to be the most frequent cause of death after chloroform" (*American Journal*, 1871, p. 437), I can come to no other conclusion than that Mr. Lister's teaching is more than a serious mistake; that in practice it will be found a fatal error.

Mr. Lister has also written as follows:—"When Mr. Clover virtually recommends medical men generally to follow him in abstaining from this practice (drawing out the tongue), he has given about as pernicious a piece of advice as can well be given with reference to the administration of chloroform." (*BRITISH MEDICAL JOURNAL*, 1871, vol. ii, p. 117.)

I know enough of Mr. Clover and his professional character to be able to assert with confidence, that there is not a surgeon in London who would endorse the statement that he ever has given, or could give, "pernicious advice" on the use of chloroform, or on any other subject.

The use of chloroform is a serious business, involving as it does the issues of life and death—how serious few can realise, except those who have seen one or more fatal cases; and sure am I that, when the heart suddenly ceases to beat after its administration, those who rely on pulling out the tongue to save life, will have to witness that sad sight where a person lies dead before them, who but a few minutes before was in full possession of life and strength.

P.S.—When galvanism is employed, the rotatory battery now in general use answers the purpose well; it is portable, always ready, and easily worked. One pole should be applied to the neck, and the other over the lower ribs at the left side.

MALINGERING DETECTED BY FARADISATION AND THE USE OF NITROUS OXIDE GAS.

By JULIUS ALTHAUS, M.D., M.R.C.P.,
Physician to the Infirmary for Epilepsy and Paralysis.

IN November last, I was consulted by the secretary of a working men's benefit society with regard to the case of one of the society's members, who professed to have lost the use of his left arm, in consequence of an accident which he had had three years previously. According to the society's rules, the sum of £100 is paid to members who are permanently incapacitated for work by disease or accident. The patient had had a fall from a considerable height, and asserted that ever since he had been unable to use his arm. He had been admitted into a provincial hospital, where he remained for three months, and where (to use his own words) "the surgeon tried as hard as he could to cure him," but failed. In course of time, the patient, who was known not to have done any work since the occurrence of the accident, applied to his society for the hundred pounds owing to him; and I was then requested to give an opinion whether the patient was permanently or only temporarily disabled.

The claimant was a tall, powerful man, of determined countenance, and evidently considerable force of will. He professed to be unable to undress himself, and had, therefore, to be assisted when the helpless limb was bared for examination. I found that the temperature and the bulk of the left arm were in all its parts quite equal to those of the right. The limb was held in full extension, and drawn to the body; while the fingers were somewhat tightly flexed. On endeavouring to flex the forearm and to supinate the hand, considerable resistance was encountered; and, when additional force was used for effecting this purpose, the patient called out with pain, and said he could not bear the manipulation.

Seeing this condition of the limb, only three pathological conditions could be suspected, viz., paralysis with contraction, ankylosis, or dislocation—provided always that the patient was sincere. In peripheral paralysis owing to injury of the motor nerves of the part, which is the only form of paralysis that could be thought of in this case, there is rarely any very great amount of contraction, since the paralysed limbs are mostly found flabby; and, if the case be of long standing, the muscles are wasted, and the temperature is considerably diminished. But as these clinical signs, although of value, are yet not invariably present, I employed a test which gives absolutely decisive results in such cases, and enables us at a glance to decide the presence or absence of peripheral paralysis—viz., faradisation. It has been shown by the concurrent testimony of all recent observers who have investigated this subject, that, in peripheral paralysis caused by injury to the motor nerves, the muscles animated by those nerves completely lose their

faradic excitability, while their galvanic excitability may be preserved, or, under certain circumstances, even increased. If, therefore, in the present case, the deltoid, triceps, biceps, and the other muscles of the useless limb, could be made to respond by contraction to the faradic current, it would be rendered evident that there was no paralysis owing to injury of the brachial plexus or any of its branches.

On using faradisation, I found that all the muscles of the arm and hand responded readily to the current by contraction of their fibres; yet, curiously enough, the arm of the patient did not execute those movements which are generally produced by such an application. Something evidently resisted the displacement of the bones; and, when I looked at the powerful determination visibly expressed in every feature of the patient's face, his hard stare, his contracted brow and lips, I could not help feeling suspicious that this something might be the patient's own volition. The influence of faradisation being irresistible if a sufficiently strong current be used, I increased the power with which I acted, in order to overcome any possible resistance on the part of the patient; but the latter called out so lustily, saying that he could not bear the pain, that I was obliged to desist. Enough, however, had been ascertained for enabling me to eliminate one of the three pathological conditions which could give rise to the complaint of the patient.

I now informed the secretary that, although I had satisfied myself that there was no paralysis, yet it was impossible for me to give a certificate concerning the exact nature of the affection from which the patient suffered, unless he were previously placed under the influence of an anæsthetic. All parties having consented that this should be done, I procured the assistance of Mr. Clover, who on the following day administered nitrous oxide gas to the patient. The latter was rapidly rendered insensible; and I could now freely move the arm in all directions, there being neither dislocation nor ankylosis. As soon as this was ascertained, the influence of the anæsthetic was withdrawn; and the patient, who recovered himself in a few moments, was informed that his case was not nearly so bad as he had imagined, and that he would certainly recover the use of the arm under proper treatment. I gave a certificate to the effect that the patient suffered from a painful affection of the shoulder-joint, which would yield rapidly to subcutaneous injections of morphia or a judicious use of galvanism; and that there was neither paralysis, nor dislocation, nor ankylosis, seriously to interfere with the use of the extremity. The claim was therefore not allowed.

RECURRENT DISCHARGE OF FLUID FROM THE UTERUS DURING PREGNANCY.

By D. DYCE BROWN, M.A., M.D., Aberdeen.

THE following case is offered as an addition to the interesting cases and observations that have of late been published in this and other journals on the above subject. The case is interesting from the diseased condition having recurred in three consecutive pregnancies, and also from the abundance and long continuance of the discharge in the first pregnancy.

A lady, pregnant about four months, after rather more exertion in walking than usual, was awakened in the middle of the night from a sound sleep by feeling a gush of fluid from the vagina, which, on inspection, seemed the liquor amnii just tinged with blood. After this gush, there was nothing more in the way of discharge that night, and only a slight feeling of uneasiness in the uterine region. I kept her in bed by way of precaution, but nothing further occurred till that day week, when the same discharge returned, and in the same manner. After another week, it again returned, as before, and with the same reddish tinge. Before each discharge there was a feeling of fullness and distension in the uterine region, followed by a feeling of uneasiness, which soon disappeared. The movements of the fœtus were now distinctly felt; the os uteri was slightly open. After this time, the discharge came on every two, three, or four days, and increasing in quantity. When she was about five months advanced, along with the usual discharge of clear fluid, there came an alarming quantity of blood in the middle of the night. The blood likewise came in a gush; so that after what might be supposed to have lodged in the vagina had come away, there was no further hæmorrhage. Nothing else was felt by the patient than the usual temporary uneasiness. For the next month, the watery discharge came nearly every night, in such quantity as frequently to soak a couple of towels. At the time of the hæmorrhage, there was no alteration in the os, and no evidence of partial attachment of the placenta on the os. At this stage, I consulted Sir J. Y. Simpson by letter, at the request of the friends of the patient. Sir James wrote as follows: "I have seen a

few rare cases, where, apparently from an oblique and high opening in the membranes, discharges, such as you so accurately describe, came on for months before delivery; and yet all went ultimately well for both mother and child. Four out of six, however, end in premature labour." I felt afraid that another discharge of blood might occur at a month's interval from the last attack, and therefore watched the patient carefully at this time. Just exactly the day month from the former hæmorrhage (six months of pregnancy), I found her pulse quick, and face flushed, but with no uneasiness or idea that anything unusual was to happen. I ventured to predict that there would be either a return of the hæmorrhage or a miscarriage that night. In about an hour afterwards, labour came on, and she was delivered of a six months' foetus. The amniotic sac was felt, as usual, full and tense, requiring rupture, after which a large quantity of amniotic fluid escaped. During all this time, I kept my patient in bed. The fluid in this case could not have been amniotic, as, from its continuance and profuseness, labour must have come on sooner, while the presence of the sac entire at labour requiring to be ruptured proved it.

At the next pregnancy, at about the corresponding period of advance in gestation, the same fluid again came away in the middle of the night in a gush. Having found on the former occasion that no effect in warding off the miscarriage was produced by keeping the patient in bed, I allowed her to rise, but requested her to keep the sofa for a week. At the end of this period, the discharge recurred as before. She then rose and went about as usual, but there was no further return of the discharge, and she went safely to term. She is at present pregnant a third time, and a third time has the discharge come on at the same period of pregnancy as at first. This time, the patient would not even keep the sofa for a day, and there has been no return of the discharge. This is more than four months ago. There had been no exertion or fatigue to account for the last discharge.

RUPTURE OF THE HEART.

By W. WYNN WESTCOTT, M.B.Lond., Martock.

S. V., aged 65, married, a carpenter, and a man of good general health and strength, in the summer of 1871 was struck on the forehead by the accidental recoil of an iron bar. This inflicted a wound which injured the temporal artery, and was followed by very free hæmorrhage. Last December, when returning home intoxicated from a neighbouring village, he fell over a bridge and struck his forehead against a sunken stone, inflicting a wound almost identical in position with the former. This wound also caused free hæmorrhage, which was stopped with considerable difficulty. Although not an habitual drunkard, he had drunk freely for many years, and was much shaken in health by the latter accident.

On February 26th, he was at a public-house during the evening, in his usual health, and drank moderately, returning home sober. The next morning, he got up feeling unwell, and walked to my surgery, about two hundred yards. As I was not up, he walked home again, and at 9 o'clock I went to see him. He was sitting by the fire, looking weak and ill; and presented very much the appearance of a man who had been intoxicated overnight. He complained of pain at the epigastrium and in the region of the stomach, of want of appetite, weakness, and chilliness. The bowels were constipated; pulse weak, but regular; tongue foul. I ordered two tablespoonfuls of the following mixture to be taken three times a day: $\mathcal{R}$ Spt. ætheris sulph. $\mathfrak{z}$ ij; tinct. calumbæ $\mathfrak{z}$ ij; magnesic sulphatis $\mathfrak{z}$ vj; aque q. s. ad $\mathfrak{z}$ vj.

At 8 P.M., he appeared very much in the same state, but complained of nausea and severe pain over the stomach; yet he was lying quietly in bed, with features calm and pale. An hour later, he vomited much bilious matter and semi-digested food. The sickness then went off, and he took a basin of gruel. He expressed himself as feeling better, and his wife went to bed. In a short time, he roused his wife, asking her to make him some peppermint-tea. She did so, and he drank the tea. His wife then returned to bed, between 2 and 3 A.M. Some time later, he sat up in bed, put out the lamp which had been left burning by the bedside, and lay down again. Within ten minutes, he sat up, complained of feeling faint, and again lay down. His wife heard a slight rattling in his throat, upon which she got out of bed, struck a light, and found him dead.

Post Mortem Examination, thirty-one hours after death.—The body was well nourished; the flesh firm. There was a thick layer of fat. The expression of the face was very much altered. There were two linear depressed scars over the lower part of the sternum. The stomach was congested, especially at the cardiac end. The liver was healthy; the spleen and kidneys were congested. The sternum was care-

fully raised, without injury to the pericardium, which projected and seemed full and tense. The lungs were pale and normal. The pericardium was opened longitudinally, and about half a pint of serum escaped, leaving a teacupful of soft dark clot. The surfaces of the pericardium were healthy. The heart was removed entire; and a very considerable deposit of fat on the surface and in the grooves of the organ was noticed. On the wall of the left ventricle, near the anterior border, were three longitudinal fissures: the two upper and smaller ones extended through the pericardium and fatty layer only; the lowest and most anterior extended through the entire thickness of the wall, and measured rather over a quarter of an inch in length, and admitted a goose-quill easily. Internally, all the cavities were healthy, except the left ventricle; and all the valves appeared normal. The left ventricle was opened through the septum of the ventricle, and was found to contain soft dark clots, interlaced with the chordæ tendinæ and columnæ carneæ. The clots were gently washed away by water; there were then seen several of the muscoli papillares, ruptured, and their free ends covered by slight clots; and, near the anterior border, a long ragged zigzag fissure, three-quarters of an inch in length, corresponding to the principal external rupture; its edges were also covered by small clots, but there was no continuous clot in the course of the wound. Several portions of the muscular substance were examined by the microscope, and were found to have undergone fatty degeneration.

ILLUSTRATIONS OF SURGICAL DIAGNOSIS.

By JOHN GRANTHAM, F.R.C.S., Crayford, Kent.

At the district meeting of the South-Eastern Branch at Dartford, on April 24th, 1863, I read a paper on the necessity of comparative observation in the investigation of injuries. The paper was published in the BRITISH MEDICAL JOURNAL for June 20th of that year. The following case further supports my argument.

On August 7th, 1871, I was sent for to see Mr. E. W., who was suffering from an attack of colic. On the following day, he called my attention to his inability to walk on the left leg without great pain, attended with impeded movement of the ankle-joint. This had been ascribed to some disease of the veins, but the patient considered it to be the effect of rapid mounting and dismounting. The narrative he gave of himself was: "On the morning of the 1st May, 1867, at about two o'clock, I was awoke with a sharp pain in my left groin. I struck a light and attempted to get out of bed (being at this time in the army at Athlone, Ireland), but found I could not stand, and that my left leg was immensely swollen. At eight o'clock I was assisted into the hospital, when I was treated for rheumatism, and had my leg bandaged with wadding and flannel. I was kept to my bed, when about a fortnight elapsed, and the pain did not decrease. Six leeches were applied to my groin, and the bandage was left off. After this, blisters were applied; my leg at this time being kept bandaged. After the blistering, iodine was used to paint my groin with. I was still kept confined to my bed, with my leg elevated and bandaged. This treatment continued till the latter end of July, when my leg was rubbed with a lotion, and continued till the 16th of August. All this time numerous doctors visited me, and could not give a name to my complaint. In September, I was allowed to walk a little, and continued till February, when I was put forward for discharge as incurable in ward. I may state the pain left my groin about the middle of August, and my veins in the abdomen took to swelling, and they have kept swollen since that time. Two men of great eminence in London saw me, and said it was one of those hidden complaints which were beyond human control."

On examination, I found the leg œdematous, the heel elevated, and the flexor tendon on the fore part of the ankle-joint tense. On comparing the form and size of the gastrocnemius muscle of the injured leg with the one not injured, I found the muscular portion diminished in size, with evident division of the lower part next to the origin of the tendo Achillis. The foot was inverted so as to represent the appearance of a case of talipes varus. I diagnosed it to be rupture of the muscular part of the gastrocnemius, with partial dislocation of the ankle-joint forward, as the foot could not be flexed, the joint being fixed. Regarding the case as one of partial dislocation, I made forcible extension for a time, until I perceived an audible movement of the lower or tarsal extremity of the tibia. I then suddenly flexed the foot to an acute angle with the tibia, which enabled him to move the joint in every direction. I then ordered hot fomentations, with perfect rest, for three days; at the end of which time he could walk on an even surface without any pain. After the three days' rest, the split or depression could very clearly be defined. On February 26th, he resumed his duties as a railway