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OBSERVATIONS
ON THE
CAUSES AND PREVENTION OF FEVER
AND
OTHER EPIDEMICS IN INDIA.
BY
SYED ABDOOLLAH.

DRYDEN PRESS:
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1872.

To CAPTAIN EVELYN BARING, R.A.,

Private Secretary to His Excellency the Viceroy and Governor-General of India.

SIR,

I beg leave respectfully to submit the following remarks for the consideration of His Excellency the Right Honourable Lord Northbrook, Viceroy and Governor-General of India. I lay claim to no medical knowledge whatsoever, but I trust that my observations, the result of long and practical experience of the Indian climate and customs, may be not altogether without advantage in the enquiry which his Lordship has so wisely instituted upon this most important subject.

I have the honour to be,

SIR,

Your most obedient and humble servant,

SYED ABDOOLLAH.

21, Fulham Place,
Harrow Road, London, W.

1st Nov. 1872.

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OBSERVATIONS
ON THE
CAUSES AND PREVENTION OF FEVER.

"Indulgent Nature! O dissolve this gloom!
"Bind in eternal adamant the winds
"That drown or wither."

ARMSTRONG.

I learn from the Indian papers that, "Lord Northbrook has offered a gold medal to the Bengal Medical College for the best essay on the causes of the fever that has so long prevailed in the Burdwan districts, and almost devastated vast portions of it."

This is certainly a step in the right direction, and places India under a deep obligation to his Lordship for having at last directed attention to this important but too long neglected subject.

As a native of India, and one who has had unusually favourable opportunities of examining many of the towns, villages, and private dwellings of that country, and of comparing them with those of Europe, I venture to submit, for the consideration of His Excellency and of those interested in the matter, the accompanying views which my own experience has suggested.

The houses of an Indian town are generally situated in enclosures which present towards the street or alley a dead wall of sun-dried bricks, stone, or mud; a small doorway being the only opening seen. On entering this doorway, the visitor finds a yard from ten to twelve feet square, on the sides of which are a number of dark rooms or cells, with an open verandah before them, in which the people live. The rooms are, for the most part, very badly ventilated, and are lighted by an aperture about a foot square. The yard often communicates with others of the same kind, forming a labyrinthine succession of such courts. Some houses are visited by *mehtars* (sweepers) at stated intervals, but the poorer classes perform the office for themselves. Of drainage there is absolutely none at all.

There are vile and offensive receptacles in nearly every

enclosure, and these diffuse the most abominable, and poisonous effluvia around. In some dwellings, the occupants do not even take the trouble to provide a vessel to receive the filth, but throw it carelessly behind a thin partition wall upon the bare ground, which thus becomes completely saturated with putrescent organic matter.

The foul waste water of houses abutting on a street is discharged into a side gutter and is there allowed to evaporate. Where no such gutter exists, an unglazed earthen jar is sunk at the side of the lane or street, and a pipe, formed of baked clay, passing through the wall discharges the noisome liquid into it. When full, the jar is supposed to be carried away, and emptied on the nearest *ghura* (or dung hill), one of which is placed opposite nearly every native gentleman's house, and forms a convenient receptacle for the offal and refuse of the neighbourhood; and as the manure, thus collected, is looked upon as valuable property, the owner continually places a veto upon its removal.

Instead of the porous jar, cesspools of masonry are constructed inside some of the wealthier houses; when these become full the contents are baled or thrown out indiscriminately over the thoroughfares, there to be absorbed or to evaporate.

Many families merely dig a hole at the side of the street for the reception of the liquid refuse; this is the most pernicious of all cesspools, for the absorbent nature of the soil causes a longer time to elapse before it is actually filled. From the fact, also, that it gives so little trouble, it is unfortunately the form most frequently adopted in poor neighbourhoods. When its removal at last becomes imperatively necessary, the fetid abomination, accumulated in it, is scattered broadcast over the vicinity.

Were it not for carrion crows, hungry pariah dogs, swine, and other creatures which perform the office of scavengers, and for the extreme dryness of the air, human life could scarcely be maintained under these pestilent conditions. Again, the fields and *maidans* are covered with all sorts of offensive objects, and dead cattle are every-

exposed beneath the burning sky. Not unfrequently when an elephant or horse dies, it is buried within an enclosure. The graves of the Mussulmans are never dug to sufficient depth, and the bodies are consequently exposed at night by wild animals, such as *bijās* (Indian jackals, &c.).

The poorer classes of Hindoos, on the other hand, are obliged, by want of means, to perform, in a partial and inefficient manner, the ceremony of cremation; after which they throw the half consumed corpse into any convenient place they can find.

The abuses which I have described are the very main sources and sources of fever and cholera, diseases from which India is never free.

The nature and management of the water supply is, however, a lamentably active cause of disease throughout the country.

Tanks and wells are dug by private individuals; no care is taken to ascertain that the source is pure, or that the water does not percolate through soil impregnated with sewage; and still less precaution is used to prevent the escape of stinking dried excreta, which everywhere cover the surface of the ground, from blowing into them. Sometimes the owners intentionally throw dirt into the reservoirs; and it is no uncommon thing to see people washing themselves and their water jars, in the very water which they are saving for drinking purposes. As water necessarily enters largely into the consumption of every family, it is impossible to calculate the amount of disease which is spread or disseminated by this wilful and culpable pollution of the sources from which it is drawn.

Undoubtedly the immediate cause of fever in the Burdwan districts is to be sought for in the dirt, poverty, and crowded condition of the villages and towns; the damp and ill-ventilated state of the dwellings; the close, stifling air of the dense jungles; and the presence, in the rainy seasons, of large quantities of stagnant water and decaying vegetable matter. But these are causes which the skill of an engineer and the proper application of labour and funds can ameliorate, and in some instances altogether

remove. Some few towns have formed municipal bodies to ameliorate this condition of things, but these are very few.

To define, however, the remoter causes of the fever that has so long prevailed in this part of the country, or, indeed, of any pestilence, is a matter of extreme difficulty; nor can I pretend to dissipate the obscurity in which the question is involved. The great and sudden changes of temperature to which the inhabitants are exposed (the days at certain seasons being inordinately hot and the nights excessively cold); the heavy dews which have to be encountered with insufficient clothing; these have all been supposed adequate exciting causes of fever, and with them it is difficult to deal. Easterly winds also have been generally traced as a powerful agent in propagating fever, as well as cholera; and a remarkable tendency of the disease to follow the course of rivers has been, in more than one instance, observed. The greater number of the epidemics, which have raged in India, can easily be traced to the religious Hindoo festivals; and the fairs, annually held upon the banks of the sacred rivers, are evident and certain sources of pollution.

I have myself, more than once, been present at the great annual gatherings of Hindoo devotees at Bhaira Ghat, on the Nerbudda, near Jubbulpore, and therefore speak from experience.

The ceremony of purification in the "holy rivers" is strictly enjoined upon every Hindoo, and is the ostensible pretext for holding the fairs. But no sanitary regulations exist at these gatherings.

The entire Hindoo population of the country, from the summit of the Himalaya mountains to Cape Comorin, is thus congregated, at least once in every year, at various places, and in masses of from half a million to a million of people. These enormous numbers of human beings have no accommodation but the open maidan or the river banks; and I need not say what a seething mass of corruption and disease is thus generated and carried over India, not only by the dispersing pilgrims, but also by the streams themselves.

The vicinity of a river is, at the best, a dangerous spot in a hot climate, owing to the miasmal influence of the sun upon beds of slime and festering vegetation; but, when to this fertile cause of disease is added the accumulated refuse, left by vast multitudes of human beings, and purposely introduced into the running water, it would be strange indeed if fevers and zymotic diseases were not generated thereby. What are the causes, therefore, of fever and similar epidemics throughout India, is not at all a difficult problem to solve.

In considering the best means for protecting individuals against the attacks of fever and cholera, it is essential to bear in mind the class of persons who have been hitherto most subject to these epidemics.

We have seen that they are generally the poor, ignorant and half-clothed children of misery; and from them the disease is propagated amongst Europeans and the better class of natives. Persons of sober and regular habits, by avoiding sudden changes of temperature and unnecessary exposure to the miasmal fogs and vapours, have enjoyed a special immunity from fever. Fatigue, exhaustion, whether arising from debauchery or insufficient nourishment, and alternate exposure to the heat of the sun and the chills of the night, must necessarily render persons particularly susceptible to disease.

If the inhabitants of tropical climates would exercise a careful supervision over their domestic and sanitary arrangements, by keeping a strict watch upon the habits of their servants, they would do much to lessen the violence of these epidemics, and might even, by these simple means, eradicate them altogether.

Free ventilation, scrupulous cleanliness, wholesome food, proper clothing and abundant fuel, are matters which cannot be too strictly attended to. The daily use of warm baths, and the wearing of flannel, the employment of which should on no account be neglected, are also safe-guards against fever. Medical theory, as well as practical experience, proves that the too frequent use of alcoholic stimulants, with the insane view of supporting the system in hot

Rev. No. 921 of 1873.

climates against the shock of an epidemic, is not only useless as a preventive against, but is actually a dangerous and exciting cause of the malady. It stands to reason, that as stimulants tend to increase the heat of the system and seriously derange the biliary secretions, they must, of necessity, predispose to febrile attacks. Perhaps *Sharbat* made from *Falsa*, *Bihidana*, and other mild aromatics which are to be found in abundance in all parts of India, combined with lime-juice or rose-water, might be beneficially employed as a vegetable tonic, and would be found to answer all the purposes which stronger stimulants are supposed to serve, in an artificial point of view only.

Another most important rule of diet is the avoidance of all raw, crude, stale and indigestible food.

I reiterate that the greatest care should always be taken to procure pure, sweet water, and that it should never be used without being first passed through a filter. (Filters of an effectual kind may be constructed by nearly all natives with two or three of their *gharās*, or pitchers, filled with fine gravel and charcoal.) The lower and poorer classes of natives who eat bad rice, *Dahi* (coagulated milk), melons, or unripe and rotten mangoes, and who drink indiscriminately from every muddy puddle, fall victims by thousands to the epidemic in consequence of their imprudent conduct.

The eminent and experienced physician, Dr. Leith, mentions fifty different measures which have been recommended for the sanitary improvement of the towns, the prevention (as far as may be) of the pollution of the air, and the preservation of the purity of the drinking water. Surely some of these might be put into practice, or indeed rendered compulsory in every part of India.

These few suggestions I venture to offer with some diffidence, but with the hope that attention may thereby be drawn to the best means of preventing the periodical return of the deadly epidemics which devastate India.

Proceedings of the Madras Government, Public Department,
20th March 1873.

No. 89. Read the following despatch from the Right Honourable the Secretary of State for India, to His Excellency the Right Honourable the Governor in Council, Fort St. George, dated India Office, London, 20th February 1873, No. 1 (Sanitary) :—

I forward, herewith, for the consideration of your Excellency in Council, and for distribution, twenty-five copies of a Pamphlet by Syed Abdoolah on the Causes and Prevention of Fever in India.

No. 90. ORDER THEREON, 20th March 1873, No. 295.

Ordered that the twenty-five copies of the pamphlet be distributed as follows :—

	Copies.
Inspector-General, British Medical Service...	5
Do. Indian Medical Department...	14
Revenue Department ...	1
Military do. ...	1
Board of Revenue ...	1
Sanitary Commissioner ...	1
Public Department ...	2
	25

(True Extract.)

[Signature]
Chief Secretary.

To the Inspector-General, British Medical Service, with 5 copies of pamphlet.

„ „ „ Indian Medical Dept., „ 14 „ of „
„ Revenue Department, with 1 copy of pamphlet.
„ Military „ „ 1 „ of „
„ Board of Revenue, „ „ 1 „ of „
„ Sanitary Commissioner, „ „ 1 „ of „

Erd. J. Wright.

Revenue 1873 Sept
Obbt. of 1873 M. Adm.

PUBLIC.

To
The INSPECTOR-GENERAL,
BRITISH MEDICAL SERVICE,
No. 921

Ac. Ac. Ac.

Dated March, 20th

Recd. — 3/2

G. O., 20th March 1873, No. 295.

MARCH.
Nos. 89-90.

Directing the distribution of the twenty-five
copies of the Pamphlet by Syed Abdoolah on the
Causes and Prevention of Fever in India.

8.18.

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24th 173.