THE TRUE PATHOLOGICAL NATURE OF CHOLERA,

AND AN INFALLIBLE METHOD OF TREATING IT, IN A SERIES OF LETTERS,

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NO. III.

GENTLEMEN.—In my last letter I remarked, generally, yet briefly, upon the history, character, and symptomatic features of Cholera. In the present letter, I propose to treat of the means of cure. Before entering upon this subject, however, it is necessary, in a medical point of view, that I speak of the prognosis of the disease, and of the various forms in which it presents itself.

As the prognosis in Cholera, I would briefly state it to be—

Favorable Symptoms.—The disease commencing with cramps of the voluntary muscles; heat of skin at or above the natural standard; pulse soft, full and strong; little thirst; bilious vomiting and purging.

Unfavorable Symptoms.—No pains nor cramps at the beginning; pulse small and feeble; heat of skin below the natural temperature; tongue white, clammy, flowing with saliva, cold, relaxed, power; no secretion of urine; serous and watery purging and vomiting, and no smell emitted from the discharges.

Disposing of the prognosis thus briefly, I proceed to observe that the disease presents itself in four distinct degrees of malignity, which it is necessary for me to describe, as information on this subject is an essential preliminary to a judicious use and properly modified adaptation of general rules of treatment. I shall take these up in the order of their malignity.

1st. In the least dangerous form of the disease, the attack commences with spasms of the stomach, bowels, and voluntary muscles; heat of the body at the natural temperature, with a strong, full pulse, and slight retching or vomiting, unaccompanied by purging.

2d. The next in point of danger is, when the disease begins with pain in the stomach, less or more severe; oppression about the precordium, headache, numbness of the extremities, with a pricking sensation over the skin, succeeded by purging and vomiting, or vomiting and purging—in some cases, of bilious matter; in others, of a flesh-colored fluid.

3d. A more dangerous form of the disease than either of the preceding commences with violent pain of the stomach, increased oppression; intense pain across the forehead, and in the eyeballs; flushed face; pulse quick, hard, and bounding; a painful sensation felt over every part of the body, similar to that experienced at the beginning of fever; heat of skin increased to a morbid degree; tongue exceedingly white, deeply coated, and furrowed; intense thirst, with deadly sickness at the stomach; vomiting and purging—first of the natural contents, after which, the fluid matter discharged from the bowels is of a greyish white color, granulated, and mixed with particles resembling powdered ochre, and emitting a peculiar and intolerable fetid odor, exceeding any thing of the kind observed in all other cases of cholera.

Though this is not the most rapidly fatal form of the disease, still it is fraught with great danger, requiring prompt and active treatment; and the recovery may be more tedious than even where the disease has assumed the most malignant type.

4th. In the last and most malignant form of the disease, the attack comes on with giddiness of the head, ringing of the ears, and purging—first of the natural contents, then, of a fluid resembling the mucilage or barley water; pulse small and feeble; heat of skin below the natural temperature; without any vomiting, pain, or cramp. Here there is the greatest danger, and, if the disease be not instantly checked, the patient may go down into collapse in less than half an hour.

Upon this form of the disease I would observe, that the most rapidly fatal attacks in Cholera commence without any vomiting, pain or cramps, or previous warning whatever; and while, under all circumstances, under all more or less severe attacks of the disease, the earliest recourse ought to be had to remedial means, I wish to impress the importance of being specially prompt when the disease begins in its most malignant and most insidious form, in which a delay of a very short period might be attended with fatal results. I have seen much of the fatal consequences of an error of opinion in this respect, the patient imagining that it could be Cholera with which he was affected, because he had no vomiting, or pain, or cramps, when, in point of fact, it was the most fatal form of the disease, and when the vomiting and cramps did come on, they were only the fearful harbingers of collapse and death.

In the most malignant form of the disease, the first symptoms always take place from the bowels, and the patient does not vomit till the disease has carried him into hopeless collapse, or till he is at least, in a state of collapse. A knowledge of this fact cannot be too strongly impressed on the minds of the public. As far as my recollections serves me, all the cases of hopeless collapse to which I have ever been called, during my experience, were of persons who assured me that they had applied at the moment when the vomiting commenced, and that, in the absence of that symptom, they had attributed the previous purging to some other cause than Cholera. I would observe, that the danger in every case bears a proportion to the rapidity and amount of the discharges from the bowels.

Having thus disposed of much preliminary matter, I now proceed to specify the proper remedies to be employed in the treatment of Cholera; and to state, from the nature of the case, the most dominant cause of it could not be cured by any other means.

It has been already explained that the primary cause of the morbid action in Cholera is a specific injury inflicted on the brain and nerves, which paralyzes their tone and energy, and gives rise to a train of symptoms which result in the escape of the serous or watery part from the blood, and that such serous fluid passes off in the discharges from the stomach and bowels.

The indications of cure are, to restore the tone and energy of the brain, and to prevent a further escape of serum; and not only so, but to restore to the blood whatever amount of its natural fluidity it may have lost by the previous escape of the serous fluid; and finally, to re-establish in their healthy action all the natural functions which have been suspended during the attack.

Now, the remedies which I shall place before the reader furnish ample means to accomplish all the objects demanded in all these several indications of cure; and, if promptly and skilfully handled, enable the medical practitioner to set at defiance all the assaults of this hitherto fell destroyer.

These remedies I would briefly state to be—*The Horizontal posture of the Body—Opium—Cordial Stimulants—Perspiration*—the latter to be produced by the application of external heat, and to be continued by the same means, while cold, warm diluting drink is to be freely administered, to furnish an abundant supply of suitable fluid to the absorbent vessels which have been, first, excited to vigorous action by the perspiration.

Under these several remedies, as means of cure, I shall make some general remarks, illustrative of their mode of action, and their fitness for the exigencies of the disease; and showing how they fully and efficiently meet all the requirements of cure. This I shall do before prescribing in detail the manner in which they are to be used in the treatment of the disease.

Such a course will, I conceive, be attended with advantages. When I come to direct the proper mode of treatment, the reader, who shall have brought my observations along with him, will be prepared, not only to see the adaptation of the means of cure I shall prescribe, but will almost be able to anticipate me in this matter. I thus hope to carry his understanding and conviction along with me. I shall take up the remedies severally—First:

The Horizontal Posture of the Body—All who have read attentively the observations in my second letter on the symptoms, and the reason and cause of the symptoms in Cholera, will at once perceive the necessity of immediately placing a patient affected with the disease, or even with its premonitory symptoms, in the horizontal posture. I explained that the primary loss of the tone and energy of the brain in this disease, immediately leads to a loss of power in the circulating vessels; that this diminution of the circulating power leads to a further loss of the tone and energy of the brain, and, consequently, to the increased paralyzation of the muscular power of the vessels to which the fluids in the progress of the disease, determine, and through which they make their escape.

The advantage of the horizontal posture is, that it aids in the weak circulating power, and favors the more forcible influx of the blood into the brain, affording to that organ more efficient bracing and support, and thus contributing to the restoration of its tone and energy. But, first and last, the effect of placing the body in the horizontal posture, when the circulating power is weak, is every day exemplified in the relief afforded by this means to persons fainting from weakness by loss of blood or other causes. When the individual who has fainted is placed in the horizontal posture, so as to favor the influx of the blood into the head, the brain immediately regains its tone and energy, and resumes its healthy functions.

Further, the horizontal posture aids in arresting the escape of the serous fluids into the stomach and bowels. By improving the tone of the brain, it increases the resisting power of the vessels through which the serous fluid escapes; and it relieves the discharging vessels from the great superincumbent pressure they would have to sustain in the erect posture.

The effect of posture in increasing or diminishing the pressure on the circulating vessels, is familiarly exemplified in the swelling of the lower extremities, from long standing, and in the remedial effect of elevating those extremities, either to a level with, or slightly above the level of the body.

Thus much will suffice to illustrate the advantage of confining the patient to the horizontal posture in this disease.

Opium is the next remedial agent which claims our notice; and amongst the few remedies which are really necessary in the treatment of Cholera, this one holds a most important place. Taken internally, opium increases the energy of the brain; contracts, in a remarkable degree, the diameter of the circulating vessels, which include, let it be observed, the excretory ducts through which the serum in this disease escapes; and diminishes all the secretions and excretions, except the cuticular discharge which it increases—in all these several respects being most precisely adapted to the requirements of cure in this disease;—in all these respects being severally fitted for restoring the tone and energy of the brain, for resisting the determination of the fluids to the internal surfaces, and for counteracting the effects of the vascular depletion, which is sometimes so excessive; and these are precisely the objects upon the accomplishment of which the cure chiefly depends. And these objects, opium, in conjunction with the other remedies I prescribe, more especially perspiration, will effectually accomplish.

I wish it, however, to be particularly understood that the success of this remedy depends upon its being administered in sufficient quantity, and the amount of the dose required in each particular case depends entirely upon the malignancy of the symptoms, &c., that is, upon the extent of the nervous prostration, the rapidity with which the serous fluid seems to escape, and the extent to which the vascular depletion may have gone. To this fact I would again solicit the most pointed attention, as it was from inattention to these truths that the fatal results of the general, and, I may say universal, practice in that disease arose.

I have elsewhere stated that the effect produced on the brain and nervous system in cholera, by the escape of the serous fluid from the body, is precisely similar to that which is caused by the loss of blood. Now, in cases of persons sinking from loss of blood, opium, as is well known to the profession is one of the most valuable medicines we possess for restoring and supporting the *vis vitæ*. In uterine hæmorrhages, for instance, no person, unless he had actually witnessed it, could have any idea of the quantity of opium a patient not only can bear, but requires, when the loss of blood has been extensive. But not only in vascular depletions, but also in certain affections of the nervous system are large doses of opium not only safe, but necessary. In tetanus, (lock jaw,) for instance, enormous doses of that medicine may be taken with safety and advantage. A case is recorded, in which a patient, affected with this disease, took two fluid ounces of the tincture of opium without experiencing any narcotic effects from it, and was cured by the dose. I prescribe, therefore, large doses of opium in cholera, not merely from the excessive vascular depletion that accompanies the disease, but also from the great nervous depression which is always present.

I would again repeat, that the amount of the dose necessary, will depend entirely upon the malignancy of the symptoms. For illustration (to confine ourselves to the vascular depletion,) it must be evident that the specific effect of opium, which, in part, is to contract the diameter of the vessels of the body, and lessen their containing capacity, and thereby to afford a fuller and more forcible supply of blood to the head, and which would be injurious in a plethoric state of the vascular system, would be proportionably salutary in a depleted state of that system. It is equally evident, that the greater the depletion be, the larger will be the dose of medicine required to produce a given effect—Two grains of opium would produce a greater effect on the nervous system in the ordinary state of the vessels, than even ten grains where the vascular depletion has been such as to endanger life.

Had the profession borne these facts in mind, and noted the nature of the morbid action, in cholera, they must have at once, availed themselves of the agency of large doses of opium, in the treatment of the disease. The overlooking of these facts, however, led to the fatal error of trifling with too small doses of that medicine; and when these inefficient doses failed, or were purchased, either by undertaked by being combined with other supposed remedies, as calomel, for instance, it was taken for granted that the disease was incurable. It has been the general practice, even in the worst forms of the disease, to administer the opium in one or two grain doses, repeated at longer or shorter intervals. The consequence of this has been, that in all such malignant cases, the discharges of the serous fluid from the bowels has continued completely unchecked, and the lives of the patients have been lost. Now, in these cases, there might just as well have been given none of this medicine at all; for, if a dose sufficient to meet the exigency of the case, be not given at once, it will produce no effect whatever, and no repetition of similar doses will answer the purpose. And I unhesitatingly assert, that two grains of opium never cured a malignant case of Cholera, and that frequently had occasion to give ten grains for a first dose.

In regulating the dose of opium to be given in a malignant case of Cholera, three objects are to be kept in view; first, to apportion as much as will be sufficient to counteract the depleted or empty state of the vessels, then to add what will be necessary to restore the brain and nerves to their natural state, and, lastly, when the dose has been adjusted to meet these contingencies, the practitioner must still further add a third portion to the dose, such as would stop a case of purging under ordinary circumstances.

It need not excite surprise that the disease has been so universally fatal, when, in all parts of the world, this important practical fact has been entirely overlooked. Very cases of Cholera alleged to have been cured by the ordinary methods recommended in publications on this subject, (and I have read all of note that have appeared,) have been so mild as scarcely to deserve the name of Cholera.—Cases do sometimes occur where, from peculiarity of constitution, the patient will recover without any medicine whatever, or in spite of the remedies, where such have been used. Almost all the recoveries from collapse I ever witnessed, were of persons who refused to take any medicine whatever, and who recovered through the *vis medicatrix naturæ*, (healing power of nature.) But these were persons of very peculiar habits of body, of whom I would now be able to predicate such a result.

The next remedial agents in the order of our arrangement are.

Cordial Stimulants.—Upon their mode of operation I shall here observe very briefly. I shall enter more into detail afterwards in prescribing how they are to be used. Amongst the most useful of the stimulants we possess, are camphor, chloric ether, aromatic spirit of ammonia, and alcohol in the form of whiskey or brandy. Such stimulants assist the opium in restoring and supporting the tone and energy of the nervous system. By their cordial effects, they strengthen the stomach and enable it to absorb the opium; and by their stimulating effect on the brain, they sustain it until the opium becomes absorbed, and exerts its more permanent remedial effect on the system.

I now come to speak of perspiration, produced by the application of external heat, and upon this powerful agent in the cure of Cholera I must dwell more fully.

Perspiration.—All the early symptoms in Cholera indicate an increased determination of the fluids from the external to the internal surfaces. Perspiration reverses this determination, and directs it to the external surface. By so doing it relieves the stomach, intestines, and other internal organs, from the symptoms caused by the previous escape of the serous fluid; and, by restoring the previous escape of the serous fluid, and enabling, to re-establish in their healthy action all the natural functions which have been suspended during the attack.

Though in such cases the discharges from the bowels may, for a time, be checked by large doses of opium, yet, if the morbid action be not corrected by changing the determination of the fluids from the internal surfaces to the external by a profuse perspiration, they will assuredly return. When the perspiration has been made to flow freely for a few minutes, the vomiting and sickness at the stomach invariably cease. Let the vomiting, if it should be checked, however, or stopped too soon, and not only will these symptoms almost instantly recur, but, if the discharge from the surface be not immediately reproduced, even the purging itself will be sure to return. All medical men are aware of the remarkable sympathy that subists between the hot skin and internal surfaces of the body. Witness the alternations of sweats and diarrhœa that occur in the last stage of pulmonary consumption. When the latter symptom is checked, the perspirations become excessive, when these again are stopped, the colliquative discharges from the bowels return with violence. Much less opium is required to stop the purging in cases where, by the early application of external heat, profuse perspiration is produced, than where it is neglected. Indeed, where the sweating is promptly attended to, a second dose of that medicine is seldom, if ever, necessary.

But further, perspiration does more than merely correct the morbid action; it gives us the power of repairing the injurious effects produced by it. It has been already stated that in Cholera the escape of the serous or watery fluid from the circulating vessels deprives the blood of its necessary fluidity or fluidity, and renders it too crude to circulate, and that death in that disease is in every case caused, either directly or indirectly, by vascular depletion. Perspiration gives us the power of restoring these vessels and of restoring the necessary fluidity of their contents. It may, however, be objected, *in limine*, that the drain of the fluids of the body, caused by an extensive discharge from the external surface in perspiration, will produce a depleting effect on the vascular system similar to that which is caused by a discharge from the internal surfaces—an effect the very opposite to that we propose to accomplish; and I may be asked why I recommend a remedy which produces on the constitution an effect similar to that which is caused by the disease itself? To this I answer, that the class of vessels of whose agency we must avail ourselves in remedying the effects of the disease, are best be made to act by this means; and that when the agency of that system of vessels is brought into operation we have at our command the power, not only of correcting the morbid action by changing the determination of the fluids, but of repairing the injury that has been already sustained. The class of vessels to which I allude is the absorbents. Perspiration excites their action. The exhausting effect produced in the vascular system by the discharge from the external surface causes the absorbents opening on the internal surfaces of the stomach and intestines, to act like as many syphons in taking up the mild drink, and carrying it into the circulating vessels.—Thus we have it in our power not only to supply the drain caused by the perspiration, but to refill the circulating vessels, and to restore the necessary dilution or fluidity of their contents. Perspiration, therefore, has the effect not only of correcting the morbid action, but of repairing the injury produced by it. From what I have experienced, I am persuaded that a malignant case of Cholera could not be cured without exciting such perspiration.

Upon the general restoratives which may be requisite for re-establishing the healthy action of the several functions of the system, after the progress of the disease has been checked, I shall not dwell at present. I shall have occasion to speak of them afterwards.

I have thus given an outline of the mode of operation of the general remedies I prescribe. In my next letter I shall describe the specific manner in which they are to be used in the detailed treatment of the disease.

I have the honor to be, &c., &c.,

G. S. H.

61 *St. Anne-street, Liverpool, January* 22, '48.

IV.

GENTLEMEN:—In my last letter I enumerated the remedies necessary for the cure of Cholera. I proceed now to describe the specific mode in which they are to be used in the detailed treatment of the disease.

Of the medicinal remedies, the chief, it will have been observed, is opium. This I have explained, should be given in combination with medicines of a cordial, stimulating, and antispasmodic character, of which the most efficient are camphor, capsicum, ether, and aromatic spirit of ammonia. The following formulæ present the combination of these medicines which I would prescribe:—

Powdered Opium, twelve grains.
Camphor, half a drachm.
Capsicum, nine grains.
Spirits of Wine and Conserve of Roses of each a sufficient quantity—mix.

To be made into a mass and divided into twelve pills.

Each of these pills, it will be observed, contains one grain of powdered opium.

Chloric Ether.
Aromatic Spirit of Ammonia.
Camphorated Spirits.
Tincture of Opium.
Of each one drachm.
Cinnamon Water, two ounces—mix.

As I shall have occasion frequently to refer to these pills and this mixture, I shall term them, for convenience and accuracy of reference, Antispasmodic Pills and Antispasmodic Mixture.

Cholera, I have stated, presents itself in four distinct degrees of malignity. I shall first take up the most malignant form, as being in itself the most important, and as embodying, most fully, in its details of treatment, the great principles of cure which are alike applicable to all forms of the disease. All the modifications of the disease require to be treated on the same principles, the only difference being that, in the detail, the milder forms require less powerful doses of the medicines. The mode of treating the most malignant form of the disease will serve as the model on which all the others are to be treated. This most malignant form has, by all writers on the subject, hitherto, been pronounced incurable. They say it never was cured in a single instance, and never can be cured by the power of medicine. I shall, however, point out a mode of treating it which will prove itself infallibly successful, where my directions are followed with sufficient promptness, boldness, and skill. I would recapitulate, that the symptoms in this case are great languor and depression of spirits; giddiness of the head; soft, small variable pulse, tongue cold, flowing with saliva, relaxed, broad, and tremulous; heat of skin below the natural temperature; no cramps or pains, but an indescribable feeling of anxiety and crushing about the heart, accompanied with watery purging and vomiting, or with watery purging alone. All these symptoms indicate the utmost degree of malignity, and not one moment is to be lostin the vigorous application of the most powerful remedies. The disease in this form runs its course so rapidly, that before the medical attendant arrives, it may have so far progressed that one additional discharge from the bowels may carry the patient into hopeless collapse. The practice, therefore, must be prompt; it must be as bold as it is prompt. The discharges from the bowels must be stopped at once and for this purpose an efficient dose of medicine must at once be administered. Trifle with an inefficient first dose, and the patient is lost. Administer it with the boldness I shall prescribe, and success is as certain as is the relation between cause and effect.

Place the patient immediately in the horizontal posture, in bed; and give him, on the instant, as he is in extreme case, ten of the antispasmodic pills, and two ounces of the above antispasmodic mixture, and wash the whole down with a glass of undiluted brandy or whisky, flavored strongly with cloves, essence of ginger, or some such warm aromatic spice. In the meantime have him covered with an additional blanket, and let the usual means of communicating heat, such as jars or bottles of hot water, bags of hot salt or bran, be used, or whatever can be most readily procured, be applied without delay to the feet, and different parts of the body, so as to restore the temperature, and produce perspiration as quickly as possible. As soon as the perspiration has begun to flow freely, superadded to the medicine and cordials already administered, a glass of brandy punch should be given—the punch to be made strong, and to be swallowed hot as possible. After this no drink should be given till the perspiration has flowed freely for a few minutes.—The stomach will then retain it, and the patient should be indulged freely with copious draughts of warm water, warm toast water, flavored with some agreeable spice, mint or balm tea; or any such mild beverage. The necessity of attending to this is most important. When the discharges from the bowels cease, and when the pulse becomes full and bounding—the body is covered with a profuse perspiration, which will not fail to be the case under such treatment, the danger is over. The perspiration, if the patient can bear it, should be kept up for twelve hours; and may with advantage be continued, moderately, even longer. If duration, however, must be regulated according to the exigency of the patient and the state of the pulse. After the first four or six hours, more heat need not be applied than is perfectly agreeable to the feelings of the patient. It is remarkable how suddenly the precordial oppression, &c., are relieved on the breaking out of a free perspiration; and, what is of vast importance still, the vomiting, where it exists, immediately ceases. I know of no other means by which vomiting in such cases can be speedily and effectually checked. In the application of external heat, a rational use should be made of the means. I cannot see the necessity for increasing the temperature beyond what is grateful to the feelings of the patient, and beyond what is sufficient to produce and keep up a profuse perspiration. I would remark, that the heat can be much more efficiently communicated by solid substances, than by the hot-air or vapour apparatus. This apparatus, as a means of communicating heat to a patient affected with Cholera, is an instrument which I consider to be worse than useless.

Now, let it be observed that I have selected an extreme case, and have prescribed a dose of medicine sufficient to meet such a case. As I have already stated, not one case need be lost if the practice be sufficiently prompt and bold. I have supposed a case of the most malignant character, when there has been profuse watery purging, and where another discharge from the bowels would endanger the patient's life; and, under these circumstances, I have prescribed ten of the pills containing one grain of powdered opium, as a less dose would not meet the exigencies of the case. To administer this dose, under the circumstances I have stated, is perfectly safe; to administer an inefficient dose is certain death. I have, under the circumstances supposed, tried smaller doses, but found them utterly fail to arrest the progress of the symptoms, and was obliged, in a few minutes, to increase them. After such experience I always prescribed ten of the pills for a dose, under the alarming and dangerous circumstances I have supposed, and always with never-failing success; and I have never seen the slightest narcotic effect produced by this large dose of medicine, on any of the patients to whom it was administered under such circumstances. The reason why such a large dose of opium may be safely administered in such a case, and the reason why, under such circumstances, it is absolutely necessary, I have fully explained in the preceding letter.

Should there, however, have been little or no purging, a smaller dose of the pills must be given. The system not having suffered the depletion from the escape of the serous part of the blood, so very large a dose of opium is not necessary. In such cases, eight of the pills will generally be sufficient,—to be accompanied, however, with the same quantity of the antispasmodic mixture, and the same cordial stimulants as already prescribed, and to be followed with equal promptness by exciting the perspiration, that grand agent in the cure of every modification of Cholera, without which a malignant case of the disease could not, by possibility, be cured. In the least malignant form of the disease, the third described in my last letter, where there has been extensive purging, the patient must take, instantly, eight of the pills, together with the same dose of the antispasmodic mixture, as prescribed in the last case, and the same amount of cordial stimulants; and have these followed up vigorously and speedily, with all the means of treatment already described, the perspiration, above all things, not being delayed, and all the alarming symptoms will be found to flow off with the perspiration. In cases under this form of the disease, when purging has not taken place, six of the pills will be a sufficient dose, all the other doses and appliances being the same.

In the second form of the disease, as described in my last letter, when purging to any amount has taken place, six pills must be given, with the full dose of the antispasmodic mixture, and cordial stimulants, as directed in both the previous cases; and all the other parts of the treatment already described must be vigorously followed out. When, however, there has been no purging, four pills will be a sufficient dose. The perspiration, and the other medicines and cordials, will complete the cure. All unfavorable symptoms will be found here, also, to flow off with the perspiration.

In the first and mildest form of the disease, the treatment must be upon exactly the same principles, and by similar means, as directed in the other forms of the disease, from the most malignant to this mildest form, the difference consisting only in the amount of the doses of the medicines necessary. Here four of the pills will be a sufficient dose, and one ounce of the antispasmodic mixture with, perhaps, the full amount of cordial auxiliaries, already directed in the other forms of the disease, followed promptly by the perspiration; this latter being in no case neglected, or delayed.

Such is a very brief summary of the mode of coping with the disease in its various forms. It will be observed that the same remedies are applicable to all forms of the disease, the difference in the treatment consisting merely in the amount of the doses of the medicines necessary to meet the various degrees of malignity. I have directed such first doses of the medicines as are likely to meet the necessity of each particular case, as no repetition of doses answers the purpose so well. Cases, however, may occur where to repeat a dose may be necessary; for instance, when the malignancy of a case has been miscalculated; and in such cases the subsidiary dose should be ample and given promptly. When, however, ten grains have been given at first, there will seldom be necessity for an additional dose. It will also be observed, that perspiration is a necessary and most important agent in the cure of any case of the disease, whatever may be the degree of its malignity. In the more malignant forms it is entirely indispensable. It corrects the morbid determination of the fluids to the internal surfaces, and enables us to repair the injury inflicted on the system by the longer or shorter continuance of the symptoms, and by their greater or less malignancy. And further, it counteracts, in an important degree, the narcotic effects of the large doses of opium which it is necessary to administer.

In the bounds of this letter I have been able to do little more than just state general principles—In the application of those principles to individual cases, and to the varied forms of the disease, much must be left to the judgment of the practioner. I have, however, expounded more or less particularly a mode of treating the disease which fully and efficiently meets all the requirements of cure; and which, if skillfully, boldly, and promptly acted on, will cure the disease in every instance where the patient is not in hopeless collapse before it is put in practice.

My mode of treating Cholera differs from every other which has yet been placed before the public. It has not, however, been founded on mere hypothesis, but on a practical experience in the treatment of the disease, which was most extensive, and was successful beyond precedent; and it has been matured by careful and strictly logical deductions. I direct much larger doses of opium to be given in the cure of the disease than have ever been prescribed by any other. This fact, of itself, sufficiently distinguishes my mode of treatment from all others. But the great distinguishing feature, in which it stands alone, is the employment of the powerful agency of perspiration, as a means of cure. This agent has never been recommended, as such, by any other. It is, in fact, by perspiration the disease is cured. Opium is, indeed, a valuable and necessary agent; but it and the other auxiliary medical and cordial stimulants act merely as bandmaidens to the sovereign remedy, which is the application of external dry heat by hot solid substances. The opium and cordial stimulants supply the place of an anchor, in holding on the barque of life, and in arresting the fatal course of the disease, till the perspiration not only corrects the diseased action, but also repairs the injury which the system may have sustained.

In my next letter I shall, among other matters, make some necessary observations on the consecutive stages of the disease.

I have the honor to be, &c.

G. S. H.

61, St. Anne Street, Liverpool, Jan. 29, 1848.

St Louis—Jas Millinger,
nearly at a stand.

LETTER V.

Gentlemen—The great secret in the treatment of Cholera is, to lose no time in stopping the discharges from the bowels, if they exist, and in exciting warm profuse perspiration. This object must always be the first and most important object in the cure of the disease than have ever been prescribed by any other. This fact, of itself, sufficiently distinguishes my mode of treatment from all others. But the great distinguishing feature, in which it stands alone, is the employment of the powerful agency of perspiration, as a means of cure. This agent has never been recommended, as such, by any other. It is, in fact, by perspiration the disease is cured. Opium is, indeed, a valuable and necessary agent; but it and the other auxiliary medical and cordial stimulants act merely as bandmaidens to the sovereign remedy, which is the application of external dry heat by hot solid substances. The opium and cordial stimulants supply the place of an anchor, in holding on the barque of life, and in arresting the fatal course of the disease, till the perspiration not only corrects the diseased action, but also repairs the injury which the system may have sustained.

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nearly at a stand.

LETTER VI.

Gentlemen—Amongst the objectionable remedies which have been employed for the Cholera, the first I shall notice is bleeding.

With regard to this remedy, I would remark that I cannot conceive how any rational practitioner could think of using, for the cure of this disease, a remedy which produces on the constitution an effect the very opposite to that which it should be his object to accomplish—a remedy which would aggravate, rather than relieve the symptoms. The effect produced by blood-letting is relaxation. It is with this view it is generally employed: as, for instance, in inflammations, and in certain cases of fevers. The depletion of the vascular system by blood letting, suddenly removing the accustomed pressure or bracing support from the brain, has the effect of diminishing the tone and energy of that organ, and of course, of the nervous system.—Hence the supply of energy to the muscles is lessened, and a corresponding diminution of the contractile power of the muscular fibre is produced. Now, from what has been stated in the preceding letters, the reader will at once perceive that a precisely similar state of things take place in Cholera. I need not say, then, that blood-letting should be carefully excluded from the treatment of the disease; for every man possessed of ordinary mind, who has read my preceding letters, will at once perceive that it deprives the patient of many of his chances of cure; and that, by diminishing the force of the resisting power of the vessels through which the serous fluid of the blood escapes, it tends only to hasten the fatal event. All the symptoms at which any man could grasp, in justifying the use of the lancet in the earliest stages of Cholera, can be at once relieved by a free perspiration. I was once taken to visit a young gentleman, of eighteen years of age, who was seized with premonitory symptoms of Cholera. One of the same family had, a few days before, died of the disease, in a few hours' illness. He complained of great precordial oppression; violent pain over the region of the stomach, increased by pressure; great sickness and nausea at the stomach; nothing rejected from stomach, a painful feeling over every part of the body, as if he had been beaten with a stick; and severe headache. His face flushed, his eyeballs swollen and painful, with a feeling as if they were about to start from their sockets; his tongue white, his skin hot and dry; his pulse one hundred and forty, exceedingly full, strong, and bounding. His bowels had not been affected. After cautioning the medical gentleman present not to allow such symptoms, as those of which the patient complained, to betray him into the use of the lancet in similar cases, I ordered the patient a suitable dose of the pills and draught prescribed in my preceding letters. I then ordered hot substances to be applied to his feet, and different parts of his body, with a view to produce perspiration; and, after giving the attendants the necessary directions about what drink he was to get, and when he should have it, I took my leave. After the lapse of an hour, I again visited him, and found him perspiring freely; his skin quite cool; his pulse sixty, soft and regular; and he was entirely free from pain of every kind. He declared that he was then as well as ever he had been in his life, and expressed a wish to get out of bed.—The crushing about the heart, and the pains thawed off with the perspiration. He said that he had not perspired many minutes till he was free from pain, sickness at stomach, and every complaint. He had quite recovered, and was walking about next day. I saw the patient twenty years after, from the reader's time, with further comment on so absurd a remedy as bleeding.

The next remedy which I shall notice is calomel—a medicine which, in these and all other countries, has been universally used for the cure of the disease.

Calomel, like blood letting, tends only to hasten the fatal termination in cholera. It does more—Those who escape or recover, in spite of the effects of it, do so at the expense of a ruined constitution. The reasons which are given by medical writers for using it in this disease are unsound, and are founded on a total misconception of its nature. Some say that they give calomel, combined with opium, as a stimulant. "Powerful stimuli," say they. Opium, as has been already stated, is a powerful and a very valuable stimulant; but the chief stimulating effect produced by calomel, in that disease, is on the mucous membranes of the stomach and intestines; increasing the discharges from them, which it should be the object to prevent. Mr. Orton, in his work on "Cholera" says that the second stomach found adhering to inflamed patches on the internal surface of the stomach and intestines of many of those who died of cholera in India. No doubt it had stimulated these parts with a vengeance! The following are that gentleman's words;—"Calomel was frequently found at the bottom of the bowels contents, and adhering in various places to the mucous membrane." In a note appended to the same he adds—"I have been informed by a practioner, in whose observation I have great confidence, that he had frequently found this medicine adhering, chiefly, to those parts of the stomach which were inflamed." (See Mr. Orton's Essay on the Epidemic Cholera of India, page 75.) Here, then, is positive evidence of the destructive effects of calomel, even in India—the boasted birthplace of the practice.

Others, again, say that they administer the calomel with a view to restore healthy biliary secretion, which they allege is suspended in the disease. On this subject I beg leave to observe, that the suspension of the secretions in cholera is not the *cause* but the *effect* of the morbid action. When the morbid action is corrected, the secreting organs naturally resume their functions without any assistance. And even though they should not, it is only after the disease has been cured that medicine will have any salutary effects on those organs. First, then, cure the disease; and afterwards if necessary, let attention be directed to the secretions, and to the restoration of its tone. I do not conceive it right, however, to allow that explanation to occupy the space which should be allotted to important matters; particularly as when the disease was cured I never knew an instance in which the secretory organs did not resume their functions, and even though calomel should not counteract the effects of other remedies, which it does, or produce destructive effects on the constitution. I cannot see any use in employing it in a disease where it has no time to act. If the discharges be made profuse and watery and follow each other in quick succession, as, in a malignant case, they generally do, they may carry the patient beyond the boundaries of human aid in less than an hour. In such cases the calomel has not sufficient time to be absorbed, even though the absorbent vessels were in a fit state to take it up.—The absorbents on the internal surface, in that disease, however, do not act at all, till the morbid action is corrected. Those cases, therefore, in which calomel produced salivation, did not deserve the name of cholera.

The advocates for the use of calomel in cholera say that all their patients who have been salivated by that medicine have recovered; and this alleged fact, they presume, is an argument in favor of its employment for the cure of that disease. Now to those who do not understand the subject, this would appear to be a very plausible argument. A little examination, however, will show the fallacy of it. First, I would remark, that many have been subjected to treatment for cholera, who never had the disease at all. Secondly, during the prevalence of the disease, individual cases do sometimes, nay often, occur, in which the *vis medicatrix naturæ* would succeed in throwing off the disease without the aid of remedies, or in spite of the counteracting effects of the calomel. And, lastly, opium, which is generally administered in conjunction with the calomel; and an accidental perspiration may succeed in curing a very mild case of the disease; as has already been stated, not withstanding the prejudicial effects of the latter medicine. Now whatever calomel may remain in the stomach and intestines of these patients, after the disease has been cured, will, no doubt, be absorbed: and will salivate them in good earnest, and will then, after the cure of the disease by other remedies, produce a new disease, in some cases worse than cholera itself. Hundreds have, in this way, been so disabled as to be rendered incapable of earning a loaf of bread for themselves, and have been left to drag out a miserable existence with shattered and ruined constitutions, from the effects of calomel administered to them for the cure of cholera. But none of these facts prove that the calomel, or the salivation produced by it, had any efficacy in the cure of the disease. The fact is, calomel will not act on the system in any way to produce salivation until the morbid action constituting the disease has been counteracted and reversed either by the agency of other remedies, or by the reactive power of nature herself.

The enormous quantities of calomel which were given to patients in Cholera, during the prevalence of the disease in these countries, were of themselves sufficient to destroy life, even though the individuals to whom they were administered had been, at the time, free from any specific disease. Twenty grains of calomel and two grains of opium, to be repeated every two hours till the symptoms should abate, were directed to be given in the books and pamphlets published on the subject at that period. A physician, who is now a vicar of some parish in England, in a letter published in the *London Times* newspaper, about two months ago, says that the best remedy he ever saw employed (and it was in New York he had seen it) was twenty grains of opium for one dose. A physician told myself that his dose was forty grains of calomel and two grains of opium. I shall content myself with only one specimen of the extent to which the calomelizing practice has been carried. A man was admitted into the Belfast hospital, whose mouth was nearly hermetically sealed up from the effects of calomel, which had been administered to him for the cure of an alleged attack of Cholera, so that no food could be conveyed into his stomach but beef tea, thin gruel, or milk, and these he had to suck in through apertures between his remaining teeth. Such an extensive excoriation and ulceration of the gums, jaws, lips, and cheeks had taken place, from the salivating effect of the calomel, that extensive adhesions had formed between these surfaces throughout their whole extent. His lips and cheeks adhered firmly, to the gums and jaws, so that Mr. Moore, the talented and skilful surgeon to the hospital, was obliged to dissect these parts asunder, to cut out masses of flesh between the inner angels of the jaws, and to stuff the inner sides of the cheeks and lips with lint, soaked in oil, to prevent their readhesion to the subjacent parts, and to gag the jaws asunder with cork, till these parts healed.—Why unnecessarily inflict such misery?

I have not only already amply proved that calomel is unnecessary for the cure of Cholera, but I have now shown that it is destructive. I have cured from two to three thousand cases without a single grain of calomel. I have a right, therefore, to form a judgment on the subject. I trust I have now set the bleeding and calomelizing mode of treating Cholera at rest; and as I have directed a mode of treating that disease, which, if timely and skillfully employed, will infallibly cure in every instance, I shall not delay further by noticing any more of the nostrums which have been recommended for its treatment

In conclusion, lest any one, from the foregoing remarks, should be deterred from the use of calomel in other diseases where it may be requisite, I would observe, that we do not possess a more valuable or a more valuable medicine when skilfully administered, in cases where its use is proper.

I have the honour to be, &c, &c.

G. S. H.

61, *Anne-street, Liverpool, Jan.* 12, 1848.

By the President of the United States.

I, JAMES K. POLK, President of the United States of America, do hereby declare and make known, that public sales will be held at the undermentioned land offices in the State of MICHIGAN, at the periods hereinafter designated, to wit:

At the land office at the SAULT STE. MARIE, for the "Lake Superior District," commencing on Monday, the fourth day of June next, for the disposal of the agricultural public lands within the following named townships and fractional townships, to wit:

North of the base line and West of the principal Meridian.

Fractional townships thirty-seven, and thirty-eight, together with Summer islands of range nineteen.

Fractional townships thirty-eight, thirty-nine, and forty, of range twenty.

Fractional townships thirty-nine and forty, of range twenty-one.

Fractional townships thirty-five and thirty-six, of range twenty-four.

Fractional townships thirty-three, thirty-four, and thirty-five, of range twenty-five.

Fractional townships thirty-six and thirty-seven, of range