the right in the direction of the umbilicus, but immediately before reaching that point it was again suddenly deflected in the direction of the abdominal cavity, which it unmistakably entered. The most careful examination of the parietes failed to discover the further course of the bullet, and it was considered to have embedded itself in the liver. The worst view of the case was taken, and the patient's friends were sent for. Thirty minims of tincture of opium were at once administered with brandy and water, given in small quantity, and occasionally repeated. Vomiting of a bilious character came on shortly afterwards; and, as the patient suffered severely from the abdominal pain, referred more particularly to the region of the liver, it was decided to place him thoroughly under the influence of morphia, administered hypodermically. This was accordingly done, commencing with a quarter of a grain, afterwards increased to a third of a grain; and it was repeated, on an average, every five or six hours, or as soon as the patient complained of a return of the pain. There was no external hæmorrhage from the wound, and it was dressed with wet lint. The patient recovered from the collapse towards evening, when his pulse was 88, and his temperature 100°. Beyond small quantities of milk and soda-water, no nourishment was attempted to be given, and even that was returned. After a somewhat restless night his temperature next morning was 99°, and pulse 124, weak and threadlike. He complained of pain over the region of the liver, and with this was a slight tinge of jaundice in the conjunctivæ, and discoloured urine. The patient constantly maintained a sitting posture in bed. During the following three or four days his condition remained much the same, with the exception of his temperature, which fell to 97.4° on one occasion, being on an average 98°. His pulse, too, reached as high as 136. His stomach refused almost entirely to retain the simplest nourishment, and occasional enemata of brandy and essence of beef were given. These, too, were only partially retained. By September 17th, his condition began to show signs of improvement, and on the 20th his bowels acted for the first time. On the 23rd he was able to take fish to his dinner, and on the 29th he sat up out of bed. The wound, which had required next to no attention, was healed completely. A close examination of the parietes, more especially the lumbar region, was again made, but without any positive result. The patient being anxious to return to his home, which was at Gateshead-on-Tyne, he was discharged on the twenty-third day after the injury, and passed under the care of Dr. Frederick Page, of Newcastle. He consulted Dr. Page very shortly afterwards, for an attack of vomiting, which was considered to be due to peritoneal irritation. This subsided, and in a few weeks the man returned to his duties on board ship, and he has pursued them ever since, three and a half years, without the least further intimation of the locality of the bullet. His physical condition is so satisfactory that I believe he has lately married.

In December 1880, another case, in many respects similar to the first, came under my notice. This patient was a chimney-sweeper, about twenty-eight years of age, and he also had been wounded in the abdomen by the accidental discharge of a revolver, which had been stolen by a friend from a ship's cabin. On this man's admission into hospital, he was suffering severely from collapse, almost to insensibility. He was almost pulseless, constantly expressed a desire to defæcate, and kept his hands tightly grasped over his abdomen. On examination, an opening was found in identically the same position as in the former case, that is, two inches below the umbilicus, and two to the left of the mid-line; but its edges were more confused and inverted. There was no hæmorrhage externally, and the wound was treated as in the previous case; indeed, the same general treatment was followed throughout. The parietes were carefully examined, but the opening was not probed, the intense collapse rendering it almost certain that the ball had penetrated the abdominal cavity with the worst results. The pain was kept under by repeated hypodermic injections of morphia, but vomiting, generally bilious in character, remained persistently. This patient's temperature also became subnormal, and his pulse reached 150. There was no action of the bowels, though the desire was always more or less present. On the seventh day after the injury, the patient's temperature was 96.6°, and shortly after it was taken he died.

I examined the body some hours afterwards, and, before opening it, I attempted to pass a long probe into the track of the bullet. The wound was completely healed, and, almost immediately after breaking my way through the cicatrix, I encountered some obstacle, which eventually stopped my search. On opening the body, the obstacle proved to be the small intestine in one clotted mass, the coils being firmly held together by thick tough lymph. No trace of

the bullet's track could be found in this, and the most careful examination of the entire small and large intestine failed to discover any sign of injury done to those organs in the form of a perforation. Nor was there any trace of extravasation of their contents. The search was continued further, but, beyond what appeared to be a graze on the right side of the body of the first lumbar vertebra, no trace of the bullet could be found in the abdominal organs or the lumbar muscles, though, doubtless, it was embedded somewhere in the latter.

REMARKS.—The treatment adopted in these cases was what the late Surgeon-General Otis called the "ostrich-line" of treatment; but the alleviation of suffering by the morphia injection, as evidenced by the first patient's craving for it on the return of pain, must have had some share in effecting the satisfactory termination of that case. The bullet used in both revolvers was very small, hardly larger than a pea, and conical in form. It would be interesting to know whether the evident difference in the direction of the tracks were due to difference in aim, or simply to the proverbial eccentricity of small-arm projectiles, the points of entrance coinciding so exactly. The first case is probably an instance of how these missiles may become encysted; in this case, no doubt, in the liver. The final resting-place of the bullet in the second remains wrapped in obscurity, no aperture of exit existing.

TRANSPPOSITION OF VISCERA.

By WM. JULIUS MICKLE, M.D., Bow.

IN January, 1882, I made the necropsy of W. P., a sign-writer, who died, at the age of 40, of general paralysis of about three years' duration. On admission, his height was 69 inches, his weight, 144 lbs. During life, the transposition of the areas of percussion-dulness of the liver and spleen had been noticed; and of the necropsy only so much will be here related as refers to the transposition of viscera.

The heart was more erect, and more under cover of the sternum, than usual. Its chambers had, as it were, changed sides; the thicker and stronger ventricle, connected with the aorta, concerned in the systemic circulation, and forming the cardiac apex, being on the right side; while the ventricle operative in the pulmonic circulation, and through the pulmonary artery, was on the left side. The auricle receiving the systemic veins was on the left side, its appendix was directed forward and to the right. A thin septum, situated posteriorly, separated this auricle from the other, except where a patent foramen ovale, one third of an inch in diameter, kept open communication between the two. The ventricle on the left side, with a tricuspid flap well to the left, opened into the pulmonary artery upwards, forwards, and to the right; and, springing from this point, the pulmonary artery curved round to the right under the aortic arch. The auricle receiving the pulmonary veins was to the right and posteriorly; its appendix, directed to the right and somewhat forwards, nestled under the pulmonary artery. The mitral valve had anterior and posterior flaps. At the right ventricular summit, and in front, was the aortic opening. Of the aortic valve, one segment was on each side, and one posteriorly, but not exactly so. Behind the right segment the larger coronary artery made exit; behind the left, the lesser. The aortic arch was directed towards the right, thence it curved down to the vertebral column, on the anterior and right aspect of which it descended through the thorax. Similarly, the gullet coursed down the left anterior aspect of the dorsal column; but, below, it crossed to the right to gain the œsophageal opening in the diaphragm. The lung in the left chest had a very imperfectly divided-off third, or middle, lobe. The lung in the right chest, however, had a small imperfect middle lobe. The spleen was in the right hypochondrium. The position of the liver was reversed, its larger lobe lying in the left hypochondrium and epigastrium, and its smaller lobe extending rightwards to the spleen.

Of the stomach, the cardiac opening and the cardiac end were to the right of the middle line, and the pylorus to the left of the same. The duodenum was also to the left, and the convexity of its horse-shoe curve was directed to the left. The end of the ileum, the cæcum, and the appendix vermiformis, were in the left inguinal region. Thence arose the ascending colon on the left; then came the transverse arch of the colon; the descending colon, on the right side; the sigmoid flexure, in the right iliac fossa; and the rectum, entering the true pelvis slightly to the right side. The kidney of the left side weighed 5 ozs.; of the right, 4½ ozs.

Note.—The local destructive inflammation of the left lung may

have been due, or partly due, to inhalation of particles of food; and its localisation in the left, rather than in the right lung, a result of transposition.

CLINICAL MEMORANDA.

MORBILLIC RASH IN TYPHOID FEVER.

IN connection with Dr. Whipple's report of two cases of scarlatinal rash in typhoid fever, I would like to record a case in which the rash exactly resembled that of measles, and indeed the case was at first mistaken for one of measles by all who saw it.

A probationer nurse, who had been in hospital ten days, and was nursing two cases of typhoid fever, suddenly complained of the premonitory symptoms of an acute febrile attack: pain in the back, thirst, headache, etc.; her temperature ranged between 101° and 104° , and continued high throughout the attack. On the third day after she noticed her illness, a rash, exactly resembling that of measles, appeared first on the feet and legs, and afterwards to the chest and upper extremities; yet she had no coryza or conjunctivitis, and no history of morbillic contamination could be elicited. The rash gradually faded, and no desquamation followed. On the fourth day, typhoid stools, brown tongue, and pain in the right iliac region convinced us that the case was one of typhoid fever, exhibiting a peculiar rash. The subsequent history of the case confirms this opinion, although happily not a *post mortem* sequence, as the patient recovered.

I have seen many forms of dermatitis in typhoid fever, which illustrate the maxim that this symptom is often very misleading, and if not understood may lead to disastrous consequences.

WALTER C. BEEVOY, M.B., House-Surgeon, Hospital,
Newark-on-Trent.

THE CAUSE OF VERTIGO.

I READ with much pleasure the paper "On Vertigo," etc., by Dr. Woakes in the JOURNAL of April 28th, until I came to the following statement: "Thirdly—and this is the chief contention of my thesis—it is to change in that vessel which is the chief vehicle of blood to the brain—the vertebral artery—that vertigo and the phenomena associated with it are due." "When it is considered how largely the vertebral artery is concerned in the blood-supply of the brain, the wisdom of arranging its distribution so that the earliest departure from the normal condition shall become permanently notified, will become evident. In this way, the organ of equilibration serves a sentinel-like function to warn us of the state of blood-supply of the brain as a whole."

If Dr. Woakes will read *Brain* (July 1882, p. 170), he will find that I have ligatured both vertebral arteries in many epileptics, and in only one of them did the "sentinel-like" function act (Case 3, p. 173), and in that case not by vertigo, but by tinnitus and deafness. It will be seen that in several cases both vertebrals were tied simultaneously, and a cerebral disturbance produced such as rarely occurs in disease. If vertigo have any connection with the vertebral arteries it ought to have been present after the ligature. No mental habitude has followed the ligature in any case such as occurs after the vertebral inefficiency of Dr. Woakes. The vertebral arteries have now emerged from obscurity, and are not so safe vessels for theorising upon as they once were.

W. ALEXANDER, Liverpool.

SUCCESSFUL VENESECTION.

THE successful result obtained by depletion, recorded in the JOURNAL, April 28th, by Mr. A. C. Shout, is very similar to a case that came under my observation in 1877, when stationed at Rangoon, British Burmah. I entered the case fully at the time in the regimental case-book, but now only quote from memory.

Sergeant —, Royal Scots Fusiliers, was admitted to hospital for delirium tremens. I do not now remember his particular symptoms, but a day or two after his admission, I was sent for at night to see him. When I arrived at the hospital, the senior apothecary, Mr. Devine, a man of great ability and experience, informed me that he thought the case was hopeless, and the end very near. I found the patient comatose, convulsions recurring at about a minute's interval, the eyes fixed, the pupils semi-dilated, breathing slow and laboured, the pulse full and bounding, the face very congested and swollen, and the jugular veins distended. I considered that depletion alone could save him, but, wishing for another opinion, sent for Surgeon-Major Comyn, who was in charge of the hospital. He arrived in a few minutes,

and agreed with me that bleeding would, at all events, give him a chance. About twenty ounces of blood were taken from the arm, and the result was almost like the working of a miracle. The convulsions ceased, the complexion became natural, the breathing easy, the swollen veins disappeared, and he passed into a quiet sleep. He awoke next morning perfectly well, and was discharged from hospital two or three days afterwards.

I think that the symptoms of delirium tremens which he showed on admission must have been due to congestion of the brain, and not to true alcoholic poisoning; as, if it were the latter, his recovery could not have been so rapid and complete as it was.

This instance of successful venesection made a great impression on me at the time, as it was the first non-surgical case I had seen, in which I could say, beyond a particle of doubt, "but for the means employed, this man would have died."

W. L. CHESTER, M.B., Surgeon A.M.D.

SURGICAL MEMORANDA.

FOREIGN BODY IN THE URETHRA.

J. B., a carter, aged 42, was admitted into the Alton Cottage Hospital on April 27th. The day before, he had been drinking heavily, and in the evening was seized with severe pain in the perineal region, accompanied with some hæmaturia. He was seen by a surgeon, who sent him to the hospital. There was some obscure history of a large shawl-pin having been lost, and it was supposed he had run it into him whilst rolling about on the floor drunk.

On examination, a foreign body could be felt lying along the under side of the penis, from its lower half towards the perinæum; and about the middle of the penis a sharp point was discovered. A small incision was made through the skin over it, and the point of a large black pin was then forced through, seized by a pair of forceps, and drawn out; it was between three and four inches in length. The head of the pin was then found intact in the urethra; the point of the pin was therefore depressed, and the head pushed up through the urethra and drawn out through its orifice. A catheter was passed, and left in the bladder for twenty-four hours, and the wound dressed with carbolic oil. Blood was passed in the urine several times afterwards. No urine escaped by the wound, and at the end of the week the man was sent out, cured.

It is evident that the man whilst drunk got out of bed in the absence of his wife, secured the pin, forced the head of it through the orifice of the urethra, and, pushing it down, lost his hold of it. It gradually slipped along the urethra till the head reached the bulbous portion. He had been able to pass urine, but not so freely as usual, but blood was always mixed with it. He stoutly denied having the slightest knowledge as to how it was done.

WM. CURTIS, Alton, Hants.

THERAPEUTIC MEMORANDA.

NITRITE OF AMYL IN URÆMIC ASTHMA.

WITH reference to Dr. Sheen's note on this treatment, published in the JOURNAL for April 28th, I may say that, in August last, I attended a patient (for Dr. Adam of Boston) who had been suffering for a long time from gout, chronic Bright's disease, and albuminuria, with occasional attacks of asthma and pulmonary oedema. On one occasion, when suffering from a severe fit of asthma, I made him inhale nitrite of amyl, from which he obtained great relief for several days. A week subsequently to the first administration of the amyl, he was sitting in his room alone, and was suddenly seized with a violent attack of asthma, and, before he could reach the nitrite, he became unconscious, and expired in a few minutes.

I may add that he informed me that nothing had given him so much relief as the nitrite; and possibly, had he been able to reach it in time, during the last attack, his life might have been prolonged.

THOMAS SANCTUARY, Crane Lodge, Salisbury.

NOTES ON PARALDEHYDE.

As I have prescribed this new drug on several occasions, it may be of interest to give my experience. The dose as a hypnotic is from thirty to fifty minims. It produces sleep in most cases in a few minutes after taking it, the effect lasting from three to seven hours. Larger doses, no doubt, would produce longer narcosis. It produces no headache, no constipation, nor stomach derangement, con-