

Report to the ... House Committee ... of the London Hospital, on the epidemic [i.e. cholera] now prevailing at Newcastle and its neighbourhood / [Frederic Cobb].

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REPORT

TO THE

Chairman of the House Committee,

THE HOUSE COMMITTEE,

AND MEDICAL OFFICERS,

OF THE

London Hospital,

ON

THE SUBJECT OF THE EPIDEMIC NOW PREVAILING AT
NEWCASTLE AND ITS NEIGHBOURHOOD.

BY FREDERIC COBB, M. D.

LONDON :

SCHOOL PRESS, GOWER'S WALK, WHITECHAPEL.

1832.

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REPORT,

&c. &c.

Extract from Minutes of Committee, Jan. 5, 1832.

“THE Committee, being deeply impressed with the necessity of investigating the nature and treatment of Cholera, are very desirous that a personal inspection and attention to the cases existing at Newcastle, and elsewhere in the neighbourhood, should take place by one of their Physicians, in order that they may be prepared to make the best arrangement, and provide the most efficient remedies, in the event of the appearance of this fearful disease within the LONDON HOSPITAL, or in the densely-peopled district in which it is situated.”

“Dr. Cobb having tendered his services to effect the above object:—

“It was resolved unanimously,

“That he be requested to enter upon this investigation, and to report the result to the Committee as speedily as possible; and that the Medical Officers of the Institution be requested to furnish him with such particular inquiries, as they may deem it advisable he should make.”

I have premised the above statement, copied from the minutes of the Committee, by way of explanation

for this my humble authorship ; it is a matter of necessity, rather than of choice :—

“ Omnibus scribendi datur libertas, paucis facultas.”

I feel this the more, that the account which I now render is still so “ meagre and unsatisfactory ;” circumstances, which I shall have occasion to mention, will, I trust, go far to prevent all imputation of want of zeal on my part. The Committee, I am sure, will believe that I did not go to *make* a report, but to report truths and facts as I found them : that I shall do so, the Committee and my medical friends may, with the greatest confidence, rely on. Wherever it was possible to verify a statement by personal inspection, in no instance did I fail to do so ; and where it could only be obtained through the medium of others, I have often, almost with rude suspicion, sifted the evidence, and shall, scarcely in one instance, set it down for a fact, unless corroborated by the statement of a second witness. By acting thus, although I may not be able to add scarcely one point of useful information, I doubt not but that I may remove many erroneous impressions, created by the exaggerated or diminished statements of others ; the pre-conceived notions of those who have had to treat the disease of which I am to speak, have evidently led them to see things according to their own peculiar notions or hypotheses of the disease. That this was more especially the case on its first invasion is very manifest ; by one individual considering

a certain symptom, pathognomonic, to which he mainly directed his attention, another to a different one, and so on; which, perhaps, might be harmless in itself, if it did not lead to an injurious course of practice. Whether it did do so I am not competent to say, but I think I can go so far as to assert, that in many instances it has induced the practitioner less sedulously to attend to the immediate "*indication*," in the confidence of his own specific agent superseding the necessity of general therapeutic intentions.

Let me bear testimony (though my humble meed of praise shall not extend beyond the walls of this committee-room), to the frankness, zeal, and kindness of the medical practitioners of the town of Newcastle, many or most of whom I had the happiness to meet with: there appeared no trouble or pains too great for them to take, in order to afford such facilities for observation which we desired to have, and I was most gratified to recognise, amongst the foremost of the front, an active and intelligent student of this hospital, who left it about four years since.

I feel also, that I ought not to let this opportunity pass without acknowledging the politeness and attention I received from the Members of the Central Board of Health; it affords, to my mind, an earnest to the public, that their best and unbiassed endeavours are directed to the fullest elucidation of this afflictive disease, be the individual instrument however humble.

In order that each person may draw his own conclusions from the facts I shall lay before him, rather than receive my impressions, which may be erroneous, I shall do little more than transcribe, from my note-book, circumstances as they arose, and which I recorded at the moment. I must apologize to the Committee for considering them, for the present, pathologists, as well as philanthropists; as I cannot well separate the medical from the municipal matters of interest in my narration.

The measures which the Committee may think fit to adopt, by way of prophylaxis, can only be rationally conducted by some general knowledge of the nature of the disease itself. As to the mode of its first ingress into each locality, I fear, up to this time, all consistent explanation is entirely wanting; data will, I trust, be continually accumulating, and truths steadily pursued, in order to take such practical measures as may avert so formidable and awfully destructive an addition to the already long list of our "opprobria medicorum."

On my arrival at Newcastle, on Tuesday night, January 10th, I found that town was still the head quarters of the disease, and I determined to attach myself to the first well-marked case I met with; to record the varying condition of the individual throughout the disease, understanding that it generally quickly terminated, either in health or destruction. I went without prejudice, or even a knowledge of many of the numerous accounts given: therefore my descrip-

tion may be relied on as being without distortion from obliquity of my own vision, which, I believe, is often the case, without the individual being himself aware of it.

Friday, Jan. 13, 12 meridie.—Margaret Jamieson, aged 44, widow, Proctor's Entry.—A more filthy situation cannot be imagined—up two or three pairs of out-door stairs, the room badly ventilated, but moderately clean within. Twenty-three hours since she began to purge, vomited soon after, but cannot say exactly how long first; she has had cramps in her toes, legs, and thighs, in the latter only twice during the night. At half-past eight this morning, Mr. Ransom, Sandgate Hospital medical resident, saw the peculiar rice-water matter she had dejected; her sister says, what she passed yesterday was dark and offensive; * is now in a cold perspiration,—this, she says, is from pain; extremities are very cold, fingers blue and sodden, not like from long washing, but rather, extenuated, in a very peculiar manner; heat, under the tongue, 86° Fahrenheit—in axilla, 93°; pulse at wrist made out with difficulty, perhaps doubt, to be 112; upper surface of tongue imparting cold, clean—eye sunken in an extraordinary manner †—ear, lapping as it were, having lost its tonicity, and very cold—lips blue.

* The woman herself asserts, upon repeatedly being questioned, that she passed urine during the night—this I wish you particularly to remark.

† Perhaps, if any one sign can be considered pathognomonic of the

Removed to the Hospital, which is just by, without being placed in upright position; an injection thrown up, with arrow-root, and laudanum 1dr.

R. Spt. ammon. comp. 1dr.; Aq. Menth. 1oz.s^t.—Warmth is applied in all ways.*

$\frac{1}{2}$ past 1.—Has vomited three times—matter ejected, dark green, without smell, quite fluid, the first with some ropy mucous—she seems getting worse.

Injection not returned.

Warmth assiduously applied to hands, feet, and stomach.

I requested the surgeon in attendance, Mr. Glenton, to try the effect of compression on femoral and brachial arteries; this was done for about eight minutes, without any alteration in heart's action; the superficial veins on extremities were slightly more distended.

2 p. m.—Pulse scarcely to be felt—lividity† of countenance greatly increased; so also of the hands and feet, but less so in the latter.‡—I have seen no

disease, it is this—it is impossible exactly to define or describe it. In colour, it resembles that often seen in amenorrhæa; in extent, it seems usually confined to within the lower edge of the orbit; the rapidity with which it comes on, even to its full development, is surprising,—I have witnessed a most remarkable change in the course of half an hour, yet it is nothing like extravasation.

* Prior to this, she had taken calomel ij grs. opium $\frac{1}{8}$ gr.—seven doses.

† This, though in common use, is not a good expression; it is a peculiar blueness, not easily to be described.

‡ Usually less correspondently so in the feet.

cramp in her till this moment—circulation in the larger arteries much less distinct, numbered at 112 or 114.—Cold clammy sweats over head and face—voice clear, somewhat querulous, but very low*—heat under tongue 86°—axilla 96°. The surface of tongue has most rapidly become coated with brownish white fur—we thought it did not impart the same sense of coldness as at half-past twelve.—The temporal artery, when pressed out, was a long time (comparatively) before it became distended again.

There is nothing remarkable about her respiration; no sighing—her muscular energies extraordinarily retained, as shewn in taking her drink—her thirst somewhat urgent, but it seems rather to proceed from uneasiness in the stomach, than dryness of mouth and fauces.

$\frac{1}{2}$ oz. of brandy given, and warmth steadily applied.

3 p. m.—Countenance improved—feet warmer and more natural in appearance—cold sweat about face continues—hands moist and clammy—sickness continues, of same dark brownish matter, with dark green sediment—tongue moist, brownish in middle—says she *feels* warmer—heat under tongue 96°, axilla 97°—cramps in feet continue—the extensors of toes most marked, sometimes in calf—she can scarcely shriek—pulse 112, rather more distinct—her cold breath is now remarkable.

* Certain observers think there is something very peculiar in the voice, characteristic of the disease, “*vox cholericæ*,” which they can always distinguish; “*credat judeus!*”

Two oz. ij doses of brandy have been given, each with spt. ammon. comp. g^{tt}. xx.

Complained of burning heat of stomach, and mustard cataplasm was applied. A small portion of injection is returned, without mixture.

$\frac{1}{4}$ past 4.—Countenance still a little improving—voice better—cold sweats less—feels warm in body not so in hands and feet or face—conjunctive membrane becoming injected with red* blood—cramp in legs three times since last report, but slight—vomiting continues, matter thrown up lighter-coloured, more aqueous—pulse about the same in power, in No. 116—heat under tongue 95°—axilla 98°—respirations 28 or 30.

The first injection was returned, another given about twenty minutes since. Brandy loz., in three doses.

6 p. m.—Returned the injection a quarter of an hour after being administered, without feculent matter.

Inclines to sleep—has taken cal. gr. ij. every half hour—vomiting continues, but not very frequently.

7 p. m.—Pulse becoming very indistinct—surface of body getting colder—vomiting incessant—cramps more violent—tongue very cold at tip, but breath warmer—heat under tongue 93°—axilla 96°—has had two or three copious liquid dejections, passed in

* I say *red*, because it is often observed to appear of a more venous colour.

bed, apparently with feculent mixture, but, draining on floor through bed, it could not be well ascertained—desires to drink, but soon rejects it.

Repeat small doses of brandy at intervals.

Starch injection, with tinct. opii, 1dr.; cal. gr. ij.

Heat continued in every way—straps have been placed round the legs, with the intention of relieving spasm; tendons below visibly on the stretch; the pain is relieved, by her own statement, when the ligature is applied.

8 *p. m.*—Generally the same—cramps more violent—the injection was returned immediately—vomits every two or three minutes—less in quantity.

Fresh lemon-juice 1dr. frequently.

9 *p. m.*—Altered visibly for the worse—voice very plaintive—countenance expressive of much more distress—eyes far more sunken and leaden—thirst continual—cramps very frequently but do not last so long or so severe—breathing not laborious or very frequent—no sighing—tongue cleaner in middle, but more coated at sides—heat under tongue, 96°—axilla, 97°—breath cold—face deadly cold, without the moisture. The iris acts, and the eye, when looked into, is not wanting in expression—no urine since here—vomiting continues, of less dark matter—ejects far more than is taken—pulse not to be felt at wrist—carotid, 120.

11 *p. m.*—Pulse, at carotid, 100°—wishes frequently to be turned in bed, and when so, is cramped—chafing her with heated flannel, before fire, seems to give relief—vomiting less frequent—brandy and

calomel continued—rejects them—voice very weak—can carry a drink of ale to her mouth—(she wished for it, and we sent for some).

Saturday, 1 a. m.—Surface of body warmer—she dislikes being near the fire—passes dejections in bed.

7 a. m.—Still very restless, desiring to be taken up by nurse—is so, and syncope is the consequence.

Vomiting, but less in quantity—heat under tongue, 86° —axilla, 95° .

1 p. m.—Says she feels no worse—pain in loins and back—appears much more exhausted, and very restless—eyes yet more sunken—about forty respirations in a minute, but not heavily drawn—some moaning—pain in epigastrium—facies approaching the hippocratica—hands very blue—heat under tongue, 86° —axilla, 92° —no pulse at wrist, and very little at the carotid—mouth moist—tongue cold—by applying ear to chest, respiratory murmur is found clear—heart very feeble—muttering deliriously, expressing a desire to be moved.

3 p. m.—Removed from bed by the nurses, for they thought if she were not, she would be suffocated—convulsed*—feet remarkably blue—countenance now far more livid—in two minutes she died.

I again repeat, I give the above almost without note or comment, that each may draw his own conclusion as to supposed condition of organs during

* This I find to be by no means common in last moments; others, whom I saw expire, died very calmly indeed.

the progress of the disease, the effects of treatment, &c. &c. Taking this for a text, the detached descriptions of other cases which I may give, will, in some measure, serve to illustrate the disease, more particularly, modified by circumstances in each individual patient.

Thursday, 12 meridie.—Jane M'Donald, Downies Entry, a filthy hole, aged 53; was attacked on Saturday the 6th with purging and vomiting: her son left her well when he went to work, at 6 *a. m.*; when he returned to breakfast, cramps in her legs had then commenced, from which time, till Wednesday, at 6 *p. m.* she passed no urine; from her own statement, and the evidence of those about her, I can rely on this. Eyes of the most deadly dark hue, and terribly sunken—heat of skin much below the natural standard—dry—tongue dry and very red—pulse distinct, No. *—breathing natural—was dosing when we entered—no tension of the abdomen, but tenderness over the hypogastrium—bladder not full—no urine passed since last night; which is dark, but the vessel is not clean. Seems struggling into re-action.

Ord. Cal. iijgr. Enema Comm.—took Cal. ixgr. yesterday.

Friday, 12 meridie.—Enema soon returned, and they assure me there were four or five feculent knotted bits, about the size of thumb-end.†

* Not stated.

† Although I did not obtain a very distinct detail of this case, by

Pulse 108—still distinct, but less so than yesterday—tongue moist and not very unnatural—eyes far more sunken and corpse-like. Died on Saturday morning early.

Ann Armstrong, aged 28. From Sunday 3 a. m., being about the time purging and vomiting commenced, but prior to these she passed urine—since which, till Tuesday morning, when spasms were subsiding, no urine, and then not in large quantity, nor was it remarkable in appearance—she distinctly recollects this, and often thought of it at the time. Her husband died of the disease.

Thursday, January 12.—Isabella Raine, in the Gateshead Hospital, utero gerente—her full time, she thinks, is come, and there are indications of it—was admitted here on January 9th; purging and vomiting—cramps were not violent at first, but since she has been here, much more so, in legs, thighs, and abdomen—no urine since her attack, till last night—this statement may be relied on.—Tongue morbidly clean and red, but not dry, nor does the blood seem pressed out of it by action of its muscular fibres, so as to change its hue, as often observed.—Skin still considerably below natural temperature.—Pulse not yet got up to natural standard.

Friday.—Was bled to 12oz., blood shewing considerable reason of no one being continually attendant; but, upon collecting all who had seen her, I could depend upon her previously having had frequent and copious watery dejections, with little or no feculent odour.

derable buffy patches in coagulum, which was very soft, not bearing to be lifted when finger thrust into it—the serum was less in quantity than usual, yet not remarkably wanting; but I observed, after the first twelve hours, no more was separated, though it was kept for more than twenty-four.*

This woman was delivered, on the Sunday following, of a perfect child, which apparently had been dead about a week, and was doing, in every respect, well.

John Elliott, aged 48, was brought in on Monday morning, was attacked at 3 a. m. same morning, with purging and vomiting—was quite well, he says, on the Sunday—attributes his attack to eating a very hearty supper on that evening—a mild case—well recollects not passing water from Sunday night at bed-time, till Tuesday night. We could but remark how frequently it was told to us by the patients themselves spontaneously, that they attributed their attacks to some over-repletion with food they were not accustomed to, and that this was more frequently the case after Sunday I have no doubt. It would have been a matter of much interest to have ascertained what proportion might be fairly attributed to such “errors in diet;” our time did not allow of any

* This condition of blood (with the exception of buffy appearance) applies to six or seven other examples in which it had been drawn in different states of the disease. In one, where re-action was fully set up, and thought to be overstepping due bounds, we placed a bottle over the orifice of the vein and collected it, corking it immediately—a moderate proportion of serum separated.

sufficient evidence, and it would be very difficult to collect accurate facts, as in many cases such indiscretions might produce, in the first case, mere derangement of digestive function, lasting for a few days, and then going on, through simple diarrhœa, to the genuine disease; or it might, as I shall have occasion presently to notice, at once excite the characteristics of the disorder—rapidly ending in death.

Thursday.—About twenty other cases I have seen, all in convalescent states, decidedly with no marks implying ordinary continued fever as consecutive; but I infer a febrile state occurs in almost all, perhaps in every case of recovery. I cannot see anywhere a typhoid condition showing itself; delirium is frequently coeval with the earliest stage of *re-action*, such as pulse getting perceptible, cramps subsiding, warmth returning, though the blue state may exist, and it often does for days, but it never goes off, that I can observe or learn, with shades of yellowness, &c., as in extravasated blood. Incoherent answers are given in this delirious state, but they can be roused to a short rational reply; it is not the muttering delirium of low fever, but rather of meningitis, fancying the bed, and other things about them, wrong; as a man told me this morning, he had passed a baddish night, for he was thinking, all the time, yet he said he slept, but would not allow he had dreamed.

As to the fact of not passing urine, I can rely upon those cases put down with these additional twenty I now allude to, and in no one could I learn, either

from patients or nurses, that it had been passed from the commencement of the second stage to subsidence of cramps.*

Hospital at Castle.— — Mordee, an intelligent female, aged 34, had been nurse to a tallow-chandler, who died in fifteen hours from beginning of disease; was first taken ill on the day he died, (Thursday, January 5,) commencing with vomiting dark, bitter, ropy fluid, which, until Saturday, was not succeeded by purging, † the matter of which, also, was dark, like tar. She was blue in hands and lips on Monday, Tuesday, and Wednesday; on Thursday re-action commenced; a slight headache accompanied it, and slight coating on tongue—no heat of skin—on Saturday she was up and about, tongue a little coated

* This was noted down on Thursday evening: I had then almost concluded that the suppression of this secretion was a true pathonomic sign of the disease; but, during the course of the next day, I found several exceptions, though very few, compared to the undoubted many in whom it was suppressed, and it bore no relation whatever to the quantity of fluid vomited or dejected. In one case, related to me by Mr. Parr, it was passed into a bason held by him, by a man labouring, at that moment, with most severe cramps of the thighs; he described it as most pure and chrystalline in appearance.

† I have given an outline of this case, at the risk of tediousness, to exemplify two things:—First, the only authenticated instance I could find of vomiting commencing before diarrhœa; secondly, which also applies to next case, the length of time before re-action commenced, yet the rapidity with which a fair degree of health returned, strongly indicating functional, not organic derangement.

—pulse about 100, and skin soft—bowels moved once a day,—she was assisting in wards of hospital.

— — —, captain of a collier, aged about 30, a powerful athletic man; illness commenced with diarrhoea on Wednesday, 4th January, which continued.—On the 9th vomiting began, and was quickly succeeded by the stage of collapse shewing itself, by coldness and extreme blueness, nearly all over the surface, but without cramps.—This condition continued for four days, and on Saturday the appearance had not ceased.—Pulse then 72, soft—no headache or other indications of febrile state, except perhaps dryness of tongue—bowels moved twice a day—matter dejected, very dark—nor has there been any delirium during the re-action.—On the 14th he was rapidly returning to health.

Saturday.—Mrs. A. B. (name I do not recollect), in private house, aged about 33, was seized this morning at 7 a. m. with the characteristic diarrhoea, vomiting, and cramp, during the day—at 10 p. m. we found her vomiting a fluid tinged with yellow, apparently bilious matter—face very blue, hands the same, cold, moist, and corrugated—feet very cold and shrunken.—Eyes sunken and leaden, with nose very sharp.—Pulse scarcely to be felt at wrist, not to be numbered.—Respiration natural—respiratory murmur natural—heart acting with more power than corresponded to the pulse, but not to impress you with labouring efforts—breath cold—tongue cold, moist, and covered with white fur.

Thermometer under tongue 75°*—axilla 93°.

Additional warmth applied, and a mustard emetic was now given; in a few minutes it was rejected with great force, after which pulse became more distinct, and number of strokes made out, but omitted to be noted. Calomel *ijgr.* every half-hour. We stayed about an hour with her, and thought re-action was permanently set up.

We had no doubt but that this woman would have been saved, had her husband consented to her being removed to the Hospital, where continued attention would have been given: she died early the next morning.

Having learnt that the disease was raging, in its worst forms, at Newburn, a small township, about five miles up the river, and situate on each side of a small rapid rivulet, running obliquely southward into the Tyne, I proceeded, in company with my friends, Mr. Little, of our Hospital, and Dr. Cragie, of Edinburgh, to explore the misery and wretchedness brought about by this (as it there appeared) most awfully devastating disease. It is not for me to attempt "the pathetic:" but the deepest "tragic" cannot be avoided, even in mentioning the most indifferent fact connected with its irruption in this little peaceful village; blessed, apparently, by nature, with every thing desirable, and not much less so by its noble patron and possessor. A large proportion of its inhabitants, or at least of those who desire it,

* There is no mistake about this, we examined again and again.

rent a cottage, substantial and good, though generally very small, for the most part consisting of not more than one, or, at most, two rooms, together with half an acre of excellent land, for from 25s. to 30s., such land as is let to neighbouring farmers at £3 per acre. Almost without an exception, we may say, they were well stored with bacon and hams, dried or drying, and plenty of meal; in short, *want* nowhere appearing; they were well fed, well clothed, and pretty well taught. On the Sunday we visited about 50, in all grades of disease; up to that day, the deaths had amounted to 23; and I could but notice, for the most part, the general indifference shown by the laboring men to the funerals that were then taking place; but there were some few striking exceptions. On the removal of a body from one of the dwellings into the cart appropriated for the purpose, shrieks and cries from several young women, together with a large family of children, resounded, in such a truly distressing chorus, as simultaneously to strike a group of us, who were perambulating from house to house, with Mr. Fyfe, a surgeon of Newcastle, appointed by the authorities to the district, with a momentary feeling of sympathy and distress. It really was a most affecting scene: it was no Irish Ululah, a matter-of-course shouting, but a genuine and uncontrollable expression of heartfelt grief. Upon inquiry, we learnt it was the corpse of a remarkably fine young man, towards whom no one in the village felt indifferent—

it was a large family of brothers and sisters, together with immediate friends, who thus testified their sense of his worth, and their loss. Two others, I understood, from the same house, had previously fallen victims to the disease.

I select the following case for a short detail, as several inferences may be drawn from it:—

Passing, in our perambulatory visit, the vicarage, situate at the end of the village, and at the foot of the hill upon which the church stands, a servant requested our advice for “*a trouble in his inside,*” the common expression; and, when “*throwing*” is added, implies a purging and vomiting; this was given, and the rest passed on. On my asking him if the service had been performed in the church that day, he told me “no,” for his master was ill. Upon further inquiry, I found the vicar was an elderly man, a bachelor, without any other person than servants in his house; I sent a message, begging him to see Mr. Fyfe, a practitioner of eminence, and must have been well known to him; the answer returned was, that he did not wish it; but, upon still further questioning his housekeeper, I learnt, that the symptoms he was labouring under too surely indicated the existence of this established disease, and I begged her to urge his selection of one of the many medical men then in the village, Mr. Fyfe declining to volunteer, in the first instance, from motives of delicacy, not being his family attendant. I at length went, and give the case in words as noted at the moment.

Sunday, Jan. 15, quarter before 3, p. m.—Rev. J. E., aged 71, a stout, well-proportioned, and seemingly a hale man, says himself, and house-keeper confirms it, he was quite well yesterday, and prayed by the sick. For some days he has thought he should take the disease, and ordered his mode of funeral if he should, but never seemed distressed about it.

Dined yesterday, at about five o'clock, off pickled salmon and apple tart, no meat (not uncommon), and went to bed soon after seven, (not an unusual hour with him;) he states he began to vomit about ten; he denied, from forgetting it, that he first purged, but, on more close questioning, he said he *went* once after dinner, prior to vomiting commencing; frequent vomiting and purging since, but cannot determine what quantity, it being passed into a portable water-closet: the matter emptied this morning, servants described to be “like curds and whey.” I find him in a profuse sweat from head to foot, bloated countenance, like seen in latter stage of inflammation of lungs; anxious, but not the marked sunken eye; distressed in breathing greatly; respiration 38 to 40; obliged to answer quickly, not being able to lengthen his expiration; severe cramp in calves, not to cry out, but evidently very painful; pulse 80, distinct, though with little power—feet and hands warm; says he has taken laudanum and a little brandy—feels sick, but has not vomited very lately.

Five minutes before 3.—Three large spoonful of mustard in a large cupful of warm water; he swallows it without difficulty, raising himself in bed. I wait, hoping some change for the better; wiping his face, and fanning, evidently gratifies.

Quarter-past 3.—More warm water—an attempt to vomit, nothing ejected; pulse very flickering, respiration about the same—answers very hurriedly.

Twenty minutes before 4.—Mr. Fyfe returned with me—found him visibly and rapidly altering for the worse; has not vomited—sweat as profuse, but less warm—pulse not to be numbered, scarcely to be felt at wrist—breathing quite as frequent, but not so deep—answers readily and rationally to questions.

Getting blood now is out of the question.

Turns on his side almost with ease, we having talked about giving him an injection; he expresses a desire to be placed on night-chair, a bason is placed under him, to which he assists himself; a small quantity of rice-water dejection (most genuine) is collected, and a very considerable quantity is passed in bed. The smell of this matter, now warm and smoking, remarkably resembles that of the white of fresh eggs—in colour, nearly white.*

Powers ebbing fast; carotids feebly beating; does not sigh, but breathes most laboriously; sweat now feeling cold; hands shewing something of the blue tinge, and corrugated, but by no means marked.

* It has been compared to the odour of fresh brain—also to that from fresh-water fish; I think I have been reminded of each of these, when pure, and moderately recent.

He died, without a struggle, twenty minutes past four.

My first impression in this case was, without reference to the prevailing disease, instantly to open a vein, or temporal artery, and probably should have done so, had means been within immediate reach; but, upon learning from his servant his previous overnight's improper indulgence, and doubting afterwards whether the original cause of offence was removed, I thought it but right to try the effect of the first emetic agent I could find; with this view, I gave the mustard—why this disappointed us, it was not difficult to explain afterwards, the housekeeper telling me he had taken, by his own desire, six doses of brandy, of more than 1 oz. each, with 20 drops of laudanum added.

This is a good text for commentary; the immediate cause, the masked disease, as at first seen, caused by injurious medicines, and other points, which must suggest themselves to a medical hearer.

One more case, and I have done this part of my narrative, which I have endeavoured to make as little tedious as possible, selecting those only which I thought would serve to illustrate particular points generally existing, or forming exceptions, to remove the supposition that the disease may be narrowed into a few distinguishing characteristics, and recognized by two or three essential marks:—this, I am afraid, is not what we have arrived at yet. I have studiously avoided commenting on its treatment, so little satisfactory has hitherto been accomplished;

nor am I sufficiently authorized to pronounce my own opinion, much less to bias that of others, as to which of the many modes adopted is to be preferred as being more generally successful. I do not despair but that the diligence and candour of those medical practitioners I have already seen, should their opportunities unhappily continue, will, in future, narrow, most materially, the difficulties of their brethren elsewhere; by proving and declaring what is found to be useless in practice, and ultimately rescue the *ars divini* from this additional foul blot attempted to be cast upon it.

— Veach, a female, aged about 25, remarkable from two circumstances—she had the disease in its usual forms, and continued collapsed from noon on Friday till to-day, Monday, although apparently in the most exhausted condition as to circulation, &c.—understood questions when put to her, and had muscular power sufficient to raise herself in bed, and place herself on her hands and knees: she had an infant at her breast.*

Her sister, who was perfectly well (in blooming health) on Sunday, we found, at our visit on Wednesday, had been taken ill with diarrhœa on Monday, walked home to her friends that evening, living in a neighbouring village, and died during the night.

I obtained a correct numerical account, from actual survey, of the inhabitants, &c., of this village,

* This poor woman lingered on till Thursday, the 19th, when she died.

in order that I might make an exact record of the rapidly devastating effects of this fatal malady in one little spot, up to the period I am now speaking of,—that is, Wednesday, January 18, 4 p. m.*

Houses, 131—Families, 144—Inhabitants, 550.

	Deaths.	Males.	Females.
January 10	4	2	2
12	3	1	2
13	4	2	2
14	6	2	4
15	5	3	2
16	6	2	4
17	3	1	2

—
31

And three others I considered in a dying state when I left. One sporadic case (terminating fatally) occurred on January 2, pronounced by Mr. Fyfe to be genuine—which would make, in the course of eight days, one-seventeenth of the whole of the inhabitants. I do not state this with a desire to increase its horrors, but with the view of adding one more proof to the many already existing, of the extreme malignity which the disease generally assumes on its first invasion of new ground, and its rapidity in destruction; warning us, as it ought to do, to have our plans laid, and intentions well devised, at once to march forth well armed in heart

* Vide list continued, p. 60.

and hand to the rescue, should it unhappily visit these our walls, or our poor helpless neighbours.

I shall now beg to present an account of a *post mortem* investigation, at which Mr. Little and myself, as minutely as possible, examined every part with our own hands and eyes. The description I prefer to give in words which suggested themselves at the moment, than to round them off for "ears refined."

Saturday, 2 p. m.—Isabella Robson, aged 44—six hours after death—miscarried yesterday, foetus six months. On removing skull, vessels of dura mater fairly filled, by no means turgid; on cutting down sides of spine, vessels gave out much *darkish fluid* blood; the theca of spinal marrow presenting a perfectly natural appearance; vessels not injected preternaturally, nor wanting in vascularity.

Dura mater removed—arachnoid membrane on anterior portion of both middle lobes, shewing small patches of milky deposit, opaque like often seen in fever, as well as where no suspicion of disease had existed; blood fluid for the most part in lateral sinuses, in longitudinal slight pieces of coagulated strings.

Of the brain in general, I can only say it was most natural, and quite wanting in any thing to attract observation.

No fluid in ventricles or any where else, but no preternatural dryness.

Nothing to be remarked about any of the origin of the nerves of the brain, nor in exposing the nerves coming from the spinal marrow.

The *medulla spinalis* remarkably firm and healthy. I believe all in the room felt it, and, with one consent, acknowledged it.

Lungs mottled, healthy, crepitation in all parts, less so and firmer in tip of one lobe of right side; but, I think we must say, they were rather more gorged than is seen in the average of individuals examined; fluid blood flowed from anterior and posterior parts alike, but not in remarkable quantities.

Heart small (her stature and figure were rather small); in all its cavities a small quantity of blood; small polypi in both ventricles, chiefly under the chordæ tendiniæ; a good deal of fluid blood flowed from right auricle, on cutting vena cava close to it; I do think the structure of left ventricle, in particular, is more firm than natural, almost amounting to rigidity.

Peritoneum perfectly natural; so was the omentum, small, and with little fat.

Intestines *, began at ileum—a good deal of mucous matter lining, mixed with bilious matter; higher up, and in upper part of jejunum, intestines far less lined; the canal was healthy throughout, not gorged with blood, nor very pale. The large intestines contained some yellow brown mucoid matter; in small intestines scarcely any gas, in the larger about an usual quantity, not particularly offensive, nor did it want the characteristic odour. Stomach very thin,

* N.B. Enterotome an excellent instrument.

but shewing no recent structural change; its lining membrane was well occupied with dark coffee-grounds-looking matter towards the large bulge, but not near the pylorus; it was precisely of the nature of that often ejected, could be wiped off, but not very easily.

The liver as healthy as possible; its blood-vessels were not unusually gorged, nor remarkably deficient in contents, but no coagulated blood.

Gall bladder full, but not distended; upon endeavouring to get it separated, its contents were poured into the stomach, and, through it, out at the œsophagus, which had been cut across; I think about 3oz. were in it at first; about five or six old gall concretions were found at the bottom of it.

Pancreas rather more pale than commonly observed, but nothing remarkable.

Spleen unusually exsanguineous, and presented an appearance of being wrinkled or corrugated, but quite healthy when cut into.

Kidneys healthy in structure, but blood-vessels almost entirely empty, giving them the appearance of being blanched.

Bladder small, empty, and contracted, but not smaller than we should look for in pregnancy of six months.

Uterus well contracted, lined with coagulated blood; vessels in its parieties well filled with fluid blood, pale in its substance, without any thing like *muscular* appearance. I drew the attention of the gentlemen

present to this fact; none could point out a shadow of resemblance, though none of them appeared willing disciples of our friend, Dr. Ramsbotham.

On cutting through the skin and fatty tissue, it was remarkably deficient in vascularity; the muscles were fairly injected and red, but not distended—femoral artery empty—the vein moderately full of fluid blood—vena porta fuller than any other vessel, but it cannot be said to be distended.

Rigidity and contraction of fingers were most striking—the eye very ghastly and sunken, not closed, but shockingly wanting in translucency.

Of the above woman, Robson.—Mr. Dawson saw her on Wednesday; she had been ill several days before with diarrhoea. When called to her, she was quite cold—features shrunk, eyes sunken and dark, fingers contracted, shrivelled and blue—pulse scarcely perceptible—cramps in legs—her respiration appeared labored.—He saw her frequently before death—her treatment consisted of warmth, calomel, opium, &c.

The following case of *post mortem* examination I was not present at (though I saw the woman after death), but received it from a French M. D. and Mr. Dawson, a pathologist, zealous, and an honour to the school he was educated in.*

Mary Lee, Castle Garth, aged 32; ten hours after death; died January 13, in cold stage of the disease.

A great deal of fat on surface—venous conges-

* The gentleman I alluded to in p. 5.

tion of extremities — contents of cranium and vertebræ exposed throughout whole length — cerebral sinuses gorged with fluid blood — fullness of veins on surface of brain, but not more than common — cerebral substance firm, no marks of congestion — white substance being cut into shewed a great many red points, but not to an unusual degree — grey matter, rather darker than common — little fluid in ventricles — vertebral and carotids filled with blood — medulla spinalis, and nerves arising from it, perfectly natural — eighth pair nerves were especially examined, and in their course through the neck we could detect nothing unusual — lungs adherent, on right side more particularly, we may say throughout generally, but it was from old disease ; on immersion they floated — heart large — ventricles, and particularly the right, distended with black fluid blood — vena azygos full, distended even to roundness — venæ cavæ and subclavians and venæ portæ not uncommonly distended, the latter rather less so ; what they contained was fluid — from the aorta, when cut in lower part of chest, a small quantity of blood flowed.

At the great bulge of stomach was seen an arborescent injection ; the congestion was to such an extent, that without exposing it to the light, it looked lividly dark ; towards pylorus some red patches, but not ramollissement.

Small intestines — mucous membrane slightly congested in duodenum, pale elsewhere.

In large intestines, liquid matter of a greenish grey mixture, and a good deal of it.

Kidneys firm, but pale; bladder empty and contracted, lined with mucous.

Liver healthy, not congested; rather pale than otherwise.

In venæ cavæ very little blood; vessels going to form venæ portæ scarcely to be traced in the mesentery.

Gall-bladder unusually full, but not to distension.

History of this Woman.—After two days' diarrhoea, she was seized with fluid aqueous vomitings, said to be like the matter dejected; this was the rice-water matter, as seen by Mr. D. Epigastric pain—cold extremities—pulseless at wrist—sudden cries and restlessness—lips and countenance very livid and shrunken, with great lividity around eyes. She was seen repeatedly by Mr. Dawson, up to two hours before death.

One fact of some interest I had ascertained with respect to this poor woman: I had been directed to the house early in the morning, hoping to get an examination of the body, but was disappointed; I found she had left an unweaned infant, and learned from her mother that the secretion of milk, so far from being stopped, had distressed her during her last hours; and that, in order to relieve her, she had been obliged to buy brandy, she stated, to apply to her breasts.

I see I am running into great prolixity for a mere report to the Committee :—

“ Dum brevis esse laboro obscurus fio.”

But our medical friends must examine me upon any or all points which they can believe me capable of satisfying their doubts.

Five other examinations were made by two French physicians, to whom we owe much obligation for their polite attention and communications; the more so, as the difficulty of overcoming the prejudices of the friends of any of the deceased, added to the extreme inconvenience of their dwellings for such operations, were almost insurmountable. In neither of the five cases here alluded to, could they find organic mischief, or any thing materially differing from natural appearances.

Of the general history of the invasion of this formidable and interesting disease, supposing it not to be indigenous, you are all in possession of as many facts as I am; but the few days I was in its neighbourhood served to give me an idea of the mode and direction in which it was then spreading,—

“ Sands make the mountains, moments form the year.”

It is only by isolated facts, well strung together, after a numerous collection of them, that we can hope to illustrate its progress, or anticipate and avert its ravages. My facts, I admit, will not look in very juxta-position-like order; but rapid gleanings like these may assist and save trouble in work-

ing an useful chain of evidence hereafter. To my friend Mr. Little, known for his talents and industry to you all, I am indebted for the opportunity of more clearly displaying to you the general district in which the disease had recently located itself, and the direction it was taking in its course at the time we were there.

In the parishes of Newcastle, within the walls, containing 42,687 inhabitants:—

	Ill.	Recovered.	Died.
From the general irruption of the disease,			
on Dec. 9, to Jan. 18, 41 days . . .	772	466	239
At Gateshead, from Dec. 26 to Jan. 18,			
24 days, population 15,177 . . .	377	242	132

It is a fact beyond controversy, that an individual residing in Newcastle was attacked with a disease resembling, in all its main features, this epidemic, on the 26th October, and died in a few hours. He was seen by Dr. Parr and Mr. Dawson, from whom I have a detail of the case.

It then ceased to show itself for upwards of a month.

In Gateshead, an isolated case or two was seen before its great irruption, on the night of the 25th December, when it burst forth with such fury as to affect fifty per day for the first three days. As it proceeded up the river, in a W.N.W. direction, it frequently skipped over a spot to another beyond it, and then appeared to return to take up what it had missed.

At Bells Close, a village intermediate with Scotts-

wood and Limington, it first showed itself sporadically ; from Scottswood it went to Newburn, passing over, for some few days, Limington, and afterwards appeared about the same time at Limington and Scottswood, but before it commenced its general devastation at Newburn.

The subject of its more immediate mode of propagation I must allude to with still more diffidence than any of the former ; but not to enter upon the question at all, would be but very imperfectly fulfilling my commission. The few facts I may have gleaned, in addition to those already before the public, do not enable me to speak with so much confidence as I could desire ; but that if the word *contagious* is meant to imply capability of imparting disease by touch, from the sick to the sound, I cannot believe this epidemic to merit that attribute.

Without going into the question of where and how it is engendered, perhaps few will deny that it is capable of multiplying its own principle in the persons of those affected by it, and other individuals previously exposed, for a longer or shorter period, to the predisposing atmospheric influence, become susceptible, and may be infected by contact or approach ; but I am not aware that any of the individuals who, having been previously exposed, both to the predisposing and exciting cause, going to a distance and there becoming ill and dying, infected others. In three or four instances I *know* to the contrary. These are too few, it is true, to draw hasty conclusions from.

Again, out of upwards of forty medical attendants, many of whom have been most laboriously and constantly occupied about the sick, we have not heard of one in this country having been the subject of the disease. I am aware of the exception at Newburn, but in this case his residence was in the very midst of the "*infesta provincia*," and his exemption was not to be looked for.

It is not altogether to be explained by saying, a robust hardihood and fearlessness may act as a repellent power, affording immunity, for I have seen a shrinking and delicacy, in handling both the living and the dead, manifested by those who were constantly amongst the sick; and, in more than one, a jaded, fagged condition from over work in the disease itself, in whom we might suppose it would readily take root, but it was not communicated here by contact. I do not deny that matters long exposed to exhalations from the sick are capable of communicating, for such materials carry an *endemic* atmosphere about with them, hence act both as a predisposing and exciting cause.

The diarrhoeas which so frequently precede the specific character of the disease, will form great stumbling-blocks to those who desire to make a nice well-turned definition of it.

I could learn from no one where the line of demarcation was to be drawn; and the little experience I had, served to convince me of the impossibility, in many cases at least, as the disease was

then showing itself. The “*constitutio epidemica*,” as Sydenham terms it, being that tending to a disordered state of bowels, seems very generally to prevail in the situations where the disease has hitherto been found, and it will be a matter of the greatest interest to continue a most watchful attention to this point in its progress. That the malignant symptoms have been averted by an early correction of this state in individuals, we have proofs abundant; but, as the disease often comes on in its worst forms, without scarcely any such warning, we cannot deem it an essential premonitory sign always to be taken advantage of.

Of the Exciting Causes.—I believe, in a very large proportion of the severest cases, these might be traced to some *excess*, or notoriously *unfitted* food; but this cannot hold good in all cases, for we see infants at the breast subjects of the disease, and children of tender age, whom no such accusation could be brought against.

I am not aware that an unvarying diet, provided it consists of a due admixture of matters, predisposes to disease, but the many instances when an attack of this has followed close upon the Sunday’s dinner, totally differing from that of the rest of the week, points out to us one of the many precautionary measures to be adopted in situations where it is known to prevail.

Of the treatment, I have already stated my inability to say any thing satisfactory, derived from the

limited number of cases which I could attentively watch; and I am fully aware I shall not be adding any thing of novelty in the few following remarks upon this part of the subject. It was not my province to treat the disease, but to study its manifestations.

If the precursory signs, as tingling, diarrhoea, and vomiting, ran a regular course, or even were constantly present only for a very limited time, there would be no difficulty in laying down a general rule of practice in this stage of the disease; and probably its danger might, for the most part, be averted, by exciting the system, even beyond its natural standard, by stimuli, as are at present in common use (indiscriminately, I may say), and others which, perhaps, have not been fairly and fully resorted to, as strychnia, morphia, quinine, &c., in various ways. But let me, for the present, pass on to the indications in the *collapse stage*.

To check diarrhoea where intestinal secretion is to an exhausting degree; to stay the sickness which proceeds from morbid secretion of stomach; to restore circulation and animal heat; these appear to be the main points to be attended to in this state. That opium, in form of enema, is advisable, I think there can be no doubt; in the first instance, with merely bland fluid, as starch, or gum-water, to allay irritation, and, perhaps, check the secretion; afterwards, clysmata, with spirit, in various proportions. I was impressed with the belief that great good

resulted from warm brandy and water, (about an oz. to a pint) being injected with some force, at an interval of about an hour, or a little longer, according to circumstances; it afforded comfort, and appeared, in some instances, mainly to assist in bringing about the state of re-action. The notion which many entertain that sickness is rather a favourable sign, I was not able to confirm; so long as it continues, and the matter ejected consists of the common mucous secretion and the fluids taken, I believe danger to be remote; but it is very desirable that such a condition of stomach should be speedily put a stop to;—this, I believe, can most frequently be done by small portions of solid opium, with a moderate dose of calomel. The stimulants given with other intentions, during this state of the stomach, I believe, are very doubtful in their effects; exhausting, as I am sure they very often do, the powers of the stomach, and thereby adding another mean of mischief to the heart's already enfeebled condition. Where nausea is present, and either there is nothing contained, or the stomach cannot eject it, most marked good seems to follow the administration of an emetic; and I believe the most common one now in use is, that consisting of three or four tea-spoonsful of mustard, in about two-thirds of a pint of warm water.* I know of no objection to this article, or any superiority in any other. Antimonials, sulphate

* Dr. Smith told me *he* was first led to select the mustard from knowing its good effect upon miners affected with choke damp.

of zinc, or ipecacuanha, are not more certain in their vomitive effects; and, as the design is to stimulate and arouse, the after-consequences of the mustard may yet be serviceable in this respect. I have adduced one example, *Mrs. A. B.*, page 18 (and saw many others), where full vomiting was produced in a marked collapsed state, with every prospect of success; and I feel confident this cannot be explained away by supposing her situation to be improved *immediately* prior to such vomiting; hence her ability to do so, for the constant ejection of matters from her stomach, with feeble efforts, up to the time of her taking the mustard, seemed only to aggravate her distress by exhaustion.

In the foremost rank of "Juvantia" we must place "*external warmth*," and, I should like to add, "*accompanied with friction*." Without very deeply theorizing upon the exact physical condition of an individual in the blue or collapsed stage, no one, I think, who has seen an instance, will deny that the capillary system on the surface is greatly deficient in tension or development; and sensation, likewise, is any thing but acute. Now knowing, as we do, that, under ordinary circumstances, friction, with warmth, will increase both, by probably causing a more perfect distension of extreme vessels, it is an easy and ready conclusion to infer we may thus diminish the load in the middle-sized vessels, without calling upon the heart for greater exertion; for if we did, in this condition, we should perhaps call in vain; but vigour,

through its natural means, imparted from extreme branches to centre, might have some effect in arousing it from its almost dormant state. The *result* of such aids, I am fully satisfied, confirms this view. Although warmth by itself, by means of vapour or hot-air baths may, and does, answer a good end, yet, when unaccompanied by friction, its effects are not permanent.

I was struck with this in the case of Margaret Jamieson, detailed at length; the relief was far more perfect and satisfactory during the continuance of rubbing, than when heat alone was applied. An insurmountable objection, I believe, will ever obtain to the continued use of the hot-water bath: after a few minutes, its exhausting effects are far more than commensurate to its exciting ones, independent of the difficulty, perhaps danger, in keeping the head and shoulders so much out of the horizontal line. This mode of applying warmth seems now very generally to be abandoned. The air which the patient has to respire during the application of artificial warmth, is a point by no means to be overlooked; for although the respiration rarely seems hurried or distressing, we cannot suppose it will aid the circulation to inhale a very expanded atmosphere.*

* Of all the baths I have seen, that made with a double tin case seems best; the interval about $2\frac{1}{2}$ inches, which may be readily filled with steam or water. The patient having a blanket interposed between his skin and the side of the bath, and being in a reclining posture, frictions, injections, or what may be desired, can be administered at the same time.

I have alluded to warm injections being given with spirituous admixture and opium: by some these are carried to a great extent, not merely with the view of checking the diarrhœa, but I believe under the notion that they may supply to the blood the watery parts which it is supposed to be deficient in, either from excessive excretion, or an absence of it from some other cause. It is not for me to enter upon a field of controversy, but I am not yet a convert to this doctrine. That a great deficiency of serum must necessarily be the consequence of large evacuations either by vomiting or purging, all will allow; yet how can this deficiency be accounted for, supposing it always to exist, and form an essential characteristic of the disease, in instances where little or almost no discharges have taken place, yet where collapse has shewn itself very early in the disease, and to a great extent? or how can we believe any material change to take place in the constitution of the blood, where, after a well-marked instance of the disease, the individual shall return to almost perfect health in the short space of a few hours—as was seen in the example of Mordee, p. 17, and several others I can bring to mind*.

I am not labouring to disprove the utility of copious injection, for I thought it one of the most useful means employed.

Of Blood-letting.—In the precursory diarrhœa, I have seen it adopted in several instances, and when

* Vide note appended to analysis.

no indication of increased arterial action seemed to demand it—with what general effect I cannot determine, my visits not having been repeated after a sufficient length of time. I have never seen it produce any immediate mischief.

During the Stage of Collapse.—Those who have never seen the disease, have suggested the propriety of this remedy, and perhaps some also who have: but the impossibility of obtaining blood whilst the patient is in this condition, will form a sufficient objection to its general use, nor can I reconcile to myself the justness of such practice; that the circulation is so feeble, as we find it from a mere engorgement of the heart, I feel assured is not true; and though we squeeze a few drops, or perhaps ounces from a distant branch, be assured we should by no means correspondently diminish the quantity in the heart or lungs.

Others again, taking up a contrary position, imagine the heart cannot act from wanting the stimulus of distension, and have suggested the propriety of transfusion. I confess my prejudices, at first, rather tended to this notion, but an insuperable objection here stands in the way, I fear, by reason of our inability to get the circulating powers to carry on our adventitious blood to the fountain-head. I did not so much think that it would be useful by distension as by the vital stimulus (if I may use such an old-fashioned term) it might impart to the heart: hypothesizing that this state of col-

lapse is owing to such a diminution of this ignis fatuus, as to be incapable of performing its duties; hence the phenomena which appear. From what I saw, I was little encouraged to pursue this notion, nor had I sufficient opportunities to put the practice to the test.

There is much difference of opinion existing amongst practitioners in Newcastle, as to the probability of re-action *generally* going on to mischief, on the return from the collapsed state; in children more particularly, this may be feared, and a watchfulness seems necessary, more especially in them, or others of the highly sanguineous temperament; but I am not aware that abstraction of blood, on the first signs of returning power of circulation, either hastens its completion, or renders convalescence more speedy or perfect.

My time neither allows, nor does my duty dictate, that I should refer to all the means adopted, and failures recorded, in the treatment of this formidable complaint. I have touched upon those only from which some benefit has often been derived, and it remains yet for some master-mind to hit upon an expedient of counteracting that dreadfully depressing *something*, which so effectually and speedily extinguishes the powers of life altogether. Other matters of the greatest interest relating to this uncommon disease crowd upon my thoughts *now*, which the limited period of my visit, and the consequent personal activity necessary for seeing as much of it as I

could, either would not allow them to suggest themselves at the time, or I could not satisfactorily resolve them; I may the less lament this, from feeling assured, that the ardour shown by the residents, and the interest and laudable curiosity of the medical visitors, will soon leave little to be desired in explaining the nature and general laws of this wandering pest.

I am,
Gentlemen,
With every sentiment of respect,
Your faithful and
Very humble Servant,

FREDERIC COBB.

P. S. I regret exceedingly I am not able *this morning* to present to you a perfect analysis of the white characteristic fluid dejected, the blood drawn from patients laboring under the disease, or the serum. I had hoped, up to yesterday, to have done so, but the tediousness of the process renders it impossible. We have a friend, whose name will be a sufficient guarantee for his accuracy, now about minutely investigating the subject, an account of which I shall very soon be able to place before you.

The following is a Summary of Questions put to me by different Medical Friends, probably with the desire of elucidating the Nature of the Disease, according to each one's view of it; and I subjoin Answers in the most satisfactory way I am able.

1. *What are the earliest signs foretelling an attack?*

I could learn no one single certain premonitory sign. Diarrhœa is often a precursor; I have traced it for nearly three weeks prior to the disease showing itself in its genuine form—in this case the man recovered; in several other instances it existed many days previously, and I could find no correspondence in danger and duration. A very frequent, perhaps general remark is, that a prickling tingling sensation at the fingers and toes had preceded the attack. I saw a girl who had experienced this feeling for forty-eight hours; she was then labouring under common feculent diarrhœa.

2. *Are there any on which we can depend as indicating an attack?*

I do not think there is any one till the disease is set up.

3. *Are there any instances of Blue Cholera which have not been preceded, for some hours, by some other peculiar signs?*

I do not think there is any one sign essentially connected with this blue condition. I have seen it in its extremest degree, when the pulse, though feeble, was very distinct, and heart's action corresponded. Perhaps coldness of surface always *accompanies* it; but I had not numerous opportunities enough to draw this general conclusion.

4. *Does Diarrhœa usually precede, or any other disorder?*

This is answered in the few cases I have given: that it is not an essential characteristic of the disease is seen in the examples of the Rev. J. E. and Mordee. To the latter part of the query,—a very great number are known to have been in perfect health forty-eight hours before death.

5. *Does ever blue stage occur without other signs existing half an hour or upwards previously?*

I cannot answer this from my own observation, nor could I learn from any one that this condition is ever fully set up so soon after first signs of indisposition.

6. *Vomiting? Matter? What colour?*

All colours, from the most limpid and crystalline, through bile, dark coffee-grounds, ropy mucous, tarry matter, up to blood; and also that resembling the matter dejected,—rice-water, as it is called.

7. *Purging? Matter? What colour?*

Of this I may answer as to the last.*

8. *Does spasm begin in thighs and mount upwards, and go on to superior extremities at last?*

I never saw, nor could I from authority ever hear otherwise, than that they showed themselves always first in lower extremities, but ascending in no regular succession.

9. *Are muscles of head, face, neck, or back affected? if so, in what order?*

I cannot learn that the muscles of face are ever *spasmodically* affected, but that they contract to a very great degree, is shown by the shrunken, anxious, sharpened features. I had the evidence of two gentlemen as to the muscles of back and back of neck being affected to the extent of resembling opisthotonos: those of the abdomen are sometimes affected; I have witnessed but one instance. †

10. *Are spasms constant or intermitting, and for what usual time?*

Cases detailed reply to this—all periods, and no regularity. Hiccup *frequently* exists, but not generally.

* *Vide* specimen produced and analysis.

† I never saw any thing like true colic pains—abnormal contractions of intestinal muscular fibres.

11. *Is there any relation in the regularity of symptoms?*

Tingling sensation, purging and cramps, vomiting, coldness, shrunken countenance, diminution of power in circulation, blueness up to perfect collapse, and suppressed renal secretion, form the usual succession of symptoms, but this by no means holds good in all cases, as is seen in foregoing remarks.

12. *Is vomiting, purging, or spasm the first to occur? Are there cases where any or all of these are wanting?*

The first part of this question is answered in No. 11. I believe spasm of *voluntary* muscles in many instances is wanting; perhaps, in some few exceptions, vomiting has been observed likewise to be wanting, but purging, to a greater or less degree, I could never learn had been absent.

13. *Is there extreme distress and difficulty of breathing when spasm of abdominal muscles exists?*

My reply to No. 9 shows I am not able to answer this; but, in the instance there alluded to, there was not more difficulty than what the anguish of such spasm might reasonably be expected to produce, not at all implying the diaphragm to be implicated.

14. *What is the condition of skin and animal heat generally throughout the disease?*

I never observed the skin harsh and dry; frequently

deadly cold without moisture, but generally, during some period of collapse stage, damp or covered with wet; it rarely gave me the unctious impression; I regret I did not try the more general chemical nature of the secretion or exudation. I could not, nor could my friends who generally accompanied me, detect any peculiar odour about the patient in any stage of the disease, said by some to be readily recognized.

15. *Is genuine bile ever vomited or purged?*

This is a broader question than was meant to be put, I believe. I have seen bile, mixed with mucous and fluid matters recently taken, vomited during cramps and tolerably well-marked stage of collapse. Mr. M'Allum, a gentleman whom I feel I can speak after, assures me he has seen bile ejected very shortly before death: I saw matters purged with decidedly bilious admixture, within three hours of death. Refer to Autopsy of Isabella Robson.

16. *Does the state of collapse resemble the cold stage of intermittent, or is the person moribund when it appears well marked?*

I happen to be very familiar with ague, and can only recognize a likeness in the acuminate features—complexion, eye, pulse, and skin are totally dissimilar. In two instances, recovery staggered my belief; they were both children. The few details of cases I have given, shew that we should never despair of rendering assistance.

17. *Does the re-action at all resemble the re-action from cold stage of ague?*

Far less unlike than the collapse is to the cold, yet I did not recognize much similarity; where the remittent gradually and imperceptibly passes from the one stage to the other, it has something in common with slow recovery from collapse, in this disease; but my own experience is much too limited to give a confident reply to this question. Some practitioners, I observed, were most careful to guard against re-action overstepping the bounds of healthy activity; others, again, are indifferent to the consequences, so that they see the heart's power fully restored. I did not learn either to be notoriously the more successful in aiding towards perfect health.

18. *As to recovery from peculiar symptoms, does it ever go on to typhus gravior?*

I saw about seventy cases of recovery in all grades, but in no one did I observe the least disposition to this state; but I am aware that some think otherwise,—yet I could never hear of a single well-authenticated instance of the one disease passing into the other.

19. *What is the general rapidity either to death, to health, or fever, if it ever occur?*

The shortest period from the attack to death, where I saw the patient, was sixteen hours. I think I may speak with confidence to an instance of a child having taken the breast of its mother and died three hours after

with marked symptoms of the disease.* In one case I saw great debility remaining after four weeks from the commencement of the disease, and where I could not detect organic mischief.

20. *Is the heart's second stroke, in any instance, altogether wanting?*

Whenever we could hear the ventricular contraction, the auricular was not more than correspondingly feeble. I think, in about ten examples of *extreme* depression, this was tried either with the ear or stethoscope.

21. *Is the bladder always empty?^a Is it involuntarily emptied?^b and is the rectum?^c If so, how early in the disease?^d*

^a From what I am able to learn from those I can confidently speak after, always so, after death.

^b I cannot reply to this question.

^c Very frequently, where the state of collapse lasts long, or is extreme.

^d This I cannot answer, although I was anxious to inform myself if the cramps ever induced it, prior to collapse, as it would be a matter of some curiosity to know how far the sphincters are affected, the general voluntary powers being so much less enervated than we might have looked for.

* Mr. Hunter, the most praiseworthy schoolmaster of Newburn, a *very help in time of trouble*, tells me of a fine young woman, aged 24, who, whilst washing the clothes of the sick, was seized and died in six hours, on Jan. 24.

21. *Prognosis.*—*As to degree of vomiting or purging, whether the kind of matter ejected gives favorable or otherwise?*

To the first part of this question I cannot speak from sufficient observations of my own, therefore have little more to draw my conclusions from than yourselves, viz. the various accounts published.

As to the latter, I am impressed with the belief that, so long as mucous and bilious matters are thrown up, the danger is remote at any rate; yet this, as is seen in query 15, does not always hold good.

22. *State of Thermometer?^a Hydrometer?^b Magnetic movements?^c Winds?^d*

^aThis has varied, I find, from 28° Farenheit, to about 48°, without affecting the increase or decrease of the disease.

^bOf this I cannot find any official record kept in Newcastle.

^cI cannot speak to this.

^dDuring my stay, the wind varied from N.E., N.N.E., to W.N.W. and nearly S.W.; it blew down the river for twenty-four hours, whilst the disease was rapidly increasing at Newburn.

23. *Exemptions.*—*Age?^a Sex?^b Pregnancy?^c Being under mercurial or other remedies?^d Gout? Fevers of any kind?^e Chronic diseases, as strumous joints,^f &c.? And has it ever attacked those whose system may be said to be occupied by disease?^h*

^a I have seen it in the periods of lactation and senility.

^b From what I saw, the greater number of cases were in females.

^c Case of Isabella Raine and two others, where miscarriage supervened, answer this.

^d This I could not authenticate, though I heard of it: it is well known that many courtezans have been the subjects of the disease, and that ptyalism has shown itself frequently upon re-action appearing.

^e I cannot answer this.

^f Nor this.

^g I find one person died who had been labouring for some time under psoas abscess, another of chronic disease of knee-joint, but in what stage I cannot say.

^h I cannot reply to this general question. There were two individuals in the Gateshead Hospital from the same house, who, when convalescent, were the subjects of a like eruptive affection; but we could not find out if any in the same family were also affected with the eruption, and not with the epidemic.

24. *Morbid anatomy.*

For answers to questions on this subject, I must refer to the single *post mortem* I was witness to, and those I have confidently spoken after.

Finsbury Circus,

January 26th, 1832.

Extract from Minutes of House Committee.

“ LONDON HOSPITAL, Jan. 26, 1832.

“ Resolved, That the Report presented by Dr. Cobb, on the subject of his visit to Newcastle, and other places in its vicinity, be received; and that the cordial thanks of the Committee be offered to him, for the zeal and intelligence displayed on the occasion, and for the important facts thus communicated.

“ Resolved, That, with Dr. Cobb's permission, 250 copies of the Report be printed, at the expense of the Hospital.”

“ 38, Upper Gower Street.

“ MY DEAR SIR,

“ The two samples of *rice-water* dejections transmitted from Newcastle by yourself and Dr. Cragie, and the portions of blood and serum which you sent me after your return, have been carefully examined. In making a report of my observations, I must, however, premise, that the limited quantity of materials which I had to work on, and the pressure of other occupations, have prevented me from attempting a complete investigation of this curious and important subject. My principal aim was to ascertain the nature of the ejected fluid, leaving an accurate account of minute details to be given by those, who have a better opportunity than myself for the inquiry.

“ *Examination of Rice-water Fluid, voided by a Boy affected with Asiatic Cholera.*

“ The matter sent under this title consisted of numerous white flakes of insoluble animal matter, suspended in a limpid colourless fluid. After standing for a few hours, the larger flakes subsided, leaving the liquid rather cloudy, from fine particles of the same substance being held in suspension. Its specific gravity was 1.011, compared to water as unity.

It had an alkaline re-action with test paper, which was stronger after evaporation. It frothed up strongly when boiled, but no coagulation occurred. With corrosive sublimate, and ferrocyanate of potash, it gave decisive evidence of containing albumen in solution.

“ Of the fluid part, cleared as much as possible by subsidence (for it passed with extreme difficulty through a filter), 1000 grains contained 12·3 grs. of well-dried albumen, and 7·2 of saline matter. The latter consisted of muriate of soda and potash, together with some carbonate and sulphate of the same bases. I did not detect any lime or phosphoric acid.

“ *Rice-water Dejection from a Woman in Asiatic Cholera.*

“ This fluid had the same general characters as the preceding, but its specific gravity was rather less, being 1·008, and it had a slightly yellow tint. From 1000 grains were obtained 4·9 of well-dried albumen, and 6·8 of saline matter, consisting of carbonate of potash and soda, and a little phosphate of the same bases. It was almost perfectly free from muriatic and sulphuric acid.

“ According to the analysis of the late Dr. Marcet, 1000 grains of the serum of human blood contain 86·8 of albumen, and 9·2 of saline matter. The salts consist of the muriates, sulphates, and carbonates

of potash and soda, with 0·6 of a grain of earthy phosphates.

“ From this close resemblance to the ingredients above enumerated, it is manifest that the fluid voided by patients in cholera is really of a serous character, containing only a small quantity of albumen, but a large proportion of saline matter. Consistently with this fact, the blood of persons laboring under cholera ought to contain the salts in an unusually small proportion, and, according to my observation, this appears to be really the case. The serum of the blood of a young woman affected with cholera, but who had not yet arrived at the stage of collapse, contained in 1000 parts only 1·5 of saline matter. The partially coagulated blood of the young man, drawn during a state of excitement, but several days after the attack of cholera had commenced, yielded in 1000 parts 2·5 of solid saline matter, the greater part of which was *iron*, derived from the coloring particles. Hence, the general conclusion from my observation is, that during an attack of cholera, the saline matter of the blood, together with some of the albumen, is thrown out by the intestines.

“ I am, &c.

“ EDW. TURNER.”

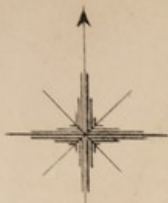
“ *To Dr. Cobb.*”

The conclusion which Dr. Turner arrives at, we must all admit to be a just one, but it is hard to reconcile that the state of collapse should be *caused* by this deficiency of saline matter, &c. in the blood, where we see it existing, even to its fullest extent—nay, destruction, within six, or certainly twelve hours of health, and where no excessive evacuations had taken place. It certainly appears to be of the first consequence to investigate this particular subject, without prejudice, and in all its bearings.

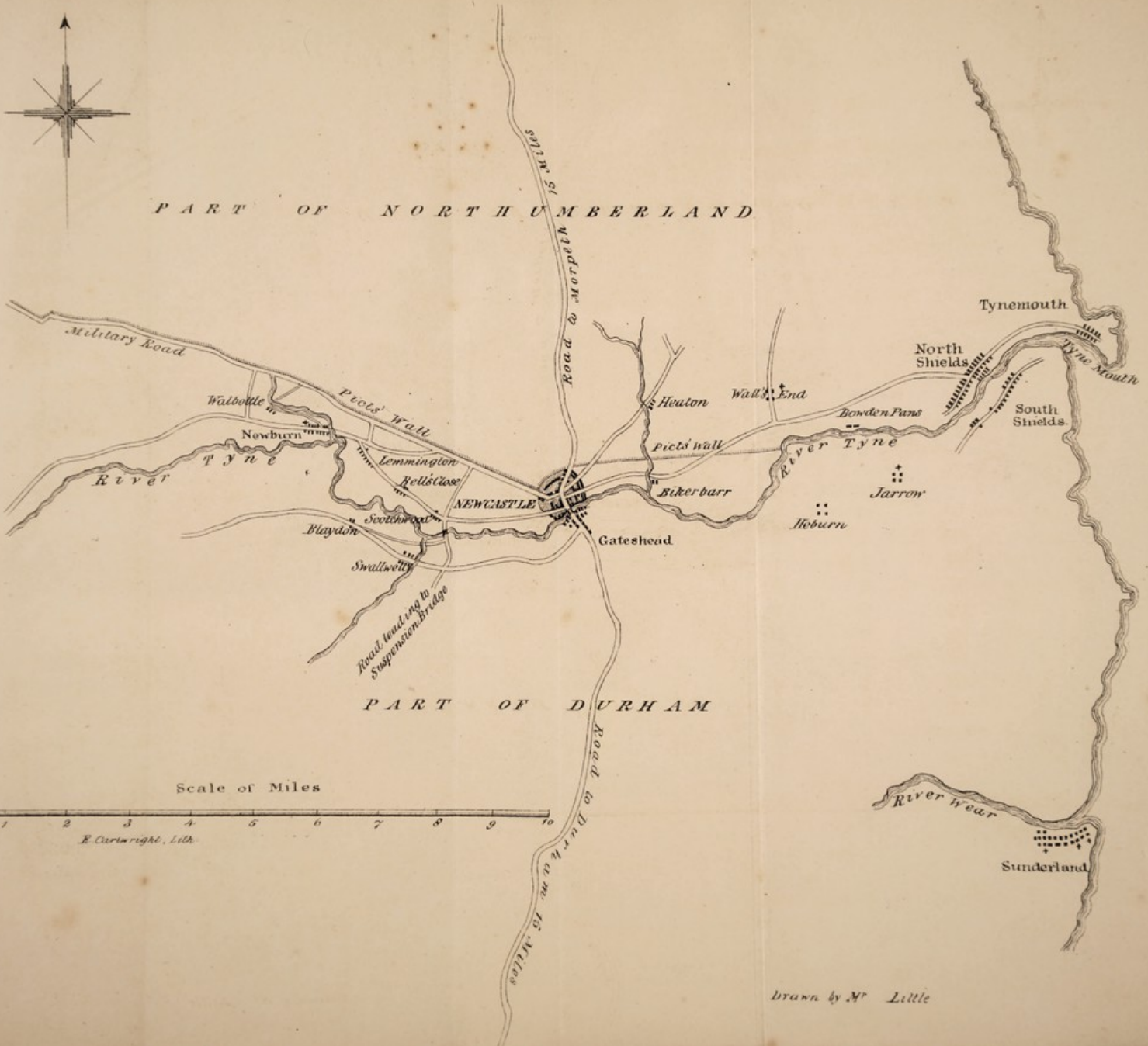
Continuation of list of deaths in Newburn, up to January 29, from p. 26.

	Deaths.	Females.	Males.
January 18	5	4	1
19	2	2	0
20	1	1	0
21	2	2	0
22	3	1	2
23	2	0	2
24	1	0	1
26	1	1	0
27	1	1	0
28	3	2	1
29	1	1	0

Making 54 deaths, or near one-tenth of the population in 20 days.



PART OF NORTH UMBERLAND



Scale of Miles

R. Cartwright, Lith.

Drawn by Mr Little

