positively injurious, by increasing instead of diminishing the excitability of the spinal marrow."

He then furnishes the rule by which we are to be guided. "The propriety and the extent of bloodletting must be estimated not by the violence of the disease, but by the state of the circulation in the interval of the fits, and with especial reference to the different effects of vascular plethora and vacuity upon the spinal centre."

These observations of Dr. Tyler Smith will, I think, render the practitioner valuable aid in coming to a decision upon the question of depletion in the treatment of this disease, and especially in reference to the repetition of bloodletting when the first quantity taken, although large, has failed to relieve the fits. I apprehend that, in most cases of puerperal convulsions of a severe character, one full bleeding would be justifiable and proper, on the principles laid down by Dr. T. Smith; and when this has been done, and the fits still continue unabated, before pushing depletion further, bearing in mind the principles he has enunciated, we are led to investigate the various possible sources of irritation to incident excitator nerves, such as distension of the uterus or of the bladder, or the presence of irritating matters in the stomach or intestines, and the propriety of the administration of opiates, especially by the rectum, would demand a full consideration.

In considering the propriety of interference in the progress of labour—a question upon which, as we have before noticed, the authorities are not at all agreed—we derive equal assistance from the views of Dr. Tyler Smith. After observing that the question of interference is one for which no arbitrary rule can be laid down, but which must be decided in each individual case by the particular circumstances, due regard being paid to the excitability of the uterus under the stimulus of the fœtus, and under the artificial interference, he advises the evacuation of the liquor amnii, which, by relieving the distension, diminishes the size of the organ and the quantity of blood circulating through it; and hence, although it renders the uterus more active by bringing its parietes into contact with the fœtus, it renders the organ itself less irritating to the general spinal system. The evacuation of the liquor amnii is to the uterus what the partial action of an emetic or an enema is to the stomach and intestines. With regard to the general principle which should guide us in deciding upon artificial delivery, it is to be observed that, whenever it can be effected with less irritation than would be produced by the continuance of the child in the parturient canal, and its expulsion by the natural process, it is advisable that it should be performed.

These general principles appear to be applicable to all ordinary cases of puerperal convulsions, and will be found of material assistance in enabling us to treat that formidable disease, if not with invariable success, at least upon rational and scientific principles; and they will also serve in some measure to reconcile the apparently contradictory and diversified statements and theories of different and differing authors.

It does not fall within the object and limits of this paper to speak of the numerous other special remedies which have been recommended in the treatment of puerperal convulsions, my intention being to draw attention to the two main questions of bloodletting and artificial delivery; nevertheless, I do not wish to leave the subject without some allusion to the use of chloroform. I have no experience of its effects in this disease in my own practice, but have had considerable opportunities of noticing the phenomena attending its administration in surgical cases; and, from observation and reasoning, I should not be led to expect much benefit from it, beyond the collateral advantage of allaying nervous excitement in some exceptional cases. I say exceptional cases, because I believe that, in the most common form of this disease, in which there is more or less congestion of the brain, and where the fits are produced by other causes than those which depend upon excitement from without, or upon any impression made upon the sentient faculties, such as fright, excessive pain or irritation

from prolonged suffering, or the like, chloroform could not be expected to exert any influence over the origin of the disease. It might, on the contrary, act as a predisposing cause, and render the paroxysms more frequent and violent: for it has been noticed by Dr. Marshall Hall, that, when the functions of the true cerebral or sentient portion of the nervous system are diminished or abolished, as is the case in anæsthesia, the irritability of the excito-motory or true spinal system of nerves is increased. Hence it follows, that convulsions being a disease of the true spinal system, they would be the more readily produced, the spinal nerves being more susceptible of any morbid impression conveyed to them; so that the only probable advantage to be derived from the use of chloroform is to shut out any exciting causes of convulsions which act through the medium of the functions of sensation; and this, be it remembered, is at the risk of rendering the system more susceptible of those much more important exciting causes which are probably, in almost every case, the real origin of the disease. That chloroform does not directly control the functions of the excito-motory system, is manifest enough from its ordinary effect upon the progress of natural labour; for there, although sensation is more or less diminished or annihilated, yet the contractions of the uterus, an excito-motory act, still continue.

It is further worthy of remark that chloroform frequently produces a state of system nearly approaching, if not actually reaching that of convulsion; and I have frequently observed that it produced a considerable amount of congestion of the vessels of the head and neck—in fact a slight degree of sphagismus—a condition which cannot be looked upon as favourable to the patient, already nearly asphyxiated by the paroxysms.

Another objection might be urged against the use of chloroform in many cases of puerperal convulsions; namely, the peculiar condition of the circulation which, as noticed by myself and by other observers, frequently obtains in this disease. The heart's action fluctuates in a most remarkable manner, the pulse sometimes being full and indicating a fair amount of vascular force; at others, so small and feeble as scarcely to be felt. Now, if chloroform should be given to a patient in the state indicated by the latter condition of the pulse, it might be regarded as a most fortunate escape; if the heart's action were not altogether abolished, as we have seen in some unfortunate cases which have occurred in surgical practice, where a very small quantity of the anæsthetic agent has destroyed life by paralysing the action of the heart, already enfeebled by the superintention of depressing causes, such as fear or the like.

In cases where there exists, as a prevailing peculiarity, a great amount of nervous excitability of the system accompanied by restlessness, chloroform may be useful by producing sleep; or, in cases where pain seems to be the exciting cause, anæsthesia would no doubt be a useful means of relieving the patient; and to these and to analogous forms of the disease I believe its use should be limited.

In the sthenic forms of convulsions, accompanied by congestion and fulness of the vascular system, it can, I think, do little good, and might do much mischief.

Liverpool, July 1854.

CLINICAL NOTES ON CHOLERA.

By W. LAUDER LINDSAY, M.D., late Resident Physician to the Surgeon Square Cholera Hospital, Edinburgh.

[Continued from page 551.]

FEIGNED CHOLERA.

ONE good instance of this rare form of malingering came under my notice, and I think merits being recorded, both on account of the audacity of the attempted imposition, and of the rather unusual but highly efficient nature of the treatment. In large general hospitals, it is by no means uncommon—nay, it is sometimes a matter of every day experience—to meet with persons who assume or feign

diseases, or who maim or poison themselves, for the purpose of obtaining the excellent food, comfortable accommodation, and the pleasures of the idle life, which many of these institutions afford. I have seen spirituous liquors consumed to great excess, in order to induce hysterical or epileptiform paroxysms; laudanum swallowed in quantity sufficient to prove fatal; old ulcers artificially re-opened and irritated; and severe pulmonary and other diseases simulated,—all for the sole purpose of securing a few days' or weeks' lodging in the medical or surgical wards of an infirmary. Notorious malingerers of this class are sometimes handed over to the tender mercies of the police, who frequently, in their turn, consign them to a workhouse; but, the comforts in such an establishment being far inferior to those found in a well managed hospital, they usually seek an early opportunity of escape, and betake themselves to their old haunts and habits. So remarkable is the dread of cholera among the lower orders, that I scarcely anticipated such an occurrence as the *feigning* of the disease, and especially with a view to gaining admittance into a cholera hospital. Whether the central Board of Health views of the non-contagiousness of the disease be correct or not, the *vox populi* holds it to be highly contagious; and the occurrence of a single case or cases in a crowded neighbourhood is frequently suddenly followed by an uncontrollable and unnecessary panic, quite disproportionate in degree or extent to its cause. This fear of cholera sometimes becomes as epidemic as the disease itself: and there is every reason to believe it is one of the most common and fatal predisposing causes. During the continuance of such a panic, a poor victim of cholera is deserted by his friends and relatives, who selfishly prefer consulting their own safety by flight to following the humane dictates of duty, love, and benevolence. In the Edinburgh Cholera Hospital, a difficulty sometimes arose in providing nurses, or in inducing workmen to enter its precincts even for a few minutes: with such terror and suspicion is such an institution regarded, even in the present enlightened age. But I will proceed to narrate the case in question.

At midnight, I was roused by a furious ringing of the hospital bell; and, on proceeding to the admission ward, I found that a man, said to be labouring under malignant cholera, had been hurriedly brought from the police-office by some twelve policemen, who appeared deeply impressed with the extreme danger of their duty, and the dreadful nature of the disease with which their charge was affected. They had been accompanied to the outer gate by a host of inquisitive women and children, who had been attracted by the dismal yells and groans and the violent struggles of the patient. When I first saw him, he had rolled his body almost into the shape of a ball, and was writhing and wriggling on the floor, alternately yelling, groaning, and cursing, and apparently suffering the most intense agony from cramps of the muscles of the limbs, thorax, and abdomen. In a few minutes, he relaxed himself, as if from oppressive exhaustion, and lay extended at full length. Suddenly he tightly grasped the abdomen with his hands, bent contemporaneously the upper and lower parts of his body, so as to relax the abdominal muscles, which appeared to be the seat of pain; and again rolled about on the floor more furiously than a maniac. His face was much flushed, his brow knit, and his features expressive of great suffering. I stooped down to feel the pulse, and examine him more narrowly: he remained quiet during my cursory examination. The pulse was about 90, full, and strong; the skin was warm, and, so far from there being any livor or pallor of the surface, it was ruddy. I was asked by the sergeant in command of the force which had brought the man into hospital, under the impression that he had been seized with the *true Asiatic*, what report or prognosis he should deliver to head quarters. I stated as my conviction that the symptoms arose from intoxication; but this view was not corroborated by the evidence of the police, nor of the patient himself, who, on hearing my report, recovered, or perhaps, strictly speaking, intermitted his exertions sufficiently to say that he was not drunk, though he con-

ferred to having taken two glasses of whiskey as a cure for the choleraic diarrhoea and cramps. The police force now left the hospital, and the patient was consigned to the bath, chiefly for the purpose of ablution. Its temperature was 98°, but he complained of its being scalding; he made violent attempts to escape by assaulting the attendants; at other times, he doubled himself up, and rolled and dived about in the water, as if totally unconcerned about life. This state of active muscular exertion he could only keep up for a limited space of time; during the intervals, he lay down in the bath exhausted and helpless, or he exercised his tongue, while he rested his body, in alternately sneering, cursing, raving, or praying. He was kept in the bath upwards of half an hour, to ensure its full sedative effect. At the end of this time, he had become comparatively calm, coherent, and collected; he begged most pathetically that information of his illness and place of detention might be immediately sent to his mother, whose residence he minutely described. The heat had the desired effect; he became faint, and was carried to bed, where I had an opportunity of watching him more closely, and interrogating him as to the origin of his illness. He was a man of about 24; his face was deeply pitted with small-pox marks; his expression was most forbidding, and indicative, so far as faith can be placed in physiognomy, of a thorough villain; his left leg was thin and atrophied, bent and shortened from old disease of the hip, over which were several large cicatrices. His clothes, which were of the poorest kind, were torn and soiled with mud; his shirt and trowsers hung so loosely on his body that he was semi-nude. He gave the following account of his seizure with cholera; for, under this disease, in its worst form, he said he knew he laboured. He has always been a comparatively healthy, though far from a sober man; was quite well up to ten o'clock this morning, when watery diarrhoea suddenly attacked him, and continued incessantly all day; shortly after the diarrhoea began, vomiting supervened with retching so severe that a small quantity of blood was ejected. About half-past ten or eleven, he went to a druggist's shop for some astringent medicine, and immediately, on leaving it, he was seized with violent cramps, which rendered progression impossible, and, to use his own expression, at once "knocked him down"; he fell in the street, and forgot everything that subsequently happened; but at this point he was picked up, and removed to the police-office. He stated that he had had cholera in India, and, from his former experience, he believed the present to be a much milder attack, the symptoms being precisely the same in kind, though differing in degree, from those of the Asiatic disease. The cicatrices about the left hip were the results of three musket-shots received at the siege of Mooltan. When a boy, he had foolishly enlisted, and shortly thereafter was sent with his regiment to India, where, this accident disabling him from military service, he was discharged from the army, and was now a pensioner. While in the bath, he frequently exhibited a strong tendency to vomit, but succeeded in ejecting only a mouthful of bilious fluid. For some hours thereafter he complained of insatiable thirst. I gave a large mustard emetic, which proved very efficient: the matters vomited consisted chiefly of fluids drank; there was neither intermixture of food nor odour of whiskey. Shortly after being placed in bed, he had a stool of solid dark faeces. For some hours he wriggled about in bed, drawing his legs up towards the abdomen, or tossing them wildly about, raving, groaning, and cursing by turns, as before, and complaining loudly of violent muscular spasms. The latter I was inclined to think had some connexion with the popular idea that whiskey is a specific for colic and cramps; at all events, no contractions could be felt in the muscles which were complained of. He now exhibited muscular tremors of the hands; he saw spectres; and had occasional transient delirium; but he protruded his tongue with comparative steadiness. It was evident he was labouring under a slight degree of *delirium tremens*. He fell asleep at four A.M., and slept for five hours continuously. Next morning he had neither cramps, vomiting, nor purging,

but he complained of headache, muscular pains throughout the body, and general exhaustion. He was incessantly groaning, perhaps from internal pains, more probably for clinical effect; his pulse was strong, his tongue clean, the face flushed, and the skin warm. He slept the greater part of the forenoon; when awake, he was restless and sulky. This condition of mind I attributed to my giving him only the plainest fare and the most rigorous treatment, and my telling him, I hope with sufficient candour, my opinion of his conduct. In the afternoon, he had slight delirium, tremors, and spectral illusions; he made repeated demands for whiskey. He had one stool, which was natural in colour and consistence. On the following day, the symptoms of delirium tremens were better marked, and included *muscæ volitantes*, visions of cats running about the room, and the idea that a woman constantly annoyed and beat him severely about the arms, etc., in proof of which he showed numerous bruise-marks.

I had an opportunity of seeing his mother, and ascertained from her that our patient was a shoemaker in good employ; that he had always been healthy, but was a habitual dram-drinker; that he had been drinking to excess for a week at least, and that, during this period, she had noticed him morose and irritable; that he never was in the army, nor in India; that he met with his hip disease by falling from a high wall, while witnessing a review, when eleven years old; and that he was treated, at home and in hospital, by one of the first surgeons in Edinburgh. The only conclusions to which these contradictory statements could lead me were, either, that his story was a fabrication, attempted to be palmed upon me; that it was a delusion attributable to the *delirium à potu*; or that his mother was prevaricating. The latter I had no reason to suspect, while the first appeared to me the more probable view. Regarding it as a case of delirium tremens, and considering that the infirmary authorities objected to receiving patients who had once been within the suspicious area of a cholera hospital, I kept him under treatment for three days, when he was dismissed *volens volens*. On making subsequent inquiries about him, it appeared that he had been brought up as an inmate of the city workhouse, from which he escaped by leaping the wall. His general character was that of a dissipated scoundrel.

At midnight of the same day on which he was dismissed, I was again roused by a number of the police, having in custody our friend, who was labouring under the same symptoms, or making the same exertions, as four days previously. The police deposed that he had appeared at their chief dépôt in a state of seeming agony from muscular spasms, gesticulating, howling, or groaning, like a maniac; and that, stating he laboured under cholera asphyxia, he threw himself on their care and protection. His condition alarmed the police authorities, who sent him away forthwith. At first I refused him admission, and recommended solitary confinement in a police cell as the most appropriate treatment; explaining, as the ground of refusal, that I believed it, if not a case of imposture, to be merely the effects of intoxication, and, in either aspect, not admissible into a cholera hospital. But, at the urgent request of his custodiers, in consideration of their panic, and of the fact that they had no medical attendant during the night to whom to entrust the care of the case, I agreed to receive him for the night. The cold douche was applied, and he was put to bed, after great resistance, in which his clothes were further torn. No food or medicine was supplied, and the nurse was directed not to remain in the same ward. This was a less comfortable state of matters than he had anticipated or relished; accordingly, about half-past one A.M., he expressed a strong desire to go home. The opportunity was quietly taken advantage of to have him conveyed to the police-office as an impostor. Immediately on arriving at its threshold, he fell down, repeated his gestures and cries, and renewed his asseverations that he had the *genuine Asiatic*. It was explained, however, that his assertions were false, and his symptoms feigned; and he was confined for the remainder of the night.

Next morning he was tried before the police-court as an impostor and a public nuisance, and the evidence of several of the detective force proved that he had frequently been convicted in the same court-room of theft. The speedy result was a sentence of *thirty days' imprisonment, with hard labour*, in Bridewell. I am not aware that he has had any attacks of cholera *Asiatica* since, but hope, on the contrary, that the lesson has had a salutary effect not only on him, but on all who may have been inclined to follow his unworthy example.

This case will illustrate the great difference recognisable between a feigned or spurious and a genuine case of cholera. This man, though he could imitate, or rather over-imitate, the cramps, vomiting, and purging, could not assume the condition of sudden or extreme collapse. Instead of absence of pulse, coldness, pallor, or lividity of the surface, extreme nervous exhaustion, a low whispering voice, and a cool breath, his pulse was very strong, his face flushed, the skin and breath warm, and his voice loud and coarse. The character of his stools and vomit would also at once have exposed him; but, in addition to the absence of characteristic choleraic symptoms, delirium tremens was manifestly present, and we had the evidence of his mother and others as to his general character and the falsity of his statements.

AFFECTIONS SIMULATING CHOLERA.

Patients supposed to labour under cholera, and some of whose symptoms more or less *prima facie* resembled those most characteristic of that disease, were occasionally picked up on the street, and brought into hospital by the police and others, or were sent from the country. At any other time, such cases would either have been left to themselves, or removed to the police-office or an infirmary; but, during the prevalence of an epidemic, when it was well known that a cholera hospital existed, and placards, conspicuously placed, announcing the symptoms and treatment of cholera, arrested the attention of every one, they were looked upon with suspicion or alarm, and were transferred without delay to the hospital. They were chiefly cases of colic, cramps, diarrhoea, and vomiting, induced by intoxication and exposure to the inclemencies of the weather. Without making any general remarks, it will be more illustrative to cite briefly a few of the cases themselves. As I have already mentioned, the chief grounds of the differential diagnosis between spurious and real cholera consist in the suddenness of its invasion, the character and effects of the collapse, the facility of restoring, and the duration and character of, the reaction, and the nature of the evacuations. In many of these cases, a considerable degree of collapse was present, *e.g.*, in exposure to cold after intoxication; but its characters were very different from those of cholera, and healthy reaction was easily and speedily produced. When cramps were present, they were unaccompanied by hard knots caused by the sudden contraction of the affected muscles. The vomit was usually bilious, and often contained whiskey; the stools were never serous or icky; and the various secretions, excretions, and general functions of the body, were often quite normal.

CASE I. *Simple Diarrhoea (acute), attended by mild collapse.* R. McG., a boy, aged 14, was found in an exhausted condition, lying on the street, by the police, who brought him to the hospital, under the impression that he had been attacked by cholera. He was in good health up to noon of the previous day, when he was seized with purging of a very fluid matter: this continued all the afternoon and evening. He supped on potatoes and herring. About midnight, he was attacked by severe abdominal pains; and vomiting, followed by great thirst, soon supervened. He went to his work (which consisted in picking potatoes in a field about two miles off) in the morning; but, after walking about a mile, he found himself so debilitated that he was compelled to lay himself down on the street, from incapacity to proceed further. The warm bath and good diet did all that was necessary in his case; and he was dismissed well next day. Here the collapse was mild, and proportionate to the diarrhoea; cramps were absent; the

stools vomited were greenish; and the dejections were those of ordinary diarrhoea.

CASE II. Simple diarrhoea (chronic), accompanied by severe abdominal pains. H. T., a woman, aged 22, a poor sempstress, whose constitution had been completely shattered by misery and want, had ophthalmia tarsi, and profuse otorrhoea; was quite deaf; bore strongly the marks of scrofulous disease in various parts of the body; and she had previously suffered much from hæmorrhoids. Her father's death, about two weeks previously, had rendered her destitute, for she was quite unable to work. For seven days previously, she had suffered from diarrhoea, which had been induced, and subsequently kept up and aggravated, by exposure to cold and deficiency of food and clothing; it was frequently accompanied by severe twisting pains about the umbilicus, which caused her to roar in agony. The latter symptom was the cause of great alarm among her neighbours, and the reason of her being sent to a cholera hospital. On admission, she was exceedingly cold, pale, feeble, and emaciated; during the greater part of the night, and notwithstanding the free administration of opiates, she howled and groaned in agony, from severe colicky pains. All this patient required was rest, a copious supply of nutritious food, a comfortable lodging and warm clothing, with gentle astringents.

CASE III. Simple Diarrhoea, attended with vomiting and cramps. M. K., a woman, aged 50, was so destitute, that she was frequently compelled to pawn her clothing to obtain the barest necessities of life; her residence was a damp, dark, cellar; her food consisted chiefly of potatoes; she was comparatively temperate, and had always enjoyed good health. Her occupation was potato gathering, which necessitated frequent exposure to cold and wet. She was seized with diarrhoea four days previously: the discharge was at first very copious, amounting to twenty times per day for several days; yesterday and to-day it had abated somewhat. This was followed by copious and repeated vomiting, and by cramps of the "heart, breast, and belly". She became sleepless, feeble, and emaciated, and suffered from constant epigastric and præcordial pain. She described her vomit as generally grass green; and her stools as sometimes very fluid and whitish, at other times viscid and tarry. On admission, there was great abdominal tenderness on percussion or pressure, which usually induced nausea; it was most marked in the epigastric region. A few days' residence in the hospital, along with a supply of clothing furnished by the parochial inspector, restored her to comparative health and comfort.

CASE IV. Colic from intoxication. W. M., a man aged 35, was picked up in a neighbouring street by some passers-by, who found him lying cramped and helpless in a wheelbarrow, which he had been in the act of trundling. He was in good health up to 6 A.M. While on an errand to a distant part of the town, he had sudden, but slight, cramps of the legs and abdomen. He went home to breakfast; and, while wheeling his barrow to his master's workshop, he was seized with sudden and violent cramps of the left side, which compelled him to rest on his vehicle for support, assuming a flexed posture, so as to relax the affected muscles. Immediately afterwards, the cramps extended to the legs, and he fell forward powerless into the vehicle. He could give no satisfactory account of the cause of his illness; but I subsequently found he had paid a visit to a distillery, where he had indulged immoderately in draughts of sour ale; moreover, he was frequently intoxicated to such an extent as to render him unfit for his ordinary avocations. There was neither nausea, vomiting, nor purging; but he was cold and pale on admission; his pulse small; his expression anxious; and his features pinched. One paroxysm of cramps caused him to scream and utter the most piercing cries; his face and neck became turgid; his legs were bent towards the abdomen, to relax the abdominal muscles; the sides of his bed were convulsively grasped, and firmly held by his fingers; his respiration became laboured; and he had transient and slight delirium.

He was dismissed well in two days. Here there was neither vomiting nor purging, though a certain amount of collapse existed. Colicky pains of the intestines and muscular pains of the abdominal parietes, apart from those attending distinct spasms, are never complained of; nor is flexion of the legs towards the abdomen, so as to obviate pressure, ever seen in cholera.

CASE V. Gastrodynia. M. C., a woman, aged 73, came from Glasgow by the evening train, to seek employment and a relative in Edinburgh, and put up for the night in a house of refuge, intended for the reception of vagrants. For years she had been a martyr to dyspepsia and all its concomitant evils, and in addition had had hæmoptysis and other severe pulmonary symptoms. About 9 P.M., she was suddenly seized with severe cramps in the epigastrium. Warm water, sugar, and cayenne pepper, were immediately given; and a doctor was sent for, but none could be procured. Knowing that several cases of cholera had occurred in the town, the natural fears of the superintendent were at once excited: the other inmates also became alarmed at the idea of its being a case of spasmodic cholera, and the result was that she was forthwith removed to the cholera hospital. On admission, she was cold, pale, and panic-struck, at having been told she was labouring under cholera: but the pulse was 100, and quite perceptible, though small; the tongue was dry and clean; she spoke distinctly; and was quite able to walk to the hospital. A warm bath, a few days' supply of good food, and a comfortable lodging, speedily restored her. But the alarm, which originated in the night asylum, was propagated in the neighbourhood; and, as a consequence, few or no paupers attended the daily soup kitchen attached to the institution, apparently from the belief that everything and everybody therewith connected were fit subjects for quarantine. Confidence was not restored until the terrified superintendent was able to produce a certificate, stating that the woman did not labour under cholera in any form; that her ailment had been simply the effect of cold, fatigue, starvation, and anxiety of mind, on a shattered constitution, in an aged individual; and that she was now perfectly well.

CASE VI. Acute Peritonitis: fatal. W. H., a man, aged 30, was sent from a lodging-house in a country town in a rude cart: the day was very wet; he was sparingly covered with blankets; and, on arriving at the hospital, he was soaked with rain, and altogether in a miserable plight. This exposure and imprudent journey appeared to hasten, if they did not induce, the fatal issue. He stated that his complaint began ten days ago, by rigors and other febrile symptoms, which rendered him unable to work. Since that period he had not had a proper alvine evacuation. He was slowly recovering, when, last night, he was seized with acute gripping pains of the intestines, the abdomen becoming at the same time tender on pressure. He had had venereal disease for four or five years; had been intemperate, but always enjoyed good health. On admission, his pulse was 70, full and soft; skin warm and moist; tongue moist and clean. There was anorexia, considerable thirst, and difficulty in micturition. He made no complaint, except of abdominal pain, extending from the epigastrium to the penis and testicles. In the afternoon, he had copious vomiting of a grass-green fluid; his pulse rose to 135, and became sharp; his expression was anxious; his features were pinched; respiration was wholly thoracic; he lay in bed with his knees drawn up towards the abdomen, the surface of which he could not bear to be touched on account of acute pain or tenderness; and a clammy sweat broke forth. The symptoms rapidly became worse, and he died on the third day. At the *post mortem* examination, the following were the chief lesions exhibited: Portions of the intestines coiled up and bound together by recent lymph; rectum glued to the bladder; small intestines glued by the same exudation to the abdomen, on the left side; a portion of the gut strangulated, being dilated above, and contracted below, the seat of strangulation; chronic perforating ulcer of the ileum; gangrenous discoloration of portions of the gut; injection of the intestinal and parietal peritoneum;

accumulation of recent lymph and pus in the cavity of the abdomen and pelvis.

In most of the above cases, it will be seen that there were present the predisposing causes which are known to be most favourable to the development of cholera; and, in many, the symptoms were such as to justify suspicion, if not alarm.

CHOLERA HOSPITALS AND THEIR ACCESSORIES.

The above cases also illustrate well the value of hospitals of observation in connexion with, but at the same time distinct from, cholera hospitals. All of them ought to have been transferred, immediately after their true character was discovered, to a general infirmary, a house of refuge, or a workhouse. But, having been received within the precincts of a cholera hospital, whether the nature of the disease justified their having been sent to such a place or not, they were put upon the same footing, as regarded their admissibility into other hospitals, as true cholera cases. It was, therefore, rendered compulsory to detain, or treat, in a cholera hospital, patients having only trivial complaints, who might readily have been affected by the cholera poison emanating from the bodies and clothes of cholera patients in other wards, and died of the disease, and who might, had they not been thus exposed in an infected atmosphere, have escaped. In not a single instance did such an event take place; but the risk they ran was evident. All the cases above referred to were brought or sent to hospital as cholera. In some, the previous symptoms were described to have been choleraic, though their state on admission did not corroborate this opinion; many had been received hurriedly during the night, and in such a condition as to demand immediate and active treatment, whatever the nature of the case; and all of them had been a cause of anxiety and alarm in the neighbourhood where they occurred. Under the circumstances, they would have been suitable for admission into an hospital of observation; whence, after the lapse of a few hours, days, or weeks, they would have been transferred to some of the institutions above mentioned, and not sent to a cholera hospital. Besides a building set apart for the reception of suspicious cases of diarrhoea, or for cases sent in or described as cholera, there ought to be connected with every cholera hospital a building supplying all the comforts and conveniences of a home, well ventilated, roomy, and not overcrowded, for harbouring the friends and relatives of the victims of undoubted cholera, who should, immediately on the irruption of the disease, be removed from their dark, filthy, crowded dens, so as at once to diminish the chances of propagating the disease in populous localities. The great advantage of separate buildings for these different purposes is, that we thereby diffuse and weaken, and in a great measure destroy, the virulence of the concentrated poison of cholera, while we endeavour to remove the predisposing causes which favour its development. I do not wish here to enter on the much discussed subject of the construction and management of cholera hospitals, or of their relative advantages or disadvantages over home treatment; but it appears to me that, during cholera epidemics, proper hospital accommodation, to be provided by parochial boards and others in authority, should consist of the following parts:—

- I. *Houses of refuge*, in the suburbs or country, freely exposed to the wind, lying in healthy situations, containing large, roomy, well ventilated wards, and presenting all the comforts of a home. Hither should be at once removed the inhabitants of the crowded houses, stairs, or closes, where the disease may at the time be prevalent, with the exception of persons labouring under diarrhoea or actual cholera. Here an abundant supply of nutritive food and warm clothing, and every facility for ablution and exercise, should be furnished. Meanwhile, the houses in which cases of cholera have occurred, should be subjected to the most careful scrutiny, and every means taken to cleanse and ventilate, and in many cases to pull down and erase abodes scarcely fit for the habitation of pigs. Should any cases of diarrhoea or cholera break out among the inmates of the refuge, they

ought at once to be removed to some of the other hospitals after mentioned.

- II. The *cholera hospital* proper, for receiving patients undoubtedly labouring under cholera. It ought to be well situated for light and air, contain large roomy wards, which should never be at all crowded, and should possess all the modern facilities for ablution, bathing, ventilation, etc.

- III. A *convalescent hospital* for the transference from the cholera hospital of patients in various stages of convalescence, so as, by removing them from a tainted atmosphere, to facilitate a speedy return to health, and also to diminish the probability of concentrating or multiplying the poison. A portion of the cholera hospital itself is generally devoted to the reception of convalescents; but, where accommodation is ample, it is preferable that the buildings should be separate.

- IV. An *hospital of observation* for the accommodation of cases which are merely suspicious, or have been said, or supposed, to be cholera. These will include many cases of premonitory choleraic diarrhoea; simple diarrhoea from infected localities; diarrhoea produced by fear; cases of colic, colic and cramps, or colic complicated with diarrhoea and vomiting, and accompanied by a certain degree of collapse, produced by intoxication; diarrhoea induced by destitution and its effects, exposure to cold and wet, deprivation of food, clothing and lodging, anxiety of mind and depression of spirits; together with feigned cases, which would probably be few in number.

Besides tending directly to the arrestment and extinction of the disease, the very fact of the existence of such superior accommodation, of so ample and careful a provision for its prevention, no less than its proper treatment, could not fail to operate most beneficially on the public mind by inspiring confidence and banishing idle fears; and this of itself would undoubtedly go far to check or mitigate its virulence.

MEDICO-LEGAL CASE.

The following case appears to me to possess interest in a medico-legal point of view.

About 8 A.M., Mrs. B., aged 53 years, was brought into hospital by several policemen in a state of hopeless collapse. She was quite pulseless, and cold and rigid as a corpse; the *vox cholericæ* was well marked; cramps of the legs were almost incessant; there was a dingy livor of the hands and face, but no distinctly cyanotic condition of the body; exhaustion was extreme; and the intellectual as well as the vital powers seemed for the time frozen or paralysed. She complained much of a pain in the chest, which she attributed to blows, and she held her hand over the upper part of the sternum and left side of the thorax, as if to protect them from further injury. The warm bath produced no effect on the circulation; all the usual remedies were promptly had recourse to, but there was not the least attempt to rally; and she died, apparently by syncope, shortly after being removed from the bath, three hours and a half after admission. *Post mortem* movements, co-existent with a rise in the temperature of the body, were well marked. Though she had formerly appeared to me a stout, healthy woman, her body was much emaciated, her malars, shoulders, clavicles, etc., being very prominent. No mark of injury was anywhere visible. The chief pathological appearances, noted at the autopsy next day, were:—Venous injection of the membranes of the brain; sub-arachnoid effusion; opacities of arachnoid. Tympanitic distension of the caput cæcum, and of the ascending and transverse colon; sigmoid flexure contracted; large intestines pale. Rosy hyperæmia of the small intestines; duodenal and jejunal valvule deeply stained with bile; soddening of the mucous membrane; contents icky mucus, having less or more of a bloody tinge in some parts of the gut. Rugæ of the stomach prominent and injected. Bladder contained 3ss of muddy urine. The other viscera and tissues were healthy. The points here to be kept in mind are:—

1. The absence of marks of violence; and
2. The rosy hyperæmia, the soddening of the mucous

membrane, and the icky mucoid nature of the contents of the small intestines, which are (with the reservations mentioned under the head of "Pathology") characteristic of cholera.

Two days previously I had seen and conversed with her about her husband, who was admitted into hospital in collapse, and died in the "consecutive fever" two days after his wife. On that occasion, she stated that she was, and she certainly appeared to me to be, in good health. From her condition of extreme collapse on admission, I felt satisfied that she had been exposed in some most unusual way to the inclemencies of the weather. I therefore questioned her particularly as to the circumstances of her seizure; and from what I could gather when almost in *articulo mortis*, it appeared that on the previous evening she had visited her husband in the cholera hospital, and was then in perfect health; that, immediately thereafter, she accepted the invitation of a friend to spend the night, her own house being in process of cleaning by the parochial authorities; that, about 8 P.M., soon after entering her friend's house, she was seized with severe and incessant watery purging, which was soon followed by vomiting and cramps; that the house in question was situated in a damp sunk area; that the room she occupied had no fire, and no conveniences of any kind; that she slept none, and had no attentions nor comforts bestowed on, or supplied to, her during the night; that, in consequence, she had constant rigors, and suffered much from cold; that, early next morning, she was turned out of the house by her friend's husband (R., a sweep), and was compelled to sleep in the open area; that she lay here, as if dead, till R. obtained the assistance of a policeman to remove her to the police office; that she was quite ignorant of the reason why she was placed "in durance vile", unless it were supposed intoxication, which her condition of stupor from long exposure to the cold, and great exhaustion from excessive diarrhoea, must have somewhat resembled; that she was, however, quite sober; that from the police station she was immediately removed to the cholera hospital; that she was treated with great rudeness and even violence by the police; and that she could assign no cause for her illness, not having had any unusual diet nor been particularly exposed to cold of late. On the following day, I had an opportunity of gaining more accurate information from the policeman who had brought her from the sweep's house on the one hand, and from a female neighbour on the other. The former deposed that whilst passing the sweep's house about 7 A.M., he was accosted by R., who stated that he had been looking anxiously for a constable to remove two women, who were lying in his area in a state of intoxication; he said they were known to him, but were not relatives. Acting under his direction, the policeman descended into the area in front of R.'s house, and there he saw Mrs. B. lying on her side, cold and stiff as a corpse. She was scantily clothed, appeared quite stupid, was unable to give any account of herself or her position, and so weak that she was quite unable to support herself. By the light of a candle, he was shown in a coal cellar, which was half full of soot, an old woman (widow R.), lying half naked, and so begrimed with soot and filth, that at first he failed to distinguish the outline of a human being amongst the general mass of black. It appeared that, on coming home on the previous night, probably in a state of inebriety, and finding two women soiling his house with their evacuations (for it afterwards appeared they were both affected with cholera), R. turned them out of doors. Mrs. B. lay the remainder of the night in the open area, and widow R. in the coal cellar. The latter, aged 69, was stated to be R.'s mother-in-law. The police, on accidentally ascertaining this relationship, compelled him to receive her again into his house, where she died about the same hour as Mrs. B.; viz., 11:30 A.M.: her symptoms were said to have been precisely similar. The autopsy—at which I was present—was made six days after death, the body having been exhumed for the purpose. The body was in a state of good preservation, and had been carefully freed of soot. There were no marks of injury; neither were there livor or marks of decom-

position. The subcutaneous fat, especially of the abdominal parietes, was very thick, and the omentum and areolar tissue throughout the body were much loaded with fat. On opening the body, the stomach and large intestines were found pale and distended; there was rosy hyperæmia of the surface of the small; their contents consisted wholly of pure slimy mucus, quite devoid of feculent or bloody intermixture in any part of the canal. The bladder was contracted, but contained about half a drachm of urine. There was no ecchymosis. The other viscera and tissues were essentially healthy. The whole appearances tended to indicate that the mode of death must have been very sudden.

The evidence of her friend and neighbour showed, that Mrs. B. had for a long period been very intimate with the family of R., who had uniformly acted towards her as kind friends; that, therefore, there was no motive for ill-treatment on the part of R.; that she was sober and industrious, but withal miserably clad and fed, in consequence of her husband's long illness in the Royal Infirmary, and her own inability to procure remunerative employment; that she appeared quite well, and was in good spirits two hours before her seizure; that she accepted the invitation of R.'s wife very thankfully and with pleasure; that, immediately after her husband's seizure was reported to the parochial authorities, they thoroughly cleaned and ventilated his house, thereby rendering it quite uninhabitable *pro tem.*, in consequence of the walls being damp and the windows thrown open; and that a woman, who had assisted Mrs. B.'s husband into the chair which conveyed him to the cholera hospital, immediately took cholera and died; and several cases of premonitory diarrhoea had occurred at the same time in the same stair. It ought to be kept in mind—a point I failed in ascertaining—that this woman's evidence might not have been disinterested, but volunteered on behalf, or at the instigation, of R. With reference to the legal evidence in the case, it is noteworthy that—

1. Mrs. B. had been for some days living in, and breathing an atmosphere tainted with cholera poison (her husband and a neighbour both died of the disease).

2. That she was strongly predisposed to cholera by starvation, and its effects on the system.

3. That her attack was sudden, and supervened immediately on her entering R.'s house, i.e. long prior to the exposure or to the violence complained of.

4. That R.'s family had been notoriously very kind to Mrs. B., as the invitation on the present occasion proved; and that R. could have had no motive in expelling her from the house.

5. That no marks of injury or violence could be detected on the body during life, or after death.

6. That Mrs. B. indubitably, at the time of her exposure, laboured under, and subsequently died of, cholera.

It was natural to suppose that such conduct would soon gain notoriety. Accordingly, it was immediately bruited abroad that, during some drunken brawl, R. had used violence to two women, who were at the time his guests, one of them being his mother-in-law, and the other a friend of his wife; had turned them out of doors during a cold winter night; and that, in the morning, they both died from the effects of his ill-usage. This story came to the ears of the Procurator-fiscal, who was moreover requested by some respectable inhabitants in the neighbourhood to make a judicial investigation into the true circumstances of the case. The result was, that R. and his wife, at whose instigation some said the mischief had been done, were committed to prison to await public trial; and all concerned in the case were officially called upon for their evidence.

The case seemed to me rather an unusual one for a jury trial. Considering all the circumstances, it is plain R. could not be accused or convicted of *culpable homicide*; for, if violence had been used, it must have been insignificant, as it left no traces, and could not have caused death; and he did not use violence "with intent to kill, maim, or wound". Neither could he be convicted of *accidental homicide*; for it could be proved that both women were labouring under serious choleraic symptoms long before they were

turned out into the area. This step was not taken by R. with any "evil intent"; and it could not be proved that the exposure or mal-treatment had either aggravated the disease or hastened its fatal issue. Of what, then, was the man accused, or for what could he be punished by law? Strictly speaking, it was more a case for investigation and punishment by the Society for Preventing Cruelty to Animals; for nothing could be proved against R., so far as we are aware, except that he behaved in a most unkind, unchristian, and even brutal way, to two fellow-creatures, one of whom was a relative. Doubtless the lawyers felt and foresaw the anomaly; for, in the course of the legal proceedings, difficulties and doubts arose, causing adjournment of the trial, which, I suspect, will now be permanently abandoned without coming to any decision on the point at issue. The chief or only points the counsel for the prisoner appeared anxious to adduce in his defence were, that, at the time he turned the women out of doors, he did not know [and from the nature of the symptoms, he could not reasonably have been expected to know] that they were labouring under Asiatic cholera, or other similarly dangerous affections, though they were suffering from incessant serous purging, vomiting, and cramps, attended by extreme prostration; that he did not use violence, or subject them to exposure to the weather, with any bad intent, further than to rid himself and his wife of company which had become both troublesome and disagreeable; that he was not aware such violence or exposure would aggravate their disorder, of whatever nature that might be—far less to such a degree as to speedily bring about a fatal issue; and that, on the whole, the unfortunate circumstances under which the women died were quite accidental, and that R. could not be accused of any feeling or conduct towards the diseased except rudeness or brutality, which is not punishable by law.

The law seems to be singularly deficient in its provision for the punishment of such offences. It could not be proved that the exposure and violence, along with the absence of proper comforts and attendance, actually caused death in these cases, but it is highly probable they materially hastened it; and it is, moreover, possible that, had these strong predisposing and auxiliary causes been absent, they might not have been fatal. It would be venturing beyond the proper province of the physician, and imprudently interfering with the office of the legislator, to point out how it appears to me such cases should be dealt with. I am content to add another to the many anomalies and deficiencies daily accumulating in legal medicine, which will, at no distant date, I hope, attract alike the attention of the medical and legal professions, and demand immediate reform.

[To be continued.]

Crichton Royal Institution, Dumfries, June 1854.

BIBLIOGRAPHICAL NOTICES.

A TREATISE ON HOOPING COUGH: ITS COMPLICATIONS, PATHOLOGY, AND TERMINATIONS; WITH ITS SUCCESSFUL TREATMENT BY A NEW REMEDY. By GEORGE D. GIBB, M.D. pp. 395. London: 1854.

In the volume before us, Dr. GIBB calls the attention of the profession to the utility of nitric acid in the treatment of hooping cough: and he states as the result of his experience, that it "not only arrests the paroxysms and removes the hoop, but shortens the disease almost as effectually as quinine does intermittent fever". Previously to entering on the subject of treatment, he furnishes a very creditable and concise account of all the opinions which have been expressed by previous writers with regard to the pathology of the disease, and of the various remedies which from time to time have been employed for its relief; and he also gives a clear exposition of his own pathological creed on the subject. His book affords evidence of much industry: and (whatever may be the decision of enlarged experience with

regard to the value of his plan of treatment) it will always be useful as containing a complete summary of the facts and opinions constituting the present state of medical knowledge and belief, so far as the disease in question is concerned.

The work is divided into nineteen chapters. The first is devoted to a brief summary of the anatomy and physiology of the respiratory organs; the second deals with the history and nomenclature of pertussis; the third contains the statistics of its absolute and comparative fatality in different localities; and the fourth describes its ordinary symptoms. The complications are discussed in the next five chapters; the terminations in the tenth; and its pathology in the eleventh and twelfth; the author first giving the opinions of others, and then his own. In the thirteenth chapter, the disease is shown to exist in all parts of the world; and in the fourteenth its causes, and the diagnosis and prognosis are briefly considered. Three more chapters embrace an account of old remedies; and the two last place before us the author's treatment,—first, of the simple affection,—and, secondly, of the complications that may arise during its course.

Dr. Gibb sums up his own views of the nature, seat, and pathology of hooping-cough, in the following "declarations":

"1. Toxication of the blood, produced by some unknown specific influence, peculiar in its nature, not unlike that of measles and scarlet fever, in the circumstance of its affecting persons once during their lives, generally persons under five years of age.

"2. Irritation of the terminal loops of the nerves supplying the mucous membrane of the bronchial tubes, producing vascularity and consequent secretion of a greater or less quantity of mucus.

"3. Reflex action of the pneumogastric and respiratory nerves, followed by congestion of the vessels of the medulla oblongata and pia mater surrounding it, and also at the origins of its nerves.

"4. Spasmodic contraction of the circular and longitudinal muscular fibres of the bronchi, consequent upon the foregoing, manifesting itself in the series of sudden expiratory efforts, and the well-known sonorous bark, draught, or hoop.

"5. The immediate result of which is frequent and rapid respiration to compensate for its temporary absence, producing a highly oxygenated or super-oxidised state of the blood, with a tendency to the formation of fibrinous concretions in the heart during the spasms.

"6. As a secondary result of the spasmodic muscular contraction of the bronchi, we have a temporary hypertrophy of the muscular fibres thus acted upon, which disappears again after the cure is established.

"7. The disease is at first irritative and catarrhal, and afterwards nervous and spasmodic, both due to the unknown peculiar exciting cause present in the blood.

"8. It manifests the peculiarity of running a special course through its different stages, three in number, but which may be cut short or greatly modified by treatment." (pp. 211-12.)

Dr. Gibb's pathological conclusions are worthy of careful attention; and, recommending them to our readers for that purpose, we will throw out a few hints on the pathological doctrines they contain.

The author's view that the disease primarily depends on "toxication of the blood" is essentially the same (as he himself states) as was maintained by Willis, Hoffmann, Sydenham, and other old writers; and it is certainly one which gives a very satisfactory explanation of many of the phenomena of hooping-cough. While, however, we have great faith in the doctrine of the toxæmic origin of this and other diseases, it must be remembered that this doctrine is almost if not solely founded on *analogy*,—on the resemblance of the symptoms of toxæmic diseases to those produced by the ingestion of visible and palpable poisons; and we would suggest renewed endeavours to place it on some firmer footing. At present we can only use the term "unknown specific influence"; and, as far as the *actual demonstration* of this influence goes, we are in the same condition as Hoffmann when he spoke of "acrid serum in the blood", and Sydenham when he wrote of hooping-cough as produced by "some irritating effluvia in the blood".