Of 10 cases, 9 were normal children, delivery occurring 30, 13, 12, 8, 4½, 4, 2½, 2½ hours respectively after the injections. The first 6 cases are of no value as far as these results are concerned; but the last 3 are suggestive in view of the results in the first series, for in each case the mother received relief, and the child was born within four hours from the injection. In these 3 the dose was "BS" for the first two and "AS" for the last. The remaining case, however, shows that one cannot rely upon similar results in all cases. The child was born three hours after an injection of "BS"; it was drowsy and respiration intermittent, but recovered in twenty minutes after a hot bath.

In a recent paper Drs. Freeland and Solomons showed¹ that in their 100 cases, where morphine was, as a rule, never given in greater doses than ½ grain, there was only one case of apnoea, and in this ½ grain was given. It is probable, then, that the cases of apnoea in my series were to a certain extent due to the larger doses of morphine usually employed. The above authors conclude that the dangers to the fetus have been much exaggerated; whether this is so or not it is clear that, in view of some of the preparations and combinations of scopolamine at present on the market, caution should be employed in their use.

Conclusions.

My conclusions are as follows:

1. The scopolamine-morphine combination is of great value where hysteria and distress are manifest during the first stage of labour. If possible it should only be given in the first stage and not repeated.
2. No ill effects to the mother need be expected even with full and repeated doses.
3. No ill effects need be expected for the child, even where the mother has had full and repeated doses, provided that delivery does not take place at four hours or less from the time of the last dose, otherwise apnoea will ensue. On the other hand, where the drug is without effect on the mother it is not likely to affect the child, even if born within four hours.
4. The cause of the apnoea is probably the morphine, and so where it is necessary to give the drug late in the first stage, or early in the second, the morphine should not be given in larger doses than ½ grain, or omitted.
5. A hot bath is the best treatment for the apnoea.
6. Strychnine may prove to be a useful addition to the mixture. It does not diminish the analgesic effect of the combined drug, and it may help to prevent the apnoea in the child.

My best thanks are due to Dr. J. S. Fairbairn, physician to the hospital, for his kind suggestions and permission to publish these results.

REFERENCE.

- ¹ BRITISH MEDICAL JOURNAL, January 28th, 1911.

EVIDENCE OF RECENT SEVERE ILLNESS AFFORDED BY THE NAILS.

By NORMAN FLOWER, M.A., M.B.Oxon.,

With a Note by

SIR SAMUEL WILKS, Bt., F.R.S.

I BELIEVE that attention was first drawn to this somewhat curious condition of the nails by Sir Samuel Wilks in a communication to the *Lancet* of January 2nd, 1869, since when a number of cases have been reported from time to time. The following case illustrates the condition so clearly that it is perhaps worth recording.

The patient was a lady, aged 61, who was seen for the first time on June 11th, the third day of her illness, due to a localizing appendicitis. Owing to the stoutness of the patient abdominal examination was rendered very difficult.

On June 18th temperature rose to 101.8°, and pulse 106. Examination under an anaesthetic revealed an ill-defined lump rather towards the middle line. Operation was at once proceeded with, and after opening the abscess I inserted a large tube. Drainage was good, and all went apparently well until June 21st, when secondary haemorrhage commenced. All the stitches were removed, and both fat and muscle of the abdominal wall were found to be gangrenous. No large bleeding points were found, but oozing was general.

On the following day, June 22nd, the patient became jaundiced and semi-comatose, so that we feared the onset of

suppurative pylephlebitis. There was incontinence of both urine and faeces. Subcutaneous and intravenous infusion was resorted to, with but little improvement. Rectal salines were not retained.

On June 23rd the patient was quite comatose, the pulse imperceptible, conjunctivae shrivelled. Death was hourly expected. Saline infusion, etc., was continued.

On June 25th there was slight improvement, incontinence ceased, and the jaundice commenced to recede.

On July 3rd there was retention of urine, and the catheter was used.

On July 8th there was no attempt at repair in the wound; the lack of vitality and the toxic condition of the patient was well shown by the fact that the minute incision made for the intravenous infusion took five weeks to heal.

On July 13th the patient developed hypostatic pneumonia, from which a good recovery was made.

Although all the usual precautions were taken at the time of the saline infusion, the patient developed a pectoral abscess on the right side, no sign of suppuration appearing until four weeks afterwards (July 31st). A week later the same condition appeared on the left side.

The abdominal wound now commenced to granulate, eventually leaving a very small cicatrix. On August 24th the patient got up for the first time, and it was noticed that upon all the nails of both fingers and toes were transverse white lines, one-third of the way up. In addition to these marks there were transverse ridges, but these were only marked upon the index and third fingers of the right hand. The nail on the proximal

Fig. 1.

side of the lines was of a much softer nature. Allowing six months as an average for the nails to grow out, the position of the lines exactly corresponded to the roots of the nails when the patient was in the apparently moribund state two months before.

On September 10th the patient was walking without aid.

I am indebted to Sir Samuel Wilks, to whom the photograph was submitted, for his kindness in permitting me to quote the following comments and cases:

"I am much obliged to you for your interesting case and the photo of the hands of the patient, which is by far the best representation of the markings on the nails which I have seen, showing, no doubt, the time of the illness which you describe.

"The case is quite in accordance, as regards its history, with all the other cases which I have seen—that is, the condition of the patient at the time when these white marks took place. When I first noticed them, I was under the impression that they were indicative of some previous severe illness, but I subsequently learnt that this was not the case, for, if true, they would be of everyday occurrence, and well known to every medical man, and certainly not requiring the special notice which I believe I was the first to make.

"There may, however, be lesser degrees of these conditions where the lines might be less marked, and so perhaps overlooked.

"My opinion is that the furrow and white line on the nails show the line of death or approaching death which takes place during the patient's illness. In all the cases I have seen or known where these marks have appeared the patient has been at death's door; he has been regarded by the medical man and friends as dangerously ill, and, indeed, in the jaws of death, unless he soon rallied and then recovered. He has always become cold, pulseless, and death written on his face, causing the greatest anxiety to his friends, and in this state he may continue for some hours or several days. If he should fortunately recover, the sign of death is written upon him. During this precarious period all functioning is

stopped and nutritive processes ceased. Probably a close microscopic examination might show in the viscera and secreting surface some line of withered cells, but the outside of the body alone comes to view, so on the hardened parts of the skin, represented by the nails, the death line can be seen.

"You say your patient was not expected to live, and the same was said of myself. After my operation I had blood poisoning, and at the end of three weeks, having gradually got worse, I was given up by nurses and doctors. Dr. Pye-Smith told my daughter that I should not live through the day. I, however, turned the corner, and showed the event on my nails. Recently, as you know, I have had a far more serious illness as regards pain and the operation, but never at any time did the illness come to a climax, and so I do not present any signs of it at the end of my fingers.

"Two other examples which I remember were cases of autumnal diarrhoea, or English cholera, as it is sometimes called. These both occurred in somewhat aged old gentlemen, who became so collapsed that it was thought they would die. One of these was a clergyman and relative (occurring about fifty years ago), and being the first that I had seen, made a great impression on me.

"Then came a case which I considered the proof of my opinion of what these marks indicate, as they occurred in a gentleman who had had no illness, but was twice nearly dead from sea sickness on his voyage to America, and also on his return.

"He was sent to me by a friend thinking I should like to see him, and he brought with him a photographic

FIG. 2.

picture of his hand with the marking on his nails. These were two white lines or curves with a good space between. I then reckoned the time of his starting, the time he was in America, and the time of his return by the line which was nearest to the root of the nail and the uppermost of the lines. The dates were all accurate. The history of his voyage was written upon him.

"I showed this drawing at the Pathological Society¹

about twenty years after my first communication to the *Lancet*."

[NOTE.—Since these notes were written one more case has come under my own observation. A gentleman, aged 48, in whose case I resected a rib for a left-sided empyema and double septic bronchopneumonia.—N. F.]

REFERENCE.

¹ Pathological Society's *Transactions* for 1888.

Memoranda :

MEDICAL, SURGICAL, OBSTETRICAL.

THE INFECTIVE GRANULE IN CERTAIN PROTOZOAL INFECTIONS, AS ILLUSTRATED BY THE SPIROCHAETOSIS OF SUDANESE FOWLS.

WITH reference to the paper entitled "The infective granule in certain protozoal infections, as illustrated by the spirochaetosis of Sudanese fowls" (a preliminary note),¹ which I sent you from Khartoum on March 12th, it is of interest to note that I have just received a copy of the *Quarterly Journal of Microscopical Science* for February. In it I find a paper by Dr. Bosanquet on *Sp. anodontae*. He finds that under certain artificial conditions this parasite of the crystalline style of the mussel breaks up into bead-like bodies, and states:

It seems, then, that *Sp. anodontae* goes through a stage in development in which it breaks up into coccoid bodies, just as, according to Leishman, *Sp. duttoni* breaks up into similar bodies inside the body of the tick.

He might have added—just as the spirochaete of Sudan fowls breaks up into granules in the body of *Argas persicus*.

The analogy is most interesting, and I am now in a position to state that I have found that the fowl spirochaetes, ingested by the tick, behave in the contents of its alimentary diverticula exactly as they do in the liver, spleen, lung, and, under certain conditions, in the peripheral blood of infected chicks either at the natural crisis or at a crisis artificially produced by the administration of salvarsan. In other words, they start shedding granules and continue doing so until their periplastic sheaths are empty or nearly so. May I suggest that Dr. Bosanquet would do well to study *Sp. anodontae* by means of the dark-field method, in order to determine if it undergoes the curious and suggestive changes which I have found to occur in the spirochaetes that I have named provisionally *Sp. granulosa penetrans*? It is, I think, possible that the short rod and small spirochaete forms which he shows in his illustrations (24a and 24b) are really developed from the coccoid bodies, and not, as he suggests, a stage prior to the formation of the latter. I have found very similar forms undoubtedly developing from granules in the Malpighian tubes of infected *Argas persicus*.

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A CASE OF MELANCHOLIA WITH ATTEMPTED SUICIDE.

A MARRIED woman, aged 56, was admitted to Northumberland County Asylum suffering from melancholia following an attack of hemiplegia. In the reception order she was described as suffering from marked depression with horrifying delusions that animals were consuming her, which occasionally caused her to scream loudly for hours at a time. She had expressed a desire for death as she was not fit to live. She had previously attempted suicide by trying to swallow her false teeth.

On admission, she was found to be frail and feeble, with partial paralysis of left arm and leg; cardiac action irregular and intermittent, with loud mitral systolic and presystolic murmurs; pulse 88, temperature 98.2°. She was at once put to bed in the infirmary ward.

Mentally, she was acutely melancholic, very depressed, and suicidal. She continually moaned and said she wished she was dead. She stated that she would never recover, and that it would be better if she were allowed to die. She also said she would put an end to herself at the earliest opportunity. For three weeks following her admission she remained very dejected and querulous, always complaining of pain, and expressing a wish for release from her sufferings by death. She was kept continuously in bed under supervision. Extra diet considerably improved her general bodily health. About a month after admission the night nurse heard her groaning loudly, evidently in great pain. On inquiry the patient told the nurse that she had thrust four knitting-needles into her abdomen.

On examination, three needles were distinctly palpable under the skin of the abdomen, their positions being clearly indicated by the extravasation of blood into the surrounding tissues in the line of the needle track.

Several small punctured wounds could be made out in the region of the umbilicus, where the needles had entered the abdominal wall. Similar wounds were present in the palm of the right hand, which had been used to force the needles into the belly. Two of the needles lay parallel to each other, about $\frac{1}{2}$ in. apart, between the umbilicus and ramus of pubes on the left side. The third was situated in the right groin immediately beneath the skin. The fourth needle could neither be seen nor felt, but the patient declared emphatically that they were all four in her abdomen. Her bedding and clothes were searched carefully, but without finding the missing needle.

Mr. Turner of Newcastle examined her under an anaesthetic, but could only locate the positions of three of the needles previously described. After emptying the bladder, Mr. Turner examined the patient per vaginam, but without success.

Two small incisions were then made through the skin of the abdomen, and two of the needles were easily extracted; they had not penetrated any deeper than the sheath of the rectus abdominis. The third needle, in the groin, when withdrawn, was found to be broken about 2 in. from the

¹ BRITISH MEDICAL JOURNAL, April 1st, 1911, p. 752.