

Beamish (W.)

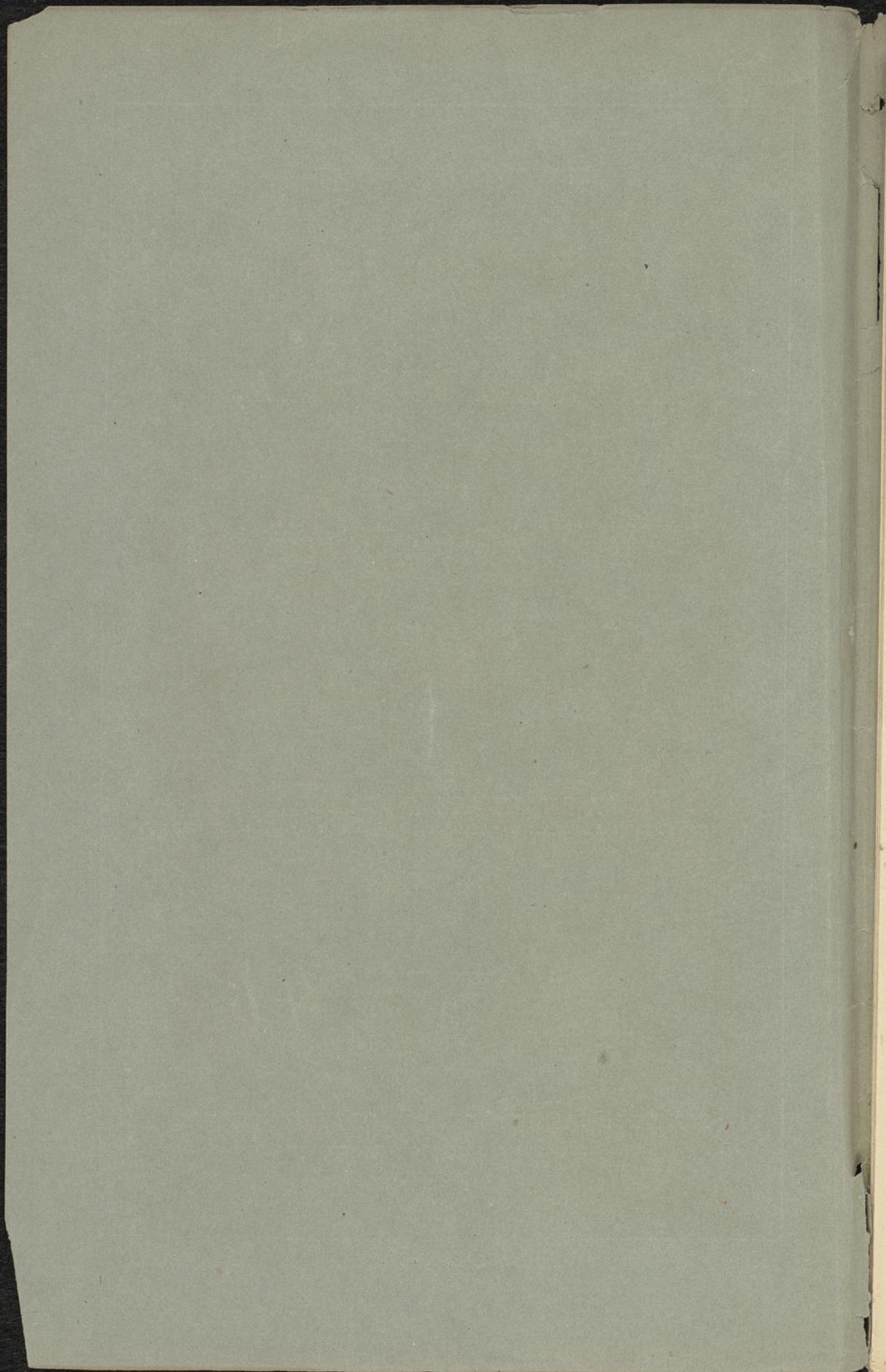
PRACTICAL OBSERVATIONS  
ON THE  
PATHOLOGY, PREVENTION, AND TREATMENT  
OF  
ASIATIC CHOLERA,  
FROM THE AUTHOR'S EXPERIENCE  
IN THE  
EPIDEMICS OF 1849, 1853, AND 1866.  
WITH  
CASES.

BY  
W. BEAMISH, M.D., M.R.C.S.E.,  
PHYSICIAN TO THE CORK FEVER HOSPITAL AND COUNTY AND CITY OF CORK JAILS, ETC., ETC.

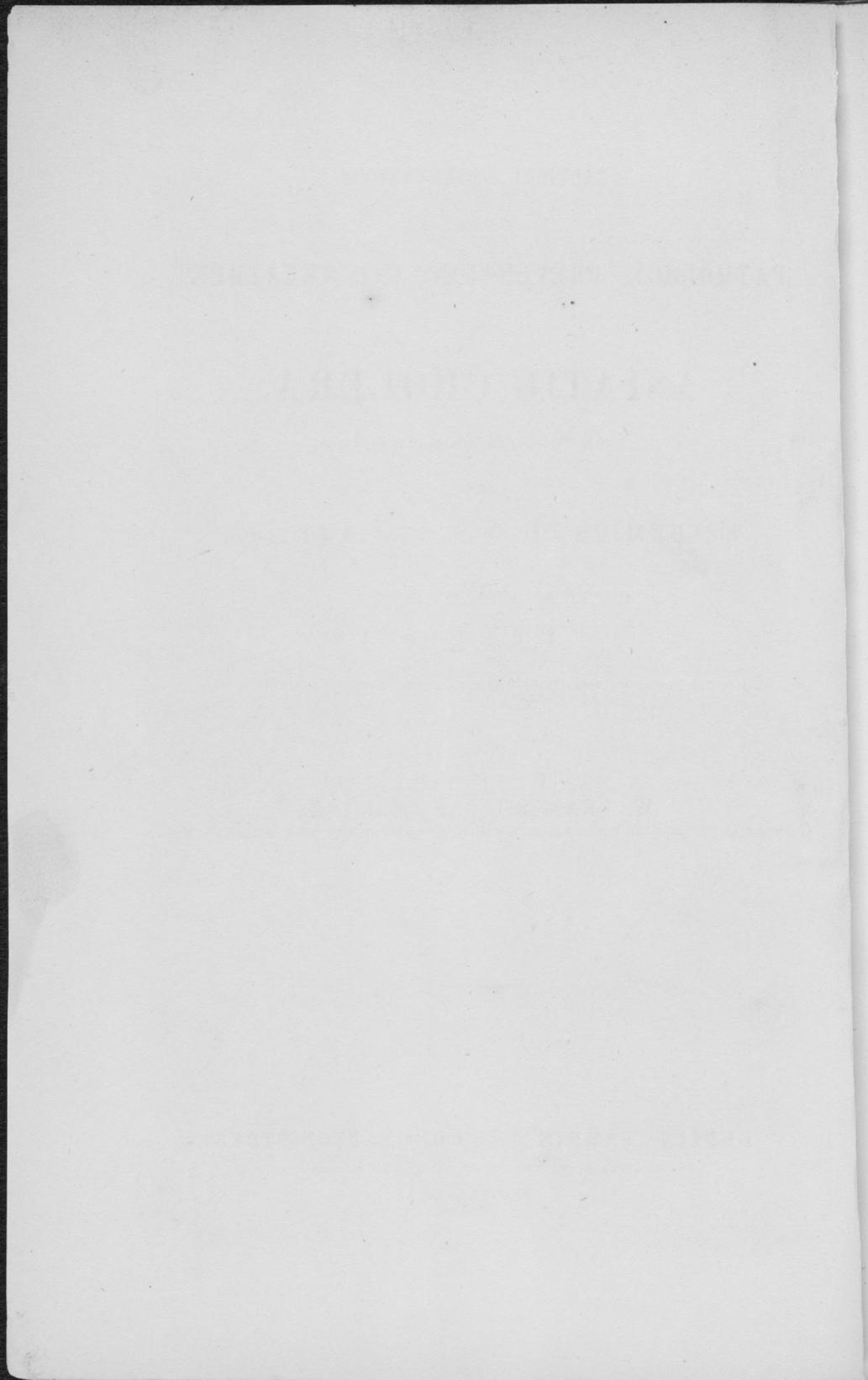


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MDCCCLXVII.

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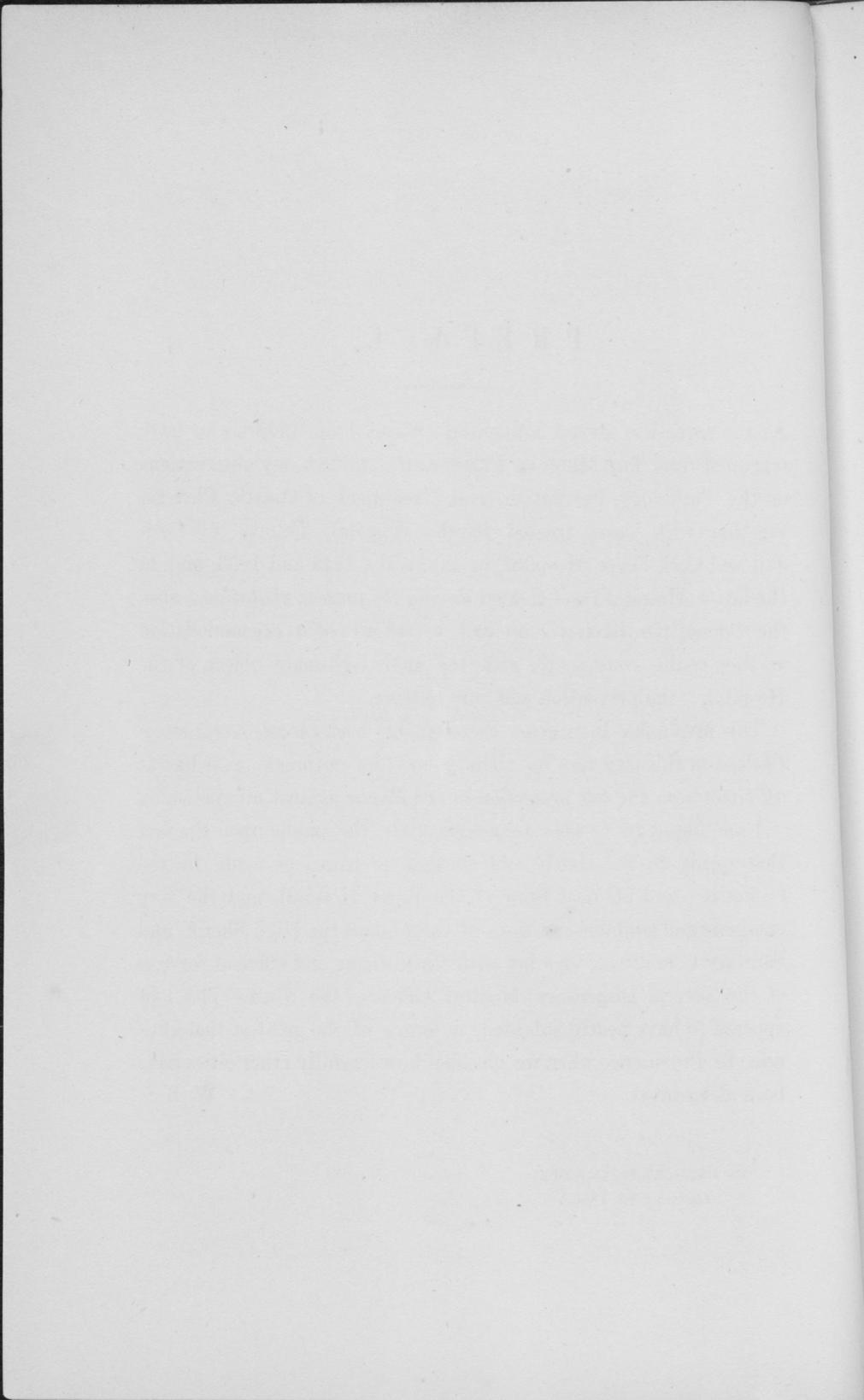
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TO THE  
*Committee of the Cork Fever Hospital*

THE FOLLOWING PAGES  
ARE RESPECTFULLY DEDICATED

BY  
THE AUTHOR.



## P R E F A C E .

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AT the request of several influential citizens I am induced to have reprinted from THE MEDICAL PRESS AND CIRCULAR, my observations on the Pathology, Prevention, and Treatment of Asiatic Cholera, together with cases treated in the Hospital, County of Cork Jail and Cork Fever Hospital, in the years 1849 and 1853, and in the latter Hospital cases treated *during the present visitation*; also, the Committee having consented to afford such accommodation as they could, consistently with the more legitimate object of the Hospital, "the prevention and cure of fever."

This invaluable Institution, therefore, has been *the sole receptacle of Cholera* in this city and its vicinity since its outbreak, as it has at *all times* been the *sole protection to the Public* against all epidemics.

I am happy to be able to congratulate the public upon the fact that owing to the timely and efficient preparations made by the Committee and Medical Staff of the Fever Hospital, and the very energetic and laudable exertions of the Mayor, the High Sheriff, and Sanitary Committee, together with the untiring and efficient services of the several Dispensary Medical Officers, the disease just now appears to have nearly subsided, a source of the greatest thankfulness to Providence when we consider how fearfully other cities have been devastated.

W. B.

THE HISTORY OF THE  
CITY OF BOSTON  
FROM 1630 TO 1800

The history of the city of Boston from 1630 to 1800 is a story of growth and struggle. It begins with the arrival of the first settlers in 1630, who founded the city on a small island in the harbor. The city grew rapidly, becoming one of the most important ports in the colonies. It was a center of trade and commerce, and a hub of intellectual and cultural activity. The city was also a center of political and social reform, and played a key role in the American Revolution. The story of Boston is a story of the American spirit, of the pursuit of freedom and the quest for a better life.

PATHOLOGY, PREVENTION, AND TREATMENT  
OF  
ASIATIC CHOLERA ON THE OPIATE OR ANTIDOTAL  
AND CONSERVATIVE PLAN.

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As Asiatic Cholera has now come amongst us, and as I find that, notwithstanding the experience we have had, there are still so many conflicting opinions as to its pathology and treatment, and so many going over the beaten track, thereby losing not only time but life by persevering in remedies already tried and found ineffectual—one advocating the eliminating or purgative plan, another emetics, another astringents, another calomel, another the expectant or do-nothing plan, and another the mechanical plan, and none proving satisfactory—having had considerable experience in its treatment, and taken a particular interest in it, and much trouble in recording the results of my treatment in the years 1849 and 1853, when it prevailed here, and as one bedside fact is worth a thousand theoretical observations, and believing that etiological facts are only to be arrived at through *clinical experience*, I have resolved upon laying aside all private considerations, expressing my views of its nature and treatment, and publishing forty-five cases treated by me in the Cork Fever Hospital, and Hospital of County Cork Jail—thirty-seven on the opiate, or, as I think it might be called, the antidotal or conservative plan, and eight promiscuously, having previously tried all other methods in vain. Out of the thirty-seven I lost but eight (two in hopeless collapse when seen), and out of the eight I lost three (two under saline treatment). I may here mention that I was *driven*, I may say, to unusually large doses of opium in ordinary diarrhoea and dysentery previous to the outbreak of cholera, finding the usual astringents and ordinary doses perfectly ineffectual. When cholera, therefore, appeared, I was naturally led to test its efficacy in still larger doses.

The fact is, as long as we are at issue as to the *nature* of cholera, and therefore what the indications of cure are, so long must our treatment in this disease as in all others, prove, to say the least, experimental, empirical, and therefore unsatisfactory. The question is—Is cholera a blood poison, or a disease caused by prostration or suspension of the *vasi motor* powers? If a blood poison, why should it not be eliminated or carried off by the

*kidneys* as well as by the *bowels*? Why should nature select one and reject the other? We all know how often nature takes advantage of the *kidneys*, as a critical outlet in serious diseases.

With regard to the *exciting cause* of the disease, there are so many conflicting opinions, so many ingenious theories have been advanced, and so much written upon the subject, that time will not permit me to discuss the matter here. I shall, therefore, merely say that I think we may rationally suppose it to be caused by some peculiar atmospheric condition capable of unlimited diffusion, and rendered more active by local or predisposing causes, as miasmata, want of cleanliness and ventilation, overcrowding, &c. ;\* but whatever may be the exciting cause, the brain and great nervous centres, the solar, gastric, and splanchnic plexuses, seem to me to be primarily and principally involved, so far as being deprived of their *tone* and *energy* (a remarkable peculiarity in cholera being retention of *consciousness* to the last), hence headache, vertigo, deafness, noise in ears, and a train of symptoms follow which constitute the disease. The nerves of circulation and respiration are also implicated.

It may be defined an exhausting disease, in which there is an *excessive elimination* of disintegrated blood, an inverted state of the system, what should pass off by skin and kidneys passing off by stomach and bowels. The indications or requirements of cure, therefore, appear to me to be—1stly, to restore the tone and energy of the brain and nervous system; 2ndly, to check all excretions and determination to internal surface (the cause of præcordial oppression, or, as the patient expresses it, “crushing of the heart,” so much complained of); and 3rdly, to promote capillary circulation and cuticular secretion, and counteract effects of vascular depletion.

The desideratum to baffle cholera, therefore, seems to be to discover some medicine that will *promptly* (FOR TIME IS EVERYTHING) meet these indications, and will be *soothing to the mucous membrane, stimulant to the nervous system, astringent, and non-eliminative*.

*Opium*, I assert, answers all these requirements of cure, if given *at once*, and in doses suitable to the *stage of the disease* (as quinine is given in ague), and in proportion to the *quantity, quality, and frequency* of the discharges, and amount of nervous prostration. I know no drug which exercises more, or even as much, influence over the nervous or sympathetic system as opium, and therefore (if my view is correct) *the only medicine* to be relied on in cholera, particularly if aided by the horizontal posture, which, for obvious reasons, must be rigidly enforced even in the premonitory diarrhoea; also by every means calculated to promote per-

\* See an article by Dr. Holland, entitled, “On the Hypothesis of Insect Life as a Cause of Disease.”

spiration, so as to reverse the inverted state of the system, as external heat by hot solid substances—viz., bottles or jars of hot water, hot bricks, and hot sandbags placed in the axillæ and between the legs; also by hot mustard stupes to feet, and sinapisms over region of heart and pit of stomach. *The judicious and moderate* use of cordial stimulants spiced, and copious warm or cold diluents, as the patient may wish, as whey, toast water, mint tea, soda water, and *cold water ad libitum*, to which I find the addition of a little sweet spirit of nitre renders it not only grateful but useful in tending to skin and kidneys; drinks of the dilute nitromuriatic or sulphuric acids are also grateful and useful; the patient always craving for “something tart;” a little iced water, or a piece of ice put in the mouth, is also very palatable, and tends to allay the sensation of burning heat in the epigastrium, the incessant thirst and irritability of stomach. And here I would dwell especially upon the fact that nothing predisposes more to an attack of cholera than intemperate habits, and therefore, when the drunkard is attacked, his prospects of recovery are very bad indeed, as his stomach and nervous system have become already so accustomed to abuse of stimulants, that when paralyzed by the disease, difficult as it is to produce the desired effect upon a mucous membrane and nervous system in cholera not previously so abused, how much more so must it be in the case of the intemperate and the drunkard? Perspiration tends to excite the absorbent system, so that where this is the case less opium is required; also to counteract the possibility of any narcotic effect from the opium, which in itself produces a most extraordinary amount of perspiration, so much so that the nurse-tenders in charge of the cholera patients used to remark “that they were tired of mopping them.”\*

Opium, then, besides allaying pain, promotes warmth, gives energy and tone to the capillary circulation, calms irritation of nervous system, and equalizes the balance of the circulation, and it is “conservative” in its effects, inasmuch as by controlling or checking the losses it sustains the strength, gives time for treatment, counteracts injury to the alimentary canal and shock to the nervous system from too rapid and profuse losses; in fact, it is the “anchor that holds on the barque of life.” As fullness in the blood-vessels of the brain is a sure preventive to the use of opium, so is an emptied state of the vessels (as in cholera) an indication for its use, and an anæmic or exsanguinated state of the vessels of the brain disarms the opium of its narcotic property.

The effect produced on the brain and nervous system in cholera is, in my opinion, in many respects similar to that caused by prostration of

\* The sympathy between the internal and external surfaces of the body is very remarkable. The alternations of perspiration and diarrhœa that occur in the last stage of consumption afford an instance. When the diarrhœa is checked the perspirations increase, and when the perspirations are checked the diarrhœa is promoted.

nervous energy from sudden and excessive loss of blood, as in uterine hæmorrhage, where opium (as is well-known to the profession) is one of our most valuable medicines, and the quantity that can be borne without narcotism when the losses are excessive is incredible. In an excellent work lately published on Cholera by Dr. MacPherson, the case of "a sickly Indian native" is mentioned, who took 600 drops of laudanum in one night and recovered; and "a gentleman was saved from impending death by taking 400 drops; it never in the largest quantities produced affections of the head." Not only is it useful in vascular depletion, but in affections of the nervous system, as lock-jaw, where two ounces of the tincture is said to have been taken with advantage and without narcotism; also where pain is present, as in passing of renal calculi—in fact, in every affection where it meets a counteracting agent. It is, therefore, in cholera the antidote, and this is one reason why the doses I have given had no narcotic effect. In cholera, therefore, it is useful not only in checking excessive secretions and vascular depletion, but in counteracting great nervous depression, exciting the animal electricity, and by its stimulant properties correcting the anæmic state of the vessels of the brain, thereby maintaining the equilibrium of the cerebral circulation, and favouring a certain amount of congestion and consequent pressure necessary for healthy cerebral action.

A. T. Thompson says—"In all cases where there is a deficiency of blood in the capillaries, opium is to be preferred to the salts of morphia; its stimulant properties excite the capillaries, which relieves the internal congestion, and brings on sweating as a critical exertion. Combined with aromatics it increases its stimulant effect and lessens its sedative; it increases the energy of the brain and contracts the diameter of the vessels which include the excretory ducts through which the serum passes, and diminishes all the secretions and excretions, except the cuticular, which it promotes." Dr. Armstrong, in his work on "Scarlet Fever," says with regard to opium—"I cannot better illustrate the effects of this drug in cases where excessive irritation and debility exist without organic lesion than to compare it to the effect which it produces in the last stage of cholera morbus, sometimes snatching patients from the jaws of death. My general experience of the efficacy of this medicine in copious eruptions of blood, fully confirms the commendations which Dr. Stewart has bestowed upon it in uterine hæmorrhage, when the system has been excessively exhausted by loss of blood, or extreme nervous agitation arises. This agitation is often so surprisingly calmed by opium that I have seen patients seemingly in the jaws of death saved by its administration."

Dr. Hughes (Assistant-Physician to Guy's Hospital) says—"I consider cholera a huge drain from the alimentary canal, which, whether excreted from the anus or merely secreted into the intestines, I believe to be the

true cause as well of the collapse as of the diminution or cessation of the secretion of bile and urine. For stopping this drain I have found nothing so effectual as a large dose of solid opium by the mouth, followed by astringents of ammonia and opium in a fluid form, with an enema of starch and full dose of laudanum. If these means are employed early in cholera (and by cholera I mean neither diarrhœa, however profuse on the one hand, nor the collapse of cholera on the other), I believe this will be found generally effectual in checking the disease."

Mr. Brown trusted to opium alone in solid form; Mr. Delany, opium in fluid state (150 drops in brandy). Tweedie and Gassalie found opium more effectual than any other remedy. Orton and Sydenham "opium the sheet anchor, and one dose enough to cure the disease" (see Orton's *Essay on Cholera in India*). Welshman, opiates and diluents. Jobert, laudanum in seltzer water. Ryan, "full doses of opium to allay disturbance of nervous system, brandy and ammonia to support strength, and full doses of opium to arrest the discharges, the disease being thus easily cured." Tweedie says—"Cholera may be arrested at any period anterior to collapse by efficient doses of opium—the Chinese opium and camphor." Dr. Mahir employed in the Polish army large doses of opium and prussic acid. Dr. James Johnson lauds stimulants and astringents as severally well adapted to the stages of diarrhœa and collapse. "The fit (he says) is readily arrested by opiates, if recent, and the blood not too far deprived of its serous constituents."

I could quote many more eminent authorities in support of my views of the nature and treatment of cholera did time permit me, want of which, together with anxiety that the results of my observations and experience should be made public while the disease is amongst us, must plead my apology for the crude and imperfect manner in which they must therefore appear. In advocating the use of opium, and on reference to the cases I have treated, it will no doubt be remarked that the dose has, in some cases, far exceeded that usually given in the most obstinate cases of ordinary diarrhœa. The fact, however, of the total absence of the usual narcotic effect of a large dose of opium, except in one case (where twelve grains and a half were taken at one dose, with perfect recovery from cholera), proves, I think satisfactorily, the tolerance of this drug, especially when the same dose (short gr. ss.) was given in a similar case without the least inclination to sleep; on the contrary, the patient's remark was, when asked how she felt some hours after she had taken it, "I would be quite well now if I had a little sleep," and twenty-five drops of the tincture of opium now had the desired effect. This fact proves how absurd it would be to expect any benefit from such a dose as a grain of the powder or fifteen drops of the tincture in a case of cholera, as has been recommended. It should also

inspire confidence in those who believe opium to be the remedy (and I believe the majority of those who have had any experience in the disease are of this opinion), but are afraid to give a suitable or efficient dose. Much better not give it at all, as, under those circumstances, it is not only sure to fail, but to get a valuable remedy into disrepute. That ordinary diarrhœa doses will not answer in cholera we have no less eminent an authority than the late Dr. Graves, deservedly of world-wide reputation in the profession, who was also an advocate for arresting the discharges. In speaking of acet. of lead and opium, he says, "It had been used at Grange gorman Hospital, but in small doses, insufficient to produce decided effects. I believe I can fairly claim the merit of being the first to give it in large and effectual doses by the mouth. I need not say of what importance it is to check the discharges from the bowels and stop the vomiting. As long as these exhausting discharges continue, as long as the serum of the entire body continues to be drained off by the intestinal exhalants, what hope can we entertain? I have frequently given as much as forty grains of acet. of lead in twenty-four hours with great advantage and no bad consequences."

With regard to the narcotic effects of opium in cholera, it is necessary it should be borne in mind that patients dying in cholera generally die comatose, or apparently narcotized, and I have, therefore, known instances where those appearances were attributed to an over-dose of opium, where, in some cases, it had not been given at all, and in others where the dose taken could not by possibility have had the effect. The tolerance of the drug may be accounted for in three ways:—1st, by its narcotic properties being counteracted by meeting the poison in the system (by poison, I mean loss of the vital fluid)—in other words, by its being the antidote; 2nd, by the inactivity of the absorbents; and, 3rd, by the exhausted state of the nervous system, which is in itself an antidote to the effects of stimulants, and creates a tolerance of wine and opium, proving, therefore, the utter inutility, nay, serious consequences (as it is time lost) of prescribing even for ordinary diarrhœa (especially when cholera is epidemic) a smaller dose of the tincture than from twenty-five to forty minims for an adult, and for an actual case of Asiatic Cholera, with a pulse distinct, a smaller dose than three grains of the powder, with a drachm of the tincture or about six or seven grains; and in a more aggravated case, short of collapse, a larger dose again, say six grains and a drachm of the tincture, or about nine or ten grains. I have often checked a case of decided cholera in the earlier stage with a drachm of the tincture, or from sixty to one hundred drops. Where vomiting is not very frequent, I prefer giving the medicine in draught; but when it is constant, in pills, as you can see them if rejected, and repeat accordingly, whereas if the fluid is rejected, you are, of course, at sea as to how much is retained, and therefore how much

to repeat ; and I may here remark that, as in the most fatal cases vomiting does not often occur till near collapse, the treatment should not be the less active. Cramps are also often absent in the most fatal forms, and you may have a case of malignant Asiatic Cholera, without either purging or vomiting, "cholera sicca," the most rapidly fatal form, which Majendie describes as "commencing at death"—a proof, I think, of my view of the nature of the disease (nervous paralysis or prostration), as I have originally mentioned. These are, however, fortunately rare and exceptional cases in this country, especially without purging, and occur only, in my opinion, when the shock to the nervous ganglia has been so sudden and so great that there was no power or time for the system to rally, as in a case of death from a stroke of lightning, or sudden concussion from any cause acting on the great nervous centres. Rapidly fatal cases have been described in India where spasm had been the only symptom ; but on post-mortem examination the bowels were found distended with the characteristic fluids. Out of sixty cases described by Dr. Jackson, in his report of cholera in Paris in 1832, there were only two without vomiting and five without cramps, and in the "Medico-Chirurgical Transactions" for 1838, in twenty cases there were two without vomiting or cramps. The following is the form of pills and mixture I prescribe, called anti-cholera pills and mixture:—

R Pulv. opii, gr. xxiv.

— capsici, gr. xij, ℥ ut ft., massa c. ext. gentianæ, q. s. et in pilulas, xij. divide. Signr., "anti-cholera pills," from one to five, for a dose for an adult.

R Tinct. opii, ℥i.

Ætheris chloric.

Spt. ammon. aromat. aa. ℥ss.

Mist. camph. ad. ℥vii. ℥, in partes octo divide.

Signr., "anti-cholera mixture," one part for a dose for an adult.

I have hitherto ordered camphor, in addition to the above pills ; but as my chief reliance is on the opium, as a small pill is so desirable, and as camphor adds so much to the bulk, I have omitted it, especially as I usually order the mixture with the pills, which contain some camphor. In the stage of actual collapse (hopeless collapse, as it is often not inaptly called), no drug will have any specific effect, and even if it were absorbed (so far as opium is concerned), it will not be so much indicated, as the losses it was meant to check will have subsided of themselves, the patient will have been drained ; hence the necessity of arresting the disease before the algide symptoms set in ; at same time I would by no means discard the use of opium, but feel my way with it in smaller doses,

repeated according to circumstances, to assist in stimulating the brain and nervous system, and bringing about reaction. We must here trust very much to the *vis medicatrix naturee*, at same time do all in our power, as in the earlier stages, to promote perspiration by external heat, sinapism over pit of stomach and region of heart, and, if necessary, a small blister, and the surface afterwards sprinkled with morphia, also hot mustard stupes to feet, and give copious warm or cold drinks, judicious use of stimulants, and cold or iced water *ad lib.*, &c., as I have mentioned, for the earlier stage; and as absorption by the rectum, in this stage especially, is more likely than by the mouth, I would recommend starch and laudanum enemata, if necessary, with the addition of acet. plumbi, also nutritive enemata.

In regulating the dose of opium for a case of Asiatic Cholera it may be some guide if we keep three objects in view—1st, prescribe a dose sufficient to check the discharges (if they exist); 2nd, add to this a dose sufficient to restore the brain and nervous system to their normal state; and, 3rd, add further to these such a portion as will be sufficient to counteract the depleted or emptied state of the vessels. This will account in some measure for the dose being necessarily larger than on ordinary occasions, and why a smaller dose will be sufficient in collapse, when the discharges will have ceased. The great secret I find is to hit off a sufficient dose at once, as no repetition will answer so well; and this is important also, as there is too often no time for repetition, and I don't see the use of ordering a medicine to be taken every quarter or half hour (as is so often done), when, in nine cases out of ten, the patient, if he lives to take a second dose, may be even in that short time in hopeless collapse. You must, therefore, hit off such a dose of such a medicine as will be likely to meet the indications in the shortest possible time. Give an ordinary or inefficient dose at first, and the patient will assuredly be lost. With regard to infants and children, opium must of course be given with the greatest caution. A case has just occurred in the Cork Fever Hospital: a boy, aged seven years, brought in with serous purging and vomiting, pulseless, no urine, sunk countenance, and choleraic voice; two and a half grains had the desired effect, and next day reaction set in with a good pulse, hot skin, and he passed urine twenty-four hours after admission. Every powerful agent requires limitation and control, and nothing can be termed a remedy that is not used under appropriate circumstances, nor is any treatment deserving of confidence that is not founded upon the acknowledged and time-honoured principles of medical science, nor can any medicine be given at all times innocuously. It is incumbent on me here to guard against the idea that a large dose constitutes the treatment; on the contrary, it will be perceived by the cases I have treated that the dose varied

from two or three grains to ten or twelve (the average I found to be about six grains); it is no "rule of thumb" matter; it requires great discrimination, judgment, and experience, and the dose must be regulated and graduated, as I have said before, by the stage of the disease, the degree of nervous prostration, and the character and amount of the losses; extreme cases will require extreme doses, and a dose that would be not only proper, but necessary, when the blood-vessels have been drained by serous losses, would be not only improper, but highly dangerous, in the premonitory or early stage, before any escape of serous fluid has taken place. But what I wish to insist on, as the result of my observation and experience, is that opium, physiologically and pathologically speaking, is the remedy, but that success does not depend on it alone, but on the combined effects of the horizontal posture, external heat by solid substances, and every means calculated to produce perspiration; and I am confident that if every medical man carried in his pocket a small bottle of laudanum and pills, such as I have mentioned, and administered on the spot and before sending to hospital, not only would time (all important) be saved, but the disease (to say the least) would, in my opinion, in nine cases out of ten, be greatly, if not altogether checked, and the patient, by the time of arrival at hospital, be most probably in a fair way of recovery, and this I often found to be the case. It should always be borne in mind that the great pathological difference between cholera and other diseases is the rapidity with which the morbid changes take place.

In the cases I have treated on the opiate plan, the absence of consecutive fever is remarkable, and may, I think, be accounted for by the checking of the discharges.

With regard to "elimination," or assisting nature, as it is called, founded on this occasion, I take for granted, on the very erroneous homœopathic principle of *similia similibus curantur*. I am on all occasions a great advocate for assisting nature, and think that the best way to do so is to use such a remedy as will produce such a state of things as nature would present when in health, and this view of assisting nature will, I think, bear out my treatment, as, when the efforts of nature are excessive, and therefore injurious to health—nay, too often in cholera causing death—they must of course be controlled; and here, as in my opinion the use of purgatives in cholera (if generally adopted) would be attended with serious results, I must say a few words:

If the diarrhœa is of a bilious character and attended with pain, and that there is a good pulse and foul tongue, and reason to suspect that it is caused by some offending matter keeping up irritation, and should therefore come off, I would eliminate, so far as one dose of castor oil, or in preference some mild warm aperient, and even so, I would add a few drops of

laudanum, so cautious would I be, during a cholera epidemic, of purgatives, especially saline or drastic. Dr. McIntosh says "he has known many destroyed by taking a laxative or emetic, and others fall into a state of collapse, while using saline medicines during prevalence of cholera;" and Dr. Laycock, in the *Medical Gazette*, says, "For my own part, I have such a dread of purgatives in Asiatic Cholera, that even after the patient is recovered I would allow two or perhaps three days to pass before prescribing even a gentle aperient, for fear of relapse." A case in point has just occurred to myself in hospital: a patient who had recovered from cholera, in whom the serous losses from the bowels had been, as he said, "so frequent he could not count them, before admission;" he got well, and was four days without a motion, when I ventured to give him a mild and warm aperient; the result was, it produced a return of the symptoms, and I had to treat him again in a modified form. He is now well. This I consider an important case, showing how cautious we should be in acting on a mucous surface, already over-acted on, even by gentle means, and in future I would prefer a simple warm-water enema. In a late number of the "*Medical Times and Gazette*" I find observations so much in accordance with my views on the subject, that I think I cannot do better than quote them.

Speaking of the "efforts of nature," it says,—“Let us see how nature deals best with poison, and how experience teaches us to treat cases in which the ‘efforts of nature’ may be either inadequate or excessive.

“Let us take the case first of a mineral or vegetable poison—say calomel, arsenic, or elatesium. Either of these substances, in certain quantity, sets up vomiting and purging, by which after a time ‘nature eliminates the poison,’ and the patient recovers; but let us suppose the dose very large, so that it gets, as we may believe, into the blood, that the vomiting and purging are intense and exhausting, does the physician aim at elimination, pure and simple? Not a bit of it; he seeks to put the patient into a state that shall render him less sensitive to the effects of the poison. He diminishes and controls the efforts of nature, so that a large dose of poison may act like a small one, and on a weak system like a strong one. The stronger the system the less violently does nature react against the poison; and that which will make a weak system act like a strong one is opium. Give repeated doses of calomel till they purge, producing perhaps intense tenesmus and bloody stools, and what is the treatment? Opium. Under the influence of this the poison is no more heard of; pain and discharges cease, and we may suppose that the poison eliminates itself quickly without damaging the alimentary canal.

“Let us take the case of poisons of a zymotic order—typhoid or cholera. If a moderate dose be administered to a patient in first-rate health and

spirits, how does 'nature' act? Why, she may not condescend to notice it. It is on patients exhausted, ill-fed, or already prone to illness, that the poison acts as a specific poison. To produce its full effect, it must provoke certain reactions in the system of the recipient; it must feed on the patient and multiply itself, and it is the weak, ill-fed, nervous, irritable, and exhausted who fall into those reactions and permit that multiplication most readily.

"Suppose, then, a population, breathing air, drinking water, swallowing dust, eating food with unwashed hands, all impregnated with cholera poison, and suffering from incipient bowel disorder. What is the indication? Is it to eliminate? Certainly not, but to recruit the forces, and to resist the action of the poison in the alimentary canal, and for fulfilling these indications the experience of half the world points to opium."

Dr. McCormac, writing in a late number of THE MEDICAL PRESS AND CIRCULAR, relates the circumstance of a house-to-house visitation in an Irish town. "Do you purge?" was the question asked, and if the answer was "yes," an opium pill was put into the respondent's throat "sans ceremonie." The result was successful. The system at large, and the alimentary canal in particular, were soothed, comforted, and rested; the poison was "locked up," but could do no harm; the patient was protected. And this, concurrently with the experience of hundreds of practitioners in the last three cholera epidemics, shows that soothing, astringent, and non-eliminative treatment of diarrhoea is a pretty good safeguard against the fully-developed phenomena of cholera.

With regard to "calomel," as it is still spoken of and prescribed, I must offer a few observations; and, first, I do not see how it is indicated, inasmuch as the hepatic function is not suspended. Though bile does not appear in the discharges, the liver is acting, and hence the distended gall bladder, always seen on post-mortem examination;\* the secretion is retained, not suppressed; and the suppression is the effect, not the cause of the disease. We must first, then, cure the cause. Besides, calomel, though said to be a sedative in  $\text{Ḑj}$ . doses, is more or less an irritant, and those who advocate its use generally give it in small doses—they certainly steal in a little of the opium with it. Even so, calomel, in my opinion, only tends still further to promote a secretion from a membrane already too profuse.

Again, if it is "the specific action" is looked for, we all know how difficult it is to produce that, even when the absorbents are active, in a

\* Some pathologists have noticed in such cases a stricture at the mouth of the "ductus communis choledicus," preventing the flow of bile into the intestine, when pressure is made on the gall bladder.

shorter time than from twenty to forty hours. I find, on reference to the "Fever Hospital Journal," that in the year 1849 a patient recovering from pneumonia, and while under the specific influence of calomel, was attacked, notwithstanding, with cholera; so much for its preventive or curative properties in this disease. Mr. Orton, in his essay upon "Epidemic Cholera in India," says—"Calomel was frequently found at the bottom of the fluid contents of the stomach, and adhering to the mucous membrane." Except in the consecutive fever, then, or in convalescence, I do not see how it is indicated; besides, it will not act until the morbid action is arrested by other means, or by the "*vis medicatrix naturæ*." I shall say nothing upon the application of "ice to the spine," strychnine, &c., &c., further than that I trust whatever experiments are tried they may be founded on something rational. Stimulating liniments or dry mustard rubbed into the spine may be useful.

A few words on Prophylaxis or preventive measures: As nothing predisposes more to an attack of cholera especially than fear (the disease being in my opinion of the nature I have stated), it is most important that the public mind should be impressed with the fact that it is within the reach of the profession when promptly and efficiently treated that no disease requires less medicine, the one dose being generally sufficient, and that there need not be so much apprehension in attending upon their sick friends on the score of contagion, as in my opinion, generally speaking, it is only contagious when predisposed by fear, or from overcrowding and consequent want of proper air and ventilation, or from some depressing or debilitating cause; at all events, it is not disseminated, as contagious diseases, usually are, under circumstances of free intercourse. There are many proofs of its non-contagious character, and those in support of the opposite view are far from being decisive of the question. Time does not permit me to enter fully upon them. I shall merely mention the inefficiency of quarantine regulations in preventing its extension, the extraordinary immunity from the disease of the nurses and medical attendants in constant contact with it, under the most unfavourable circumstances, compared with that of other contagious diseases, and the following instance by the late Dr. Mackintosh (Edin.) in 1834. He says:—"In the Drummond-street Cholera Hospital (of which he was physician) there were 280 bodies examined. Two, and sometimes three, hours were spent in examining each body. The room was a miserable place, eight feet square; generally six or eight persons were present, sometimes more; and in an inner apartment, about ten feet square, there generally lay six dead bodies. Not one of those who frequented this den of death, and had their hands imbrued in the secretions of the dead for six hours out of the twenty-four, were affected with cholera, though their hands were irritated and punctured

daily.”\* The shortness of the duration of the epidemic is, I think another proof of its non-contagious nature, and the remarkable immunity of the rich compared with the poor. As preventive means, maintain the tone of the constitution and nervous system as much as possible; avoid everything tending to irritate the digestive system, particularly the abuse of alcoholic stimulants; observe regular hours, and avoid everything tending to fatigue and debilitate the nervous system, and exposure to cold or damp. Therefore, wear warm clothing, and a light flannel or silk girdle round the abdomen, the great and rational object being to preserve the capillary circulation, particularly in this quarter, and thereby prevent receding of cuticular excretion to internal parts, and consequent congestion, and next in importance is the warmth of the feet and extremities, which, with suitable clothing, will be promoted by maintaining the circulation in the vital organs, and which, if not preserved, the remote parts supplied by those organs must naturally suffer.† Silk inside-clothing, as being a non-conductor of electricity, is very valuable, this essential to health being so deficient in cholera. As perspiration is the grand object to be attained in the cure of cholera, so is the preservation of the capillary circulation as a preventive to be observed.

Diarrhœa (even of a bilious character), if excessive, should be judiciously checked; as, during a cholera epidemic, I have known it when allowed to continue soon run into serous cholera.

The necessity for cleanliness and daily use of sponge bath, proper ventilation, and above all things avoiding overcrowding, and the use of pure water, is so obvious and so universally dwelt on, I need only mention the fact; also the free use of disinfectants, added to the excreta, and sprinkled about the rooms—as Condry's Fluid, Carbolic Acid, McDougal's Disinfecting Powder, Chloride of Lime, Chloride of Zinc, &c. To insure pure water, boil and let it cool for use. Should any object (as of course they will) to these my views as to the nature of Asiatic Cholera, the indications of cure or treatment, all I can say is, that both one and the other are the result of personal bedside observation, experience, and no small amount of labour; and that I am not therefore prejudiced in favour of my pathology or treatment of the disease, on any theoretical or fanciful grounds. On the contrary, should any more rational views of its nature and more successful mode of treatment in the same number of cases be shown me, I shall gladly avail myself of both one and the other. As it is, I have the gratification to feel that I have, under God, been enabled to save many lives,

\* *Prac. of Physic*, p. 345.

† The familiar anecdote of the man who was lost in snow, and whose life was preserved by his dog lying instinctively on his chest, and thus keeping up a degree of heat over the region of the heart affords an interesting example of the importance of this observation.

which, judging from past events, would have been sacrificed by other or more feeble treatment.

“Whoe'er thinks a faultless piece to see,  
Thinks what ne'er was, nor is, nor e'er shall be.”

In 1849, having published my treatment, I received a letter from a lady in Castlemartyr thanking me and begging of me “to continue to send help far and near,” and stating that she had made inquiries of a clergyman in Belfast (where the cholera then raged) as to the result of the opiate treatment then adopted there, and that his reply was, that “having been one of the visiting committee of the General Hospital, sometimes passing whole nights there, in consequence of the conduct of the nurses to the patients, he had ample opportunities of judging of the treatment, and that he considered it eminently successful.”

I cannot close these observations without recording a case of extremely malignant Asiatic Cholera (in addition to the two already alluded to), just now convalescent in Cork Fever Hospital:—

October 25th, 1866, half-past nine o'clock P.M. Patrick Barry, æt. 15, paralysed from birth at one side; serous purging and vomiting incessant; no pulse; surface livid; eyes sunk; no action from kidneys since the day before admission; vox cholericæ. Habeat pil. opii 2 (gr. iv.); external heat, spiced drinks, &c.; mustard stupes, &c.; cold water *ad lib.*

26th, half-past eight o'clock A.M. No discharge from bowels; vomiting still incessant; no pulse; no urine. R. pulv. opii, gr. ij.; sinapism epigastrio.

Two o'clock P.M. No reaction; no purging; vomiting continues. Habeat mist. anti-cholericæ, ℥ss. (træ opii, ℥ss.)

Five o'clock P.M. No pulse; vomiting quarts of serum on getting a teaspoonful of any fluid.

Half-past ten P.M. No discharge; skin icy cold; no pulse.

27th, nine o'clock A.M. No stool; vomited once since last visit; no pulse, but surface a little warmer. Habeat træ opii, ℥xx.

Eleven o'clock A.M. Pulse distinct at 112, and action of heart distinct; surface warm and perspiring; slept a little; no vomiting.

Five o'clock P.M. Pulse 100; skin warm; bears everything on stomach.

Half-past ten P.M. Pulse 100; no discharge.

28th, nine o'clock A.M. Pulse 100, and fair strength; no action of kidneys yet; vomited once; no stool.

R. Spt. æth. nit.

Sp. vin. gal. aa. ℥j.

Aquæ, ℥iv.

Ft. Mistura.

Two o'clock P.M. No discharge; pulse 100; skin warm; tongue a little parched; a little fulness over pubis; catheter introduced and brought off a pint of urine (four days suppressed); gin, two ounces.

29th, eight o'clock A.M. No vomiting or purging; passed a quantity of urine; pulse 88, and strong; surface and countenance natural; convalescent.

When the primary symptoms in all diseases are made the most important, we shall then learn the advantage of promptitude and efficient treatment, and the danger of delay and trifling practice, especially in Asiatic Cholera.

If a powerful impression be not made at once, little good can be expected, so quickly does the stage of collapse set in; and it is to this fact being lost sight of—this golden opportunity lost—that the fatality may be attributed, rather than to its so-called incurable nature.

In support of my views as to the pathology and treatment of this disease, I beg to append the cases alluded to, and in addition to those already published, five more cases treated in the Cork Fever Hospital during the present visitation:—

John McAuliffe, æt. 50. Premonitory diarrhœa and vomiting for twelve hours before admission to hospital, both serous; no action of kidneys for two days; vox cholericæ; "breath," he says, "going through his ears;" breathing slow and laboured, and countenance sunk; no pulse; tongue cold; fingers and lower extremities blue and corrugated; some heat of surface. Treatment—opiate (gr. vj.), ext. heat, &c.; in six hours after pulse distinct (96); copious perspirations; some natural sleep; no discharges; no urine.

Eleven o'clock, P.M. Spasmodic vomiting and hiccup.

R Tinct. opii, gtt. xv.

Acid hydrocyanic (Scheele) M. iv.

Spt. ammon. aromat., ℥ss.

Aquæ, ℥j. ft. Haust. 4ta qq. Hora Sumendis.

Took three draughts; kidneys acted on fourth day; recovered; no fever.

John Collins, æt. 35. Premonitory diarrhœa and vomiting (greenish water) for five days before admission; kidneys acting; voice tolerable; respiration and countenance tolerably natural; skin cold but not livid. Treatment—Pulv. opii, gr. iiij. Recovery in two days; no fever.

Johanna Hackett, æt. 44. Hopeless on admission. Premonitory diarrhœa and vomiting for forty-eight hours before admission (serous); so frequent, could not say how often; no action of kidneys for twelve hours; voice inaudible; respiration laboured and slow; no pulse; tongue

cold; eyes sunk; skin cold and livid. Treatment—Haust. tinct. opii, ℥j., ext. heat, sinapisms, &c. In two hours and a half after, pulse distinct in both wrists; surface warm; no discharges; but sunk in twelve hours after, sensible to the last.

William Leader, æt. 24. Premonitory diarrhœa and vomiting (serous and solid curds) for twenty-four hours before admission; kidneys acting; voice feeble; pulse 60 and feeble; tongue foul, and abdomen full; skin rather warm.

R. Ol. Ricini, ℥j. c. trœ opii, gtt. xxv.; stupes, &c.

Serous vomiting continued in great quantity; got pil opii No. 2, and Haust. tinct. of opii, ℥j. (gr. vj.). Next day well; no fever.

Catherine Hogan, æt. 60. Premonitory diarrhœa and vomiting twelve hours before admission very frequent (serous); kidneys acting; voice feeble; pulse distinct; surface cold; got pil opii No. 2, and Haust. tinct. opii, ℥j. (gr. vj.). Recovery on second day; no fever.

Bess Horrogan, æt. 40. Had been in hospital; recovering from dysentery and ran into cholera. Discharges like barley water; vomiting, character of first serous, second pure green, third brick dust. No action of kidneys for two days before admission; voice feeble; respiration oppressed and anxious; countenance sunk; pulse very thready; tongue cold; eyes sunk; skin inclined to be cold and bluish; says, "her voice is going through her ears." Treatment—Opiate, dose, gr. x., external heat and stimulants, &c. Profuse perspiration shortly after; discharges checked; pulse 120, and strong; kidneys acted on fourth day; next day required enema amyli, c. t. opii, ℥j. Recovery fourth day; no fever.

Johanna Murphy, [æt. 28. Diarrhœa and vomiting for one day (wheyish); no action from kidneys for eight hours; voice almost inaudible; respiration laboured, slow, and spasmodic; countenance sunk; pulse scarcely perceptible; tongue cold; skin cold, clammy, and inclined to be livid; cramps very troublesome. Treatment—Opiate, dose, gr. xij.; towards night complained of "want of sleep," and got gr. xxv. trœ opii, which had the desired effect. Kidneys acted on fourth day. Recovered; no narcotism; no fever.

A. Thornhill, æt. 20. Diarrhœa and vomiting for four or five hours (rice water); no action from kidneys, for how long could not ascertain; voice whispering; respiration low and sighing; pulse scarcely perceptible; tongue cold; eyes sunk; skin cold and clammy; cramps very troublesome; kidneys acted three days after admission. Treatment—Opiate, dose gr. viij.; in six hours after required enema amyli, c. trœ.

opii, ℥j., acet. plumbi, gr. x.; in eight hours after required haust. opii, ℥. in brandy and water. Recovered on fourth day; no fever.

Daniel Sheehan, æt. 22. Diarrhœa and vomiting (rice-water) about three days; no action of kidneys for forty-eight hours before admission; voice very low; respiration very slow; countenance sunk; pulse scarcely perceptible; tongue cold; eyes sunk; skin cold, clammy, and livid; cramps. Treatment—Opiate, dose gr. xiiij. No symptom of cholera after, but was under influence of opium, recovery on third day; kidneys acted on third day.

Edward Roche, æt. 22. Diarrhœa and vomiting for four hours (rice-water); kidneys acting; voice inaudible; respiration slow and laboured; pulse scarcely perceptible; tongue cold; eyes sunk; skin cold, clammy, and livid; cramps. Treatment—Opiate, dose gr. vj. Recovered; no fever.

James Regan, æt. 26. Diarrhœa and vomiting for an hour (rice-water); no action of kidneys for twelve hours; voice feeble; respiration remarkably slow; pulse fifty-two, and very thready; tongue cold; skin cold and clammy. Treatment—Opiate, dose gr. viij. Recovery; no fever.

Mary Regan, æt. 37. Diarrhœa and vomiting for about eight days (rice water), since admission very frequent; no action of kidneys for twelve hours; voice almost inaudible; respiration very slow; countenance sunk; pulse very thready; tongue cold; skin cold, clammy, and bluish; no cramps. Treatment—Opiate, dose gr. vj. Reaction in two hours; recovery in three days; no fever.

M. Lehane, æt. 35. Diarrhœa and vomiting (serous) for a week, more or less; no action of kidneys for nine hours; voice feeble; respiration slow; countenance sunk; pulse very thready; tongue cold; skin cold, clammy, and blue; no cramps. Treatment—Opiate, dose gr. vj., and gr. ij. the day after. Recovered; no fever; kidneys acted on second day.

Pat. Kinnealy, æt. 12. Diarrhœa and vomiting (serous) for twelve hours; no action of kidneys for forty-eight hours; voice inaudible; pulse indistinct; skin cold and clammy; no cramps. Treatment—Enema amyli c., t. opii ℥., external heat, &c. Death in four days.

Eliza White, æt. 17. Diarrhœa and vomiting (rice-water) for about five days; no action from kidneys for twenty-four hours; voice hoarse and feeble; respiration and countenance natural; pulse very feeble; skin cold. Treatment—Opiate, dose gr. iiiss. Recovery on second day; no fever.

Denis Mullan, æt. 40. Diarrhœa and vomiting for six hours before admission (serous); no action from kidneys for four days; voice very

hoarse and feeble; respiration slow and sighing; great noise in ears; pulse very thready; tongue cold and breath cold; skin cold and clammy; face and hands blue. Treatment—Opiate, dose gr. viij. Purgings checked; recovery on fourth day; no fever.

Mary Buckley, *æt.* 20. Diarrhœa and vomiting most of the night (rice-water); action of kidneys could not be ascertained; voice very feeble; respiration slow; cramps very bad; pulse scarcely perceptible; tongue cold; skin cold, blue, and clammy. Treatment—Opiate, gr. vj. at once, and gr. ij. at night. Died within twenty-four hours.

Bridget Reilly. Diarrhœa and vomiting for twenty-four hours (serous); no action of kidneys for two days; voice feeble; respiration slow; countenance sunk; pulse perceptible; tongue natural; skin warm, but lower extremities very cold and livid. Treatment—Opiate, dose gr. vj. Reaction in about three hours; recovery on third day; no fever.

Cath. Regan. Diarrhœa and vomiting three or four days—the former gruelly; the latter, first serous, secondly sea-green water; no action from kidneys for twenty-four hours; voice feeble; respiration and countenance natural; pulse very feeble; skin warm, but face cold and clammy. Treatment—Opiate, first dose, gr. iiiss.; day after, R hyd. sub. gr. v., pulv. opii, gr. j. f. t. pil. Recovery on third day; no fever.

Joha. Brady, *æt.* 30. Hopeless in fever when cholera set in. Diarrhœa every minute (serous); no vomiting; no action of kidneys for forty-eight hours; voice whispering; respiration very slow; countenance sunk and livid; pulse scarcely perceptible; tongue cold; skin cold, clammy, and blue; no cramps. Treatment—Opiate, dose gr. ij., external heat, and stimulants. Death in four days; no reaction all through.

Pat. Ahern, *æt.* 24. Diarrhœa and vomiting (serous) for some hours before admission; kidneys acting; voice feeble; respiration oppressed; pulse distinct, but very feeble; respiration laboured; pulse feeble; tongue natural; skin cold and livid. Treatment—Tinct. opii, ℥j., external heat, &c. Well in six hours; no fever.

Mary Cotter, *æt.* 31. Diarrhœa and vomiting (serous) for twelve hours; kidneys acting; voice feeble; tongue cold; skin cold and livid; noise in ears; cramps. Treatment—Trœ. opii ℥j. Discharges ceased; pulse 80, and full; profuse perspiration; recovering; no fever.

Portuguese sailor, dying on admission. Diarrhœa and vomiting (frequent and serous) for eighteen hours before admission; no action from kidneys, could not say for how long; voice feeble; respiration slow; no pulse; tongue cold; countenance sunk; skin cold, blue, cramps and hiccup. Treatment—Pil. opii No. 2, and haust. opii, ℥j.; in some hours after external heat, &c. Died in eighteen hours.

Bridget Leahy, *æt.* 30. Diarrhœa and vomiting for two days—the

first blackish water, second gruelly matter; no action from kidneys for four days; voice feeble; pulse 70 and feeble; thinks "something has got into her ears"; body and extremities warm, but face cold and clammy. Treatment—First dose, pulv. opii gr. v.; second, gr. iiss., and starch enemas. Recovery on fourth day; no fever.

— Burke, debtor. Diarrhœa and vomiting (purely serous) for eight hours; no action of kidneys; voice almost inaudible; respiration very slow; countenance sunk; pulse scarcely to be felt; tongue cold; skin cold, blue, and clammy. Treatment—Opiate, dose gr. iv., external heat. Death in six hours.

— Ml. Sherlock, æt. 4 years. Diarrhœa and vomiting (rice-water); no action of kidneys for twenty-four hours; voice sharp and feeble; countenance sunk; pulse perceptible, but very feeble; tongue cold; skin cold and clammy. Treatment—Opiate, dose trœ, opii gts. xv., enema amyli c, trœ opii gts. x., wine, whey, &c. Recovery on second day.

Mary Sullivan, æt. 48. Premonitory diarrhœa and vomiting for two days before admission (serous) incessant; none after, being drained; no action of kidneys for two days; voice inaudible; respiration laboured; great præcordial oppression; no pulse; tongue icy cold; countenance sunk; skin cold and shrivelled. Treatment—Pil. opii No. 2 (gr. ij.), external heat, stimulants, &c.

In four hours after temperature of body improved, but no pulse; slight return of serous purging; R haust. tinct. opii, ʒij. Death in twelve hours.

Julia Reardon, æt. 60. Premonitory diarrhœa and vomiting (serous) about a week before admission; no action of kidneys for three days; voice, respiration, and countenance choleraic; pulse very feeble; skin cold; cramps. Treatment—Opiate, dose gr. vj., external heat, &c.; discharges checked and more natural; surface warm and perspiring; six hours after enema amyli. c. tinct. opii, ʒj. Recovered; no fever.

Bridget Leahy, æt. 30. Diarrhœa and vomiting (the former gruelly, the latter serous) for two days before admission; no action of kidneys for three days; voice feeble; respiration natural; pulse very feeble, 100, and intermittent; tongue natural; noise in ears; skin inclined to be cold. Treatment—Opiate, dose gr. vj., external heat, sinapisms, &c.; discharges ceased; next day abdomen distended with flatus; got enema terebinth. c. tinct. assafœtida; bowels moved so often got pulv. opii gr. ii. Recovered; no fever. This woman had cholera three weeks before.

T. Key Rogan, æt. 50. Diarrhœa and vomiting (serous) for six hours; no action of kidneys for forty-eight hours; voice inaudible; respiration very slow; countenance sunk; pulse scarcely perceptible; tongue cold; noise in ears; skin cold, blue, and clammy, and cor-

rugated. Treatment—Opiate, dose gr. vj., external heat, &c. Death in nineteen hours; no reaction from beginning.

T. Murphy, *æt.* 45. Diarrhœa and vomiting (serous) six hours before admission; no action of kidneys for forty-eight hours; voice inaudible; respiration very slow; countenance sunk; pulse scarcely perceptible; tongue cold; noise in ears; skin cold, blue, and corrugated. Treatment—Opiate, dose gr. vj., external heat, &c. Recovery on the fourth day; no fever.

DI. Magrath, *æt.* 50. Diarrhœa and vomiting (serous) for seven hours before admission; kidneys acting; voice feeble; respiration laboured; pulse 40, and feeble; tongue cold; skin cold and clammy; tinct. opii. ℥j., external heat, &c. Discharges ceased. Recovery; no fever.

Mary Roche, *æt.* 30. Diarrhœa and vomiting for two days (the former gruelly, the latter rice-water); no action of kidneys for three days; voice feeble; respiration natural; countenance sunk; skin cold; no cramps. Treatment—pil. opii. No. 2 (gr. ij.), external heat, &c. Vomiting checked; diarrhœa continued; abdomen so much distended got enema terebinth; bowels moved so frequently (rice-water), got pil. opii, No. 4 (gr. iv.), and afterwards required enema c. tinct. opii, ℥j. Recovery on the fourth day; no fever.

Julia M'Carthy, *æt.* 30. Diarrhœa and vomiting for twelve hours, both gruelly at first; afterwards diarrhœa (serous), very frequent; no action of kidneys for two days; voice feeble; respiration slow; pulse very feeble; tongue natural; skin inclined to be cold; cramps in hands very severe; great noise in ears. Treatment—Opiate, dose gr. vjii., external heat, stimulants, &c. Discharges not checked for twelve hours; got enema, tinct. opii, ℥j.; improved in every way after. Recovery on the fourth day.

Bessy Lyons, *æt.* 30. Diarrhœa and vomiting for three days, first serous, afterwards green water; no action of kidneys for three days; voice feeble; pulse distinct but thready; skin cold; cramps. Treatment—Opiate, dose gr. vj., stimulants and external heat; bowels checked, vomiting continues; enema c. tinct. opii, ℥ij. Recovery on the fourth day.

Cor. M'Carthy, *æt.* 48. Diarrhœa and vomiting (serous) for two days; no action of kidneys for twenty-four hours; voice very feeble; tongue coldish; skin cold; no cramps. Treatment—Opiate, dose gr. vj.; reaction in four hours; kidneys acted on the third day. Recovery on the fourth day.

Julia M'Carthy, *æt.* 40. Diarrhœa and vomiting for three days (serous); no action of kidneys for forty-eight hours; voice very feeble; countenance sunk, deaf, and noise in ears; pulse very feeble; skin inclined

to be cold; no cramps. Treatment—Opiate, dose gr. iv., external heat, stimulants, &c. Discharges checked; but required enema c. tinct. opii, ℥ij.; kidneys acted on the fourth day. Recovery on the fifth day.

EIGHT CASES—PROMISCUOUS TREATMENT—AND THREE DEATHS.

Dl. Shayhane, æt. 30. Diarrhœa and vomiting (purely serous); no action of kidneys for forty-eight hours; voice inaudible; respiration very slow and sighing, with pain under right breast; countenance sunk; pulse not to be felt; tongue icy cold; skin cold, clammy, and blue; cramps very severe. Treatment—Saline (Dr. Stevens'), external heat, &c. Death in twenty-four hours.

Cath. Casey, æt. 35. Diarrhœa and vomiting for about a week (waterish); no action from kidneys for two days; voice feeble; respiration slow; pulse very feeble; skin cold and clammy; cramps troublesome. R ol. Ricini ℥ j. trœ opii, gr. xxv., aq. m. pip. ℥ iss., stomach being full and distended. Recovery on the second day—no fever.

Eliza Nowlan, æt. 25. Diarrhœa and vomiting for the previous night (waterish); abdomen distended; no action of kidneys for twenty-four hours; voice feeble; pulse feeble at forty; upper and lower extremities cold; cramps very bad; R ol. Ricini, ℥ j.; c. tinct. opii, gr. xxv.; foment abdomen, external heat, &c. Recovery on the third day; no fever.

Chas. Murphy, æt. 16. Diarrhœa and vomiting (profuse and serous) for two days; no action from kidneys for twenty-four hours voice feeble; pulse feeble; tongue natural; skin natural; cramps in fingers and legs. Treatment—R mist. magnesiæ c. spt. ammon. aromat. et tinct. opii, ℥ j. ad ℥ viij. Required towards night ol. Ricini ℥ j., c. trœ opii, gtt. xx.; vomiting relieved. Recovery on the third day.

Eliza Bateman, æt. 30. Bowels confined, and abdomen distended and hard; vomiting frequently (serous); no action of kidneys for twenty-six hours; voice very feeble; pulse 60 and feeble; skin moist and rather warm; cramps in hands and feet; R enema terebinth.; stimulants and external heat; R hyd. sub. gr. iij. pulv. opii gr. ¼ ft. pil. Recovered.

Jno. Leary, æt. 12. Diarrhœa and vomiting (serous) for five hours no action of kidneys for twenty-four hours; voice very feeble; pulse 60, and very feeble; tongue ice cold; skin blue, cold, and cramps. Treatment—Saline, external heat, &c. Death in sixteen hours.

Honora Shea, æt. 17. Diarrhœa and vomiting for six hours and a half (serous); no action from kidneys for could not say how long voice feeble; pulse feeble; pulse 80, and feeble; tongue natural; skin warm; abdomen full; R ol. Ricini, ℥ j., c. trœ. opii, gtt. xxx.; external

heat, &c. ; required enema commune et hyd. sub. gr. ij., pulv. opii gr. ʒ. Recovered ; no fever.

Jane Mercer, æt. 30. Diarrhœa and vomiting (serous) frequent before admission but worse after ; no action of kidneys for three days ; voice feeble ; respiration slow ; no pulse ; tongue cold ; skin cold and livid, and pain at epigastrium. Treatment—Saline, sinapisms, external heat, &c. Death in two hours after admission.

The following are cases treated in the Cork Fever Hospital, *during the present outbreak*, in addition to those alluded to in my observations :—

Oct. 29th, 1866. Five o'clock P.M. Cath. Reardon, æt. 35. Diarrhœa and vomiting (serous) for three days ; no action of kidneys during this time ; is nursing ; pulse distinct ; deaf. Treatment—Opiate (dose gr. vj.), external heat, &c.

Half-past nine P.M. No discharges ; pulse 40 ; no urine ; surface improved in colour and heat ; no sleep ; says "her voice comes through her ears."

Oct. 30th. Nine o'clock A.M. Pulse 60 ; no discharges ; sensation in ears gone ; kidneys acted (fourth day) ; broth drinks *ad lib.*

Six o'clock P.M. Kidneys acted again ; pulse 80 ; convalescent.

Nov. 6th. Twelve o'clock, A.M. Mary Roche, æt. 30. Diarrhœa and vomiting since about seven o'clock this morning, (blackish water) ; cramps ; surface very cold and shivering ; face bluish ; kidneys acted since admission. Treatment—Opiate (dose gr. viij.).

Five o'clock P.M. Pulse 96 ; skin warm and perspiring freely ; voice very feeble.

Eleven o'clock P.M. Pulse 96 ; good reaction ; no losses ; no urine ; quiet, but not sleeping ; very thirsty ; inclined to nausea ; to have drinks *ad lib.*

Nov. 7th. Nine o'clock A.M. Slept tolerably well ; pulse 40, feeble ; vomited once (green water) ; bowels moved once (brownish water) ; kidneys acted ; brandy two ounces ; beef-tea and drinks, *ad lib.*

Five o'clock P.M. Vomited once (greenish) ; no action of bowels ; skin warm and perspiring copiously.

Nov. 8th. Half-past nine A.M. No action of bowels ; vomited once (greenish) ; pulse 96 ; slept well ; kidneys acting ; feels quite well. Discharged to convalescent ward.

Nov. 9th. Half-past two P.M. Cath. M'Gann, æt. 40. Diarrhœa and vomiting all night ; says "she did not think she would live till morning" (serous) ; cramps in stomach ; got at home, before leaving for hospital, tinct. opii ℥ lx.

Five o'clock P.M. No discharges since she got the dose; pulse 90, and perspiring; "buzzing in ears." To have drinks *ad lib*, external heat, &c.

Nov. 10th. Nine o'clock, A.M. Slept well, no losses; kidneys acted at six o'clock this morning (first since admission); beef-tea, &c.

Five o'clock P.M. Continues to go on well. Convalescent.

Nov. 11th. Nine o'clock, P.M. Honora M'Carthy, æt. 10. Diarrhœa and vomiting for eight hours (serous); tongue cold; surface livid; pulseless; voice very feeble; no urine. Treatment—Pil. opii, No. 2 (gr. iv.), stimulants, external heat, &c.

Nov. 12th. Nine o'clock A.M. Passed a yellow watery fluid; nurse could not say what it was; vomiting (serous); bowels once moved; no pulse; mist antichol, ℥ij. (opii gr.j.) sinapison epigastrio.

Five o'clock P.M. Vomited once; no purging; pulse 100 and distinct; no urine. To have spirit. æth. nit. ℥j. in half tumbler of water, beef-tea, &c.

Nine o'clock P.M. No discharges; skin warm; pulse distinct. No urine.

Nov. 13th. Ten o'clock A.M. Pulse 100; kidneys acted just now (third day); countenance good and surface warm; drinks *ad lib*.

Five o'clock P.M. Vomited once; pulse good; chicken broth, &c.

Nov. 14th. Half-past ten A.M. Bowels moved twice (watery). Haust. tinct. opii gtt. x.

Nov. 15th. Quarter to ten A.M. Going on well; but erysipelas of face.

Nov. 16th. Convalescent.

Dec. 3rd, 1866. Half-past twelve o'clock A.M. Mary Douglas, æt. 11. Diarrhœa and vomiting (serous) for forty-eight hours; kidneys acted a little, shortly before admission; surface blue; voice good; pulse barely perceptible; extremities cold; tongue scarcely warm; eyes sunken. Treatment—Opiate, pil. opii, No. 2 (gr. iv.); external heat; sinapison epigastrio; drinks *ad lib*.

Four o'clock P.M. Vomited twice; bowels moved once (serous); pulse perceptible; surface improved. Spt. veni. gallic ℥j., spt. æth nit. ℥j., aqueæ ℥iv., chicken broth, &c.

Half-past eight P.M. Pulse good; surface warm; vomited twice (serous); no purging; countenance better; drinks *ad lib*.; spt. æth. nit. in water, &c. Mist. antichol. ℥j., si necesse sit.

Dec. 4th. Half-past nine A.M. Passed a good night; vomited twice; bowels moved once (serous); kidneys acted; countenance good; surface warm and moist; pulse 96, and good strength; no inclination whatever to sleep; cont. omnia.

Four o'clock P.M. No discharges since morning; kidneys acted again; slept a little naturally.

Dec. 5th. Quarter-past nine A.M. No vomiting; bowels moved once (naturally); pulse 110, good strength; kidneys acted again; convalescent.

Before sending for publication I received a pamphlet, entitled, "Thoughts on the Present Theories of the Algide Stage of Cholera," by Dr. Cockle, ably written, and well worth perusal, from which I have taken the liberty of copying the following, according to Boudin, "Traité de Georap. et Statistic Medicales," p. 367, 1857, the mean mortality of the different modes of treatment is thus stated:—

Evacuant treatment	-	77.7	in 100
Stimulating	„ - -	54	„
Alterative	„ - -	36	„
Astringent	„ - -	20	„

In conclusion, I beg to say that in publishing the results of my experience in this disease, I have been actuated solely by three motives:— 1st. That of inspiring confidence (the best preventative against the disease) in the minds of the public with regard to its being within the reach of the profession. 2ndly. To try and reduce its treatment to a fixed and regular system based upon broad medical principles, matured and corrected by experience. And 3rdly. To caution the public against what is empirically called "infallible or specific remedies"—no physician understanding the nature of disease will pretend to such, and in cholera, particularly, time is too precious to be trifled with.

If, therefore, I succeed in the objects I have in view, I shall be amply recompensed for the loss of time and trouble a sense of public duty has obliged me to incur; as in a question involving the lives of thousands every private feeling should be merged in the one consideration, what may be best for the public good. Let it then be distinctly understood that cholera, like all other diseases (I speak from a professional experience of thirty years), formidable as it is, can be combated with a fair share of success by the resources at the disposal of medical science, if timely, properly, and actively treated.

