He could only see large letters, such as the names over shops.

Examination with the Ophthalmoscope. There was congestion of the choroid, and the retinal vessels were enlarged; around the entrance of the optic nerve there was a dark ring.

King's College, London, August 1854.

RECOVERY FROM AN APPARENTLY HOPELESS STATE OF COLLAPSE IN CHOLERA,

AFTER REPEATED INJECTIONS OF A SALINE SOLUTION INTO THE BASILIC VEIN.

SUBSEQUENT DEATH FROM GASTRO-ENTERITIS.

By HENRY ANCELL, Esq.

ELIZA MASON, aged 44 years, upper housemaid in a private family in Norfolk Crescent, one of the most airy situations at the west end of London, 78'41 feet above high water mark of the river Thames; an intelligent woman, of perfectly regular and sober habits, but nervous and often complaining, had more than once been under my care with slight dyspeptic and gastro-enteric symptoms, from which she recovered without being laid up. In the evening of August 14th, she stated to her fellow-servant that she was not quite well, from a sense of fulness in the stomach; but she spent the day in the Crystal Palace with a party on Tuesday the 15th, having no diarrhoea, but still complaining of being poorly. The only refreshment taken was a glass of Allsopp's pale ale and a sandwich. On her return home in the evening she had no appetite for her supper, but retired at her usual hour, and went to sleep. She awoke about half-past five in the morning of the 16th with violent purging, rapidly succeeded by vomiting, and at about nine o'clock severe cramps in the lower extremities set in, commencing in the thighs; after this she complained also of deafness; she took some brandy, and sent for a mixture to stop the vomiting and diarrhoea; but from the commencement nothing remained on her stomach.

Aug. 16th. I first saw her at half-past 11 a.m., six hours after the attack, in a state of complete collapse; there had been violent vomiting, with perfectly colourless fluid dejection, containing rice-like grains and white flocculi; violent cramps, and total suppression of urine; she was pulseless, with a feeble, scarcely audible, fluttering heart, lividity of the countenance, coldness and blueness of the extremities, coldness of the tongue and breath, and clammy perspiration. Frictions of the surface were ordered, and sinapisms to the arms, legs, and epigastrium. Brandy, æther, and ice, and several other remedies were given with a view to restore the circulation, all being rejected. Up to half-past two o'clock there had not been the slightest sign of reaction; the lividity and coldness of all the extremities increased, the respiration was hurried, the countenance more collapsed, and dissolution was manifestly impending, although her mental faculties were entire, her voice tolerably good, and she could reply to questions. A case in the neighbourhood, in which the collapse was not so complete, terminated fatally on the previous day, four hours after I saw it; and from my experience of the epidemic in the year 1832, my opinion was that under all ordinary modes of treatment, or if left to itself, this case would probably terminate in an hour or two, and could not be much longer protracted.

Under these circumstances, with the cooperation of my friend Mr. Lane, I proposed the injection of a saline fluid into the blood. The patient at first withdrew her arm and feebly objected, having always had a prejudice against bleeding and operations of every kind; but was soon over-

ruled. A solution of about one drachm of chloride of sodium in a pint of water, at about blood heat, was accordingly injected into the basilic vein. During the injection the pulse returned to the wrist, but was extremely feeble, and shortly afterwards she expressed herself less faint; this was followed by a distinct rigor, which lasted perhaps ten minutes; and this by an improvement of the countenance, a slight degree of warmth to the extremities, and a complaint of pain in the back and head. After the rigor she had very little cramp; but the vomiting and diarrhoea continued with unabated violence.

At six o'clock, about three hours after the injection, the collapse had returned. Diluted sulphuric acid and laudanum, and every other remedy given to avert the vomiting and purging, had proved unavailing, and she was again pulseless, cold, and livid. The tube had been left secure in the basilic vein, and in a feeble and gasping tone, she begged that she might have some more of the fluid. I now injected about two pints more of the solution of chloride of sodium somewhat stronger. The pulse returned, and during the operation she twice or thrice complained that it made her back ache; there was no rigor, but the reaction appeared from the first to be more complete than before; nevertheless the purging continued unabated; if the stomach was allowed to remain at rest by giving nothing, the vomiting returned at intervals, and every thing taken into it was immediately rejected.

The pulse continued at about 110 and tolerably strong until near eleven o'clock; I then watched its rapid failure in power until twelve o'clock, when it was again nearly imperceptible. The lividity of the countenance and gasping respiration returned; the action of the heart was nearly imperceptible; she was excessively restless, and intimated that the fluid had run off by her bowels, and that she wished for more. It appeared to me, that the effect had shown either that a simple solution of chloride of sodium was not adequate to the restoration of the normal fluidity of the blood and the circulation, or that the quantity injected was insufficient; and I therefore resolved to employ a stronger solution in larger quantity, and to fall back upon a mixture of salts employed by several practitioners in 1832. Five pints of a solution composed of 64 grains of chloride of sodium, 64 grains of carbonate of soda, and 32 grains of chlorate of potass to each pint of water (16 ounces), were now injected; half a grain of iodine being added to the five pints. The pulse returned, as in the former operation, but was much stronger; and the remarkable and satisfactory result followed, that instead of remaining stationary and then failing, it continued to improve from the period of the injection: so that at four o'clock in the morning, the action of the heart, the pulse at the wrist, the temperature, and the general aspect of the patient so much improved, that I removed the tube from the vein. The vomiting and purging continued, although somewhat abated.

Aug. 17th. Three o'clock p.m., twenty-four hours after the first injection of the veins, about thirty-six hours from the attack, after the continuance of a state of apparently hopeless collapse for at least four hours, and the subsequent injection of from seven to eight pints of a saline fluid into the circulating current with the view of restoring the circulation, the patient was in the following state:—the action of the heart perfectly regular and uniform; the pulse 96, tolerably strong and regular; the lungs crepitant throughout, and the respiration good; the temperature of the surface moderate; the lividity of the countenance replaced by a deep sallowness; pain in the epigastric and præcordial regions; great thirst; the purging and vomiting unabated, and the respiration slightly hurried immediately before and after the vomiting; no clear evidence of any return of the renal secretion, and the choleraic character of the dejection unchanged.

Sinapisms were reapplied to the epigastrium and to the extremities, and during the day various remedies were resorted to for the purpose of arresting the vomiting, none

of which appeared to do any good except ice, which was most grateful, and was taken in considerable quantity. In the evening I prescribed fifteen grains of trisnitrate of bismuth in a little barley water, followed by some ice, to be given every hour to eight doses should the vomiting continue, and large nourishing enemata, consisting of warm milk and beef tea, to be repeated several times during the night.

Aug. 18th. The patient had, upon the whole, a much better night. The reaction was completely established, the pulse 110, and rather full. The vomiting nearly ceased after taking five doses of the trisnitrate of bismuth. She had retained some ale, and also some port wine, on the stomach. The purging continued, but was less frequent, and two of the enemata were retained for about an hour. The alvine evacuations had changed to a bright yellow colour, were much less liquid, but slimy with green streaks. The sounds of the heart were quite normal; the respiration was a little hurried previous to straining to vomit, which recurred occasionally, when a small quantity of yellowish-green ropy mucus was ejected. The tongue, which had hitherto been perfectly clean, was now white; there had been a little sleep; her intellects were perfectly clear; but she complained of great weakness, and was restless.

Aug. 19th. She had a very bad night, with diarrhoea and vomiting, although she retained some warm brandy and water in the stomach; violent pain over the whole abdomen; great flatulent distention, particularly around the umbilicus; pulse rapid; tongue brown and dry; hiccup; cold perspiration; complexion and general surface yellow; extreme restlessness; deep moaning; occasional slight wandering. A large hot linseed poultice was applied over the abdomen, and a turpentine enema administered; but she became listless for an hour or two, and died at two o'clock; three days and eight hours from the attack, and nearly three days from the first injection of saline fluid into the basilic vein.

Autopsy, seventeen hours after death. The body was plump and in good condition; its surface remarkably free from lividity, except in the decumbent parts, where the suffilation was not more than usual at this period after death; and the *post mortem* rigidity was well marked. The fat was nearly an inch and a half thick under the abdominal integuments. *Muscles* of a remarkably good colour. The heart was rather large and flabby; a small quantity of limpid fluid was found in the pericardium; the left auricle and ventricle were collapsed and empty; the right auricle and ventricle were loaded with a gelatinous coagulum, a portion of which was black and tar-like, a portion particoloured, and another, probably that which at the period of death was in the highest position in relation to the other portions, was colourless. The coagulum extended a considerable distance into the pulmonary artery, the greater part being colourless; it also surrounded and adhered to the valves and chordae tendineae, but was easily peeled off. The lungs were collapsed, crepitant, without the slightest sign of disease, and with rather less than the usual hypostatic congestion. The stomach contained about five ounces of a yellowish-green, thick, ropy fluid; its mucous coat was softened, thickened, easily scraped off, and covered with a thick ropy secretion; there were large ecchymosed spots of a dirty brown colour, in the subjacent textures, particularly around the pyloric extremity; and the large vessels in the sub-peritoneal surface were congested with dark blood, in some of which the blood was coagulated. The small intestines contained a large quantity of greenish-yellow ropy fluid; their internal coat was thickly lined with a tenacious yellow ropy fluid, with difficulty washed off; the mucous membrane thickened, softened, and easily peeled off; the subjacent tissue highly vascular, from the pylorus to the ileo-caecal valve, more especially throughout the duodenum, where it nearly resembled a piece of scarlet cloth. Numerous enlarged glandulae solitariae in the course of the ileum. The large intestines, particularly the colon, were greatly inflated, and exhibited morbid appearances, in a minor degree, but similar to those observed in the small intestines; they were loaded with a yellow semifluid substance. The

liver was somewhat friable and pale, and the blood pressed from several of the hepatic veins permeating it, resembled coloured water; under the microscope, it presented a very decided morbid appearance, having far less colour than blood-proper, and the red corpuscles being irregular in shape, unequal in size, and apparently imperfect, dissolved, or otherwise damaged. The gall-bladder was distended with dark green bile, becoming yellow on dilution, and the ductus choledochus filled by concentered bile. Spleen healthy. Kidneys healthy, except that in one a very small quantity of an apparently purulent fluid could be pressed from the tubuli uriniferi. The bladder was completely collapsed. A tumour twice the size of an orange replaced one of the ovaries. The blood in the large vessels generally was tar-like and gelatinous.

REMARKS. I have related the circumstances of this case precisely as they occurred, believing that considerations of the deepest interest at the present moment are involved in them. In the first place, I have to explain the causes of some of the imperfections in the proceedings narrated. Called upon suddenly, in a case of the utmost severity, where no time was to be lost, occurring in a private house, I had to obtain as quickly as possible the necessary co-operation, the solution of salts, and, in the absence of any appropriate injecting apparatus, the best instrument I could contrive. My fear was that the patient would die before the operation could be performed.* The salts were dissolved in distilled water, and the solution filtered; but it had to be warmed by dilution with hot water from the cistern in the house. I was unprepared with a thermometer at the time of the first two injections, and the temperature was judged of by my own sensation. Mr. Talbot, of St. Mary's Hospital, and myself, made the *post mortem* examination, without any other assistance; and, from circumstances relating to the family, we were limited to time. It was accordingly done imperfectly, at least in my view of the points which ought to be made out in such a case. If my own opportunities of investigating the remedial powers of the direct admixture of substances with the blood in this fearful malady were greater than they are, I should postpone the publication of this case until I had made a series of experiments, not only more carefully and exactly, but on a less empirical—a more systematic principle. I have adopted the other course, because I believe the facts are eminently suggestive, and calculated to guide others, possessed of better opportunities, in the conduct of this important inquiry.

Here is a case in which the patient was perfectly restored from the collapse stage of cholera in its most intense degree. Although eight pints of a saline solution, by no means of the purest character, either as respects the salts or the menstruum, had been mixed with the blood in the vessels, the patient lived three days, and no disturbance was produced by it either in the lungs, the brain, or, as far as evidence goes, in any organ or structure. The *post mortem* morbid appearances were strictly those incidental to cholera; the lungs were specimens of healthy lungs; and the intellectual faculties were perfect until the patient was moribund from the fully developed disease. Then, what an interesting tale does this case unfold of the sequel to the collapse. Whoever has had an intermittent fever will well remember the blueness of the nails, the aching of the fingers' ends, the state of the features and of the surface of the body, the miniature collapse that constantly preceded the rigor; and here we have the intense collapse of cholera apparently overcome by an antidote, and followed immediately by a rigor. This rigor is said to "usher in" various diseases, but it is almost always a secondary phenomenon, the

* A fear justified by a very sad case that occurred this morning. Mr. Boreham was called at 3 o'clock to a fine young man in the prime of life, and found him in the collapse of cholera; no remedies appearing to produce amendment, a little after six o'clock, he asked my co-operation, when we saw the patient together. Mr. Boreham thought him a little better than an hour previously, and expressed that opinion before the attendants; I considered the collapse not so intense as in the case of Eliza Mason, and that under these circumstances we were not justified at present in proceeding to what must be considered an extreme measure; but at half-past 8 o'clock, and before we could meet again, the patient died.

commencement of reaction. The reaction established, we find, in the case before us, all the symptoms of the most intense gastro-enteritis, the more prominent of which had, indeed, existed from the commencement, and from their intensity had aggravated that collapse which is the primary effect of many poisons, and particularly animal poisons introduced into the blood. Even the mineral poisons, as, for instance, arsenic, in deadly doses, however introduced into the blood, produce effects very closely resembling the symptoms of cholera. We see in this particular case, also, the extraordinary intensity of the gastro-enteritis, exhausting and destroying the patient, but not until pretty clear indications had been given as to what would have been the result had it been less intense, and had life been still further prolonged; the clean tongue of the stage of rapid and sudden collapse was succeeded by a white fur, as soon as the vomiting abated; and this was very rapidly followed by the dry brown tongue of typhoid fever. To comprehend these remarkable circumstances, we must avail ourselves of the little that is known of the effects of poisons introduced into the blood. In Gaspard's experiments, recent pus injected into the blood of dogs produced abundant urine, reiterated vomiting, foetid stools, tenesmus and other symptoms, and death in a few hours; the intestines were thickened, and the rectum and colon especially inflamed. Among the symptoms resulting from the injection of foetid pus were great prostration, vomiting a blackish liquid, and extremely foetid dejections; or, when the quantity was larger, frequent whitish very foetid stools, ardent thirst, great prostration, hiccup, dyspnoea, violent palpitation, etc.; and after death the blood was very coagulable with petechiae, etc. Animal putrilage produced bilious, gelatinous, and then bloody vomiting, gelatinous and bloody dejections, or the most violent dysentery, or black vomiting; and in small quantities, all the symptoms of malignant fevers; and, after death, the stomach, duodenum, or rectum, were inflamed. Vegetable putrilage produced the symptoms of dysentery, malaria, and low fever, and the mucous membrane of the intestines, especially of the duodenum, rectum, and some of the small intestines, were of a violet-red colour, and inflamed.

The more minute details of the experiments indicate that each distinct poison produces a specific effect in the blood and tissues, and is attended with its peculiar symptoms, among which prostration, partial or general gastro-enteritis, and the symptoms of typhoid or malignant fever, are the most common. There is sufficient analogy in the symptoms of cholera to lead to the inference that it is a poison in the blood, producing more intense sedative effects in the blood itself, and a more violent determination to the gastro-enteric surface, than any known poison; and sufficient distinction, to lead to the inference that it is a poison *sui generis*, and totally distinct from all other poisons, whether known only by their effects, or otherwise. Our present knowledge of the physiology and pathology of the blood renders both the analogy and the distinction quite intelligible. Although in some cases of cholera the recovery from the state of collapse may be quickly followed by health, inasmuch as the poison may have expended its virulence, and the gastro-enteric mischief may be slight, yet in these cases of fearful intensity such a result is scarcely to be hoped for; the recovery from the collapse is only the recovery from the early stage of the disease, and we may expect it to be followed by gastro-enteritis; or by pneumonia, or some other result of local congestion or disorganisation; or by typhoid or malignant fever, complicated with some of these local effects; and a remedy for the collapse ought not to be regarded as a remedy for the disease. The purging and vomiting, at the outset, are no doubt the effect of the disorganisation of the blood; and the intestinal canal is the outlet both of the poison and of the devitalised portions of the blood; but I conceive that it would be an error in pathology to regard these symptoms, even from a very early period, in this point of view simply; they depend also upon the irritation or inflammation of the coats of the alimentary canal, set up during the elimination of the poison; hence e dejections, even from the commencement, contain a

large portion of epithelium scales, and the disorganisation bears, to some extent, a proportion to the intensity of the poisoning. In Mason's case, I conceive the quantity of the poison originally received into the blood must have been very large; but for the remedy employed, it would have destroyed life in less than twelve hours by its direct effect on the blood; failing this, it produced this result by the intensity of the gastro-enteritis, and probably, in part, by the poison not having been completely eliminated. Had the quantity of the poison originally received been less, the probability is, *ceteris paribus*, the gastro-enteritis would have been less, but on recovery from the collapse we should then have had a fully developed typhoid fever to contend with. On the other hand, had the quantity of the poison been less, and had it also been completely eliminated, during the progress of the collapse, (I believe, a frequent result), there would have been a less complicated gastro-enteritis to deal with. As recovery often takes place very rapidly, even after collapse in a slight degree, it is probable that the gastro-enteritis set up during the elimination of the poison, or any effect produced during the collapse, is, in such cases, comparatively trifling. I have since witnessed the autopsy of a fine young woman rapidly destroyed in the stage of collapse, wherein the intestinal affection, although well marked and general, was still slight in degree; and, no other organ being materially affected, the suggestion presented itself, that could she have been carried through the collapse, her recovery would have been rapid. In the slighter cases, in which the quantity of the poison received into the blood is very small, producing diarrhoea only, the poison is probably very quickly eliminated, and the blood not being so extensively disorganised, nor so quickly inspissated, if the elimination by the bowels be checked, as it usually is, by the remedies we employ, the remaining portion of the poison is quickly destroyed or discharged by other outlets, and the collapse, with all the other consequences, are averted; and even where the quantity of the poison is larger, the greatest advantage results from arresting the purging in the early stage before the blood becomes inspissated, inasmuch as the rapid loss of the fluid parts of the blood is doubtless concerned in preventing the elimination of the poison by other organs.

We know little of the laws which regulate the action of poisons received into the blood, either upon the blood itself, or upon the whole animal economy through the blood. Nevertheless, it appears that each has its specific effect, while there are effects common to nearly all. The choleraic poison appears to act in the blood as a sedative. There is some reason to think that it arrests the ascensive metamorphoses of the albuminose, so that the albuminate of soda of the liquor sanguinis is not normally developed, since the latter will not permeate living membrane, which the former does. That it acts by an arrest of development in the materials of the liquor sanguinis, rather than upon the blood proper, appears plausible also from this—the retention of the urea in the blood is the usual result of the kidneys failing to separate this substance; and not only does this take place in cholera, but according to some of the best analyses, the urea accumulates, indicating the continuance of those metamorphoses in the blood by which nitrogenous compounds are converted into urea. Again, the red corpuscles appear to remain, up to the latest moment of life, without any serious deterioration; else a saline fluid could not with its other effects so instantaneously restore the functions of the blood.

The corollary of these remarks is, that a saline fluid, mixed with the blood by injection into the veins, has the certain effect of *prolonging life* in the worst cases of the collapse stage of cholera; even where, from its intensity, the disease must necessarily prove fatal. Since our mission is, under all circumstances, to prolong life if possible, it is certainly justifiable, in otherwise hopeless cases, to perform this operation; and it even becomes questionable whether we ought to allow any such case to succumb without resorting to it. It is also a fact that a few individuals have recovered from an otherwise hopeless state of the disease

after this operation. Were it resorted to more generally in cases hopeless of recovery, on the principle of prolonging life, our efforts would very soon be directed to learn the best mode of operating, as respects the quantity of fluid to be introduced, the nature of the fluid, the times at which it might be repeated, etc., with a view to obtain the utmost prolongation of life possible: and I am sanguine enough to believe that the accuracy of observation which this would induce must lead to important results in relation to the cure of the disease. The primary object, as respects this operation, is to discover the proper remedy for the collapse, taking care that the effects of such remedy shall not be incompatible with recovery from the disease, and the restoration of the patient to health. Viewing a patient in the most extreme state of collapse from cholera, it should always be borne in mind that in such a patient, until life is extinct, there does not necessarily exist any disorganisation totally inconsistent with recovery. Finally, I have seen a man pulseless, speechless, cold, and livid, rise up in bed and converse, after the injection of a saline fluid into the blood, and remain for several hours capable of declaring his last wishes to those around him, or of taking his farewell of the world, of forgiving or being forgiven, or, it might be, of making his peace with his God.

3 Norfolk Crescent, August 21st, 1854.

CASE OF CHOLERA IN WHICH RECOVERY TOOK PLACE.

By ALFRED HILL, Esq.

THE following particulars of a case of cholera may interest the readers of the ASSOCIATION JOURNAL.

CASE. Heber Smith, aged 16 years, of sanguine temperament, living with and apprenticed to a butcher, had been generally healthy, but for the last two months had suffered from irritable bowels, though not so severely as to incapacitate him for his employment, or to compel him to obtain medical assistance. On Saturday, June 17th, notwithstanding the irritable state of his bowels, he imprudently ate a pint of raw gooseberries, without at once experiencing any ill effects. On Sunday, June 18th, he was called up by his master at 6 A.M.; and as he was descending the stairs he suddenly fell, from sheer inability to support himself, and quietly slipped down stairs, without contusion or any other physical injury. He immediately afterwards felt a desire to evacuate the bowels, and voided an immense quantity of matter "like water". He then returned to bed. At 12 o'clock, he was sent in a cab to the house of his father, a little in the country, having previously had a second watery evacuation. When he arrived at home, he was blue and cold. I was immediately sent for, but owing to the message not being urgent, I did not see the patient until 3 o'clock, when the following symptoms presented themselves.

The entire surface was blue and cold, with that peculiar unyielding feeling characteristic of the dead body. He had cramps in the lower extremities; the toes were firmly flexed. There was tenderness on pressure in the right iliac fossa, but in no other part of the abdomen. The respiration was irregular; the tongue and breath were much below the normal temperature. He had a pinched expression of countenance; his eyes were deeply sunken and surrounded with very dark areolæ; his voice was scarcely audible, and resembled that of an infant. There was total suppression of urine; and he was in a state of constant tossing and listlessness. In addition, his mother stated that he had had a third evacuation, since his arrival at home, which she described as being "just like whey". It contained no faecal matter, but evidently consisted of the characteristic rice-water evacuation of cholera. I had not an opportunity of seeing it, as it had been removed; but from the symptoms present, and from the statements of mother and son, both intelligent persons, no doubt re-

mained as to the nature of the malady. I immediately ordered him a hot bath, and brandy mixed with an equal quantity of hot water, to be given frequently. After the bath, sinapisms were applied to the abdomen and calves of the legs, hot water bottles to the axillæ, groins, and feet, and hot flannels to every part of the body. The following pills and mixture were prescribed.

R. Pilulæ saponis cum opio gr. x.
Statim sumendæ.

R. Ammoniae sesquicarb. ʒi,
Spiritus ætheris sulph. ʒiij,
Misture camphoræ ʒviiss. M.
Fiat mistura cujus capiat unciam omni horâ.

R. Pil. saponis cum opio gr. v.
Quartâ quâque horâ sumatur.

At half-past 9, I again visited the patient. All the symptoms were subsiding; the surface was becoming warm; the skin had resumed its natural colour; the pulse was restored; the eyes had lost their sunken appearance; the pains and cramps had disappeared; the extremities were warm; and the voice had become perfectly natural. I ordered one more pill to be given, with one dose of the mixture, and then their administration, together with that of the brandy, to be discontinued.

June 19th, 11 A.M., I again visited the patient. The bladder had resumed its function, and a considerable quantity of pale urine had been passed. Not only had the patient rallied from the state of collapse, but there was now reaction, which threatened to become fever. Perfect quiet and light farinaceous diet were enjoined; and the following antacid diaphoretic mixture was prescribed.

R. Sodæ sesquicarbonatis ʒiss,
Vini ipecacuanhæ ʒss,
Misture camphoræ Oss. M.
Fiat mistura cujus capiat ʒi ʒtâ quâque horâ.

The case has since rapidly and favourably progressed, and the patient is now convalescent.

REMARKS. Among the many cases of cholera which have come under my observation, I have seen none benefited by internal remedies alone, although the *materia medica* has been ransacked to supply them. Some practitioners pin their faith upon venesection, some upon calomel, some upon opium, some upon astringents. It has always been my opinion, that in that stage of collapse which is so prominent a feature of Asiatic cholera, the indication is, to restore the equilibrium of the circulation, to derive from the internal organs, and particularly the bowels, which are evidently congested, and so under this congestion pour out immense quantities of serum, by which the system is prostrated and unable to rally. The most effectual method of bringing about this reaction appears to me to consist in the application of heat in every available form to the surface of the body, with which may be conjoined sinapisms to cause revulsion, the internal administration of stimuli, and opium in full (but in these cases stimulating) doses; which seems to act by allaying gastric and intestinal irritation, checking the exhausting effusion, and stimulating and supporting the powers of life. At all events, this plan of treatment was followed in the above case by complete recovery; and, I believe, it may be said to have effected a cure.

Of the two remedies, heat externally, and opium internally, I attach most value to the former; and though I consider opium highly useful, in conjunction with heat and stimuli, I believe it would be useless alone.

Birmingham, June 30th, 1854.

[This case duly reached us, but was accidentally lost sight of: otherwise it would have appeared six weeks ago. EDITOR.]