

with the Author's respect.

THOUGHTS

ON

THE BEST MEANS OF LESSENING

THE DESTRUCTIVE PROGRESS OF

CHOLERA;

IN A LETTER

ADDRESSED TO

THE RIGHT HONOURABLE VISCOUNT MELBOURNE,

Secretary of State for the Home Department.

BY

JOSHUA BROOKES, F.R.S., F.L.S., &c. &c.

“ Est quôdam prodire tenus, si non datur ultrâ.”—HOR.

LONDON :

PRINTED BY RICHARD TAYLOR,
RED LION COURT, FLEET STREET.

1831.

5577/P

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THOUGHTS, &c.

MY LORD,

I BEG permission to address your Lordship on the subject of an efficient mode of mitigating the dire consequences of Cholera, now that the disease has become established in this Island, and before the inhabitants of London are assailed by so deadly an enemy. And although I do not profess to advance new truths, yet a more general diffusion of those already known seems to me to be imperatively called for at this time: for it assuredly is the bounden duty of every professional man to promulgate whatever suggestions may arise in his mind tending to diminish the impending evil. With this view, I trust your Lordship will permit me to offer for your mature consideration, my ideas upon a few points relating to the subject in question; some of which do not appear to have sufficiently occupied the thoughts of previous writers, while others have been touched upon, in my opinion, somewhat too cursorily.

Without further preface then, the attention of the Legislature, or of the Government in its absence, might be immediately directed to the condition of the poor, in a more powerful way than has been hitherto accomplished; for, from the dilapidated state of many of the truly miserable abodes of the lowest class of society, when once an infectious disease prevails, its ravages must spread like wildfire through the places where they are situated.

It is not however my intention to enter here into a discussion of this malady,—whether it be dependent on dele-

terious miasmata transmitted through the atmosphere, or on noxious effluvia exhaling from the bowels of the earth,—whether infectious or contagious.

The serious object which I have before me is to impress on the understanding and on the conviction of others possessing influence and power, the absolute necessity for the immediate change of the tattered vestments of the destitute, and the removal of the inmates from their filthy dwellings.

The advantage of acting on this proposal I presume must be obvious to your Lordship, who cannot but have correct information on the rapid progress of Cholera, as well as a thorough knowledge of the mortality consequent on the destructive course of such a pestilence, should its empire be established in the midst of a dense neighbourhood, the inhabitants of which exist in wretchedness and comparative nakedness.

The district surveyor, tax collectors, overseers of parishes, and above all medical gentlemen, especially accoucheurs, whose humane succour is afforded to such persons, are much better enabled to give satisfactory information on this head than myself; but when such is obtained, I apprehend you will find it altogether appalling.

In some measure to alleviate to the indigent their present load of human misery, and in order to obviate a greater approaching scourge, it will be necessary to obtain possession of unfinished and of unoccupied buildings in various parochial districts, for the accommodation of all those dirty and ragged beings who daily and hourly meet the eye, and who are known to huddle together at night in different pestiferous courts, alleys, &c. each of which may hereafter become a focus of the most destructive nature. Such, for example, are those of the Mint in Southwark, the Warren in St. Giles's, those in Wapping, Houndsditch, the vicinity of Saffron Hill, and in numberless other ancient parts of this vast metropolis.

Such individuals might all be clothed by disburthening

the wardrobes of the rich of their superfluous articles of dress; by which sacrifice, whenever the dreadful visitation shall befall us, there will be fewer materials to imbibe infectious emanations.

I therefore venture to recommend, that as many supernumerary clothes as can be spared should be given away, by the principals of families themselves,—not to valets or to favourite footmen, nor by ladies to their *suivantes*,—but to vigilant overseers of parishes, who would impartially distribute them individually from the workhouse after they have been very distinctly marked; and who should caution all persons not to sell, purchase, or exchange the same: indeed such traffic, if possible, should be rendered illegal. And here allow me to remark further, that previously to receiving them, each pauper should undergo a thorough ablution with soap and warm water in the bath of the Infirmary: the hair cut close, or the heads shaved, of all those who feel inclined to submit to that additional, but very requisite process.

My own observation induces me to notice the following attainable premises;—viz. the Pantheon, two large manufactories in Great Marlborough Street, my late residence in Blenheim Street, the Equestrian Circus in Great Windmill Street, the Bazaar in Leicester Square, several streets unfinished in St. Paul's Road Islington, many houses in the same state at the back of the Colosseum, probably the Ophthalmic Hospital in Albany Street, and possibly more than an adequate number in different parts of the town and its vicinity.

These provisions being made, then the dismantling or destruction of all insalubrious habitations ought to commence, and at least the doors and windows even of those which a surveyor might deem sufficiently eligible to remain, should be removed. In like manner the skylights of the Burlington Arcade, the Lowther Gallery, those of the Bazaar of

the Pantehnicon, and of the shops of the Opera corridor, should also be removed, or the residents interdicted from sleeping in the chambers of these architecturally beautiful marts.

In the parish of St. James's Westminster a printed recommendation to the housekeepers has been very properly distributed by order of the Vestry, urging the propriety of cleansing and purifying all drains, sewers, sinks, dust-holes, cellars, &c.;—but cloacas are not particularly mentioned; nor have I seen any honest supervisor who has been appointed for the purpose of enforcing the fulfilment of the same, and furnished with the requisite authority,—without which, neglect will ensue, occasioned by penury on the one hand or by indolence on the other.

Whether this severe and impending calamity may owe its origin to either of the before-recited causes, or to any other, it is manifestly instantaneous in its attacks, and in many instances communicable with the velocity of lightning; therefore it behoves the opulent immediately to lend their humane aid towards the furtherance of this plan of benevolence; fully aware, as all well-informed persons are on this subject, that neither rank nor condition, age nor sex, has escaped its unrelenting gripe.

Further, permit me, my Lord, to add, that explosion of small quantities of gunpowder, such as are used in the navy, may prove more effectual in immediately changing the atmosphere of any apartment,—particularly those in the basement of buildings, such as back-kitchens, closets, cellars, dust-holes, bake-houses, &c.,—than can be produced by other means. And this combustion should be carried into effect previously to the adoption of ulterior purifications by lime whitening, ablutions of chloride of soda, &c., as recommended by the Board of Health.

There is a chemical and very cheap process, generally attributed to Guyton de Morveau, which is well known to

men of science to be beneficial in decomposing contaminated air, but which I apprehend has not yet been sufficiently made public.

The following process I learnt when a student, above half a century ago, of the venerated Dr. Fordyce, Professor of Chemistry, &c. It consists of an admixture of the black oxide of manganese, strong sulphuric acid, muriate of soda, and water,—producing oxymuriatic acid gas (chlorine), which ought to be exposed to evaporation in saucers, and distributed in various places in apartments. Of the utility of this plan, all the inhabitants residing in the vicinity of my late residence can bear testimony;—for having received the body of a huge elephant for dissection about twenty years ago, in the hot month of August, the whole atmosphere became vitiated; but by the use of the above-mentioned chemical preparation the air was immediately purified, and rendered respirable again: subsequently, other means were found for the removal of the nuisance.

Thus it occurs to me, that after the explosion of gunpowder (which has been effected in some parts abroad by artillery in the open air), this summary and copious generation of chlorine is, to say the least, one of the best disinfectants.

As the pestilence has visited Great Britain, it becomes decidedly requisite to expose the said chemical admixture in large shallow stone earthenware pans for evaporation, in all the streets, &c. where it rages.

The torn and defective coverings of the poor, with all spoiled bedding, curtains, &c., should be immersed in the Thames (a part being hurdled off for the purpose), and after being macerated there about a month, when washed and dried, might be sold for the use of paper manufacturers, who purify and whiten all coloured cloth by means of a bleaching liquid, and subsequently finish the operation by the oxymuriatic acid gas (chlorine).

I am, however, greatly perplexed when I think on the

immense accumulation of worn clothes deposited in various receptacles in Rosemary Lane, Holywell Street (Strand), Monmouth Street, and elsewhere, kept almost exclusively by Jew merchants,—more especially on reading in some of the accounts transmitted from the continent of the progress of Cholera, that the mortality was pre-eminently destructive to the Israelitish nation !

Surely, without making an inroad on private property, the Pantheon, or some of the extensive and unoccupied warehouses in the City, might be appropriated to the salutary purpose of clothes bazaars, where every vestige of second-hand garments might be subjected to a purification by the oxymuriatic acid gas (chlorine).

With respect to the disposal of the effects deposited with pawnbrokers, consisting of woollen, linen, and cotton, I acknowledge that it is a subject on which I find it extremely difficult to form an opinion, but deservedly worthy of the most deliberate reflection.

Nor is it unimportant to consider the prodigious hoards of old, and in many instances useless furniture, including bedsteads, sofas, stuffed chairs, &c., which should be first assorted, then exposed for purification by the before-detailed process, and to a very great extent destroyed ; or, at all events, such as may be of little value, or not likely to be injured by exposure, ought to be piled up in the open air.

Now lastly, but of no trifling moment in my conception, is the high duty on soap ;—which being immediately lowered or repealed, would afford additional facilities for the necessary cleanliness, now not so easily attainable.

Probably, if proprietors of liquor-houses were compelled to shut up their shops at eleven o'clock at night, a high duty were imposed on gin, and that on beer lowered in a similar ratio, the incitement to drunkenness, one great cause of debility, would thus be diminished, and a material predisposing cause of Cholera removed.

The proportion of the ingredients, and the proper mode

of making and of using the oxymuriatic acid gas (chlorine) are as follows, viz.:

Take of the Black Oxide of Manganese in Powder . . one ounce.
 Diluted Sulphuric Acid two ounces.
 Common Salt two ounces.

The manganese and salt being mixed together and put into an ordinary tea-saucer, add the diluted sulphuric acid, which should consist of equal parts of oil of vitriol and water: an extra addition of the last thus becomes unnecessary; and used in this manner is less likely to occasion mischief than the strong acid,—avoiding the fumes (chlorine) which will immediately ensue.—This process appears to me to be better adapted for unoccupied apartments, or to be exposed in the open air, than either chloride of lime or chloride of soda, both of which preparations are chiefly calculated for inhabited rooms; dissolving the former (which is by far the cheapest) in water, and sprinkling it about the apartments, or placing portions of it in common yellow or porcelain dishes, on which a small quantity of vinegar (but still better, sulphuric or muriatic acid) may be poured, to augment its beneficial effects; and properly diluting the latter (i. e. chloride of soda), for the purpose of washing the human body, furniture, &c.

Perhaps Dr. Carmichael Smyth's process of fumigation by means of nitric acid in the state of vapour should not be omitted: viz. Mix one portion of nitrate of potass in powder with a like quantity of sulphuric acid. (*Vide* "Two Letters," addressed to Earl Spencer, when First Lord of the Admiralty.)

Although, my Lord, it is quite a matter of supererogation to call your Lordship's attention to the stated origin and progress of Cholera, allow me, however, just to quote a few sentences from recent authors on this subject.

Mr. Pettigrew says: "The accounts given by all the writers from the East on the Epidemic Cholera, agree in tracing it from Jessore, a *crowded, dirty, ill-ventilated*

town, surrounded by a thick jungle, and in the rains by an immense quantity of stagnant water.” page 7.

“ Wherever it has made its appearance, numerous have been the victims of its desolation; no restrictions, however severe, have been able successfully and completely to resist its progress; and it has at last visited our shores, and threatens to continue the work of destruction.” page 8.

“ In looking to the history of this disease, we shall find that its attacks in the first instance were chiefly confined to the *lower classes* of people, to those whose constitutions had been broken down by *hard labour, imperfect nourishment, inadequate clothing*, and whose duties occasioned them to be exposed to all the severities connected with *low and foul* situations, and the inclemencies of the *night*, when the air was loaded with moisture, and the alterations of temperature, sudden, frequent, and considerable. Those whose happier fortune it was to be *well fed and clothed*, and not exposed to the causes that I have mentioned, generally escaped the disease.” page 22.

“ In considering those means best calculated to protect and preserve individuals against the attacks of this disease, it is essential to bear in mind the class of persons who have been hitherto most subject to its effects. We have seen that they have been the *poor and wretched, famished and half clothed children of misery*.” page 33.

Having endeavoured to supply raiment for the *poor, wretched, famished, and half-clothed children of misery*, who have been hitherto most subject to the effects of Cholera, the same spirit of humanity now inclines me to remind the wealthy, that as they are enabled, free of expense, to clothe the naked, so in like manner may all yield their bounty towards feeding the *half famished*, from the refuse of their tables.

Bones of all kinds, being chopped and crushed, with scraps of meat, poultry, &c., might be made into excellent soup, in the evening and during the night.

All waste bread might be soaked in milk, and with pieces of suet or fat cut small, some coarse sugar or treacle, with a little powdered pimento or ginger, may be converted into puddings (which probably on these occasions would be baked gratuitously), thus forming a nutritious food for children. A lady, a relation of mine, having a numerous family of her own, nevertheless supports many paupers daily by these means.

Purveyors of provisions of every description whatsoever, it is to be hoped, will perceive the benefit of contributing a multitude of unsaleable articles of food,—I mean at the same time such as are perfectly wholesome, otherwise the remedy might promote the disease.

Every housekeeper, doubtless will furnish bread according to his or her circumstances; and by these charitable donations, the half famished, consequently the most likely to be affected by Cholera, will be less liable to its effects, and the higher grades of society more likely to continue in good health.

“*Sanitary Measures.* (*Lancet*, p. 280. Nov. 19th, 1831.) —Under this important head it is our intention to take a cursory glance at the great principles which should guide the various branches of society in their contemplation of an approaching pestilence. On a moment’s consideration, it will be manifest, that almost every rank has its co-ordinate and peculiar duties. The great principles, to be remembered by all in the present instance, are, that the disease is communicable from man to man; that under particular circumstances it can impart an infectious power to currents of air; that its diffusion by inanimate things is not proved, though this may be inferred; and that the progress of the disease, in individual cases, is marked by the utmost velocity.”

“The executive having thus discharged its part of the common duty,—what remains for the other grades in the social family to perform?”

“ 1. All those external circumstances known to favour the generation, dissemination, and reception of contagious diseases, are to be duly examined into, and where defective, measures are to be taken for their rectification.

“ With respect to the law first laid down, it is essential to remark, that whatever be the hypothesis embraced to account for the mode of spreading of any disease—for example, typhus fever, plague, yellow fever, cholera, &c.—it is totally independent of all controversy, that the history of these maladies furnishes abundant proof that a crowded population, poverty, filth, foul air, unwholesome food, especially bad water, depressing passions, habits of intemperance, defective clothing, and general bodily debility, powerfully predispose to the reception of these diseases, increase their mortality when received, and tend to promote their extension by other means, to persons sheltered by rank and circumstances from their primary influence.

“ An example of the operation of some of the preceding causes is well afforded by M. Brierre de Boismont’s narrative of the Warsaw epidemic. ‘ At first it seized those poor and hapless individuals who fed on indigestible aliments, who adopted no precaution against atmospheric changes, who dwelt surrounded by filth, in narrow, damp, and unwholesome places. The most numerous victims were amongst the Jews, whose uncleanness has in Poland become proverbial. There can be no doubt,’ he continues, ‘ but that had the filth been daily removed, the houses, barricades, and sinks, effectually cleansed, the number of deaths would have been materially diminished.’ That the association of too numerous individuals breathing a common air not only predisposes to epidemics, but even actually generates them, is shown indisputably by the occurrence of typhus, as described by Pringle and Rouppe, on board crowded and imperfectly ventilated ships; and in Cholera, a disease shown to be so intimately connected with imperfect arterialization of the blood, it is not racking probability

to presume, that the excess of carbonic acid generated in the common air, breathed by numbers of individuals, may contribute peculiarly to the reception of the poison. Again, as to the influence of poverty, Dr. Bisset Hawkins, in his 'Elements of Medical Statistics,' has proved beyond a doubt how deeply this cause is concerned in the extension of epidemics."

The able Editor of the *Lancet*, after detailing many obvious omissions of sound policy, and a variety of salutary observations and necessary regulations to be observed on the breaking out of Cholera, proceeds thus. "Attention will then doubtless be directed to many, perhaps all of the preceding defects which we have pointed out. Examples will occur in which heaps of human beings, nestling in filth, and in a state of extreme poverty, are detected wallowing in their hovels. Adulterations of bread and beer will be pointed out; offensive sinks and drains will be mentioned; and statements will perhaps be made of habitations rendered noisome by stenches proceeding from undiscovered sources. Lists of sickly and unemployed persons will be handed in; general defects in day and night clothing and prevailing filthiness will be remarked.

"To meet all these evils, there are obvious measures which we need not dwell on, further than to recommend that pauper lodging-houses should be thinned of their inhabitants by parochial laws, &c.; that the adulterations of food, and the sale of unwholesome articles of diet, such as stale or spoiled fruit, vegetables, &c., should receive particular attention. The white-washing of houses with caustic or quick lime; the digging up of earthen floors, and mixing them with lime; the assiduous search after the causes of offensive smells should not be forgotten; premiums should be given for the encouragement of cleanliness. If blankets or clothing be issued, an inspection of the articles should (in order to prevent their transmutation into gin) take place by a visitor at uncertain periods; or they might be

supplied on a receipt, which would convert the transaction into a loan, the violation of which might be punished by the magistrates in an exemplary manner." page 282.

Further, it is stated, that, "In Europe, in recent years, chlorine, a new disinfecting and preservative agent, had obtained the highest celebrity; indeed, by the most scientific men, was looked upon as an infallible disinfectant. The history of the Russian Cholera has, however, dispelled this, like many other illusions, chlorine and the chlorurets having in Moscow exerted not the least influence on the disease, which sprung up in the very midst of their emanations. It will, therefore, be a matter of consideration for medical boards, whether it be not advisable to return to the Guytonian method of fumigation by muriatic acid gas, evolved by pouring heated oil of vitriol on common salt." pages 282 and 283.

It is but candid to notice that Dr. Forster, observes, "It is stated in the papers, 'that out of a great number of patients, fewer Catholics fell victims to the disorder, and fewer Jews than either.'—Is not this the effect of abstemiousness?" Preface, page iii.

"And that all that sanitary regulations can do is to fight with the predisposing causes,—by preparing the body against the disorder, by ventilating apartments, by removing filth, and by adopting such fumigations and other correctives as experience has proved to be useful." page 2.

"The removal of all those circumstances about our habitations which would be favourable to the disorder; such as foetid odours, and filth of every kind." page 51.

"Rule 5. Ventilation.—Never stay or sleep in close rooms, but always have fresh air, either by means of ventilators, or some contrivance of parallel utility." page 51.

"Observation 2nd. Removal of Filth.—The principal rules to be laid down here are such as common sense will suggest. Clear out drains and ditches, empty cesspools, draw off stagnant water, promote currents of fresh air, where it

can be done : remove dirty rags and every sort of chiffons* from your houses and streets, and every thing of a putrid or offensive nature ; above all, observe personal cleanliness, as regards washing, and also apparel. It has been found that those who have most frequently changed their under garments, particularly where they be woollen, have been less severely attacked.” page 60.

Charity ! you must invoke the Church. It is quite unnecessary to say, that in that quarter my philanthropic views will be met with open arms. I appeal therefore with confidence to the Pulpit.

I have the honour, my Lord, of subscribing myself,

Your Lordship's most obedient Servant,

JOSHUA BROOKES.

Sackville Street,

1st Dec. 1831.

* Chiffon, *s. m.* a rag, an old or rumbled garment, a bad sheet of paper.
Chiffons, *s. m. pl.* millinery wares.

