for the performance of any other professional public duties assigned to them?

*Ans. 5th.* The same Gentlemen may also attend on Midwifery cases, and are entitled to 15s. 6d. for each case. Both Vaccine and Midwifery cases are reported by them regularly at the weekly meetings of the Board, and are entered in regularly kept Books. Many of those Gentlemen are also regularly employed, and salaried "Medical Officers" of one or more of the Districts or Parishes comprised in the Union. But other private practitioners, resident in Croydon, may also claim the same fees for Vaccination or Midwifery cases occurring among those entitled to Parish Relief.

*Ques. 6th.* Is it imperative that persons requiring Vaccination shall come to such Medical practitioner, or is he obliged to visit them for the purpose if required to do so?

*Ans. 6th.* By the Act it is incumbent on the Parents to bring their children to the residence of the Medical Officer or to the Workhouse, for the purpose of Vaccination. But it frequently happens that in the course of their professional rounds the operation is performed, and the necessary inspection made at the house of the parties vaccinated.

*Ques. 7th.* How is the accuracy of the Vaccinator's reports, both as to number and success of his operations, tested and ascertained?

*Ans. 7th.* A regular Book of entries or registry is kept by each Medical Officer of the Union; and this is submitted for inspection and confirmation every week to the Board of Guardians at their weekly meetings, as I before said. These Reports are capable of corroboration, or otherwise, by the "Relieving Officer" of the District in which the case or cases arise, who, in the exercise of his daily duties, while visiting and relieving the poor, becomes necessarily cognizant of what has been done by the Medical Officer. During the long period of my own experience as a Magistrate and *ex-officio* Member of the Board of Guardians I have never known an instance of the slightest doubt or suspicion attaching to the Report of the Medical Officers. The heart and soul of our Medical Officer (Mr. Bottomly) was in his work, and the other Medical Officers very generally discharged their duties satisfactorily.

*Ques. 8th.* Is Smallpox Inoculation now ever attempted, or sought for? Have you had occasion to punish it?

*Ans. 8th.* I believe it is still surreptitiously practised by some unprofessional men, and is certainly sought after still among the ignorant and poorer classes. I have never had a tangible charge, however, laid



before me under the Act. On one occasion, from information derived from the Police, I was led to believe that the existence of Smallpox in my neighbourhood was attributable to Inoculation. I caused public notice to be given that all persons found guilty of offending against the provisions of the Act, would be proceeded against with the utmost rigour of the Law. Since then I have not been able to trace the origination or spread of Smallpox to the practice of secret Inoculation.

*Ques. 9th.* Is Vaccination popular in Croydon? Can you say what proportion of children born in any year remain unvaccinated after attaining 12 months of age?

*Ans. 8th.* I should say that Vaccination is *universal* among the upper and middling classes of the people. But I cannot venture to answer the latter part of the question. I have no doubt the information, in most authentic form, is obtainable at the Office of the "Registrar General."

78. The following letter addressed to Dr. G. H. Alloway, formerly one of the principal Medical Officers at one of the largest Hospitals in Dublin, and till recently a practitioner in that City, has also elicited some very valuable information relative to the working of this Act in Ireland.

FROM DR. D. STEWART,  
TO DR. GEORGE H. ALLOWAY, M. R. C. S.

DEAR SIR,—The Smallpox Committee desire me to apply to you, with a request that you will obligingly favour them with answers to the following questions:—

1. In what way are the provisions of the Vaccine Extension Act of 1840 carried out in Ireland, and more especially in Dublin?
2. What class of professional men are engaged or contracted with for vaccinating the poor?
3. What remuneration is given for such cases?
4. How are the accuracy of their Returns, and the success or failure of their operations ascertained?

5. Is Vaccination popular in Ireland? To what extent is it practised in Dublin?

Your early reply will very much oblige the Committee.

Your most obedient Servant,

D. STEWART, M. D.,  
*Off. Secy. to the Committee.*

CALCUTTA, }  
3rd May, 1850. }

DR. ALLOWAY'S REPLY TO THE ABOVE.

CALCUTTA, 4th May, 1850.

DEAR SIR,—It gives me great pleasure to reply to the questions submitted to me through you, by the Smallpox Committee.

1. The Provisions of the "Vaccine Extension Act" of 1840 are carried out in Ireland by the different "Boards of Poor Law Guardians" in their respective districts, in the following manner. In some districts once in 12 months, and in others once in every 6 months, candidates possessing the necessary qualifications are publicly requested to send in *tenders for contracts* for the ensuing period, at so much for each successful case. It does not follow that the lowest offer is accepted; the Board have the power of taking into consideration other reasons for determining their choice. In Dublin the same course is pursued, except that each Poor House district is subdivided; the contracts are frequently given to a Hospital when centrally situated, and where there is none such, to some resident practitioner approved of by the Board.



2. None but a properly educated and (where possible) experienced Physician or Surgeon is now selected; many cases of Vaccination are imperfect, which might be certified as *successful* by an inexperienced person, and which would be no protection against Smallpox, and would only tend to bring Vaccination into disrepute with the lower orders of the people. This was found to be the case when the Act was first put in force in the country parts of Ireland; the Boards of Guardians through mistaken economy giving the contracts to Apothecaries and their assistants, who considered it quite sufficient to perform the operation; but not carrying out the spirit of the Act, they were enabled to take the contracts at a low rate.

3. The remuneration in Ireland was at first about the same as the average in England, namely, 1s. 6d. for each successful case, but for the reason mentioned in the last paragraph it was found needful not to take the lowest tender in all cases, as it was a matter of great consequence in Ireland, to take every possible step to inspire the lower order of people with confidence in Vaccination, and to remove their strong prejudices in favour of Inoculation, and this could not be more effectually done than by taking great care to *ensure success* for the first few years.

The contracts afterwards approved of, were generally at 2s., or in some remote places 2s. 6d. for each successful operation.

4. The accuracy of the Returns must, of course, depend greatly on the integrity of the Vaccinator; this was one reason why it was found inexpedient in Ireland always to take the lowest offer.

No cases were *returned* unless those certified as *successful*. If there was any cause apparent why success should not follow the operation of Vaccination (such as disease of the skin, &c.) it was removed before another attempt was made; if there was no apparent cause, it was repeated with additional precautions to ensure the absorption of the Vaccine lymph; but in no case was there any Return of failures enjoined.

Each Vaccinator was furnished with a book of Certificates in the form of a Bank Cheque Book. On the success of each case being ascertained one of these Certificates was filled up by him and delivered to the parents of the child; another book was also kept by him in which each Case was noted; when this book was filled, it was deposited with the Secretary of the Board of Guardians. The people were enjoined to preserve these Certificates, and it was held out to them that future advantages would result to the possessors of them in entering Government employ, and in other ways; and latterly emigrants were refused a free passage unless they could produce evidence of the younger members of the family having been vaccinated. In England this was not so necessary where there was little or no prejudice in favour of Inoculation; but in Ireland where Inoculation was practised to a large extent in the agricultural districts, and where Smallpox annually raged, it was at first necessary to hold out some prospect of future benefit to induce them to come forward willingly.

5. Vaccination was not at all popular in Ireland at first; we were obliged to bring many to punishment before the itinerant Inoculators were suppressed; and even in many cases to extend the punishment to

*the parents*, which in Ireland seemed to have more effect. Vaccination is now general,—being the rule,—and Inoculation the rare exception : in Dublin for many years Vaccination has been general. I do not believe that any case of Inoculation ever occurs there now.

I am, dear Sir,  
Your obedient Servant,  
(Signed) G. H. ALLOWAY.

79. It will be seen that a fee of one shilling and six pence is paid in England, and of two shillings and six pence in Ireland to the Medical practitioner holding the *contract* for Vaccination for every case “ successfully vaccinated ” by him ; and although this Committee do not presume to prescribe the limits of Government liberality in India, nor to estimate the value to the country at large of every life thus rescued from imminent peril, yet we may be allowed respectfully to suggest that the sum of 8 annas for each *successful case* might fairly be allowed in India to the Medical Officer employed, and that where no contract can be made with a qualified *resident* practitioner, a fixed monthly salary should be also given to a Vaccinator during six months of the year.

80. THE THIRD SUGGESTION, which the Committee have to offer is, that which was recommended by the Medical Board in their letter of 16th November 1848 (Appendix page cccclvii) viz., that except at large Towns, or at Hill Stations, the practice of Vaccination by the Government contracting Officers should be discontinued during the hot Season and Rains, but be resumed annually in October, so as to anticipate the usual period of annual invasion of Smallpox, and

should then be carried on actively from 1st October to March 31st, in all the villages of Bengal, and have the special co-operation of the Civil Authorities in every possible way, not compulsory.

81. FOURTH SUGGESTION.—It is thought by the Committee that besides the Native Vaccinators thus employed, it will be necessary that a certain number of Medical Officers of the Company’s Covenanted Service on fixed salaries and with travelling allowances shall be appointed, as at Bombay, Superintendents of Vaccination over certain districts, who shall, during the six months before named, be directed to travel round the towns and villages in which the contracting Vaccinators are employed, and minutely to inquire into their proceedings, and satisfy themselves of their fidelity, competency and activity, reporting thereon at the end of their tour of visitation to the Government Commissioners or Vaccine Board. Whether these Gentlemen should be permanently attached to the Government Vaccine Staff, or be appointed annually for this special duty, which necessarily occupies them for only six months of the year, is not a matter for this Committee’s consideration.

82. FIFTH SUGGESTION.—The Committee are of opinion that all recruits for the Company’s Army and Navy should be vaccinated, as is done in Madras, and in the Queen’s Service ; and that minute and careful returns of all such operations should be made by the Company’s Military Surgeons to the Superintending Surgons of Divisions similar to those of the Queen’s Army (as described by Surgeon W. Harvey of Her Majesty’s 70th Regiment, in his letter to the Secretary of this Committee, given in the Appendix page clii.)

83. SIXTH SUGGESTION.—The Committee consider that in abolishing Smallpox Inoculation the large body of men hitherto occupied in that business will be thereby suddenly deprived of a part of their wonted income; also that these men have heretofore been publicly practising with the full knowledge of Government an honest and thriving trade, laying claim to something of a religious character, and which is generally popular; further that this practice has never been prohibited nor objected to by the Government; and under such circumstances it is the opinion of this Committee that, should a prohibitory Law be now enacted, which must necessarily deprive these men of a portion of their income, they are fully entitled to some compensation for the privation they will thereby suffer. Not so, however, with the priesthood and Brahmins; for it has been declared by the highest Hindoo Law authority, expressly and distinctly, that, “the Vaccine disease is in reality a modification or variety of Smallpox. Such being the case, virtuous Hindoos when vaccinated, should, with veneration, faith, and purity, observe the same religious ceremonies they do when attacked with Smallpox.” The Brahmins, therefore, can lose nothing by the abolition, and it will be their interest to promote Vaccination.

The Committee would, therefore, recommend that the proposed Vaccine Commissioners should be directed to take evidence and collect information regarding the actual annual receipts of each of the long established *Ticcadars* in the country, and to apportion to them (with the consent of Government) a moderate equivalent compensation, not exceeding one year's income, computed from the average of 5 years' receipts,

for the compulsory relinquishment of this branch of their business.

It would of course be necessary in all such cases to exact from each a formal engagement, under very heavy penalties, that they shall thenceforth cease from inoculating; and it might still be discretionary with the Commissioners to grant to any of them, after due examination, and trial, and securities given, a licence or *contract for vaccinating* should they desire to adopt that, instead of the prohibited practice, and be considered *qualified*.

84. To enumerate briefly these suggestions, they are as follows:

*First.* The prohibition of Smallpox Inoculation under Penalties.

*Second.* The appointment of a Vaccine Board, and the employment as Vaccinators of duly qualified professional men only, by contract, at 8 annas for every case “successfully vaccinated.”

*Third.* The discontinuance of these contracts, and of Vaccination, by Government Officers during six months of the year, from 1st April to 31st September.

*Fourth.* The appointment of several Covenanted Medical Officers, as at Bombay, to travel through the country during the other six months of the year, visiting all the Vaccine Depôts within a certain District, encouraging, practising and promoting Vaccination, examining strictly into the proceedings of the contracting Native or other Vaccinators, and reporting annually to Government.

*Fifth.* The Vaccination of all Recruits in the Army and Navy, and the institution of regular Vaccination



Returns from Army Surgeons as in Her Majesty's Service, and the Madras Army.

*Sixth.* The grant of a moderate compensation to the *Ticcadars* who shall by the proposed Law be debarred from henceforth earning a *livelihood* in this way, such compensation to be estimated by the Board of Commissioners, and submitted by them to Government.

85. Many other suggestions have occurred to the Committee as worthy of being submitted to His Honor's consideration, in connection with the objects of this Report, they being such as relate to Sanitary improvement, drainage, sewerage, and ventilation of the Town, the Registration of births and deaths, and diseases causing death, in all the towns of Bengal, the establishment of Smallpox Hospitals, and compulsory removal of the infected to them, &c. &c.; but the Committee feel assured that all these matters will have His Honor's consideration at a more fitting time; and they therefore abstain at present from doing more than alluding to them, being anxious to conclude this Report, and to express their earnest hope that no time may be lost before the important present subject of Smallpox *prevention* may be dealt with by the Legislature of Bengal.

86. Besides the above, a number of other plans and proposals have been laid before us by persons sincerely anxious to promote the more general diffusion and efficiency of Vaccination among the people of Bengal. Many of these we think very good, and calculated to have this effect, in more or less degree; but being mostly all of them founded on partial and imperfect views of temporary expediency, or of local

applicability, we deem them secondary to that more comprehensive and substantive measure which the experience of nearly half a century has now taught us to consider essentially necessary, as a *preliminary* to any general scheme for this purpose in India, however zealously promoted by individual philanthropy or lavishly supported by a liberal and humane Government.

87. To one only of these schemes we would beg to direct His Honor's notice as in our opinion advisable at least in Calcutta, at the present juncture, when threatened with a renewal of the Epidemic. It is that which was recommended by the Superintendent General of Vaccination in his published Report on Smallpox in 1844, (page 252), namely, "the bestowal of a small sum of money, on every poor native Mother, who should carry her infant to one of the Town Dispensaries for the performance of the Vaccine operation by the Resident Medical Officer, and should present herself again there on the 6th or 8th day following, with the same child, for *inspection* and registration, and to *supply* from its arm fresh *lymph* to vaccinate others with."

88. Dr. Stewart informs us that in March of the present year he obtained the ready sanction of Government to the distribution in this way of the sum of Rupees 112-13-0 *per mensem*, as an experiment for 3 months; (Appendix page cxciv) and it will be seen from the Reports of Mr. Daly, Mr. Naylor and Mr. George, that the best results may be expected from this plan in Calcutta, if followed out under vigilant superintendence, and at the fitting Season: Dr. Stewart states that owing to the advanced season of the year,



and other untoward circumstances, he felt obliged to relinquish the experiment at the end of one month; but that he intends to make a special application again to Government, through the Medical Board, for leave to renew the attempt so soon as the annual supply of fresh lymph arrives from Europe in October, and the proper Season for vaccinating shall again commence.

89. The Committee entertain a sad and serious apprehension that although the extreme violence of the present Epidemic has now subsided, in accordance with the usual course of such visitations in Calcutta, it will certainly burst out again with renewed fatality, in the month of December next, unless immediate and active measures are taken for its prevention, and for the diffusion of a genuine Vaccine protection early in the cold weather.

G. LAMB, *Physician General.*

J. FORSYTH, *Surgeon,*

*Secy. Medical Board.*

RUSSOMOY DUTT,

*Judge, Small Cause Court.*

W. T. LAW, *Supt. Police of Calcutta.*

RAMGOPAUL GHOSE.

MODOOSUDUN GOOPTO,

*Pundit, &c. Medical College.*

D. STEWART, M. D., *Pres<sup>y</sup>. Surgeon.*

*and Supt. Genl. of Vaccine.*

CALCUTTA, }  
1st July, 1850. }

# SUPPLEMENTARY NOTE

BY

DR. D. STEWART.

THE Superintendent General of Vaccination is happy to be able to add to the preceding Report that while these pages have been passing through the Press, he has received by the Overland Mails of 26th July and 7th August, two most ample supplies of fine English Vaccine Crusts and Lymph on glasses and ivory points, which had been forwarded to him through the India House by the Medical Director of the London Vaccine Institution, with his wonted annual punctuality and care.

From the first of these Packets he found himself able to spare a few Crusts, &c. for dispatch to Moulmein by the out-going Steamer of the 9th instant, in compliance with the earnest solicitations of several Medical Officers in the Tenasserim Provinces for an early supply of Lymph; from the remainder he has been fortunate enough, notwithstanding the still unsuitable state of the Season, to "vaccinate successfully" several Bengallee children, and he hopes by practising and enjoining the utmost vigilance in every case of transmission from these to others, towards the end of next month, (after the *Doorgah Poojah* holidays,) to be in a position to supply the Profession and the Public in Town and Country with unexceptionable Vaccine.

21, CHOWRINGHEE ROAD, }  
19th September, 1850. }