LETTER

TO THE

METROPOLITAN VESTRIES

ON THE

MAIN DRAINAGE SCHEME.

BY JOHN PARKIN, M.D.,

LATE MEDICAL INSPECTOR FOR CHOLERA IN THE WEST INDIES.

FOR PRIVATE CIRCULATION.

1859.

TO THE MEMBERS OF

THE METROPOLITAN VESTRIES.

GENTLEMEN

As the subject is of great importance to the Ratepayers of the Metropolis, I take the liberty of addressing you, in order to place before the different Vestries some facts connected with the Main Drainage scheme for London. As soon as it was finally determined to carry out this plan, which previously appeared to have been almost abandoned, I took the trouble to write and publish a Treatise—dedicated to the Board of Works—in order to show that the removal of the Sewage of London would have no other effect than that of rendering the water of the Thames less impure than at present. That it will not be rendered pure by intercepting the sewage water is, in fact, self-evident; for the quantity of matter contained in the latter is insignificant, when compared with the alluvial matter derived from the land over which the waters flow. The remedy, therefore, as regards the purification of the Thames, will be only a partial one. As respects any other advantage, it has been my object to prove, at the same time, that the emanations from night-soil, and other decomposing matter, are not the cause of any of the ordinary or *specific* diseases. If so, its removal, excepting for the purification of the Thames, is thus rendered unnecessary; while, if the emanations given off from sewage water be not injurious to health, it might be collected and be applied to agricultural purposes. In this case, instead of expending five or six millions merely to throw this valuable matter into the sea, a revenue might be derived of the same amount; the *excreta* of the inhabitants of London having been valued by me, and others, at between eight and nine millions. The question, therefore, is as interesting and important to the agriculturists as to the ratepayers; but it is not my intention to enter into this part of the

subject on the present occasion. I will merely add that Mr. Mechi, the celebrated agriculturist, has lately drawn attention to the subject, and has given quotations from Liebig in order to show that the prosperity, or downfall, of empires is intimately connected with the utilization, or non-utilization, of the *excreta* of the inhabitants. In fact, if that which is taken from the soil be not returned, in some way or other, the latter must become impoverished. Unfortunately, it will be too late, when the Main Drainage scheme has been completed, to attempt to utilize the sewage; the quantity of water required to carry the solid matter such a distance will be so great, that it must, by its mere dilution, be rendered almost useless afterwards, excepting to the grass lands immediately contiguous to the main trunks and termini. It is not here, however, that this manure would prove the most valuable, but, in the corn-growing districts, in order to supply the place of guano.

On the other hand, should the quantity of water not be great, or the current sufficiently rapid, deposits will take place; the fertilizing matter must undergo decomposition, and the most valuable part will become dissipated and lost; giving rise, at the same time, to noxious exhalations along the line of the sewers. This is the view taken by the Editor of the Lancet, in a recent article (December 3, 1859), who, after making other objections to the plan, adds: "We feel convinced that some considerable modification of the Main Drainage system must be made; probably, even before the works are completed. We therefore feel it useful to urge these considerations which may, perhaps, prove serviceable in accelerating those modifications, and in averting serious loss of property, and risk to the public health." Hence the necessity for a calm and deliberate examination of this question before it be too late.

Although convinced of the justness of my conclusions—that the emanations from night-soil are not productive of any of the ordinary diseases; and that they would not, in the state of concentration in which they usually exist, be productive of any other or injurious effect, excepting that which is produced on the olfactory organs—still, I was anxious that so important a question should not rest on mere argument, or on logical deductions, however sound, and even when supported by irrefragable evidence and facts. I was therefore induced to add, in the Appendix of my work: "In making this proposal (the utilization of the sewage), I have been influenced by the consideration that no ill result could arise by the accumulation of this matter, either to the inhabitants of London or to those of the country. As, however, I am ignorant, if the facts and the arguments before advanced will have produced the same convictions in the minds of others as in my own, and as, in the determination of so important a question, all abstract opinions

and theories ought to be thrown aside, I will only add, that should my conclusions be erroneous, and the opposite ones prove to be correct, the plan might, even then, be adopted; for all emanations from this matter may be prevented, both during its collection and during its conveyance to the fields. All objections, therefore, to the employment of this matter are at once done away with; for it would neither be a nuisance on the one hand, nor a cause of disease on the other. It is not my intention to enter into any particulars on this point now, not knowing whether the suggestion will be adopted or not: I pledge myself, however, to prove the truth of the conclusion, if called upon to do so by the proper authorities. As, however, it is easier to wear away the hardest rock by the dropping of water, than it is to change deep-rooted opinions and prejudices by arguments and reasoning, and as I know not what the decision on this subject may be, there is another suggestion that I wish to make. This is, to collect the liquid manure, and to apply it separately. To this there can be no possible objection, particularly as regards that part of it which is now left to soak into the ground, and to become a nuisance."

Not contented with this, I made a proposal to the Board of Works, after my return to England, to assign me a district, or small suburban town, in which the plan I have proposed should be adopted; so as to ascertain practically, and by a reference to the statistics of the Registrar-General, if the sewage of our towns can be collected and be distributed for agricultural purposes, without risk or injury to the health. But these proposals, the Board of Works, like the deaf adder that stoppeth its ears, and refuses to listen to the voice of the charmer, charm he ever so wisely, has hitherto declined to entertain, or to accede to.* I have therefore deemed it to be my duty to bring the facts to the notice of those, who are the most interested in this question—the representatives of the ratepayers, and the guardians of their interests.

I have the honour to be,

GENTLEMEN,

Your very obedient, humble Servant,

J. PARKIN, M.D.

London, December 5, 1859.

* *Vide* Appendix.

APPENDIX.

CORRESPONDENCE WITH THE METROPOLITAN BOARD OF WORKS.

GENTLEMEN

IN the work which I had the honour of dedicating to the Board, a short time since, it was my object to show that the emanations arising from decomposing matter, although productive of certain morbid effects when in a concentrated state, are not the cause of any of the ordinary or specific diseases—either epidemic or endemic. One of the chief reasons, therefore, for the Main Drainage scheme is thus done away with; for all that remains would be to prevent the pollution of the Thames, by the discharge of the sewage water into the river. If, however, as I have remarked in that work, the purification of the Thames be the sole object to be accomplished, the question becomes entirely changed; while certain plans, not otherwise admissible, may be carried out. Instead of being thrown into the sea, the matter contained in the sewers may be intercepted in its course to the river, and be applied to agricultural purposes, producing a revenue, according to my calculations, of seven or eight millions. This, however, is not all. The liquid manure of London, if properly collected and employed in the corn-growing districts, would produce 2,200,000 additional quarters of corn.

Were it a question of so many millions expenditure, it would not be of so much consequence, provided only that the sewage could be utilized, when the failure of the plan was ascertained. Unfortunately, however, the sewage of London, if that plan be carried out, will be, I infer, rendered all but useless for agricultural purposes, in consequence of its great dilution; excepting to the pasture lands on either side, and immediately contiguous to, the main trunks. In fact, the sewage is even now too much diluted, and it is for this reason I have advised, if my suggestions be carried out, that the house and surface drains should be separated, in order to obtain the sewage in a more concentrated state. It was to save this subsequent loss, and from a thorough conviction of the failure of the contemplated plan, that I was induced to publish the work referred to; and it is for the same reasons that I now address your Honourable Board. Although the arguments and facts contained in that work are sufficient, I should imagine, to convince the most sceptical; still, as in the determination of so important a question all abstract opinions and theories ought to be thrown aside, I respectfully submit for the consideration of the Board the propriety of testing the soundness of my opinions, which can be done without difficulty.

What I would suggest is, that, while the plan contemplated by the Board be carried out on one side of the river, my suggestion should be adopted on the other: or, if this plan be considered too extensive for a mere experiment, a district or hamlet, as Wandsworth or Putney, for example, might be selected for the purpose. This would not interfere with the present Main Drainage scheme,

as the plan I have proposed will be only a temporary one, and would not require any alteration in the present drains of the district—the contents of which, if the plan were subsequently abandoned, could be carried into the main sewer as previously contemplated. By this method, the truth of the conclusions at which I have arrived will be ascertained; for the statistics of the Registrar-General will soon show what the result is.

The importance of the subject, not only to the ratepayers of London and to every other town in the United Kingdom, but also to the farmer, and, in fact, to every inhabitant of these islands, will, I trust, obtain for this proposal that attention from the Board which it would seem to demand.

I have the honour to be,

GENTLEMEN,

Your very obedient, humble Servant,

J. PARKIN.

London, June 29, 1859.

TO THE CHAIRMAN AND MEMBERS OF THE METROPOLITAN BOARD OF WORKS.

GENTLEMEN

IN my last communication to the Board, I advised that the sewage of London should be intercepted in its course, and be applied to agricultural purposes. Whether that suggestion will be adopted, or whether the original plan, contemplated by the Board, is to be carried out, I am at present ignorant. In the meantime, however, a remedy is required for the most pressing and obnoxious of the evils that arise from the polluted state of the Thames, viz., the emanations that are given out from the banks of the river: for all the proposals that have hitherto been made, and with which I am at present acquainted, are either inapplicable, insufficient, or would be inefficacious. There is an agent, however, that could accomplish the object in view, and which would not form any injurious compound, or render the water it was mixed with more deleterious than before, when employed as a beverage. On the contrary, it is this very agent which is resorted to daily to purify water—I mean charcoal.

As is well known, this agent has the property of absorbing and decomposing all the gaseous products of putrefaction—hence its name of antiseptic. If employed in a proper manner, and in sufficient quantity, the emanations that now arise from the banks of the river would be absorbed, and their subsequent diffusion in the surrounding air be rendered impossible. The best manner of employing the charcoal would probably be to strew it over the banks of the river, between bridges, and from high to low water mark, commencing at the former point as soon as the surface becomes exposed, and continuing the operation during the receding of the tide, until all the mud be covered.

As, however, a considerable part of the gases is derived from the sewers, a as it would not be desirable to fill up these conduits with any solid substan independently of the fact that the flow from them is almost continuous, I shou recommend that a chimney be erected at the mouth of the sewers, as propos by Mr. Gurney. Instead, however, of burning the gases, as this gentleman h recommended, I should pass them through charcoal, using the chimney mere for the purpose of producing a vacuum, and drawing the offensive gases to t absorbing substance. This plan is not only free from the other objections urg against Mr. Gurney's proposal, but it would also be much more economical; f a small fire and a low chimney would answer the intended purpose.*

Although I have already entered into this part of the subject in the work which I alluded in my last communication, I shall, in my next, discuss t measure that I consider necessary for the permanent avoidance of the abo evils,—inasmuch as the intercepting of the sewage water will not be a perfect, b only a partial remedy.

I have the honour to be,

GENTLEMEN,

Your very obedient Servant,

J. PARKIN.

London, July 19, 1859.

* This suggestion has since been adopted by the City Commissioners Sewers, the sum of 700*l.* having been voted for the purpose at a Court held o the 11th of October last.

Metropolitan Board of Works,

1, *Greek-street, Soho ; August* 9, 1859.

SIR

I BEG to inform you that the Metropolitan Board of Works have ha before them your several communications, in reference to the sewage of Londo and the deodorization of the Thames, together with your treatise on th Causation and Prevention of Disease ; and, after referring them to a Committe for examination and report, they have desired me to inform you that, havin already adopted a scheme of Main Drainage, they are unable to avail themselve of your suggestions.

I am, SIR,

Your most obedient Servant,

G. H. WOOLRYCH,

Clerk of the Board.

Dr. Parkin.