Leclanché; and on April 20th I commenced with five cells. I passed the current from the lower spine through both ovaries and uterus for fifteen minutes each morning, and gradually increased the strength as she could bear it to twenty cells. She became unwell within a week of her expected day, and continued so for three days. There was no nerve-disturbance before or after the period. A few days after she was better, I again applied the current, giving up to thirty cells; and the flow made itself visible the very day on which it ought. In twelve hours, it ceased; so I again had recourse to the battery, and in two days all came right, and the discharge was greater than it ever had been, and continued for four days. She remained perfectly free of all epileptic symptoms, and her temper and health were better than ever. I allowed seven days to pass before applying the current; then I made use of it, going up to forty cells.

A week before the expected time, I made her sit daily for fifteen minutes in a hip-bath with a solution of hydrochlorate of ammonia, and passed the current through the water; and on the very day they ought the menses appeared, but again ceased for two days, to reappear and pass through their natural course as on the previous occasion. Again there was perfect freedom from all epileptic signs; so much so that on the second or third day she was out on horseback.

During the time I used the Leclanché, I never omitted the bromide, as her system seemed to have become so used to it that she could not or would not do without it. Of course, three months are not a sufficient test of the power of any remedy; still I think the result is so far satisfactory as to be worthy of record.

One fact I must mention, and that is, that under certain conditions the nerves seem almost insensible to the action of the current; at other times, they resent its mildest application. Another is, that, in giving a bath, care must be taken that the walls of the bath do not abstract the current from the water and the body of the patient; the best plan being to use a copper wire covered with India-rubber solution for the pole inserted into the water, and for the other any other electrode to be moved over the spine or any part of the trunk of the patient either by her own or attendant's hand. The application of this battery can be put in practice by any woman of common observing powers after a single demonstration. For medical purposes, I recommend a forty-cell battery, as it happens very often that the patient can bear that number of cells quite as well as ten or twenty.

I have just learned of the success of the same treatment in two cases—sisters—one aged 19, the other aged 17½. The elder has been irregular always, sometimes missing one or two periods. She has suffered from severe headaches, has had occasional faintings, and her spirits have been greatly depressed; and at intervals she has been unlike herself in disposition and conduct—in fact, epileptiform. She has had all sorts of emmenagogues given her without any result. I ordered her a Leclanché's battery of forty cells, explained to her mother how and when to use it, and she writes me to say that it "has answered perfectly and produced the desired result", not only in the case of the elder girl, but also in the case of the younger, who seemed perfectly healthy, but showed the same disposition to irregular and painful menstruation as her sister. Having only received the above intelligence to-day (August 5th), I regret I cannot furnish further particulars. In the case of the elder girl, I forgot to say that the "period" was not only irregular, but, when it did appear, gave much pain, and necessitated rest in bed for twenty-four hours.

INTESTINAL OBSTRUCTION TREATED BY BELLADONNA.

By GEORGE PARKER MAY, M.D., Maldon.

THE subjoined case presents features of interest as illustrating the therapeutic powers of belladonna as well as its toxic action.

A gentleman, seventy-five years of age, in vigorous health, fulfilling the duties of county coroner and those attached to other public appointments, was seized on the morning of August 31st with severe pain in the right iliac region. Mr. Tomlinson, his medical attendant, administered a pill of croton-oil, and subsequently a dose of castor-oil (the patient being exceedingly anxious to have his bowels relieved); this was followed by an injection of warm water. Sickness ensued, and no alvine relief was obtained. In the evening, I was summoned to meet Mr. Tomlinson in consultation. The patient complained of a dull pain, aggravated by pressure, over the head of the colon, extending downwards and towards the lumbar region. The pulse was 60 and full; the head and face flushed. Opium was prescribed, and a repetition of the enema, and turpentine fomentations, which somewhat relieved the pain. On September 1st, he had had much pain during

the night, recurring in violent paroxysms, mitigated by the opium, but returning when the anodyne effects had subsided. Injections, simple and medicated, had been freely administered with no beneficial result, but with the effect of increasing the pain. I advised the administration of a quarter of a grain of extract of belladonna every three hours during the night.—On September 2nd, only one pill had been taken. The pain and general symptoms were aggravated; the tenderness on pressure was greater. The abdomen was swollen and tympanitic. Temperature 102 degs.; pulse 95. He had nausea, but no vomiting. In the evening, there was increased rapidity of pulse, and general evidence of typhlitis. As the case presented a formidable aspect, it was determined to push on the belladonna treatment. Accordingly, he was ordered a pill with a grain and a half of extract of belladonna every two hours during the night.—On September 3rd, at 5 A.M., Mr. Tomlinson was summoned, as the patient was thought to be dying. It was stated by the attendants that the breathing had become stertorous, and that he was incapable of swallowing. Four pills (six grains of the extract) had been taken between 9 P.M. and 4 A.M. Mr. Tomlinson found him to be incoherent, and struggling to get out of bed. On our visit at 9 A.M., he was in the same condition, and delirious. The head and face were flushed, hot, and bedewed with profuse perspiration. The pupils were dilated to the boundary of the arcus senilis, which, in this case, was much developed. The tongue was dry, but no indication of thirst could be observed now, nor evident throughout his illness. The tempera ure could not be ascertained owing to the extreme restlessness of the patient and the jactitation of the arms. The pulse was rapid, feeble, and compressible. Brandy in small quantities, with milk and ammonia, was given, as it could be got down; and ice water was applied to the head. In the meantime, he had passed involuntarily in bed a copious fluid evacuation. At 1 P.M., he had made incessant efforts to get out of bed, which were with difficulty re-trained. Though far from rational, he was less incoherent; he knew his brother, and called him by name. The bowels had again been copiously relieved. At 8 P.M., he was much better; rational, but excitable and talkative. The pain in the body was nearly gone, and the tympanites much subsided. He had several evacuations, for which purpose he got out of bed of his own accord.—On the 4th, he was much better, having had four hours' quiet and continuous sleep. The pupils were much dilated. The tongue was coated with a moist brown fur. There was slight uneasiness in the head. From this period his convalescence proceeded uninterrupted, and, in a fortnight, he was able to resume his ordinary avocations.

NOTES ON SEWER-GAS POISONING.

By HENRY G. TREND, L.R.C.P., etc.

DURING the last two years, several cases of illness, presenting various different symptoms, all traceable to the poisonous effects of sewer-gas, have come under my notice. An abstract of these in the order of attendance may not be without some interest.

In January 1877, I was called to see three children, seven, five, and three years old, living in a large new and apparently well-built house in one of the finest roads in the north of London. They were all vomiting and very feverish, the youngest especially ill, with a temperature of 103 and every appearance of oncoming scarlet fever. On the following day, there being no improvement, Dr. Sutton saw the children with me. He also suspected scarlet fever. No rash appearing, on further inquiries, I found that the father, mother, and two servants had for some time felt a nausea, with occasional diarrhoea and a general feeling of exhaustion. Although assured that the drains were "all right", I determined on seeing for myself, and speedily found the cause of the mischief. *The joints of the soil-pipe had been forgotten to be cemented, and the sink in the back kitchen was untrapped; consequently the whole atmosphere of the house was impregnated. The youngest child continued alarmingly ill for many weeks; a large abscess formed round the left elbow-joint, which, in February, Mr. Allingham saw with me. The child, however, after many months of suffering, made a capital recovery, and has perfect use of the joint.*

During the last month, I have been again attending this family with the same sort of symptoms, and found that, in the lavatory on the half-landing, an ingeniously (?) contrived zinc-lined tray for the use of the housemaid had been put, into which the waste water from the basin and the bath-room above ran, *communicating directly with the drain, but which was omitted to be trapped. This has been done, and the health of the inmates is now good.*

In September last, I was sent for to a house close to Hackney Downs, and found the whole family (ten in number) covered with an

eruption, which had all the appearance of varicella after the vesicles have burst. The mother and eldest girl had diphtheritic throats, and a younger child was very feverish. They were almost angry with me for suggesting that perhaps the cistern wanted looking to; but I insisted on seeing for myself, and found that the waste-pipe communicated direct with the closet, and that the valve at the bottom of the pan in the water-closet had been broken off for at least a month; but they thought, as the window was kept open, it did not much matter. Both these defects have been remedied. My patients are now well, convinced, almost against their will, that these two "trifling things" were the cause of their illness.

In the neighbourhood of Finsbury Park, I am now attending a well marked case of scarlet fever in a little girl, clearly traceable to sewer-gas. The mother, her sister, and one other child have sore-throats, but no feverishness or rash. In this house, I find the overflow-pipe of the cistern running directly into the drain, the pan of the water-closet cracked, and the whole thing so badly fixed that sewer-gas was escaping at several outlets. The landlord failing to see the necessity of remedying this state of things, I sent a note to the Islington vestry, who had everything properly done in three days.

In one of the best roads on the De Beauvoir Estate, I am attending four children in one family plainly poisoned by sewer-gas. On examining the premises, I find the overflow-pipe from the cistern in direct communication with the drain; the valve at the bottom of the pan in the water-closet bent back so that no water ever remained in it, and the waste-pipe in the bath-room untrapped, going straight into the drain. In this instance, it being their own house, and the husband and wife reasonable and intelligent people, I had no difficulty in having the necessary alterations carried out without delay.

It is impossible to overrate the evil effects produced by the bad sanitary arrangements of most modern houses; I believe that half the illness one is called upon to treat is due to this cause. The majority of the people are afraid to spend a few shillings, because they cannot actually see the poison; while guineas in profusion are lavished upon the latest fashions in dress and ornamentation. Landlords and plumbers also keep alive this scepticism from ignorance and interested motives, and the collective wisdom of the bar-parlour joins in to denounce the "doctors' fads" and the "sanitary-mongering craze".

It does not seem that our experience as yet is able to predict what form of disease will follow from sewer-gas poisoning. Do the same organisms induce different disease, by some unexplained law, in different persons? or do the several genera of bacteria or infusoria always induce the same definite disease? These problems will perhaps one day be solved; at present, it seems plainly to be the duty of the medical adviser to insist, "in season and out of season", that the cistern and closet arrangements at every house he visits are in accordance with what science and common sense unite in suggesting as the best.

THE WET-SHEET PACK AND CHLORIDE OF AMMONIUM AS VALUABLE THERAPEUTICS IN THE TREATMENT OF SOME FORMS OF DELIRIUM TREMENS.

By JOHN BROOM, M.D., Clifton.

It occasionally happens that cases of delirium tremens do not yield to the usual remedies, such as purgatives and soporifics, with partial or total abstinence for the time. Such cases often give considerable anxiety to the patients' friends, as well as much trouble to the practitioner. Out of a number of such exceptional instances, I give the two following cases which occurred in my practice some time ago: the first illustrates the good effect of chloride of ammonium, and the second of the wet-sheet pack.

CASE I.—J. B., aged about 45, of sanguine nervous temperament and slight *physique*, had been periodically addicted to habits of intemperance extending over many years. When I was called in to attend him, he had been "on the spree", as he termed it, for three weeks, taking chiefly port wine, and but little food. He had the typical tremor, was very nervous and apprehensive, imagined that he saw and heard Satanic forms and sounds which prevented his sleeping, had hot skin, coated tongue, sallow complexion, sluggish bowels, and urine loaded with uric deposits.

He was put upon a suitable diet, had stomachics, purgatives, and cholagogues during the day, with the usual soporifics at night—*c. g.*, morphia, cannabis Indica, bromide of potassium, and chloral-hydrate; he was only allowed small quantities of alcoholic stimulants in his food during the first week, but none during the second. At the end

of this time, his chief trouble was continuous noises, as of persons talking in a low tone or whispering about him; these became so harassing and annoying to him, that upon several occasions he felt impelled to commit suicide. Conceiving that these delusions might be due to a hyperæmic or hyperæsthetic state of the auditory nerves, and remembering the action of chloride of ammonium upon nerve-fibre and neurilemma generally, I prescribed twenty-grain doses every four hours. After this, he slept several hours the first night, heard the mutterings only faintly and occasionally the next day, slept through the whole of the second night, felt perfectly well the third day, and had no further misgivings about his sight or hearing.

CASE II.—R. A., aged about 50, of robust and active habits, had been occasionally addicted to alcoholic imbibing excesses, beer being his favourite beverage. On this occasion, delirium tremens had supervened after a "spree" of three or four weeks. He had been attended for this by a professional friend of mine for about a fortnight; but, on account of the case being an intractable one to the usual medicinal, dietetic, and general remedies—as well as from his being very difficult to control by his family and attendants—I was requested (by my friend whose case it was) to visit him. Upon my arrival in the evening, I found him in a very wild, excited, and tremulous state. He insisted upon devils being under the bed and about the room, and that they were bent upon doing him bodily harm.

As he had stoutly refused to take anything in the form of medicine, and knowing what my friend had already given—having exhausted his resources with but little benefit to his patient or credit to himself—I decided to have him packed in wet sheets. The following was the *modus operandi*. Several gallons of cold water were placed in a large vessel in his bedroom, and in this I thoroughly saturated four large sheets taken from the beds. He was then seized by three powerful men and compelled to go upstairs into his bedroom, a proceeding effected only after a desperate struggle. There he was brought to a state of nudity, and, while his arms were held against his sides, I quickly encircled the whole of his body and legs in three of the sheets, and with the fourth, folded into one-fourth of its full size, wrapped his head and neck, leaving only his eyes, nose, and mouth free. Short wet towels were then placed round his neck, arms, and legs, to keep him quiet and the pack *in situ*. He was then placed upon a hair-mattress and pair of blankets, and well covered over with several more of the latter. A rope or strong cord was next passed lightly over his chest and legs and secured to the under part of the bed, so that he should not be able to rise in, or roll out of, bed. After this, he was given a pint of warm milk in which an egg and a tablespoonful of brandy had been previously mixed. He shivered and remonstrated severely while being packed, went to sleep in about ten minutes after the process was completed, and slept for ten hours. The next day he expressed himself as feeling much better, but very anxious to be set free from his pack. This privilege was allowed, under certain restrictions and faithful promises. The whole processes were repeated on the second and third nights and mornings with progressive results, after which he was apparently cured, having neither tremors nor hallucinations.

As to the *rationale* of such treatment in exceptional cases, I need not say anything here, as such will be readily understood by members of the profession; while the result, when satisfactory, is as gladly welcomed by those for whose benefit such may have been attained.

SURGICAL MEMORANDA.

ISOLATION OF THE BOWEL.

IN connection with the interesting case of isolation of part of the bowel during an operation by Professor von Nussbaum, I may be allowed to allude to a case which came under my observation last year. The patient was a soldier in the 26th Cameronians, and he died with all the symptoms of strangulation of the bowel. I was present at the *post mortem* examination, when the diagnosis was confirmed, a portion of the bowel having become strangulated in an opening in the mesentery about four inches in diameter. On careful examination, this opening presented a remarkable appearance. The edges of the aperture were rounded and smooth, and traces of a scar could here and there be seen along the margin. The bowel formed one side of the margin of the opening, and for about two inches there was no mesentery whatever attached to the bowel, which lay quite isolated, like a round smooth tube, and for two inches more there were mere cicatrised shreds of mesentery attached to it.

By the kindness of Surgeon-Major Reid, I was enabled to secure the specimen for the museum of the Infirmary. The history of the case showed that the patient had been kicked by a horse in the abdo-