

ST. MARY'S

HOW PEOPLE MAY LIVE

AND

NOT DIE IN INDIA.

BY

FLORENCE NIGHTINGALE.

LONDON:
LONGMAN, GREEN, LONGMAN, ROBERTS, & GREEN.

1864.

Price Sixpence.

C. 1x 78

BC: 22500479620

HOW PEOPLE MAY LIVE AND
NOT DIE IN INDIA.

BY

FLORENCE NIGHTINGALE.

*(A Paper read at the Meeting of the National Association for the Promotion of
Social Science, Edinburgh, 1863. Reprinted by order of the
Council, Aug., 1864.)*

LONDON:
LONGMAN, GREEN, LONGMAN, ROBERTS, & GREEN.

—
1864.

14853791

Nightingale Coll.



LONDON:

EMILY FAITHFULL, PRINTER AND PUBLISHER IN ORDINARY TO HER MAJESTY,
VICTORIA PRESS, 83A, FARRINGDON STREET, E.C.

pam

WA 100

1864

N 68h

P R E F A C E.

THE REPORT of the Royal Commissioners on the sanitary condition of the Indian army was signed on May 19th, 1863. The following short abstract of some of the leading principles in that Report was read at the Edinburgh meeting of the Social Science Association held in October of the same year. It is now reprinted in consequence of many applications made for copies, on the ground that the paper had been found useful for soldiers and others interested in the Indian health question. Since the inquiry of the Royal Commission was begun, several great measures advocated in the Report and urged in the following pages, have been carried out. A Commission of Health has been appointed for each Presidency. And one of these Commissions, that for Bengal, has given public evidence of the zeal with which it has entered on its work. These authorities have been put into communication with the Barrack and Hospital Improvement Commission at the War Office, which now contains members representing the India Government. And by this time the India Commissions have been put in possession of all the more recent results of sanitary works and measures which have been of use at home.

The military authorities in India have also been actively engaged in improving the soldier's condition. And several of the worst personal causes of ill-health to which the soldier was in former times exposed have been or are being

removed. The introduction of soldiers' gardens, trades, and workshops, which was begun in India a number of years since, has seen its happy results. The men have begun to find out that it is better to work than to sleep and to drink, even during the heat of the day.

One regiment marching into a station, where cholera had been raging for two years, were "chaffed" by the regiments marching out, and told they would never come out of it alive. The men of the entering battalion answered, they would see; we *won't* have cholera, they think. And they made gardens with such good effect that they had the pleasure, not only of eating their own vegetables, but of being paid for them too by the Commissariat. And this in a soil which no regiment had been able to cultivate before. And not a man had cholera. These good soldiers fought against disease, too, by workshops and gymnasia.

At a few hill stations the men have covered the whole hill-sides with their gardens.

Government gives prizes to the best gardeners. And means of employment and occupation for the troops are being everywhere extended.

As for trades, I have seen the balance-sheets of 32 battalions of infantry, and of five regiments of cavalry in Bengal, for six months ending June, 1863; and these brave fellows are actually making money. The wages paid to men for working in the half-year were £28,237.

The balance from preceding half-year .	£3,203
Amount realised for work last six	
months	55,426
Value of stock on hand	17,216
	<hr/>
	£75,845

That this money goes not to canteen or bazaar is shown by the savings banks. One battalion returning to England took £7,000 with it in its savings bank. Of 26 other infantry regiments, none had less than £3,000, nine had £4,000, five had £5,000 and up to £6,000 in theirs.

But want of accommodation in barracks for workshops has, alas, fettered this great progress.

At gymnastics the men get strength to bear the heat, though Highland regiments cannot quite rival themselves at games in the Highlands. The men are paraded for gymnastics at first, but like the exercise so much that they continue it of their own accords. Again, however, want of cover for gymnasia in barracks puts a stop to what otherwise might be done.

Cricket is general; fives, single-stick, and other manly games are common.

In short, work and all kinds of exercise cause sickly men to flourish. One regiment, sick of scurvy, and not recovering even at one of the healthiest stations, was cured by working at a mountain road in the rains, with only temporary huts for shelter.

Soldiers' libraries are everywhere supplied by Government. Bengal regiments generally manage to have some kind of reading-room; but reading-rooms specially constructed for their object are few.

Better cook-houses, cleaner cooking, are being introduced; and soldiers are taught to cook.

In the mean time, the regulation two drams have been reduced to one. The one dram is to be diluted with water. A Legislative Act imposes a heavy fine or imprisonment on the illicit sale of spirits near cantonments. Government supplies good beer, and plenty of it. Where there *are* recreation rooms, refreshments (prices all marked)

are spread on a nice clean table. This the men like very much. And decrease in drink may be very much attributed to increase of useful work and of play, as the Commander-in-Chief in India himself says.

The practical result of these reforms is, then, that the soldier's time is more profitably occupied than formerly—and that intemperance and crime have visibly diminished.

So far for the soldier's habits.

But the main causes of disease in India, want of drainage, want of water-supply, for stations and towns, want of proper barracks and hospitals, remain as before in all their primitive perfection. Of this there is no doubt.

The above-mentioned improvements have removed several of the causes of disease enumerated in the Report of the Royal Commission. And they have also, happily, taken away some of the point in this paper.

Nevertheless it has been thought best to reprint it as read, because there are stations where little or nothing has been done in improving the soldier's habits, and because the great work of civilization in India has yet to be begun. It is moreover to be feared that little amendment has taken place in the self-indulgent eating and drinking habits of the European population generally.

While thankfully acknowledging the excellent beginning made, since the advent to power of the present noble Governor-General of India, enough remains to justify this reprint.

F. N.

August, 1864.

HOW PEOPLE MAY LIVE

AND

NOT DIE IN INDIA.

A MEETING of the Social Science Association is surely the place to discuss one of the most important of social questions, viz., how the British race is to hold possession of India; and to bestow upon its vast populations the benefit of a higher civilisation.

The first part of the question is for the present the most important. For, if it be impossible to keep possession of the country, there is an end of the problem.

The Royal Commission on the sanitary state of the army in India, whose two folio volumes of report and appendix constitute a new social starting point for Indian civilisation—has shown that, unless the health of British troops in India can be improved, and the enormous death-rate reduced, this country will never be able to hold India with a British army.*

* This report, unlike other reports, was based on two kinds of evidence;—1. The usual oral evidence of witnesses: 2. Reports from every station in India, in answer to printed questions sent out, the answers being signed by the commanding officer, the engineer officer, and the medical officer of each station.

It was truly said that such a complete picture of the life in India, both British and native, is contained in no other book in existence.

The time has not yet arrived for the pressure of the death-rate it discloses to be fully experienced, because the present large army is comparatively new to the country. But, unless active measures are taken by the India Government and by the military authorities to give effect to the recommendations of the Commission, it is unhappily certain that the mortality will increase with the length of service. And then will be felt the difficulty stated by Sir Alexander Tulloch, viz., of filling up the ranks of those, prematurely slain by preventible disease, from the recruiting depôts at home. Few men have had so much experience in this department of the Service. And he tells us that he very much doubts whether an army of seventy thousand men can be kept up in India, with the present death-rate.

In former times, when the company's troops bore but a small proportion to the resources (in men) of this country, the death-rate was not so much felt. The small army was swept away; and its place supplied, as often as necessary, from the recruiting offices at home. But, now that a large proportion of the whole British army is stationed in India, the question whether we shall hold or lose India will depend very much on the steps taken to protect it from disease.

The statement that the average death-rate of troops, serving in India, was no less than 69 per 1,000 per annum, took the country by surprise.

The accuracy of the average could not be denied. Because the statement was made on the authority of Sir Alexander Tulloch, and confirmed by a separate inquiry made with the help of the Registrar-General's Office, at the request of the Commission.

But it was endeavoured to explain away the obvious result of the figures, by showing that the average was not constant—that, in certain years and groups of years, the death-rate was much greater than in others; that the mortality in the years of excess was due to wars or other causes; that peace, and not sanitary measures, was therefore the remedy. And, in short, that the statement of a death-rate, averaging 69 per 1,000 per annum, was not a fair representation of the case.

To this there is the simple reply that, during this present century, there has been an average loss, from death alone, of 69 men out of every 1,000 per annum—it matters not how the mortality has been distributed—that there is every reason to believe that, if things go on as they have done in this present century, we shall go on losing our troops at the rate of 30, 50, 70, 90, 100 and upwards, per 1,000. And all the arithmetic in the world cannot conceal the fact that the law, by which men perish in India under existing sanitary negligence, is 69 per 1,000 per annum; this death-rate is, in fact, understated, for it says nothing of the invalids sent home from India who die at sea, or within a short time of their arrival at home; nor of the loss to the service

by destroyed health ; nor of the mutiny years. It takes into account only those who die in India, and in the ordinary course of service.

Few people have an idea of what a death-rate of 69 per 1,000 represents—the amount of inefficiency from sickness—of invaliding.

Assuming the strength of the Indian army at 73,000 British troops—and taking the death-rate at present alone, without the sickness and invaliding—such an army, with this present death-rate, will lose, on an average of years, an entire brigade of 5,037 men per annum. It may lose, some years, half that number. But, in other years, it will lose two such brigades.

And where are we to find 10,000 recruits to fill up the gap of deaths of a single unhealthy year ?

It is said that the death-rates of the war-years being the highest (not from wounds), peace, and not sanitary measures, is the remedy. As well might it be said that the British army, having nearly perished before Sevastopol, not from wounds, but from want of every supply of civilised life, peace, and not the supply of the wants of civilised life, was the remedy.

The Royal Commission has shown that, if the death-rate were reduced to even twenty per thousand per annum (which is too high), *i.e.*, double that of home stations since these stations were improved,—to India would be saved a tax equal to £1,000 sterling per diem ; and this represents the mere cost

of replacing the men cut off by excess of premature and preventible mortality.

1. Unofficial people are everywhere asking the question, how this great death-rate has arisen—how it happens that one of the most civilised and healthy nations in the world no sooner lands the pick of its working population in tropical climates (for similar losses occur in all tropical climates among us) than they begin to die off at this enormous rate.

I am afraid the reply must be, that British civilisation is insular and local, and that it takes small account of how the world goes on out of its own island. There is a certain aptitude amongst other nations which enables them to adapt themselves, more or less, to foreign climates and countries. But, wherever you place your Briton, you may feel quite satisfied that he will care nothing about climates.

If he has been a large eater and a hard drinker at home—ten to one he will be, to say the least of it, as large an eater and as hard a drinker in the burning plains of Hindostan. Enlist an Irish or a Scotch labourer who has done many a hard day's work, almost entirely on farinaceous or vegetable diet, with an occasional dose of whiskey,—place him at some Indian station where the thermometer ranges at between 90° and 100° , and he will make no difficulty in disposing of three or four times the quantity of animal food he ever ate under the hardest labour during winters at home—if, indeed, he ever ate any at all.

Now the ordinary system of dieting British soldiers in India is more adapted to a cold climate than that of out-door farm servants doing work in England.

More than this, the occasional dram at home is commuted, by regulation, in India into a permission to drink two drams, *i.e.*, 6 oz. of raw spirits every day. And be it remembered that, at the same time, the men have little or nothing to do. The craving for spirits, induced by this regulation habit of tippling, leads to increase of drunkenness—so that, what with over-eating, over-drinking, total idleness, and vice springing directly from these, the British soldier in India has small chance indeed of coping with the climate, so-called. The regulation-allowance of raw spirit which a man may obtain at the canteen is no less than $18\frac{1}{2}$ gallons per annum ; which is, I believe, three times the amount per individual which has raised Scotland, in the estimation of economists, to the rank of being the most spirit-consuming nation in Europe. Of late years, malt liquor has been partly substituted for spirits. But, up to the present time, every man, if he thinks fit, may draw his $18\frac{1}{2}$ gallons a year of spirits, besides what he gets surreptitiously at the Bazaar.*

* Tippling is unfortunately not confined to common soldiers. Officers also use spirits, generally brandy with water or with soda-water. It relieves exhaustion for the time at the expense of the constitution, and is a prime agent in sending officers to the hills to recover their health, and home on sick furlough. The practice is at some stations called "pegging," alluding to putting pegs in one's coffin. Is not this practice of "pegging" one reason why officers are less healthy in India than civilians?

So much for intemperance. But not to this alone, nor to this mainly, nor to this and its kindred vice together, is to be laid the soldier mortality in India.

The diseases from which the soldier mainly suffers there are miasmatic : now intemperance never produced miasmatic diseases yet. They are foul-air diseases and foul-water diseases : fevers, dysenteries, and so on. But intemperance may cause liver disease ; and it may put the man into a state of health which prevents him from resisting miasmatic causes.

2. What are these causes ? We have not far to look.

The Briton leaves his national civilisation behind him, and brings his personal vices with him.

At home there have been great improvements everywhere in agricultural and in town drainage, and in providing plentiful and pure water supplies.

There is nothing of the kind in India. There is no drainage either in town or in country. There is not a single station drained. If such a state of things existed at home, we should know that we have fevers, cholera, and epidemics to expect. But hitherto only a few enlightened people have expected anything of the kind from these same causes in India (although they are always happening).

As regards water, there is certainly not a single barrack in India, which is supplied, in our sense of the term, at all. There are neither water-pipes nor drain-pipes. Water is to be had either from tanks,

into which all the filth on the neighbouring surface may at any time be washed by the rains ; or from shallow wells, dug in unwholesome or doubtful soil. So simple a piece of mechanism as a pump is unknown. Water is drawn in skins, carried in skins on the backs of men or bullocks, and poured into any sort of vessels in the barracks for use. The quantity of water is utterly insufficient for health, and as to the quality, the less said about that, the better. There is no reason to hope that any station has what in this country would be called a pure water supply. And at some it is to be feared that, when men drink water, they drink cholera with it.

The construction of barracks, where men have to pass their whole period of service, is another illustration of how completely home civilisation is reversed in India. All our best soldiers have been brought up in country cottages. And when in barracks at home, there are rarely more than from twelve to twenty men in a room. But as soon as the soldier comes to India he is put into a room with 100, or 300, and, in one case, with as many as 600 men. Just when the principle of sub-division into a number of detached barracks becomes of, literally, vital importance, the proceeding is reversed. And the men are crowded together under circumstances certain, even in England, to destroy their health.

To take another illustration :—Our home British population is about the most active in the world. In fact we in this country consider exercise and

health inseparable ; but as soon as the same men go to India, they are shut up all day in their hot, close barrack-rooms, where they also eat and sleep ; they are not allowed to take exercise ; all their meals are eaten in the hottest part of the day, and served to them by native servants ; and they lie on their beds idle and partly sleeping till sunset ! “ Unrefreshing day-sleep ” is indeed alleged as one of the causes for the soldier’s ill-health in India—the soldier, the type of endurance and activity, who now becomes the type of sloth !

3. The Indian social state of the British soldier is not only the reverse of the social state of the soldier at home, and of the class from which he is taken, but there is a great exaggeration in the wrong direction. Yet people are surprised that British soldiers die in India ; and they lay the whole blame on the climate.

It is natural to us to seek a scapegoat for every neglect, and climate has been made to play this part ever since we set foot in India. Sir Charles Napier says, “ That every evil from which British troops have suffered has been laid at its door.” “ The effects of man’s imprudence are attributed to climate ; if a man gets drunk, the sun has given him a headache, and so on.” In regard to Delhi, he says, “ Every garden, if not kept clean, becomes a morass ; weeds flourish, filth runs riot and the grandest city in India has the name of being insalubrious, although there is nothing evil about it that does not appear to be of man’s own creation.”

One most important result of the inquiry of the Royal Commission has been to destroy this bugbear. They have reduced "climate" to its proper dimensions and influence, and they have shown that, just as hot moist weather at home calls people to account for sanitary neglects and acts of intemperance, so does the climate of India call to account the same people there. There is not a shadow of proof that India was created to be the grave of the British race. The evidence, on the contrary, is rather in the other direction, and shows that all that the climate requires is that men shall adapt their social habits and customs to it ; as, indeed, they must do to the requirements of every other climate under heaven.

This necessity includes all the recommendations made by the Royal Commission for improving the health, and reducing to one-sixth the death-rate of the British army in India. They all amount to this :—You have in India such and such a climate ; if you wish to keep your health in it :—

Be moderate in eating and drinking ; eat very little animal food ; let your diet be chiefly farinaceous and vegetable.

Spirits are a poison, to be used only (like other poisons) for any good purpose, under medical advice.

Use beer or light wine, but sparingly.

Drink coffee or tea.

Clothe yourself lightly to suit the climate, wearing thin flannel always next the skin.

Take plenty of exercise, and use prudence and common sense as to the times of it.

So far for personal habits. But a man cannot drain and sewer his own city, nor lay a water supply on to his own station, nor build his own barracks. What follows pertains to Government :—

Let it be the first care to have a plentiful supply of pure water laid on for every purpose.

Drain all dwellings.

Have no cess-pits.

Attend rigidly to cleansing, not only to surface-cleansing.

Never build in a wet hollow nor on a sludgy river-bank, which would be avoided by sensible people even at home.

Never crowd large numbers into the same room.

Build separate barrack-rooms, instead of large barracks.

Place these so that the air plays freely round them.

Raise them above the ground with a current of air beneath.

Do these things, and the climate may be let to take care of itself.

But, if we would make India about as healthy as England, only somewhat hotter, let us have improved agriculture and agricultural drainage.

If all these improvements were carried out, the normal death-rate of the British soldier would be not 69 per 1,000, but 10 per 1,000, say the Commissioners.

But it is not for the soldier alone we speak. The report has a much deeper meaning and intent than this :—it aims at nothing less than to bring the appliances of a higher civilisation to the natives of India. Such revelations are made, especially in the reports from the stations, with regard to the sanitary condition of these, as to be almost incredible. Everywhere the people are suffering from epidemic diseases ; fevers, dysenteries, cholera—constant epidemics we may call them; and constant high death-rates (how high can never be known, because there is no registration).

The plague and pestilence is the ordinary state of things. The extraordinary is when these sweep over large tracts, gathering strength in their course, to pass over gigantic mountain ranges and to spread their ravages over Western Asia and Europe. And all this might be saved !

We know the causes of epidemic outbreaks here. Take the worst condition of the worst and most neglected town district at home ; and this is, to say the least of it, much better than the normal condition of nearly the whole surface of every city and town in India.

Not one city or town is drained.

Domestic filth round the people's houses is beyond description.

Water-supply is from wells, or tanks, in ground saturated with filth.

No domestic conveniences.

Every spare plot of ground is therefore in a condition defying us to mention it farther.

Rains of the rainy season wash the filth of the past dry season into the wells and tanks.

The air in, and for some distance round, native towns is as foul as sewer air. [At Madras a wall has actually been built to keep this from the British town.]

No sanitary administration. No sanitary police.

Here then we have, upon a gigantic scale, the very conditions which invariably precede epidemics at home. India is the focus of epidemics. Had India not been such, cholera might never have been. Even now, the Sunderbunds, where every sanitary evil is to be found in its perfection, are nursing a form of plague increasing yearly in intensity, covering a larger and larger area, and drawing slowly round the capital of India itself.

Are we to learn our lesson in time ?

Some say :—What have we to do with the natives or their habits ?

Others find an excuse for doing nothing in the questions arising out of caste. But caste has not interfered with railways.

The people of themselves have no power to prevent or remove these evils—which now stand as an impassable barrier against all progress. Government is everything in India.

The time has gone past when India was considered a mere appanage of British commerce. In

holding India, we must be able to show the moral right of our tenure. Much is being done, no doubt, to improve the country—by railways, canals, and means of communication ; to improve the people—by education, including under this word, European literature and science.

But what at home can be done in education, if we neglect physical laws ? How does education progress here, without means of cleanliness, of decency, or health ? The school lessons of a month are sapped in an hour. If the people are left a prey to epidemics and to immoral agencies in their homes, it is not much good sending them to school. Where should we be now with all our schools, if London were like Calcutta, Madras, or Bombay ?—the three seats of Government in India.

The next great work then is sanitary reform in India.

There is not a town which does not want—

Water-supply.

Draining.

Paving.

Cleansing.

Healthy plans for arranging and constructing buildings.

Together with agricultural drainage and improved cultivation all round.

These things the people cannot do for themselves. But the India Government can do them. And, in order to do them, three Health Departments (one

for each of the Presidencies) have been recommended by the Royal Commission, together with a Home Commission to help these Departments in bringing the appliances of a better civilisation to India.

The work is urgent. Every day it is left undone adds its quota of inefficiency to the British Army, and its thousands of deaths to the native population. Danger is common to European and to native. Many of the best men this country ever had have fallen victims to the same causes of disease which have decimated the population of Hindostan. And so it will be till the India Government has fulfilled its vast responsibility towards those great multitudes who are no longer strangers and foreigners, but as much the subjects of our beloved Queen as any one of us.

The real, the main point in the Report of the Royal Commission is this :

Look to the state of your stations first—then look to the hills for help. Your stations and cities are in a condition which, in the finest temperate climate in Europe, would be—have been—the cause of the Great Plague—of half the population being swept off by disease. And on the other hand, no climate in the world, certainly not that of India, could kill us, if we did not kill ourselves by our neglects. We complain of the climate, when the wonder is that there is one of us left, under a sky which certainly intensifies causes of disease—so much so

indeed that, one would have thought, it might set men to work to remove these causes, and twice as vigorously as in a temperate climate, instead of not at all.

But no : our cities are not those of civilised men.

It cannot now be said, as Burke did : “England has built no bridges, made no high roads, cut no navigations.” But in all that regards the social-improvement of cities, still it must be said, as he did—how many years ago ?—“Were we driven out of India this day, nothing would remain to tell that it had been possessed, during the inglorious period of our dominion, by anything better than the ourang-outang, or the tiger.”

For how much is it better now ?

Bring your cities and stations within the pale of civilisation. As they are, they are the life destroyers, not the climate.

The hills, those very climates to which you look for succour, are becoming so pestiferous from your neglects, that they bear out this indictment. They cry to you as we do : reform your stations—thence comes the deadly influence.

The question is no less an one than this :—How to create a public health department for India—how to bring a higher civilisation into India. What a work, what a noble task for a Government—no “inglorious period of our dominion” that, but a most glorious one !

That would be creating India anew. For God

places His own power, His own life-giving laws in the hands of man. He permits man to create mankind by those laws—even as He permits man to destroy mankind by neglect of those laws.

POSTSCRIPT.

Since this Paper was read, the lower death-rate of troops new to the country has actually been put forward as a proof that India is becoming healthy, and the 69 per 1,000 is an old antiquated average! But more than this, the diminution of mortality arising from the short duration of service, is ascribed to improvements carried out at Indian stations since the Royal Commissioners began their inquiry. The leading authorities on the subject ascribe the main causes of disease to want of drainage—bad sites—bad water badly distributed—wretched sanitary condition of native bazaars and towns—bad barrack and bad hospital construction—surface over-crowding from want of barrack accommodation—want of occupation for the men—intemperance in eating and drinking—want of proper barrack and hospital conveniences; it is difficult to see how India could have been freed from these causes of disease in three short years, which is about the average time since the Stational Reports were signed.

That something may have been done in the way of cleansing, ventilation, ablution, arrangements, means of recreation, is possible.

But as to ventilation, it may almost be said that it is better to keep the foul air out than to let it in, at least at certain stations of which we have reports up to nearly the latest date from India.

As to cleansing we have the report of a Government Commission on the last cholera, dated July 21, 1862, which tells us that, at a large station where cholera was fatal, the filth from the latrines was thrown down at places 100 yards from the barracks—that dead animals and every kind of refuse are accumulated in the same places without burial—that, before the cholera appeared, there were abominable cess-pools poisoning the whole atmosphere—that neglect of the commonest principles of sanitary science favoured the epidemic,—that the filth from the native latrines was used for feeding sheep!—that, for all this, the local military authorities had not neglected “conservancy in any unusual degree,” the reporters state—and that, bad as they considered it, the station was kept in much better order than many that they had visited.

We have also two printed documents of the Public Works Department, dated Calcutta, June 26, and September 9, 1863, proving that the capital of India was in a much worse state than appeared from the Stational Report sent to the Royal Commission in June, 1860.

