simplest possible construction and the straight catheters are those generally used. The lithoclast is also Mr. Milton's pattern and is to be used through a comparatively large wound.

Cairo.

SOME OBSERVATIONS POINTING TO AN INTRACORPUSCULAR STAGE OF DEVELOPMENT IN THE TRYPANOSOME.

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ON making daily examinations of the blood from the peripheral circulation of cattle suffering from a severe trypanosoma infection I noticed free in the plasma numerous exceedingly minute spherical coccus-like bodies of a highly refractive nature. These bodies soon after their first appearance united in pairs and then became exceedingly active, the movements consisting principally of rapid flexion and extension of the combined pair and a slight absolute movement through the field of observation. 24 hours after their first appearance these bodies were seen to be no longer free but attached in large numbers along the periphery of the red corpuscles, slightly indenting their substance. On the third day the bodies, now almost completely intracorpuseular, had become very much larger and elongated to a peg-shape, the head lying in the body of the corpuscle while the shank projected from its surface, being evidently inclosed in a prolongation of the stroma which formed a sheath from which the point of the intracorpuseular body was sometimes protruded like the sting of an insect and sometimes suddenly retracted, the whole body travelling inwards through the substance of the corpuscle and impinging on its opposite wall. The projecting portions of these peg-shaped bodies, sometimes curved and sometimes straight, were in constant motion, the tips were blunt and evidently from their behaviour were provided with flagella, which, however, I was unable to perceive. In addition to these elongated bodies others of a spherical form were present moving actively inside the corpuscles and occasionally pushing the corpuscular substance outwards, elongating and appearing as projections from the surface; the condition was so general that each corpuscle contained from two to six of the bodies which gradually increased in size and gave to each individual disc an independent motion of a very interesting nature. The corpuscle could sometimes be seen to communicate a motion to its neighbour, with which it was not actually in contact, a phenomenon due, in my opinion, to the presence of flagella in the tips of the projecting peg-shaped bodies; at other times these bodies gave one the idea of trying to pull themselves free of the corpuscles and by their efforts individual corpuscles were pulled out of shape, sometimes appearing as ovals with a prolongation from each extremity from which protruded the tip of a peg-shaped body; at other times, when three of these bodies were present, the shape assumed was roughly triangular and constantly varied according to the strength of pull exerted by the contained peg-shaped bodies.

On the eighth day after the appearance of the free coccoid bodies in the plasma the intracorpuseular bodies in some cases separated to one side of the corpuscle, the hæmoglobin being collected to the other side; they then became snail-shaped and a marked constriction appeared between them and the bodies of the corpuscles, presenting the appearance of being budded off. After remaining for about 24 hours in this condition I have observed them to become detached and float free with a sluggish movement in the plasma, being then in shape, appearance and size remarkably like small trypanosomes but without sheath or spot. On the tenth day the blood of the animals, hitherto free from trypanosomes, was found to contain them in immense numbers and two days later the coccoid bodies which had been absent since the stage in which I have described them as invading the corpuscles again began to swarm in the plasma, and the cycle, which thus was completed in 10 days, recommenced.

On the appearance of the trypanosomes I made prolonged

examination of the blood with the view to discover their mode of reproduction and was unable to find in any case evidence of longitudinal fission. I noticed, however, that the parasites were very often found in pairs and observed them travelling across the slide towards one another; the parasites also exhibited motions of a very peculiar nature, the body substance becoming repeatedly retracted to either extremity and sometimes at the same time to both extremities, forming one or two spheres with a bright spot in the centre. These movements were sometimes followed by the death of the parasite and it is a matter of interest that in dying the animal invariably assumed a globular shape; this probably accounts for the difficulty in finding trypanosomes post mortem even when they have caused the death of an animal. (That trypanosomes do not alter their shape in dried smears is due, I believe, to the fact that the process of drying fixes the animal in position before it has time to assume the circular shape.) In the cases of parasites which survived longer there was often a definite series of movements of the posterior portions of the body substance to the extremity of the tail, the tail-spot being jerked along with the protoplasm, which then gradually returned to its original position, the tail-spot remaining stationary against the side of the sheath while the protoplasm rippled forward past it; the result of the movements was that the tail-spot became slowly pushed towards the hinder extremity and though I could not convince myself that I ever saw the spot being actually extruded all the movements of the parasite seemed to be purposive and directed towards getting rid of the tail-spot which seemed to constitute a source of irritation.

There is one further point—namely, that the time of the appearance of the coccoid bodies in the plasma coincided with those movements of the tail-spot and that, when under the conditions described above, a free coccoid body and a trypanosoma appeared in the same field the tail-spot and coccoid body showed such a remarkable similarity that their optical characteristics were in fact identical.

From the description by Major C. Donovan, I.M.S., which I have read in THE LANCET of Sept. 10th, p. 744, of the piroplasmata Donovan I am inclined to think that the intracorpuseular peg-shaped bodies are of a similar nature to those which he describes. From my observations it will thus be seen that minute spherical bodies will sometimes be found periodically swarming in the plasma in animals infected with trypanosomes; that these bodies unite in pairs, appearing as comma-shaped organisms with highly refractive extremities; that these bodies later invade and penetrate the red corpuscles, becoming peg-shaped and increasing greatly in size; and that they finally take on a snail-shaped appearance and are extruded into the plasma. The extrusion of the snail-shaped bodies being followed by the appearance of large numbers of trypanosomes and the peculiar movements of the tail-spot being coincident with the presence of the free coccoid bodies would also seem to indicate that in the blood under observation the reproduction of the trypanosomes was effected by the extrusion of the tail-spot which, after undergoing development inside the red corpuscles, eventually became again free in the plasma and there possibly acquired the remaining characteristics of the mature organism.

Southern Nigeria.

Clinical Notes: MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF INTUSSUSCEPTION.

By J. McDONALD, M.D. EDIN.

ON Feb. 17th, 1903, I was called to a house about one and a half miles distant. On my arrival at noon I found a male child, aged 16 months, suffering from abdominal pain and vomiting and passing blood-stained mucus per anum. These symptoms had come on suddenly an hour previously. On abdominal examination a tumour was detected in the upper portion of the right inguinal region. This tumour was

distinctly kidney-shaped, freely moveable, and tender. I obtained the assistance of my friend Mr. T. Martland of Walsall and returned to the house about 5.30 P.M. prepared to operate. By this time the tumour was much larger, extending from the right iliac fossa across the abdomen to above and to the left of the umbilicus. It was now of the typical sausage shape.

Under anæsthesia inflation with air was first resorted to, an ordinary small hand-bellows being used; this was successful in so far as to reduce the tumour to the dimensions it had presented on the previous visit. The extraordinary resemblance of the tumour in size, shape, and consistency to the kidney was now well marked, so much so as to evoke from my colleague the suggestion that we had reduced the intussusception and that this was a floating kidney. No further reduction could be effected by the aid of the bellows. I therefore opened the abdomen in the middle line below the umbilicus, the incision being just sufficient to admit two fingers. I had no difficulty in hooking out the tumour which was an intussusception of the ordinary ileo-cæcal variety and was reduced without much trouble. After reduction the last inch of the ileum was found to be filled with a mass which felt like soft putty. This I endeavoured to break up and gently to squeeze through the ileo-cæcal valve but though it gave under the pressure of the fingers I was unable to persuade it to pass into the large intestine. Any prolonged attempt at doing so was contra-indicated by the state of the patient and we felt that there was not much risk of any violent peristalsis for some time. I therefore returned the bowel and closed the abdominal wound. At 11 P.M. the same night a motion was passed containing much blood-stained mucus and a little milk curd. Next day there were three movements of the bowels, each containing curdled milk. According to the mother there had been no constipation during the preceding three months; before that she had had much trouble in endeavouring to secure regular action of the bowels. Recovery was uneventful. The temperature never rose above 99° F.

I am much indebted to Mr. Martland for his valuable assistance.

Bloxwich.

NOTE ON A CASE OF RUPTURED VAGINA.

By P. L. TOWNLEY, B.A., M.B., CH.M. SYD.

HAVING never seen or read of a case quite like the following I have considered it worth recording. On June 2nd last I received a telegram, "Mrs.— in labour; pains suddenly stopped; great pain inside; flooding." I provisionally diagnosed ruptured uterus. Having 90 miles to ride I did not reach the patient's home until next day. On arrival I found a multipara, aged 45 years, obviously dying. Labour had commenced three days previously and about 48 hours before I saw her, during a pain, she had felt a tearing pain in the lower part of the abdomen, after which the labour pains had ceased. I was assured that she had not been interfered with in any way. The patient's abdomen was enormously distended, tender, hard, and tympanitic. A blood-stained, malodorous, thin discharge was coming from the vagina. A loop of pulseless funis was protruding from the vulva. I administered chloroform and on introducing my hand into the vagina found the placenta therein. This I delivered and tore through the cord. Further examination showed the uterus firmly contracted, empty, and unlacerated. Following up the cord, the hand passed into the peritoneal cavity through what had been the anterior vaginal wall. At the other end of the cord was a dead fœtus among the intestines. Of course, any operative procedure was out of the question but I thought it advisable, as the patient was anæsthetised and matters could not be made worse, to attempt delivery. I seized a foot and endeavoured to extract the child through the vaginal laceration. However, I was unable to get the head and shoulders past the symphysis pubis, where they became tightly jammed, so I divided the fœtus through the upper part of the thorax. The woman died about two hours afterwards. The child was at or about full term and was in no way abnormal.

Gayndah, Queensland.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL HANTS COUNTY HOSPITAL, WINCHESTER.

AN UNUSUAL CASE OF SUPPURATIVE APPENDICITIS.

(Under the care of Mr. H. J. GODWIN.)

A WOMAN, aged 32 years, was admitted into the Royal Hants County Hospital, Winchester, on Jan. 11th, 1904. She stated that she was in her usual health until a month previously, when she was seized one evening with severe abdominal pains, lasting the whole of the night. The pains were general all over the abdomen, being worse on the right side. She vomited several times. A few days after the onset of the attack she passed several gall-stones; these were seen by her medical attendant. She had suffered from constipation and flatulence for more than a year. She shivered on the night of the attack and had had night sweats off and on for the past two weeks. Constipation had been marked and there was slight pain on micturition.

On admission the patient looked ill. The temperature was 99° F. and the pulse was 100. The urine was of specific gravity 1025; it contained no albumin or sugar. The chest was normal. The abdomen was enlarged and moved on respiration. It was resonant all over and slightly tympanitic. On palpation nothing could be felt through the abdominal wall but the abdomen below the umbilicus was tender on deep palpation. Per vaginam there was a large swelling to be felt in Douglas's pouch. Rectal examination, which was painful, revealed a mass high up; this was soft and boggy to the touch and projected directly backwards. There was some slight vaginal discharge. This was not offensive.

The patient was given an enema and a considerable quantity of flattened fæces came away. On the day after admission she passed a considerable quantity of very offensive pus from the rectum and on examination the swelling that was felt on the day before had disappeared. The discharge of pus from the rectum continued for two weeks, the rectum being daily irrigated with saline solution. The patient rapidly improved, the temperature remaining normal, and she was discharged convalescent on March 3rd.

On April 6th, 33 days after the patient had been discharged from the hospital, she was readmitted complaining of abdominal pains, constipation, painful micturition, and night sweats, and stated that she had not been free from pain in the abdomen since she left the hospital in March. The temperature on admission was 99·4°, the pulse was 80, and the respirations were 24. On examination the abdomen was somewhat distended; it moved on respiration. It was resonant all over and slightly tympanitic. Nothing could be made out by palpation. Per vaginam a large swelling was found in Douglas's pouch which was painful during examination. Per rectum a large fluctuating swelling could be felt nearly obstructing the rectum, a good deal larger than the previous swelling that burst into the rectum.

On the day after admission, the patient having been prepared in the usual way, a large abscess was opened through the vagina, letting out a quantity of stinking pus, and the abscess cavity was irrigated and drained. This was washed out daily and packed with gauze until it had healed. The patient improved daily and the temperature remained about normal and never rose above 99°. On May 5th, one month after the abscess had been opened through the vagina, the patient, who was still confined to bed, complained of severe pain low down on the right side of the abdomen and in the back. The temperature rose to 101·4° and the pulse was 84. On examination the abdomen moved on respiration and was slightly distended. It was resonant all over on percussion except for a small patch of dulness on deep percussion in the