Letters on the cholera / by Whitelaw Ainslie.

LETTERS

ON THE

CHOLERA:

BY

WHITELAW AINSLIE, M.D. M.R.A.S. M.R.S.E.

"O passi graviora! dabit Deus his quoque finem."—*Virgil.*

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"In the absence of those dreadful visitations, or in the slight degrees of Epidemics, men may be got to reason coolly respecting their *cause;* but when desolation and death begin to thicken around, and members of the medical faculty to share in the calamity, reason becomes silent, and the phantom of contagion, like ghosts in darkness, takes undisputed possession of the unconfirmed mind."—*Maclean.*

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DEDICATION.

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TO

SIR GEORGE STAUNTON, BART.

THE FOLLOWING

LETTERS ON THE CHOLERA,

ARE NOW INSCRIBED,

IN TOKEN OF

RESPECT FOR HIS PUBLIC CHARACTER, OF ESTEEM FOR HIS PRIVATE VIRTUES, AND IN GRATEFUL REMEMBRANCE OF MUCH KINDNESS RECEIVED

BY HIS EVER FAITHFUL FRIEND AND HUMBLE SERVANT,

WHITELAW AINSLIE.

ADVERTISEMENT.

THE following Letters, written in pursuance of the same theory which the author had adopted regarding the Cholera when he gave his former work to the public, in 1825,* are now, with great deference and respect, laid before the British public. Dr. Ainslie, neither from what has been since said or done, sees any reason to change those opinions, formed when he had occasion to treat *Sporadic* cases of the disease in India, in 1815, marked with every symptom the malady assumes on having passed into the *Epidemic* type: he arrogates nothing to himself; he adds but his *mite*; and, where so trifling a sum of real good has as yet been gained, he trusts his humble donation may find a place in that purse which, we must all allow, however numerous and able many of the contributors, is by no means virtually rich.

* Observations on the Cholera Morbus, a Letter addressed to the Honourable the Court of Directors of the East India Company. (Parbury and Allan.)

LETTERS ON THE CHOLERA.

LETTER I.

8, *St. Colmes-street, Edinburgh,*
December 13*th*, 1831.

MY DEAR SIR,

You are desirous to know whether I still retain all my pristine opinions regarding the Cholera, which I gave to the world in 1825.* Perhaps you will soon see, at greater length, what conclusions I have come to on this subject. In the mean time, I hasten to satisfy your mind, on some points more immediately connected, with what you used to term *my* Theory of the Epidemic; a malady which, I grieve to think, has at last made a serious lodgement on our own shore.†

My original idea, that the immediate, or rather the

* "*Observations on the Cholera Morbus of India.*" A letter addressed to the Honourable the Court of Directors.—*Parbury and Allen.*

† I was in hopes that, as far as regards our islands, the disease might have proved merely *endemic*, and not extended beyond Sunderland; but it appears to have reached Newcastle on the 7th December, where, up to the 10th of that month, four cases out of seven had been fatal.

exciting, cause of the disease, is an *acescency of a peculiar kind*, is nothing changed; and, in having adopted this notion, I am happy to say that I am at least in good company—with *Boerhaave*, who speaks of "the most terrible *Choleras* and *convulsions* being produced by an *acid** acrimony in the first passages;" but my further conviction is, that till such time as that is in some measure corrected, we shall not, in many cases, be able to do much good.

When on the Medical Staff of Southern India, in the latter end of 1815, I was particularly struck with the then, to me, new appearance which Cholera was assuming; in place of the tractable disorder I had ever found it up to that period, I not unfrequently observed it put on a much more alarming aspect, characterised by (in addition to violent vomiting and purging of a whitish-coloured fluid) a great sinking of the nervous energy, excruciating spasms, fixed hollow eye, feeble voice, altered expression of countenance, and occasional *asphyxia*. One case I can never forget; it was that of Captain Stone, of the Company's infantry. I was called to him at midnight, by the medical officers of his regiment; he was speechless, his pulse not to be felt,—his face so changed that I should not have known him; the vomiting and purging of a whitish fluid very frequent, and his feet, legs, hands, and arms, as cold as if he had been dead. What was to be done? He had taken every thing Dr. Gordon (of the Indian

* See Boerhaave's Practical Aphorisms, No. 63.

army) could think of, *laudanum*, *ammonia*, and *camphor*; he had besides used warm frictions and stimulating embrocations; nothing could stay the vomiting; and we expected that nature could not much longer hold out. It at length occurred to me, that perhaps some irritating acrimony or other, required correcting; and I gave him, though it was with the utmost difficulty that he could swallow it, a full dose of calcined magnesia, *not* in milk,* (that would have added to the mischief by its tendency to become acid,) but in a little tepid water: he kept it down, soon after fell asleep, and in the morning had no complaint but weakness. From that day I hesitated not, in every case of Cholera I had occasion to treat, whether in India, or afterwards, in England, to administer, *in the first instance*, an antacid, to neutralize the offending cause, (whatever might become necessary afterwards to warm the frame,) for cause I concluded there must be, which kept up so violent and exhausting an *hyperemisis*; and I can safely say, with continued advantage.

A short time after my return to Europe, I think in 1819, on learning that the malady had become a devastating scourge in the upper provinces of *Hindoostan*, and on reflecting on what I had seen in that country, I had no doubt but that the disorder which I had witnessed in 1815, was, at that period, *passing gradually from the sporadic into*

* No greater error can be committed, than giving magnesia in milk in cases of Cholera.

*the epidemic** type; and we all know, since then, what a wide spreading evil it has become: but we also know, that it is far from being a new disease. The Chinese were but too intimately acquainted with it ages ago; so were the Hindoos, as appears by their *sastrums*, in which it is named *sweta-rasa*, (white fluid.) So were the Arabians and Persians, as far back as 1364. Bontius had to combat it at Java, in 1629. Of the ancient writers, *Hippocrates*, *Ætius*, *Aretæus*, *Galen*, and *Celsus*, all describe it; the third mentioned of these, admirably. To say nothing of our own Sydenham,† who dwells upon it with an evident anxiety, from his having found it prove so frequently mortal; adding that no disorder, except perhaps the plague, is so suddenly destructive.

This is no place to enter at large upon the causes of epidemics. These have puzzled the wise ones of all nations, from the period when men first began to reason, and differ on such points: and differ they will continue to do, till our *pneumatic* chemistry has made greater advances than it has yet done. The peculiar nature of the morbific miasmata giving birth to distempers, must of course be essentially different, corresponding with each

* As it has been gradually doing in this island since August last, the month which Sydenham tells us is so critical with respect to the peculiar type Cholera assumes.—See Swan's edition of his works, pages 22, 137, &c. Several deaths occurred in Edinburgh in August last, from Cholera, with all the symptoms of the Asiatic disorder.

† See Swan's Sydenham, p. 137.

distinct disease engendered; whether *bred* and *brewed*, to speak figuratively, on the noisome face of a dark morass,—within the confines and narrow lanes of a large, crowded, ill-supplied, and ill-ventilated city—on the ensanguined plain, amidst thousands of unburied dead—or in the obscurity and damp of some vast wood, where animals breathe and plants grow, which never felt the purifying influence of the sun's rays—or within the confines of the prison-house, where sorrow and remorse render still more deleterious the vapours of the dungeon.

When appointed president of a medical committee,* to inquire into the nature and cause of an epidemic fever, which had nearly depopulated the southern provinces of India, in the years 1809, 1810, and 1811, I spared no pains in the research, but notwithstanding all my exertions, I regret to say, that I could arrive at no more satisfactory conclusion, than that there had been, for some time previous to the commencement of the malady, great irregularity in the seasons; in other words, extraordinary deviations from the usual order of climate; and it is a truth, that *Celsus*† has said, that "those seasons are ever most salutary which are most uniform, cold or hot." From similar sentiments, *Hoffman*‡ would seem to have deduced his

* The Report of this Committee was published in London, 1816, and has been reviewed in "The Edinburgh Medical and Surgical Journal" for January, 1817, and for October, 1820.

† See Celsus, lib. ii. cap. 1.

‡ Vide Med. Rat. Syst. Hoffman, par. i. cap. 1.

remote cause of epidemic fever; and it may not be irrelevant here to observe, that the *Hindoos* themselves also ascribe epidemic disorders to like irregularities in the weather, as may be learnt from "the *Ganetamnotum*," an astronomical *sastrum*, to be found in the Sheva Pagoda, at Tencoushie, in Tennivelly. Dr. Maclean, in his work on Epidemic Diseases, informs us that he believes them to depend on an undue action of the atmosphere, comprehending all the intermediate degrees, between the slightest catarrh and the most destructive pestilence.

Dr. Jackson, in his excellent work on "*The Constitution of the British Army*," remarks, that their causes are sometimes carried by particular currents of air, and that they have been known to travel in *certain tracts*; but Dr. Davy seems to have believed that the *present affliction* is "altogether unconnected with the direction of the wind, the topography of places visited, or any sensible changes in the state of the atmosphere." Nay, we are aware, from undoubted testimony, that the Cholera has occasionally made its way right against the prevailing periodical wind—that it has paused in its work of destruction without any evident cause, and as capriciously, if the phrase may be used in this sense, chose the inhabitants of one side of a street for its victims, while it left those on the other undisturbed.

Now, with such facts as these to guide me, I am

led to look to a source for the present disease which sets at defiance all winds; I mean the *electric fluid.* To some peculiarity, then, in that fluid, perhaps some, unknown to us, slight deviation from its natural state, am I inclined to ascribe *Spasmodic Cholera.* But I may be asked, if that fluid can, in any condition, be the remote cause, how does it happen that the disorder has not oftener become epidemic? Why, the truth is, that we are but partially acquainted with the electric matter; as an agent in the alembic of the atmosphere. The *aurora borealis,* since the days of heathen philosophers, when it was termed *Trales* and *Bolides,* to the time of *Hawkesbee,* (who first, by a beautiful experiment, proved its electric quality,) has been equally irregular as to its time of appearance and duration; but, allowing the position of the uncertain periods of return of the electric phenomenon, and its changeful condition, how am I, it may be said, to account for the *morbific influence* of that altered state? To this I reply, that by many, the electric fluid has been supposed to have at all times pernicious* effects on the human frame, however sanative may be that modification of it, evidently intended by Divine Providence as a powerful weapon in the hands of man—I mean *galvanism.*

* Showing at the sickly season, as evinced by the *electroscope,* a perpetual *changing* and *unevenness* in the action of the electricity of the air on the instrument.—See Forster's "Casual and Periodical Influence of Atmospheric Causes on Human Health and Disease;" p. 41.

Individuals I have known, who suffered from a strange nervous irritability immediately previous to the coming-on of a thunder-storm; and has not Dr. Far, in his Preliminary Discourse to the Epidemics of Hippocrates, told us, that he considers the electric matter as the very *pabulum* of impurity. Well, but taking it for granted that it does occasionally deteriorate the air, and so produce contagious diseases, how comes it (it may be demanded) to occasion that acid mischief which I conceive to be the immediate exciting cause of Cholera? An answer to this is what must be given with great deference to the opinions of many able men, who have taken a different view from me of the great question, which now so powerfully agitates the world, and shall be submitted to your consideration in my next letter.

I remain, my dear Sir,

Yours, faithfully,

WHITELAW AINSLIE.

LETTER II.

8, *St. Colmes Street, Edinburgh;*
December 17, 1831.

MY DEAR SIR,

In my last letter, of the 13th instant, I finished by observing that I should next proceed to shew how I conceive it possible that the electric fluid might occasion that peculiar and morbid acescency, which we believe to be pregnant with mischief in the human frame, as an exciting cause of Cholera.

In the first place, without knowing what was exactly the state of electricity in the air in those parts of India, when the Spasmodic Cholera became decidedly Epidemic;* I would here observe, that it appears by a letter from Mr. J. M. Penman, dated Sunderland, 15th Nov., that in the evening previous to the irruption of the disease at that seaport, there had been an unusual quantity of lightning:† now although we know that lightning—aye! and much lightning, may happen without producing disorders of any kind, yet we are not sure what might be occasioned by some peculiar

* Which it is said to have done in the month of August, 1817.

† It was in June 1752, that Franklin ascertained the identity betwixt electricity and lightning.

variation in the condition of the electric fluid. But even the common fluid, which is evidently designed by the Creator, for producing those phenomena, which are continually going on in the atmosphere, connected with *Thunder, Water-Spouts, the Aurora Borealis, the growth of plants,* &c. &c. even the common fluid, I repeat, has an 'acidifying' quality; and, if it is found capable of rendering the *lacteal secretion* acessant, a fact known to every dairy-maid, and to every mother* who has a babe at the breast, how much more easily may the perverted or changed electric fluid be supposed likely to occasion the same evil; and if one animal secretion,—*the milk,* is in this manner affected, surely another, the gastric juice, or even still other secretions in the alimentary canal, may come under a similar morbid control. How? by what process can the electric fluid generate an acid principle? Let Chemists answer this.—But stay—they have already answered it;—for do we not read in Wilkinson's "Elements of Galvanism," vol. ii. p. 288-9, when treating of the changed appearance often assumed by electric matter, in burning climes, and the singular decomposition and new combinations thereby produced, do we not read, I say, these words?—"It has been already observed that the component parts of the atmosphere, under the influence of electricity, can be converted into an *active acid.*"

* How many mothers are known to complain that the bowels of their children at the breast are more or less affected during a thunder-storm!

What can be stronger than this? what more conclusive? The susceptibility of the first passages to anything approaching to an excess of acidity, has been long a well-established medical fact; and no doubt arises, from the already sufficient tendency of matters therein contained to become to a certain degree acescent. *Prout* discovered that the contents of the stomachs of various animals, which had been fed in the usual way, shewed, when analysed, that in healthy digestion, the *muriatic acid, free,* at all events *unsaturized,* was a constant component part;* and Spalanzani concluded, by experiments he made, that the *chyme* was of an *acid nature*; but it has been advanced that what is vomited up in Cholera (a whitish fluid in great quantity) is not so; very different, however, were the results which I arrived at in India, on repeated trials, both with respect to what was vomited up and passed by stool, whatever Dr. T. Christie† may have met with in his Experiments; and if I mistake not, the intelligent Dr. Granville, at a late meeting of the Westminster Medical Society, remarked, that what was thrown up in this malady (and which is merely an increased but vitiated secretion‡ of the mucous

* See Philosophical Transactions for 1824, part i.

† See "Observations on the Cholera," by Dr. T. Christie, page 53.

‡ The peculiar white colour of the fluid vomited up and passed by stool in Cholera, must be in a great measure owing to the stoppage of the flow of bile into the duodenum, owing to the spasms invariably extending to the biliary ducts: and perhaps Dr. J. Johnston never said anything more true (and who has said more than he has of what is

membrane), had not rarely a peculiar taste resembling muriatic *acid*; and in addition to all this, (and it may be in place here to notice it,) we find that, according to *Herrmann*,* what is vomited up and passed by stool in such affections, actually does contain an acid—the *Butyric*; and may it not be of a nature perhaps analagous to that occasioned in the lacteal secretion, by the agency of electricity?

Having now, my dear Sir, arrived at this point of my present discussion, and explained to you, to the best of my power, what I believe to be the prime exciting cause of at least the *Hyperemesis*, as well as the alvine discharge, in this direful affliction, I must observe, that these form but a part of the symptoms which characterize the evil, but which, I believe, all owe their origin to the same irregular or perverted distribution of the electric fluid: the others (as I think already mentioned) are, a most

both just and true) than that the reappearance of bile in this dreadful malady is one of the best symptoms that can occur: and so much convinced are the Hindoos that a want of bile in the stomach and bowels is an unfavourable sign on such occasions, that they prescribe *Gorashanum*, a biliary concretion found in the cattle of India. And reasoning on what I have myself witnessed, of the good effects of giving the bile of an ox in cases of paralysed or otherwise diseased liver, in India, when no bile is secreted, and there is consequently great languor from the want of its stimulus, nausea, and coldness of the frame, I should think the same remedy might be administered with advantage in a disorder so strongly marked by similar symptoms. In Hindoostan, or situations where the ox-gall was not to be conveniently had, I have substituted a mixture prepared with equal parts of tinctura gentianæ comp. and tinctura aloes comp., which comes near the bile in quality.

* See Dr. B. Hawkins's work on Cholera, page 242.

alarming sinking of the nervous energy ; cessation of arterial action at the wrist ; blue lips and nails ; hollow eye ; altered expression of countenance ; a burning sensation at the *epigastrium* ; spasms in the extremities ; difficulty of breathing ; feeble voice ; an appalling coldness over the surface of the whole body ; dark colour of the blood, on a vein being opened ; and, what is perhaps the most extraordinary of all, a composure of mind altogether at variance with the dangerous situation of the sufferer. Nothing is more difficult than to explain the operation of ultimate causes in producing actual disease. Dr. Christie holds cheap the notion of an acid principle, however formed, having any power whatever in producing the vomiting which nine times in ten ushers in Cholera ; but is inclined to ascribe the disorder, and in its most dangerous form too, to an extensive *catarrh of the mucous membranes*,* embracing thereby the opinions of *Broussais* and *Geoffroy*, of the French school, (who attribute Cholera to a "*phlegmasie gastrique*,") and also coinciding in opinion with Mr. Scot, as we see by his Report, page 34. But how the remote cause of the malady is supposed to create the catarrhal affection, he does not attempt to say. In the view I have taken of this affection, (and I trust with great diffidence,) I have observed that the electric fluid has in itself essentially the power of rendering acescent animal secretions ; and one of

* Dr. Christie's Observations on the Cholera, page 78.

the strongest reasons that could be urged for the existence of acidity in the stomach on such occasions, I contend, is the almost instantaneous cessation of the vomiting after the administration of a full dose of calcined magnesia. Now, was a catarrh of the mucous membrane of the stomach and bowels the immediate cause of the violent discharge upwards and downwards, it must follow that the antacid is a cure for such catarrh, which is not the case, as it can only act in any instance by correcting an acid principle. But independently of electricity being injurious by its direct effects in producing this principle, we know well what harm it can do, and does do, by its influence purely on the nervous system. Has not *Adelon* said, in his Dictionnaire de Medecine,*—" La frequence de cette maladie† coïncide, dans notres climats temperès, avec l'état *electrique* de l'atmosphere ;" and has not J. P. Grant, Esq. expressed himself thus in his Official Papers on the Medical Statistics of Malacca and Penang? " all I can conjecture with regard to the cause of Cholera is that it may depend on a peculiar state of the *electric fluid* operating on the nervous system ;" a notion quite in unison with *Forster*, who has, in his work already cited, by many curious experiments, attempted to trace the connexion between certain *peculiarities* in the manifestation of *electricity*, and the *unhealthiness* of the season. If certain states of the electric fluid have

* See art. Cholera, page 83, tom. v. † Cholera.

been found capable of inducing the disease in question, so do we also find that powerful moral impressions have sometimes a similar effect.—"On a vu," says Adelon, "le *Cholera Morbus* suite d'un acces de colère, d'une terreur subite; et *Mahon* nous assure, que les emotions vives peuvent, chez les nourrices alterer le lait, de manier à ce que l'enfant soit aussitot frappé du *Cholera Morbus*."*

With regard to that much disputed point, as to whether the malady is contagious or not, the public have before them so many assertions, doubts, contradictions, and misgivings, that it would now be almost presumption in any man to attempt to give an opinion. For instance, Mr. Kennedy, in his well written and comprehensive work, treats the disorder under the name of *Contagious Cholera*. Mr. H. Bell, on the other hand, has observed, "Having, after much experience of the disease, arrived at the conclusion, that the *Cholera asphyxia* is NOT contagious." Then, again, although many of the medical men of Germany have come to a conviction that Cholera, with them, has not been contagious, (they in no instance having been able to trace it from one individual to another,) yet we learn, by a demi-official communication, in the *Medical Gazette*, as quoted by Dr. J. Johnson, in a letter addressed to the editor of the *Times*, of date October 17th, 1831, "That Doctors Barry and Russell had declared that this epidemic is commu-

* See Dictionnaire de Medicine, tome v. p. 183.

nicable, not by goods or clothes, *but by persons labouring under the affliction.*" A suggestion of Sir George Ballinghall may be considered, as here of importance; it is, that spasmodic affections, genenerally speaking, are not infectious. May it not be, that the disorder spreads not so much as communicated from one person to another, but as conveyed by currents of air, of varying degrees of strength, bearing in them the morbific miasmata, and which would appear chiefly, perhaps only, to assail such unfortunates as were predisposed to receive them, by weakened digestive organs, whether arising from dissipation, natural habit of body, poor living, filth, or from their residing in ill-ventilated hovels. The disease we have now to lament, differing in this respect from that *endemic* which raged in Edinburgh some five or six years ago, and which, strange to say, attacked chiefly the well-fed, well-conditioned inhabitants, who lived in the best and most airy streets of the city, leaving the poor and the miserable altogether untouched. So little, alas! do we yet know, in what consists the actual and distinguishing polluted source of such disorders.

In my next I shall offer you a few remarks with regard to the general treatment of Cholera, a subject which every man must approach with many painful reflections.

I remain, my dear Sir,

Very faithfully yours,

WHITELAW AINSLIE.

LETTER III.

8, *St. Colmes-street, Edinburgh,*
December 22, 1831.

MY DEAR SIR,

With respect to the medical treatment of *Spasmodic Cholera*—for surely, amidst a multiplicity of names, *that*, I trust, it may safely be called by—no one will venture to say, I think, that there is any power yet discovered, which could correct what we believe to be an irregular or perverted condition of the electric fluid; but if we cannot, by any means within our narrow reach, influence that particular state of this very eccentric matter, we can, at all events, administer such appliances as we may judge best suited to defeat its morbid effects, to a certain extent, on the human frame—effects too clearly evinced by those frightful symptoms already enumerated.

Far be it from me to undervalue the laudable exertions of any professional man, however much his opinions may differ from my own. But on a subject so mysterious, who has hitherto done much? —who can exclaim with confidence, "follow me, this is the right way?" while we are all but too well aware of the sad reality, that nearly one-third of

the numbers die that are attacked by the disease. What I contend for is simply this, that in the search in which we have so deep an interest, the investigation should be conducted as much as possible on philosophical principles, and not without consulting the writings of those sages who have gone before us. Therefore it is, when I see violent vomiting and purging, which almost in every instance precede the more alarming features of the malady, I conclude *here* must be a tangible offending cause, which *may* be corrected or neutralized, but which must not be either pent up or abruptly checked, for fear of inducing a still greater evil; nature herself is endeavouring to throw off the irritation, I will assist her, not thwart her. Still mindful of the lesson that was early taught me, by two distinguished men, though their talents, as well as experience, seem not to go for much in these times. *Aretæus** says at the commencement of his section on *Cholera*, "Nothing must be suddenly checked in this disorder, it is a practice full of danger; and Sydenham† observes, and the fact is remarkable, "we have an instance of this in *Cholera Morbus*, where, if we sometimes unseasonably stop the vomiting, by *laudanum*, and the at-

* A Greek physician of Cos, who practised in Rome in the time of Vespasian; he wrote a celebrated medical work, eight books of which are still extant: it is in the 2d book of that part of the work in which he treats of acute diseases, that he notices *Cholera*.

† See Swan's Edition, page 22.

tempt succeeds, we call forth a no less dangerous train of symptoms!" Nay, do we not find in our own day, Mr. Craw, in a letter to Mr. Jukes, from Seroor, of date 18th of August, 1818, and which may be seen at page 114 of the Bombay Report on the Cholera, declaring that opium is the most injurious medicine that can be employed in this distemper, as it "increases congestion, produces constipation, gives a perpetual tendency to inflammation, and injures the head;" but, to bring the matter altogether *home*, does not Dr. J. Gordon, in a letter from Sunderland, of date 28th of November, 1831, tell us that *laudanum* and brandy had been recommended there *without much benefit*. Hence it is, that rejecting that powerful sedative altogether, in the commencement of the disorder, whatever I might do at a later period, when acrimony had been corrected or carried off—and ever recollecting the Mahometan medical adage in India, that "*offim* (opium) calms and cloaks, but does not cure"—I should endeavour to put an end to the vomiting by safer means, by an antacid.

With regard to that other *newly* discovered sedative, *calomel*—however unwilling I may be to question the propriety of the use of what has come recommended to us by so many able and valuable men, as a sovereign remedy in Cholera—yet I must add, neither can I disregard the opinions of those not less intelligent individuals, who counsel so much caution in the use of it; for while some (they are

too numerous to name) unreservedly say, "lose no time in ordering a scruple of calomel, to be washed down with 40, 60, or 100 drops of laudanum, and repeating both if necessary;" others, for instance Mr. H. Bell, for whose understanding I have a great respect, declares, "The large doses of this mineral and opium, which have obtained a high character among practitioners, are *exceedingly pernicious*,* so are not repeated small doses of calomel."† Again, although Mr. J. P. Grant, in his observations on the diseases of Penang, affirms that he succeeded best when he gave at once *two drachms* of calomel, and as much laudanum, immediately followed up with four ounces of brandy. What does Mr. W. Scott say, (that just observer)? Why, that "those who prescribe large doses of calomel, do not appear to succeed better than those who do not; and that when it had been administered to great extent, it had been found, after death, coating the internal surface of the stomach, lying embedded in greenish mucus,‡ marks of inflammation being visible on the spot"—thus acting more by its weight and pressure, rather than by sedative powers. But I should, in other respects, be inclined to ask, is a powerful sedative, allowing a large dose of calomel to be such, properly indicated under any circumstances, in a malady which is particularly

* See Bell's Treatise on Cholera Asphyxia, page 110.

† See same, page 111.

‡ See Mr. Scott's Report of the Cholera in the Madras districts.

distinguished by a sinking of the nervous energy? for even the spasms themselves are consequent of that dreadful collapse, which demands resuscitation by means of stimuli rather than by anything else.

Then, with respect to bleeding, Mr. Kennedy* has affirmed, and he is not singular in the assertion, "That in many instances, where blood could be made to flow freely, and when taken away to the extent of thirty ounces, the lives of the patients were, for the most part, saved:" but behold the other side of the picture—what is declared by Mr. W. Scott† in his report above cited? "It must be confessed, however, that the sudden sinking which follows large bleedings, has staggered the faith of many believers." In fact, the old Roman proverb, *Quot homines tot sententiæ*, seems to hold good, as well with regard to the treatment of this lamentable affliction, as to its origin, essential qualities, and propagation. We cannot, under such cheerless reflections, but admire the candour of the man, (Mr. Chapman‡), who tells us, with a genuine and honest simplicity, above all finess or selfish assumption, "Amongst the variety of medicines administered for this disease, there is *not one* that has not, at different times, both failed and succeeded; hence, does it not become a proper subject of inquiry,

* See his History of Contagious Cholera, p. 171-172.

† See Report of the Epidemic Cholera, as it appeared in the districts of the presidency of Madras, under date 1817.

‡ See Kennedy's History of Contagious Cholera, p. 152-153.

how far the disease may be considered under the control of any medicine? and of this I am conscious, that a number of cases, in the absence of all medical aid, do terminate otherwise than fatally!"

Spasmodic Cholera, like other derangements, appears with various degrees of malignity. Mr. Kennedy particularizes three forms of it, differing in intensity, and which he properly considers as but so many species of the disease; but these dissimilitudes, I should presume, are less consequent of any different grade in the morbific cause, than of the peculiar state of the individuals attacked in the same way that we have sometimes seen under one roof, and, at the same time, two children of a family labouring under *confluent small pox*, while another had the epidemic of the mildest kind.

Without noticing, then, the multifarious medicines and modes which have been resorted to for this malady, I shall proceed concisely to observe, for my letter I perceive swells to a great length, that presuming upon the theory I have adopted, I should at once, on a sufferer's being brought to me labouring under decided Cholera, attempt to stop the vomiting and purging, (which in ninety-nine cases in a hundred, distress the patient,) not by cloaking, or binding them up by a strong opiate, which might act in this, as it does in most other cases, and afford ease for a while, but by a full dose of calcined magnesia in tepid water, and repeating it, with the addition of a scruple of pounded

ginger, should the first come up; and by giving, as soon as possible, six times the quantity of magnesia without ginger, in the form of an *enema* (injection.) If for this mode of treating Cholera I am asked what authority I can bring, my answer is, my own experience of its happy effects in many instances of violent attacks of the sporadic disease, attended with all or most of the alarming symptoms above stated, and that I believe this subcarbonate to act by neutralizing what I conceive to be the exciting cause of the malady; and moreover, if the reader will look into *Bontius*—and his authority will not, I trust, be disputed—he will see that in cases of *Cholera* at Java, upwards of two hundred years ago, that great physician prescribed, *cornu cervi ust: lapis Bezoar*, and *margaritæ præparatæ*—all antacids. In spite of the vomiting and purging having been allayed, or altogether stopped, should it happen—and, alas! it but too frequently occurs, that the nervous energy continues to sink—should the body remain cold, the voice feeble, and the spasms distressing, no time should be lost in putting the patient into a hot *salt water* bath, heated at least up to 96° or 97° of Fahrenheit. This I have often found to act as an instantaneous and most pleasant stimulus to the whole frame; an effect not so readily produced by either the *fresh water* or *vapour* bath. A quarter of an hour or ten minutes will be quite long enough to keep the patient under the influence of the warm brine; and, that the good effects resulting

from this influence should not be lost, the sufferer, immediately on being taken out of it, should be rubbed dry with heated flannels, and laid with the least possible delay betwixt almost scorching hot blankets, putting at the same time bottles filled with hot water to his feet, hands, and stomach, and applying a small blister to the top of each foot, and one to the back of his neck.

The internal stimulus and cardiac I ever found to be the most efficacious in India in this disease, (the vomiting and purging once got under,) and certainly the most grateful to the stomach, was a pretty strong infusion of roasted black pepper, which the Hindoo physicians (Vytians) say is one of the greatest blessings which God has bestowed on the world. Ginger tea is useful, but not to the same extent; so is ammonia, in doses of twelve or fourteen grains; or a fluid drachm of the *liquor ammoniæ sub carbonatis*, E. D.; repeating any of these if required, especially the black pepper infusion, which I have known to save life when every thing else that had been given had failed; and it is somewhat remarkable, that it appears to be equally useful in checking the vomiting, and warming and rousing the frame when the vomiting is stopped. Tincture of asafæteda, given in doses of a drachm and a half, or two drachms, in a glass of strong warm whiskey* and water; the balsam of Peru, too, given

* I say whiskey, because I believe it to be, when well made, the lightest, most cordial, and safest of all spirits, and more free from

in drachm doses, and in the same vehicle, is an admirable medicine, and is at the same time diuretic, a quality which must render it desirable in Cholera. But I have said, and I repeat, that I know no stimulus I should have so much reliance on as an infusion prepared from black pepper, followed up (when the spasms relax, and the bile begins to flow) by repeated *small* doses of calomel and compound extract of colocynth, to gently stimulate the liver, and enable the gorged gall-bladder to throw off the long pent up secretion. With respect to the use of muriate of soda, (kitchen salt,) to the extent of two table spoonfuls in six ounces of water, taken at once, I have no experience; it is to be presumed that it acts by exciting vomiting, which is one of the symptoms we wish to conquer: and, perhaps, it was ordered on the same principle that Hippocrates* of old mentions his having given *hellebore* in the juice of lentils, to a man of Athens, during a violent attack of this malady; vomiting was in consequence occasioned, and the patient recovered. Neither have I any experience of what was lately mentioned by Dr. Barry, at a meeting of the Board of Health, at Sunderland, as a remedy successfully employed by Dr. Lange, of Cronstadt, in Russia, viz. a hot iron applied along the spine; but the attention of the British public having been called

acescency than any other, being obtained from a wholesome grain, not a fruit.

* See Hippocrates's Epidemics, lib. v. Far's Translation.

to it by the distinguished individual just mentioned, must entitle it to great consideration. He who, in company with his not less excellent or less enlightened friend, lately left the repose and social intercourse of his own country and home, to visit a far distant land, regardless of every ill that might assail him there, fatigue, anguish of mind, contagion, death ;—to do what? Why, to instruct the uninformed, to mitigate calamity, and to soothe the distresses of the poor and miserable !

Believe me, my dear Sir,

Yours, faithfully,

WHITELAW AINSLIE.

LETTER IV.

8, *St. Colmes-street, Edinburgh,*
December 26, 1831.

MY DEAR SIR,

When I had last the pleasure of addressing you, I mentioned the medicines I had found most efficacious in treating those violent cases of Spasmodic Cholera, which, as already mentioned, I had occasion to witness previous to leaving India, in 1815 ; and it is a singular fact, that in various parts of this island, in the months of August and September last, there were not only many violent attacks of a similar nature, but deaths consequent, of some of them. In a letter now in my possession, Dr. Farquharson, of Edinburgh, informs me that he had under his care, during the first mentioned month, several cases marked by all the symptoms of the Asiatic disease, one of which proved fatal, and that he found the use of calcined magnesia, given in the early stage of the complaint, in the way I had recommended to him many months before, of the greatest advantage.

It is somewhat strange that the important point has not as yet been decided—was the spasmodic malady which has been for many weeks past doing its work of havoc at Sunderland, brought by a ship from

Hamburgh? or were the morbific miasmata wafted to us across the sea by a western gale? or, were they generated by a particular state of the electric fluid in the air of our own country, producing, in the first instance, a disorder which, from its long smouldering pause in one place, might well be called *endemic*; but which has since, by its spread, assumed more of an *epidemic* type? But I must not get back again to those most puzzling of all dilemmas—the propagation of disease and the *causæ morborum*. Leaving myself, however, the privilege of asking this one question, whether, without thinking it necessary that the actual seeds of the Cholera should be either wafted, or carried by individuals, or by goods, across seas, and vast continents; whether, I say, a similar state or condition of the electric fluid in any country might not, under peculiar and parallel circumstances, and meeting with subjects predisposed in the manner I have above described, be productive of an evil every way as malignant, and with exactly the same symptoms? and which then certainly might be extended, either by positive contagion, or in the way already hinted, by casual currents of distempered air. Why should Jessore be considered as the sole spring of so much misery? and what was there that could not have been generated in fifty other such *cauldrons* of impurity? No! the Almighty reserves to himself the power of reproduction as well as creation, and has made his law, that from a

combination of like causes, there shall and must be like results; hence it is, that in situations the most remote and obscure in India—in the very centre of immense plains, and without the smallest intercourse with other states—the *small pox* has been known to burst forth suddenly, and carry off, in some instances, half the population.

One point there is, in which, unfortunately, all must agree in reference to the pestilence which now, unglutted, preys. How often have we had to say, "*our best exertions have been used against it in vain.*" What are we then to do? Can no farther means be essayed to save thousands from the grave? Yes! let us make use of the reasoning faculties which have been bestowed upon us: foiled as we have been in one quarter, let us turn our attention towards another; let us look beyond our drugs, the *materia medica* strictly so called, and cast our eyes to other and higher sources. We are not ignorant of the important discoveries made by Dr. W. Philip, by which the almost identity of *galvanic* electricity and the nervous influence was established; so that, as has been allowed by Dr. Ure, (and who is better authority?) the one might be, to a certain extent, substituted for the other;* with a view, therefore, in a malady of which the sinking† of the nervous energy has been by some

* Perhaps no men have been more successful in their application of galvanism to medical purposes, than the Swedish physician, *Westring*, who invented the *Brosses Metalliques*, and *Benoit Mojon*, a celebrated Italian.

† See Orton's Essay on the Epidemic Cholera.

considered as the actual cause of the Cholera, what should deter us—and I propose it with great deference to those who have, with me, lamented the hitherto intractable nature of the disorder—what should deter us from employing the galvanic* fluid, to stimulate the stomach and bowels to new action in extreme attacks? We all know its powerfully exciting and raising quality, so much so, that it was recommended by *D. Grapengiesser*† to be employed in cases of *asphyxia;* and here is the very word and name that Mr. Bell has given to the disease in question; but we know more than this, for we are told, that such is the effect of this singular fluid on the human frame, that Monsieur *Creve,* as we find mentioned by Wilkinson, in his valuable work on galvanism, (vol. i. p. 406,) did employ it with success in distinguishing betwixt real death and asphyxia.

In offering galvanism to the attention of my medical brethren, as what might be probably useful in severe attacks of Cholera, and which is what I first did in 1825; it will be remarked how great the distinction‡ I draw betwixt this modified,

* With regard to the mode of applying the galvanic fluid, the reader may consult "*Aldini's General View of the Application of Galvanism,*" pp. 55-56. He seems to require no incisions to be made in the integuments, but that the patient should simply be laid on a sofa and covered with the clothes.

† See Wilkinson's Elements of Galvanism, vol. i. p. 429. He was celebrated for his success in the use of galvanism.—See Alibert's Nouveux Elements de Therapeutiques, tome xi.

‡ Perhaps no subject is as yet less definitely understood than that which constitutes the essential difference betwixt electricity and gal-

manageable, and sanative fluid, and its irregular, uncertain, and almost lawless congenitor—Electricity. The one being perhaps more especially intended by the Creator for the great, and by him alone controllable operations continually going on in the atmosphere; the other wisely destined for the more immediate purposes of man; and so let us receive it.

In like manner, in violent attacks of the malady, which set at defiance simpler means—to warm, reanimate, and invigorate the heart and arteries, to restore, in fact, the almost extinct pulsation, (on which galvanism has been ascertained to have comparatively less influence,) where can we look for more efficient assistance than from inhaling oxygen air into the lungs? and which I first took the liberty of calling the attention of the public to in 1825: Dr. Withering,* I perceive, advises this gas for such purposes, to be diluted with 18 or 20 times its bulk of atmospheric air, when it will be

vanism. *Nollet* found, by his experiments, that *electricity* hastened the growth of plants. Baron Humboldt, soon after, ascertained that plants *were not* at all susceptible of the *galvanic* principle. To develop electricity, mechanical friction is required; friction, on the contrary, has no effect on galvanism: in fact, galvanism, as Dr. A. T. Thomson has well observed, seems to differ in some degree from electricity in its *effects* and mode of *production*. *Aldini*, we know, says, that if it be required to give a shock to the nervous system, by means of electricity, a second shock cannot be produced before the action of the first is over. Now it is quite different in galvanism, by which a strong and continued shock may be obtained without making any change in the apparatus.

* See Philosophy of Medicine, vol. i. p. 423-433.

found "to excite the action of the arterial system, warm the extremities, and invigorate the vital principle;" and does not the Rev. Mr. Townsend* say, "Vital air, properly diluted with common air, promotes insensible perspiration, exhilirates the spirits, and RELIEVES DIFFICULT RESPIRATION." To quote further in favour of the virtues of this extraordinary stimulus would be useless, as it is sufficiently well known to all who have made these subjects their study, that, judiciously administered, it can in a wonderful degree *resuscitate*; giving, in a manner almost magical, a glow to the countenance, a warmth to the skin, a hilarity to the mind, a facility in breathing, (which in Cholera is so much required,) and the absence of which, in that disease, like another alarming symptom, the dark† appearance of the blood when drawn, must, and I should presume can only, depend on a temporary deficiency of

* See Philosophy of Medicine, vol. i. p. 432.

† Various and differing reasons have been assigned for the dark colour of the blood in Cholera.—Dr. Christie seems inclined to ascribe it to the disordered state of the delicate membranes lining the air-cells. He is more likely to be right in another suggestion he offers, (page 83 of his Observations on Cholera,) which is,—"But in whatever way we may account for it, we must admit the fact, that the usual chemical changes between the atmospheric air and the blood are not made in Cholera:—witness the cold breath." Dr. Christie says that he has seen the blood dark-coloured when drawn in India in cases of Rheumatism and Dysentery. I have remarked the same, but they were invariably such cases as mercury had been freely used in; blood drawn from a patient in a state of salivation, be it ever so slight, is dark-coloured to a certain extent.

oxygen, separated from the air, and received into the lungs, consequent of the mal-influence of the great epidemic cause.

Now I may be told, and I should not be offended, that all this is very vague and very visionary; it may be so, but I am not ashamed of it. Celsus, of old, called the science of medicine *ars conjecturalis,* and it is so. But is it not allowable, if, after a good two thousand* one hundred and eighty years of research by many ingenious and laborious men, and still such diversities of opinion existing, that scarcely two physicians agree concerning the disease which now rages; and that when that worst of all facts stares us in the face, *this truth,* that upwards of a third of those seized, die: after all this, I say, may it not be permitted to reason upon the discordancies laid before us.—To compare the writings of the great men of antiquity with the experience of more recent times—to call in the help of other and kindred sciences when our own avails us but little; and draw such conclusions as the investigation may call forth?

I am not aware that, in these letters, there has been advanced an opinion unsupported by what appears, at least to me, to be probable testimony; and if I have been fortunate enough to suggest a single idea that may be considered useful in alleviating the existing sorrows, in however small a

* From the time that Hippocrates was born till the present day.

degree, I shall consider my time as not misspent. If, on the other hand, I shall have been found to fail, I can but join that, alas! too numerous, yet honourable band, who have laboured in the same good cause. Then we can but repeat what *Seneca* said of old—

"Iners malorum remedium ignorantia est."

There is not unfrequently a tormenting thirst to add to the other miseries of Cholera, and a burning heat in the stomach and bowels; at other times these symptoms are altogether absent. The safest and best drink, under any circumstances, is clear well-prepared, but not too strong coffee, without milk, and with little or no sugar, avoiding every thing that has the slightest acidity. In situations in India, where I could not conveniently get the real coffee, I ordered it to be prepared from rice or barley, or it might have been made from any of the many small pulses (grams) common in every bazaar in that country. Of the use and virtues of coffee, in this malady, I can speak with the greatest certainty; I know of nothing so likely to remain on the stomach, and it is a curious fact, that the Roman physicians, in the time of the elder Pliny,* ordered coffee, prepared from torrified lentils, for the same complaint. So do the Malays invariably use it for a similar purpose; they call the Cholera,

* Hist. Natur. lib. xxv. cap. xxii.

Moontaan, and have suffered from it, from time to time, for ages past. But coffee is not only useful as a safe drink on such occasions; I have known more instances than one, in which the disorder was actually checked in its commencement by a liberal use of well-made coffee. Dr. Clark, in his work* "*On the Diseases of Long Voyages*," strongly recommends as a diluent in Cholera, *coffee* prepared from toasted *oatmeal*: and Dr. Ayton Douglas† speaks not less in praise of *coffee prepared with toasted oat-bread*; nay, he goes so far as to say, that he remembers no single instance in which it was ever vomited up.‡ This speaks volumes, and is in full testimony both of what I myself experienced in India, and in favour of *antacids* as a remedy in this epidemic.

Of *Post Mortem* examinations I shall say but little—indeed, we so often find such varying descriptions given of the body after death, even when the cases had appeared nearly the same in life, that we are at a loss what to conclude. In Mr. Bell's "*Treatise on Cholera Asphyxia*," will be seen a well detailed account of what he himself witnessed;

* Vol. ii. p. 394.

† Edinburgh Medical and Physical Journal. Processus Integ. de Cholera.

‡ A lady now in London, and who could be referred to if required, informed me lately, that having lost several servants by Cholera, in India, she began making the others drink freely of well-prepared coffee, without milk, and, from that time, she lost not another by the disease.

but even in that, we discover how much at variance what one man saw is with what another found; for instance, in speaking of the *spleen*, he observes, "I have always found marks of conjestion in that organ—but Dr. Christie mentions his having found it empty."* Then, again, "The colour of the bile in the gall-bladder is generally green—but I have seen it of a *healthy appearance*." This is all very discouraging. As already noticed, Dr. Christie, and no one will deny that he is both intelligent and candid, seems to have little doubt, from *post mortem* examination, but that a *catarrhal affection of the mucous membranes* is the pathological cause of Cholera; but he ought to recollect, that *that* is the general cause now ascribed, (by *most* of those who have thought wisely on such complaints,) for very opposite, and much more innocent *affections*, Dyspepsia, and *chronic derangement of the first passages*. In diseases where pus is actually formed, or blood or serum poured out, to considerable extent, or where organization is materially changed, or altogether destroyed, facts speak for themselves; and of such I have seen but too many in my day: but on other occasions—and it being impossible to compare exactly the interior parts of the living individual with the cold and lifeless corse—I have sometimes thought *minute* details

* See Bell's Treatise on Cholera Asphyxia, page 20. By empty, he must simply mean, I suppose, that there was no congestion.

of such appearances, to say the least, unsatisfactory; they would, at all events, be superfluous here.

In my next, I shall conclude all I have to say on the subject of Cholera, at this time.

Believe me, my dear Sir,

Very faithfully yours,

WHITELAW AINSLIE.

LETTER V.

8, *St. Colmes-street, Edinburgh,*
December 30, 1831.

MY DEAR SIR,

If we are asked how we ought to live to be best prepared to face this hydra;—how are we to be mailed with the greatest chance of safety against this terrible assault? The answer is short and simple—live well, but shun excess of all kinds; avoid many mixtures of food and drink, or whatever is likely to derange or weaken the first passages, or produce dyspepsia. That wine which contains the least acidity is the safest, or a little spirits and water is better still, if the individual is subject to heartburn. Immature fruits and crude vegetables are most injurious; indeed, fruits of any kind, when the malady is raging round, had better be abstained from; in a word, live in a manner the least likely to bring on that state of *predisposition* the most acceptable to the enemy we have to war against.

Too much attention cannot be paid to the quality of bread, any sourness in it must have pernicious effects. Above all things, the mind must be kept cheerful.* Warm clothing is desirable, and as little

* Good fires in the sick rooms are most necessary, and hence England must have an advantage over those countries where stoves are used, since fires both heat and ventilate the room—stoves only heat it.

exposure as possible to the night air in damp weather, and by RIVER SIDES*. Great cleanliness of person is conducive to health at all times, and, in the present instance, is doubly so. We would advise, for those who can have a choice, to give a preference to the upper chambers of the house for sleeping in; and to keep aloof, as much as humanity and natural affection will allow, from such as are labouring under the calamity we devoutly deprecate. Crowded assemblies at such a period are dangerous, for there, not only the air must, to a certain extent, be vitiated, but in them may be met some who have about them the very seeds of the disease we wish to shun; and, of all crowded assemblies, those must be the worst in which the bad, and therefore the debilitating passions are fostered, where the fumes of disaffection and revolt may render even more malignant the breath of the Cholera.

As to the best mode of preventing the disorder from spreading by contagion, it may not be out of place here to offer a few remarks, for, in whatever way the great question is settled, it can at least do no harm to know what has been found of use, under other circumstances, in correcting corrupt air. An account of the singular virtues of chloride of lime, for this purpose, may be seen by referring to the Register of Arts and Sciences, (vol. i. p. 124,) by

* Nothing can assist the Cholera more in his work of devastation than those fogs and damps which, in certain states of the atmosphere, are seen brooding over large rivers.

which it appears that Messrs. *Orfila*, *Lessure*, and *Gèrdy*, had prevented all mischief that might have arisen from examining a body which had been dead a month, by sprinkling over it a solution of chloride of lime, in the manner recommended by *M. Labarraque*; we learn also from *Demarest*, in his "*Traité de Chemie et ses applications aux Arts*," (p. 156,) that the *Chlorure de chaux* had been employed in France with the happiest effects as a *disinfectant*, and do we not all know what pains M. Alcock took in his lecture, delivered at the Royal Institution of London, in February, 1820, to make his auditors understand the application made in Paris of the chlorides of soda and lime, as disinfecting agents, so that if the bleaching powder, (as chloride of lime is sometimes familiarly called,) be sprinkled about a room in which infectious vapours are floating, they are speedily rendered inert? Or if the chloride be dissolved in water, and then clothes be dipped in the solution, and afterwards brought into the infected atmosphere, they produce the same result.* Now, with facts like these before us, although we cannot detect and bring forth the absolute morbific miasmata in the air occasioning any particular malady, though that air be taken directly from the bedside of a dying

* The Hindoos, to prevent contagion, burn *dammar*, a sort of resinous substance; and I used it myself in India, for the same purpose, in the rooms in which I had typhus fever patients. Why should not *tar* or *pitch* be burnt as disinfectants in cases of Cholera?

patient, yet why should we hesitate to make use of those we do know. These invaluable chemical agents, which the researches of the ingenious have bestowed upon us, and which have been found capable of rendering that an innocuous, which otherwise must have shed a mortal malignity. In all cases, then, of Spasmodic Cholera, I would anxiously recommend that recourse be timely had to one or other of the preventive measures I have above mentioned, and which, it is most sincerely hoped and believed, might be the means, under Divine providence, of shielding from harm the nurses or relatives of the unfortunate sufferers, during the execution of one of the most trying and interesting offices which graces humanity.

It is scarcely necessary, I should presume, to caution those on whom may devolve the sad but sacred duty of interring such as may have fallen under the grasp of this frightful dragon, that the bodies should be committed to the earth without loss of time, having been previously covered over with quick lime. That over the clothes of the bearers should be sprinkled a portion of the solution of the chloride of lime; that as few hands as possible be employed on the occasion; and that the grave should be at least six feet deep.

I would, again, before taking leave of this painful subject, and while the fatal malady seems at last hurrying on with a renovated malignity after its late deceitful halt, I would again, I beg leave to

say, strongly call to the attention of medical men such aid as *may* be derived from pneumatic chemistry, against a usurper who cannot be subdued in the usual way. The field is a wide one, and hitherto but lightly trodden; yet is it undoubtedly rich in hidden treasures, and which must, ere long, be brought to light. Advancing as I now am into the vale of years, yet am I young and buoyant in hope when that profession wakes in which I spent a long life in an eastern clime—a hope which, I trust, will not forsake me till its realization is complete, in my witnessing the solution of an *enigma* which now distracts,—the downfall of a *monster* which devours!

It must be confessed, that in the field I have just adverted to, the philosophers and physiologists of the continent have hitherto laboured with more industry than we have: witness *Abbé Nollet*, *Mr. Gallois*, *Ferrus*,* *Rostan*,† *Pelletan*, *Bertholen*, &c. especially the last mentioned, in his celebrated work, "*De L'Electricité du corps humaine dans l'état de santé et de maladie*;" yet are we not without our distinguished men, some of whom we earnestly wish may continue their investigations. *Dr. Franklin*, *Priestly*, *Dr. Robertson*, in his "*General*

* *Ferrus*, a celebrated French physiologist, author of the article Epidemic, in the "Dictionaire de Medicine."

† *Rostan*, a French physician, who writes the well-known article on Medical Electricity, under the head of *Galvanism*, in the "Dictionaire de Medicine."

View of the Atmosphere;" *Ellis*, in his "*Inquiry into its Changes*;" *Adams*, in his celebrated work on Morbid Poisons; *Pitta*, in his "*Treatise on the Influence of Climate on the Human Species*;" *Dr. Jackson*; *Dr. J. Johnston*; *Dr. B. Hawkins*, in his valuable Medical Statistics; *Mr. Forster*, already mentioned; and though last, certainly not least, *Dr. Wilson*, in his "*Observations on the Influence of Climate*:" all these able men have worked well, and those of them who are yet spared to us, will, we trust, work again.

I cannot conclude these letters without my humble meed of admiration of all that has already been done in our united empire in the great cause of humanity. The noble lesson was early taught us by the well constituted *Board of Health* of London, where talent presides and discretion executes; its benevolent example was quickly followed by every city in which it could prove beneficial—there was it gladly hailed by the able, the zealous, and the considerate; and such wise rules, regulations, and restrictions, soon established, as cannot fail to prevent infinite mischief, should the enemy advance. In the meantime, with such models of manly enterprize before us, as we have in a *Gibson* and a *Daun*, (men distinguished alike by their intelligence and disinterestedness in stemming the tide of public woe,) let us undismayed face the remorseless adversary, and, frail as we are, having made such preparation for the fight as our best

exertions and reasoning faculties can afford, seek support from that mighty power, who sends both the hurricane and the calm, and who never disappoints those who devoutly ask. We have to thank God for many blessings in this our favoured* land; and, as it was given to *us* from on high to set to flight *one* dreadful epidemic, who knows but some second *Jenner,* in these our days, may find a balm for a still more appalling visitation!

Believe me to remain,

Ever, my dear Sir,

Most faithfully yours,

WHITELAW AINSLIE

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* It is a well known, and, at this time, interesting fact, that the plague which has occasionally been brought to England, and first, if I recollect right, in A.D. 761, yet never appears at any period, to use Dr Jackson's phrase, to have been bred amongst us, or long retained; so the sweating disease, although it returned five different times, after 1483, it at last took, I trust, its final departure; so let us hope the Cholera soon will.

FINIS.

Diggens and Jones, Printers, Leicester-street.