Hence the boiling with acid must be performed with care.

7. The glycerose formed combines with one molecule of phenyl-hydrazine to form a hydrazone :

Then in the presence of excess of phenyl-hydrazine, the secondary alcohol group of the hydrazone is oxidized and another molecule of phenyl-hydrazine is linked on, with the formation of an osazone :

This osazone being the end and aim of the reaction, care must be taken that excess of phenyl-hydrazine is used, since hydrazones are soluble, to a moderate extent, in water.

8. The rate of solution of the crystals *must* inevitably depend upon their amount and on the amount of sulphuric acid irrigated. The variation in the amounts of glycerine in the urine is, as far as I can see, the only cause of the varying solubilities of the osazone crystals in H_2SO_4 .

9. A trace of sugar overthrows the whole result if not removed. I also believe that fermentation with yeast introduces more errors than it removes.

10. The B reaction is apparently of little use. The A reaction only indicates the presence or absence of glycerine in the urine, and even then must be performed with great care to be of any service.

A trace of sugar, a prolonged boiling with acid, or an insufficient proportion of phenyl-hydrazine will ruin the result absolutely. Great excess of glycerine, unless detected and counteracted by an increased proportion of phenyl-hydrazine, renders the test worthless.

I am of opinion that this test is only of value in the case of a perfectly fresh specimen of urine, and must even then be accepted with caution, and the results of the microscopic examination of the deposit and general chemical tests must be carefully weighed up with the indications given by the Cammidge test.

CASE II.—Subacute Pancreatitis with Extensive Sloughing of the Organ, Suppuration behind the Peritoneum and a Localized Collection of Fluid in the Peritoneum, with Fat Necrosis.

A male, aged 59, was admitted to the General Hospital on September 21st, 1905, complaining of pain in the abdomen and great distension. The present illness began three weeks ago, when he had violent pain in the epigastrium and left hypochondrium accompanied by vomiting. Since then the patient had been confined to bed, pain of moderate intensity had been persistent ever since, and vomiting from time to time. The record of temperature had not been kept, but it rarely reached above 99° ; the pulse-rate was not known. Twelve months prior to the present illness the patient had a similar attack of pain and vomiting, which kept him in bed for a fortnight; eight months ago he had a slight attack, lasting two days, and six months ago another attack, lasting three or four days; on this occasion he vomited blood.

When admitted to hospital the whole abdomen was distended, especially the upper half, which was extremely tense but only moderately tender, and there was oedema of the abdominal wall. The temperature was 99.8° ; pulse 108; leucocyte count, 21,800.

Operation.

The abdomen was opened in the middle line above the umbilicus over the most prominent part of the fullness, and before the peritoneum was reached patches of fat necrosis were observed. When the belly was opened several pints of slightly turbid, yellow, sticky fluid were evacuated. This collection of fluid reached to the

diaphragm above, to both lateral walls of the abdomen, and was circumscribed by adhesions below which matted the transverse colon and the great omentum to the anterior abdominal wall. The stomach lay behind and partly above the collection, but it was very difficult to make out the nature of some of the tissues by palpation, as there was so much matting and thickening of parts. The patient was too feeble to allow of any prolonged manipulation of parts, and the incision was closed except for a free drainage opening.

Report of the Pathologist, Dr. Sawyer.

The report on the fluid removed confirmed the opinion that the condition present arose from the pancreas, as follows:

Reaction, alkaline; specific gravity, 1013; albumen, 1.0 per cent.; chlorides, 0.45 per cent.; blood; no fat globules; does not coagulate on standing.

Microscopic.—Leucocytes; red blood corpuscles.

Bacteriological.—No tubercle bacilli; sterile.

Ferments.—Slight proteolytic action; marked amylolytic action; no milk-curdling or fat-splitting ferments.

The subsequent history is one of gradual failing strength and loss of weight; there was very little irritation of the skin around the wound, contrary to what generally obtains in pancreatic cases. The wound eventually broke down completely, and the patient died twenty-four days after operation. In view of what was discovered at the autopsy, it is of great interest to note that the temperature was never above normal subsequent to the operation.

Post-mortem Examination.

The body is extremely emaciated.

Abdomen.—There is suppurative peritonitis, with numerous points of fat necrosis in the great omentum, but it is also seen in the mesentery and the subperitoneal fat of the abdominal wall, though there are no areas of fat necrosis except under the peritoneum.

Liver and Biliary Apparatus.—The liver is large and shows slight passive hyperaemia, with a marked fatty degeneration. The gall bladder is considerably distended and contains very thick bile. A probe cannot be passed from the gall bladder into the common bile duct; the latter has been in contact with the abscess, presently to be described, and has probably been obstructed by the inflammatory process. A probe cannot be passed into the bile duct from the duodenum. There are no gall stones.

Pancreas.—All the pancreas is gangrenous except for a small portion at the tail. There is an abscess around the head of the pancreas, and in it are large masses of necrosed pancreatic tissue. A probe cannot be passed into the pancreatic duct. There is a considerable amount of fat necrosis in the fat around the pancreas: in some places there are masses of it.

REFERENCE.

Birmingham Medical Review, August, 1896.

NOTE ON A PARACOLON BACILLUS FOUND IN THE URINE.

By W. MAIR, M.A., M.B., B.Sc.,

RIDDEL DEMONSTRATOR IN BACTERIOLOGY, QUEEN'S COLLEGE, BELFAST.

DURING the last two years a considerable number of urines from cases of cystitis have been examined bacteriologically in the Pathological Laboratory of Queen's College, Belfast. Where the urine is acid in reaction *B. coli* is frequently found. In two recent cases, with acid urine, a bacillus has been isolated which agrees with *B. coli* in morphology and in most of its cultural reactions, but which does not produce gas in media containing glucose or lactose.

The bacillus is feebly motile, and does not stain by Gram's method. It does not liquefy gelatine, and the surface colonies have the well-known "vine-leaf" appearance. On ordinary agar, and on the Drigalski litmus-lactose-agar, the growth is indistinguishable from that of *B. coli*. It coagulates milk very slowly, but shows well-marked indol production in peptone water. It produces no gas in glucose broth. In order to investigate the action of the bacillus on various sugars (and alcohols) a 1 per cent. solution of peptone, containing 1 per cent. of the sugar in question, and tinged with litmus, was used in Durham's fermentation tubes. Control cultures were made with a number of other bacilli of the coli-typhoid

group, and the results of a series are given in the following table. The *B. coli* and *B. typhi* used had been recently isolated from typhoid faeces. The paratyphoid (Kurth) was obtained from Kral.

	Glucose.	Lactose.	Cane Sugar.	Mannite.	Dulcite.
<i>B. coli</i>	+	+	-	+	-
Paracolon bacillus ...	A	A	-	+	-
<i>B. typhi</i>	A	-	-	A	-
Paratyphoid bacillus	+	-	-	+	+

The signs have the following meanings: + = acid + gas formation; - = neither acid nor gas; A = acid production but no gas.

In a paper by MacConkey¹ there is a good discussion of the various views as to what characters should be regarded as typical of *B. coli*. All writers are agreed that *B. coli* ferments glucose and lactose with gas and acid production, so that our bacillus cannot be regarded as *B. coli*. In examining faeces for lactose-fermenting bacteria, MacConkey found no bacillus giving the above reactions.

Lembke² isolated from dog's faeces a bacillus which may be identical with that here described, but its characters are not fully given. He named it *B. coli anaerogenes*.

In both the cases in which this paracolon bacillus was isolated from the urine it was found in practically pure culture. In the first case it was isolated on three different occasions, at intervals extending over three months; in the second case it was only possible to make one examination, as the patient left Belfast shortly afterwards. Both were adults, one male, the other female. The cases are indistinguishable clinically from those in which *B. coli* occurs. It is, perhaps, worth while to add that no common source of infection in the two cases could be traced.

REFERENCES.

¹ A. MacConkey, Lactose-fermenting Bacteria in Faeces, *Journal of Hygiene*, vol. v, p. 333. ² Lembke, *Archiv für Hygiene*, vol. xxvi.

MEMORANDA: MEDICAL, SURGICAL, OBSTETRICAL.

ALBUMINURIA IN PREGNANCY: EPISTAXIS: CONJUNCTIVAL HAEMORRHAGE.

Mrs. W. W., aged 28, secundipara, had epistaxis on January 5th. As it continued and got more severe I was summoned the next afternoon. Spraying with adrenalin chloride, plugging with gauze, calcium chloride internally, and other measures checked it temporarily, only to recur each time. Finally, with Dr. W. Hunter's assistance, the passage was firmly plugged by Bellocq's method with wool soaked in liq. ferri perchloridi and there was no recurrence. Later in the night she walked upstairs; she was spontaneously confined in the early morning of a 7½ or 8 months' child, stillborn. She made an uninterrupted recovery.

Examination of the urine passed on January 8th showed about 1 part per 1,000 of albumen, and ophthalmoscopic examination showed some hazy swelling around the optic disc in one eye and a patch of greyish-white degeneration. The friends had spoken of haemorrhage from the eye, and before any attempt was made to plug the nasal passage it was noticed that blood was slowly dripping from the conjunctival surface of the lower lid on the right side, most of the bleeding from the nose coming from the same side. As far as could be seen at the time no blood came from the canaliculi or nasal duct.

Nottingham.

ARTHUR J. SHARP, M.D., etc.

SALICIN IN ACUTE RHEUMATISM.

In the *BRITISH MEDICAL JOURNAL* of October 7th, 1905, p. 837, an excellent paper on aortic and mitral disease in rheumatic children by Dr. Poynton appeared; in it there is one sentence to which I should like to draw attention. He says, "I cannot bring myself to believe that any remedies have a direct action in preventing severe cardiac

rheumatism, or in arresting its progress; salicylates, blisters, iodides, quinine, etc., seem to me powerless to cope with it, and I have seen them all tried in different ways, and by different physicians."

In this sentence no reference is made to salicin, and I have frequently noticed that in the different discussions on acute rheumatism, in London, it appears to be completely overlooked.

My reason for referring to this point is, that for about twenty-five years I have treated all my cases of acute rheumatism with salicin, and in first attacks I have during that period had only about 3 per cent. of the cases affected by cardiac disease in any form, this in both private and hospital practice.

When first seen, I order 15 to 20 gr. of salicin every two hours until the symptoms improve, then gradually decrease the dose, and when all symptoms have disappeared, discontinue it gradually by diminishing doses, and increasing the intervals between them; the usual result of this treatment is, that in two or three days the symptoms have nearly all disappeared, whereas most cases that I see that have been treated with the salicylates, drift into endocarditis, with permanent valvular lesions. Salicin is a tonic, the salicylates depressant. If we accept the theory that acute rheumatism is of microbic origin, we can understand the excellent effects produced by flooding the tissues with salicin, from its germicidal action.—I am, etc.,

Oamaru, New Zealand.

ALBERT I. GARLAND.

SHELLFISH, SEAWEED, AND SEWAGE.

HAVING recently had occasion to examine some mussels (stated to be of Dutch origin, but obtained from Billingsgate), I found attached to several of them small pieces of *Ulva latissima*.

Professor E. A. Letts, D.Sc., etc., of Belfast, has shown¹ that the growth of this seaweed in any quantity appears to depend on sewage pollution of the waters in which it grows. The attachment of *Ulva latissima* to shellfish (more particularly mussels) is therefore presumptive evidence of sewage pollution, which admits of immediate inference from an ordinary physical examination. The point is worth bearing in mind. In the present instance I confirmed the presumption of sewage pollution by bacteriological examination, which revealed the presence of *B. coli communis* and *B. enteritidis sporogenes* in large numbers in the shellfish.

J. T. C. NASH, M.D. Edin., D.P.H. Camb.,
Southend-on-Sea. Medical Officer of Health.

TYPHOID FEVER IN AN INFANT.

A WOMAN died of typhoid fever at the Infirmary, East Greenwich, S.E., on December 21st, 1905. Up to five days before her death she was suckling her baby of 7 months old. About ten days after the mother's death the baby got a rise of temperature and diarrhoea. I suspected typhoid fever. The baby died on January 26th, and the diagnosis was verified *post mortem*, the intestines having typical typhoid ulcerations.

As far as I can gather, only two other cases of a baby so young dying of typhoid fever have been reported, and therefore I thought this was worth reporting.

H. S. JONES, M.B., B.S. Lond.,
East Greenwich, S.E. Junior Assistant Medical Officer.]

EPISTAXIS AND CALCIUM CHLORIDE.

I HAVE read with interest Dr. Todd-White's memorandum on the above subject in the *BRITISH MEDICAL JOURNAL* of January 27th. I first used calcium chloride for haemoptysis at the City of London Chest Hospital in 1895, and always since then in many cases of haemoptysis, epistaxis, bleeding after tooth extraction, etc., usually with very beneficial results. Professor A. E. Wright's investigations showed (I believe) that the effect of the administration of calcium chloride was, for the first few doses, to increase the coagulability of the blood, but that if persisted in the opposite effect was produced—namely, diminished coagulability. Working on this theory, I have always prescribed three doses (20 gr. each), to be given at intervals of two hours if necessary, and

¹ Reports on the Scheme of Sewage Purification for Belfast, 1901 and 1904, *BRITISH MEDICAL JOURNAL*, 1901, vol. ii, p. 831; 1904, vol. i, p. 1277.