to quinine. Transient delirium occurred, however, in this case before any quinine was administered. Considering also that the patient only took four grains in all, it seems unreasonable to attribute the cerebral symptoms to the influence of this drug. It should also be remembered that French practitioners give quinine in very large doses. While upon the subject of quinine, I may state that during the Easter term I treated very successfully two cases of acute rheumatism by the quino-alkaline method recommended by Dr. Garrod in his article on Rheumatism in Reynolds's System of Medicine. This mixture seems to have considerable influence over the disease, reducing the pain, temperature, and pulse in a very remarkable manner. Cambridge, July 1st, 1870.

NOTES OF

A CASE OF CÆSAREAN SECTION.

By JOHN W. ROE, M.D.

H. S—, aged thirty-five years, of very cachectic appearance, and deeply marked with the small-pox. Some years ago she was an inmate of the Ellesmere Union Workhouse, suffering from mollities ossium, and lay in bed for nearly four years. She was sent to the Salop Infirmary during that time, and remained there under treatment for some months. Subsequently she left the workhouse, so far recovered as to be able to walk, but considerably deformed. She married three years last November. Miscarried twice since marriage.

On Saturday, Jan. 8th of the present year, I was sent for at 9 P.M. to see the patient, the messenger stating that she had been in labour since 3 A.M. of the morning of that day. A midwife was in attendance. On my arrival, I was informed that the liquor amnii had been discharged at the commencement of the labour. Uterine action appeared strong and frequent. Examination per vaginam disclosed the following conditions:—Rami of ischia and pubes approximated so closely as not to allow of the finger being passed between them. The space reaching from the posterior border of the tuberosities of the ischia to the coccyx, and bounded laterally by the sacro-ischiatic ligaments, would not admit of my two fingers placed transversely. The coccyx was much curved forwards. With considerable difficulty, and some pain to the woman, I reached the os uteri, and could just introduce the tip of my finger. Could not feel any presentation. I wrote, requesting the assistance of Dr. Moorhouse, who came at once; and, on examination, verified the conditions above described. On repeating my examination, and pushing back the perineum and vagina, I succeeded in touching the sacral promontory, which felt to be much projected forwards; but I could not reach the presenting part of the foetus. On consultation, and having regard to the serious nature of the case and the difficulty of performing any operation that might be deemed necessary in a dark hovel, only a few feet square, we advised her removal to the union workhouse. We gave her forty minims of tincture of opium, and left at midnight to make arrangements for her removal early in the morning.

She was taken to the workhouse at 10 A.M. on the 9th; and Mr. Whitfield joined us in consultation. She had suffered little pain since taking the laudanum, but had vomited frequently. There were now no pains, uterine action being suspended. Mr. Whitfield made a careful examination of the patient. He was of opinion that nothing could be done at present; and in the absence of all uterine action, any interference was out of the question. Her pulse was good, and she appeared cheerful.—4 P.M.: No change; vomiting had occurred several times during the day.—9 P.M.: Vomiting had abated; no change in other respects.

Jan. 10th.—9 A.M.: Had passed a tolerably comfortable night; no pains; had taken beef-tea, milk, and other nourishment. Ordered to sit up, and walk about the room.—4 P.M.: In exactly the same state.—10 P.M.: No alteration.

11th.—9 A.M.: Had slept during the night; otherwise in the same state; complained, however, of slight cough and mucous expectoration; thought she had taken cold on her removal. Castor oil was given, as the bowels had not been

relieved since the 8th.—5 P.M.: Oil had acted. She complained of uterine pains returning; there was no change in the state of the os uteri. Had taken nourishment freely during the day, consisting chiefly of milk, beef-tea, and eggs.

12th.—9 A.M.: Had suffered some pain during the night; os uteri soft and dilatable, but otherwise no change; pulse 120.—5 P.M.: Pains had been strong and frequent during the day, and the os uteri was dilated to some extent. No presentation could possibly be felt. On consultation, Dr. Moorhouse and I discussed the advisability of waiting until the morning before deciding upon any operation. There were no marked signs of exhaustion, though the pulse was still 120. The woman took sustenance freely. We decided upon waiting, and Dr. Moorhouse sent a message to Mr. Edmunds, of Chirk, asking that gentleman to come over early the following morning. At 9 P.M. an urgent request was sent to me to go to her. Dr. Moorhouse and Mr. Whitfield accompanied me. Uterine action was now very constant and strong. The examination was carefully repeated without disclosing any further progress, except increased dilatation of the os. In spite of the powerful action of the uterus the foetus failed to enter the pelvic brim. Examination with the stethoscope had been made several times, and no placental sound detected, though the sounds of the foetal heart were heard on one occasion. The pulse was now very rapid. After further consideration, the Cæsarean section was advised, and at once acquiesced in by the woman and her husband. Arrangements were made without delay; and the patient being placed on her back upon a table, I first proceeded to introduce a catheter, but found considerable difficulty in doing this in the usual way, in consequence of the woman being unable to separate her thighs to the required extent. Chloroform was administered by Dr. Moorhouse. I then made an incision about six inches in length along the course of the linea alba, commencing two inches above the umbilicus, and extending downwards towards the pubes. The peritoneum was opened to the same extent, two fingers being introduced to protect the structures beneath. An incision, nearly the same length as the outer one, was now made in the uterine walls, and immediately the placenta was disclosed to view, and a gush of blood took place. Introducing my hand, I instantly removed the placenta, and afterwards a small but living and healthy female child, the head of which was presenting in the natural manner above the pelvic brim. The uterus at once contracted and descended into the pelvis. At the same moment a considerable portion of the ileum protruded through the wound; and being replaced by Dr. Moorhouse and Mr. Whitfield, the edges of the opening were brought together, and Dr. Moorhouse introduced three wire and three silk sutures, which effectually retained them in apposition. Dr. Richardson's styptic colloid was freely applied, and a pledget of lint also soaked in the same preparation, and over all a broad bandage. The patient was then removed to bed, and one grain of opium given, and repeated every four hours. My assistant, who was present, remained with her until she slept.

13th.—9 A.M.: Mr. Edmunds, of Chirk, having arrived early this morning, accompanied us. Patient had passed a fair night, sleeping three hours at a time. Introduced catheter in the obstetric position, and drew off half-a-pint of high-coloured urine. There was a free lochial discharge per vaginam. Expressed herself as feeling comfortable, but coughed a good deal. Pulse 120; child doing well.—9 P.M.: Going on the same. Pulse 120; respiration 30. Had taken milk and beef-tea freely, and a little brandy. Had passed urine since the morning.

14th.—9 A.M.: Had not slept much. Respiration still quick; pulse 130. Cough harasses her. Mucous râles audible over chest. Belly somewhat tumid. No pain on pressure. Catheter not required, as she passes urine freely.—9 P.M.: Pulse 146; respiration 36; temperature 100.4°. Cough constant; expectoration thick, and difficult of removal. To have a mixture containing ammonia, morphia, chinchona, and chloric ether. Food had been taken freely.

15th.—9 A.M.: Had passed a bad night, vomiting constantly. Urine passes freely. Mucous râles audible over the upper part of the chest, on both sides anteriorly, and over the base of right lung behind. Pulse 140; respiration 42; temperature 99.2°. Beef-tea, brandy, and milk had been taken, but vomited.—8 P.M.: Had vomited at intervals

during the day. Refused beef-tea and milk, but takes a little brandy. Râles spreading over chest; complains of pain across the belly. A copious loose motion had been passed during the day. Pulse very rapid; respiration 42; temperature 99.2°. Had not slept. Lochial discharge had been abundant and healthy since operation, but was now somewhat offensive. The breasts had secreted milk. There is considerable tympanitis, and at times the abdominal pain is much aggravated. Two-thirds of a grain of acetate of morphia were injected under the integuments in right hypochondriac region. Ordered a little champagne to be given during the night.

16th.—9 A.M.: Had slept from the time of the injection until 2 A.M. Breathing easier. Had vomited once only. Champagne and brandy had been taken during the night. Pulse 130; respiration 30; temperature 98.8°. Bowels had been moved once. Hypodermic injection repeated on opposite side.—7 P.M.: Has taken brandy-and-water and champagne, also cream, and about half a pint of beef-tea. Complains of pain in the region of the diaphragm. Breathing difficult, and chest loaded with mucus, which she is unable to expectorate. Some bloody serum had escaped from the lowest part of the wound, and appeared to be forced out by the cough. Styptic colloid was applied, and the bandage readjusted. The lochia continue, but are very dark and offensive. Pulse 140; respiration 36; temperature 100.4°. Several loose motions had been passed during the day. Hypodermic injection was repeated. She died in the night, at 2 A.M., rather suddenly.

At the post-mortem examination, which was made on the 18th, and confined to the parts involved, the following conditions were noticed:—The bones of the lower extremities were much bent and deformed, as were also the arms, which were remarkably short, the fingers being misshapen and knobbed. The height of the body when the woman was living was a little over four feet. There was no attempt at union throughout the entire length of the incision. The abdominal cavity contained some bloody serum. The intestines were glued to each other and to the abdominal walls by recent lymph. The uterus was contracted; the edges of the incision made in its structure were everted, but the cut surfaces were glued together. The pelvis presented the deformity known as the "cocked-hat" pelvis. The brim gave the following measurements:—The antero-posterior, from the sacral promontory (which projected inwards) to the symphysis pubis, $3\frac{3}{8}$ in.; the transverse, $4\frac{1}{8}$ in.; the pubic bones, being approximated, measured across at their junction with the ilium, exactly 1 in., and from this point

backwards to the promontory of the sacrum $2\frac{1}{2}$ in., which represents the space available for the passage of the head. The preceding diagram may assist in explaining these dimensions. The outlet of the pelvis presented the follow-

ing appearances and measurements:—The rami of ischia and pubes were closely approximated, and the tuberosities

of the ischia were only separated to the extent of $1\frac{1}{2}$ in. at their greatest point of divergence; from tip of coccyx to symphysis pubis, $3\frac{3}{8}$ in.; and from tip of coccyx to an imaginary line drawn from one tuber ischii to the other, $1\frac{1}{8}$ in.; and this measurement represents the available space for working with instruments at the pelvic outlet. The second diagram may assist in illustrating these dimensions.

On reconsidering this case, it seems to me that what I may call the double deformity—that is, of the brim and outlet—constituted the great difficulty in attempting delivery *per vias naturales*. If the head could have entered the pelvis, it would have been possible to have extracted the foetus piecemeal through the small outlet. On the other hand, a larger outlet would have permitted the application of instruments to the head above the pelvic brim. But the combination of difficulties rendered it impossible to use instruments with safety to the mother, inasmuch as the hand or fingers could not be introduced to guide them; moreover, it was impossible to make out the presentation by the usual means.

Ellesmere, February, 1870.

REMARKS IN REFERENCE TO THE PRESENCE OF FAT AND ABSENCE OF ATTENUATION OF THE INTESTINES IN THE BODY OF SARAH JACOB, THE "WELSH FASTING GIRL."

By ROBERT FOWLER, M.D.

BOTH during the magisterial investigation at Llandyssil last March, and now again at the trial of the parents for manslaughter at the Carmarthenshire Summer Assizes, one of the points of the defence was that Sarah Jacob could not have possibly died of starvation, because after death was found "a thick layer of fat from half an inch on the thorax to one inch on the lower portion of the abdomen," and that also there was no attenuation or thinning of the coats of the intestines.

Being subpoenaed by the Crown as an independent medical witness, I did not hesitate from the very first to express my opinion that the presence of the fat and the absence of the thinning were not only not inconsistent with, but were in fact to be expected in, the case of a young "plump" girl who dies on the eighth day after the complete deprivation of all solid and liquid food.

My opinion was not again asked by the counsel for the defence at the trial last week at Carmarthen; Mr. James Thomas, Newcastle-Emlyn, one of the gentlemen who conducted the post-mortem inquiry, on cross-examination, very pointedly and logically supported, however, my previous assertions. On summing up, the judge (Hon. Sir James Hannen, Knt.) ably and aptly also refuted this part of the theory for the defence.

I. The more or less complete absorption of fat in a case of acute (or, as the judge naively called it, "absolute") starvation in man would appear to mainly depend on two elements: (1) The amount of fat previously existent in the body; (2) The duration of time from the commencement of starvation till death.

(1) Sarah Jacob was a "plump," fat child. A medical man who saw her early in 1869 writes me that her temporal fossæ were then bulging with fat. She had, therefore, of course, some way or other been sufficiently fed up to Dec. 9th, 1869, when she was suddenly deprived of all liquid and solid food. This sudden and *absolute deprivation* for a definite time, in a previously sufficiently fed person, constitutes the case as one of *acute* starvation. From various diseases, and during a general famine, we get cases of *chronic* starvation, implying an *insufficient* supply of food up even to the very death, which may be weeks or months before its actual occurrence.

Sarah Jacob was never put on the weighing machine either immediately before or during the last eight days of her life. It is consequently impossible to accurately estimate her *relative* emaciation. She did, however, emaciate.