



***FLORENCE
NIGHTINGALE***

***SANITARY
STATISTICS
OF NATIVE
COLONIAL
SCHOOLS AND
HOSPITALS***

A photograph of a wooden surface, possibly a table or floor, with a glass bottle and a surgical mask. The bottle is partially filled with a clear liquid and has a dark cap. The mask is white and lies flat on the wood. The lighting is soft, creating a warm, slightly aged atmosphere.

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STATISTICS
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Florence Nightingale

Sanitary Statistics of Native Colonial Schools and Hospitals

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SIERRA LEONE.

NATAL.

MELBOURNE. VICTORIA.

SOUTH AUSTRALIA

WESTERN AUSTRALIA.

Ceylon.

Malta.

Mauritius.

Canada.

Manitowaning.

New Zealand.

Colonial school returns.

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It appeared of great importance to ascertain, if possible, the precise influence which school training exercised on the health of native children. And I applied to the Colonial Office for aid in carrying out such an inquiry. The Duke of Newcastle entered warmly into the subject, and offered at once to call for any information which might throw light on it. I had a simple school form prepared and printed, copies of which were sent by the Colonial Office to the Governors of the various colonies. Returns were made from a large number of schools, but as no information has been received from many more, I presume the school statistics did not afford the means of supplying the required information. {4}

I have received, through the Colonial Office, filled up returns from 143 schools, in Ceylon, Australia, Natal, West Coast of Africa, British North America, the results of which are given in the accompanying series of tables.

pp. [20](#) to 26.

Table A. gives the name and date of opening of each school, the numbers of years included in the Return, the average number of native children, their sexes and ages for quinquennial periods, together with the mortality for the period included in the return. The results of this table for all the colonial schools are given in the reduction Table A. a., which states the total average attendance for all the schools in each colony, together with the total deaths, arranged in quinquennial periods, so far as it could be done. This table merely gives the general numerical results; but as the

periods vary considerably it has been necessary to reduce the data under one common denomination, to obtain the absolute annual rate of mortality. This has been done in the Tables B, C, D, E, F, which show the years of life and the mortality for each sex and age.

p. 26 .

Table A. a. shows that the average attendance of all ages at these schools has been 7,485 boys, and 2,453 girls, making a total of 9,938 as the number of children on whom the rate of mortality has been obtained. A small proportion of these children, only 672 boys and 422 girls, were under 5 years of age. There were 3,546 (2,651 boys and 895 girls) between the ages of 5 and 10. Between the ages of 10 and 15 there were 3,268 children, viz., 2,288 boys, and 980 girls. At the age of 15 and upwards there were 1,391 boys, and only 156 girls, attending school.

The total deaths, for the various periods, on this school attendance were 451 boys and 132 girls, of all ages, besides 79 boys and 39 girls who are returned as leaving school *annually* to die at home. It is important to remark that, out of a total average school attendance of 9,938, only 235 boys and 82 girls are stated to leave school annually from ill-health.

pp. 27, 28.

The relative mortality of boys and girls attending these schools is shown by Tables B. to F.

The death rate, it will be observed, varies considerably in different colonies. It is least among the native children at Natal, where a little more than five males per 1,000 and three females per 1,000 die annually. The Ceylon schools give a death rate of $14\frac{1}{2}$ per 1,000 per {5} annum for boys

and about 3 per 1,000 per annum for girls. But, including deaths among children who leave school to die at home, this rate would be nearly doubled.

The Indian schools in Canada afford a total annual death rate of $12\frac{1}{2}$ per 1,000 for both sexes; but the mortality of girls is nearly double that of boys.

The Sierra Leone schools afford a very high rate of mortality, viz., 20 per 1,000 for males, and 35 per 1,000 for females.

The Western Australian schools yield the highest death rate of any, nearly 35 per 1,000 for boys and 13 per 1,000 for girls.

These death rates are of course only approximations to the truth. But on any supposition they are very high.

It is important to compare these death rates with those of children of the same ages at home. But we have only the means of doing so for 5 years of age and onwards. The home rates are given in Table E., which shows that from 5 to 10 the total mortality of both sexes is 9·2 per 1,000 at home. From 10 to 15 it is 5·3 per 1,000. Above 15 the home mortality is 8·4 per 1,000. Making allowance for native children dying at home, we shall be within the truth in assuming the mortality of native children at school as double that of English children of the same ages.

Table G, p. [29](#).

The next point of the inquiry is to ascertain the nature of the fatal diseases. And here we find a remarkable difference in the returns from different colonies. Thus out of 190 deaths in the Sierra Leone schools, all except 8 are due to

small pox, measles, and hooping cough, scarlet fever, and other forms of fever.

In the Ceylon schools these same diseases, with the addition of diarrhœa, dysentery, and cholera, give rise to 261 deaths out of a total mortality of 341. In contrast with this great prevalence of miasmatic diseases, the West Australian schools yield only 2 deaths from children's epidemics, out of a total mortality of 9.

In the Natal schools three children died of miasmatic diseases out of a total mortality of 16, while in the Canadian schools there is only one miasmatic death out of a total mortality of 27.

The adult natives at many of the colonies are considered specially subject to tubercular diseases, more particularly consumption. This class of diseases is indeed supposed to be a main cause of the gradual decline and disappearance of uncivilized or semi-civilized races. {6}

The facts, as regards these colonial schools, are as follow:—

Amongst the Sierra Leone children there is only one death from consumption and one from scrofula reported out of a total of 190 deaths. In the West Australian schools two of the nine deaths arose from consumption. In the Natal schools there was one death from consumption and one from scrofula out of 16 deaths. But there died seven children of other chest diseases besides consumption. The Ceylon schools yielded seven deaths from consumption, five from other chest diseases, and one from scrofula, out of a total mortality of 341.

Table S, p.47.

These figures, so far as they go, show comparatively little liability to consumptive diseases among children in these colonies. But there is a native training institution in South Australia, in which a very large proportion of the mortality is due to tubercular diseases. Scrofula, phthisis, and hæmoptysis are returned as having occasioned 69·6 per cent. of the total mortality in the institution, among males, and 61·9 per cent. among females. When we cross over to Canada we find that, out of a total mortality of 27, 16 deaths arose from consumption and five from scrofula. Indeed all the specified deaths arose from tubercular disease except one solitary death from fever.

I will next describe shortly the method of the school education, with its probable influence on the children's health.

pp. [30](#) to 39.

The facts under this head are given in the form of notes to each school return. I have had them thrown together, for the sake of comparison, in Table H., the general results of which are as follow.

Many of the school houses are described in the returns as of bad construction, and ill situated for health, and the ventilation very insufficient. Some of them are unfavourably situated for free external ventilation, or their local position is damp and subject to malaria, the results of which, as well as the results of general defective sanitary condition in their vicinity are evidenced by the great prevalence of miasmatic diseases, such as fevers, diarrhœa, dysentery, and even cholera, among the children.

The period of tuition varies considerably, from two up to ten or more years. The school instruction is generally five; in

a few cases, six days a week. At a few stations {7} nearly half the year is allowed for holidays. But generally the holidays are from two to six or eight weeks.

In most of the schools there seem to be no play hours on school days. When play hours are allowed these are from half an hour to two hours. At about a dozen schools only is there any out-door work combined with instruction. The largest amount of this work is given in the Natal and Canadian schools. Out of the whole number there are only nine schools at which there is any attempt made at combining the elements of physical education with the school instruction, and even where this is done the measure is partial and inefficient, being confined to a few exercises or simply to bathing. The obvious physiological necessity of engrafting civilized habits on uncivilized races gradually through the means of systematic physical training appears to be nowhere recognized, except at New Norcia (Benedictine) school, Western Australia, on the return from which there is the following very important statement:—Gymnastics are stated to be necessary to prevent sickness, and the reporter proceeds, “The idea of bringing savages from their wild state at once to an advanced civilization serves no other purpose than that of murdering them.” And the result of the out-door training practised at this school is said to have been hitherto successful “in preventing the destructive effects of this error.”

Appendix II. p. [62](#).

Confinement appears to be peculiarly injurious to the aborigines of South Australia, for the Governor states that he “almost always finds it necessary to release prisoners before the expiration of their sentences, as death is apt to

ensue from any prolonged confinement.” Even partial confinement in schools, he thinks, injuriously affects the native constitution.

Another very important observation bearing on the necessity of careful consideration of habits is recorded on the return from one of the Natal schools. It might be supposed that one of the most obvious duties in bringing native children to school would be to clothe them, but nevertheless clothing an uncivilized child requires care.[†] In their natural state they expose themselves to torrents of rain which, runs off them, and they are easily warmed {8} and dried at the hut fire. But it is stated that, when clothed in flannel and jersey, they get chilled by the rain, and that pulmonary diseases ensue as a consequence.

[†] People have been asked to assist in making clothing for the Kaffir tribes whom missionaries were going out to address, that the feeling of decency might not be offended in addressing the naked.

The method of conducting colonial schools appears to be based on our home system, without reference to physical training or other local conditions affecting health. This fact, together with the high rate of mortality, is the most prominent result of our inquiry. And although there is not sufficient evidence to show to what extent the school education increases the mortality, there is strong reason to believe that it is a cause. By far the greater part of the mortality is the direct result of mitigable or preventible diseases.

In all the schools within or near the tropics the miasmatic class of diseases occasions most of the mortality at the earlier periods of life. A considerable proportion arises from

small-pox, showing bad management of children, and that vaccination is either neglected or imperfectly performed. The other fatal diseases are mainly those which in this country are connected with bad drainage, deficient and bad water supply, overcrowding, and want of sufficient house accommodation and cleanliness. In the Canadian schools consumption and scrofula appear to occupy the place of miasmatic diseases. But there is nothing in the school education, as described in the returns, sufficient to account for their special prevalence in these schools. The causes must probably be looked for in the close foul atmosphere of the native dwellings in a climate where warmth is more likely to be sought by closing every opening capable of admitting fresh air than would be the case in warmer latitudes, together with exposure and other conditions depressing to the general health.

Although these returns show the necessity of making systematic physical training and bodily labour at useful occupations an element absolutely essential and never to be neglected in the training of uncivilized and half civilized children in civilized habits and trains of thought, there is nothing to show that education properly conducted tends to the destruction and disappearance of native tribes.

The general result may be summed up in the following words: "Educate by all means, but look carefully at the problem with which you have to deal, and above all things never forget that education everywhere, but more {9} especially with uncivilized tribes, must always include physical training and useful work."

Colonial hospital returns.

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Besides this statistical inquiry into the condition of schools, I had forms prepared for colonial hospitals into which natives are received for treatment, in order to compare the school diseases with those prevailing among the adult population. They were sent to the colonies, also by the great kindness of the Duke of Newcastle. And returns have been received from the following hospitals:—Free Town, Sierra Leone, Cape Coast, Natal, Mauritius, Colombo and Malabar, King William's Town, Kaffraria, and from two native hospitals in Canada.
pp. [40](#) to 53.

These returns were applied for as affording the only means of arriving at a knowledge of the prevailing classes of diseases among natives and of the relative mortality from each class. Abstracts of the returns, showing the mortality on the admissions for different sexes and ages, and the relative per-centages of mortality from each disease, are appended. (Forms I. to Y.) Of course the results can be relied on only so far as they represent the proportions admitted and dead from each disease, taken on numbers often hardly sufficiently large for statistical purposes. On account of the smallness of these numbers, I consider the results as only approximations, which I give because there is nothing better to be had. The tables do not enable us to ascertain directly the state of health or rate of mortality of the native population; but they afford us in an indirect manner a considerable amount of important information as to the diseases from which natives suffer. The hospital statistics