to shake a portion with amylic alcohol in a separation filter. The solution is then treated with a concentrated ammoniacal alcoholic solution of zinc chloride, when the fluid becomes fluorescent and shows the characteristic absorption band between the lines B and F. Although the presumption is that the excess of urobilin arises in pernicious anæmia, from increased blood destruction, an alternative possibility is that there is increased formation from hydrobilirubin in the intestine.

The peculiar dark brown colour of the urine in pernicious anæmia has been ascribed to an excess of urobilin. This statement is made in all the current text-books I have examined, although the error has been pointed out by Garrod and Hopkins. When the urobilin is extracted from the urine the latter still retains its peculiar tint. As the urine darkens on standing the colour may depend on the formation of an oxidation product of skatoxyl sulphuric acid, but a more likely explanation is that it is due to an undetermined derivative of hæmoglobin. On microscopical examination of the urinary sediment degenerated cells were seen—probably renal—containing yellow pigmented granules as described by Hunter, and the results, as a whole, may be said to corroborate some of his observations.

Reverting to the theories of causation mentioned at the outset, the question whether, as maintained by Hunter, there is a normal disintegration of red corpuscles in the portal area is one of great interest. So far as the liver is concerned Stockman meets the proposition with an unqualified denial. In my opinion Hunter is in the right; but it is necessary to recognise that the arguments advanced by him are not convincing, and I should accord the liver precedence over the spleen in relation to the hæmolytic function. I have been engaged during the last winter in experiments upon the liver kept alive by perfusion after death of the animal, and these prove unquestionably that the organ possesses a marked hæmolytic power. This power, moreover, appears to be exerted only upon a certain number of the corpuscles—namely, those that have become weakened and are poor in hæmoglobin. These experiments will be published in detail shortly. Whether the spleen, portal blood, or leucocytes play any part in the destruction of effete red cells must be still regarded as an open question. Whatever the function of the spleen may be, its extirpation in certain cases without death goes to prove that it is not essential to the maintenance of the normal nutrition of the body under ordinary circumstances. Stockman, in explaining Minkowski's observation, is, I think, under a misapprehension in supposing that the capillary blood-current is slower in the liver than elsewhere.

Taking into consideration the enormous diminution in the red cells, with, as a rule, a striking rise in the colour index and increased deposit of iron in the outer zones of the liver lobules, and the absence of hemoglobinuria, it appears an inevitable inference that pernicious anæmia is due to increased blood destruction taking place in the portal area. The fact that the conjugated sulphates are increased in pernicious anæmia and that the administration of chloralbacid has no effect upon the amount eliminated indicates the usual cause of increase is not at work in this affection. The putrefactive proteid destruction is therefore occurring in some other area, possibly in the intestinal mucosa itself or in one of its glandular offshoots. The absence of any effect from the use of chloralbacid is further evidence of the divergence existing between this and other forms of anæmia.

The all-important question is the cause of the hæmolysis. Is it due to a toxin produced by a special micro-organism, to an excess of some substance having a physiological origin, or to a new, and therefore essentially pathological, metabolic product? The area of its production appears to be within the portal system, for there is no hæmoglobinuria and therefore no free hæmoglobin in the general circulation. In brief, the facts are at present too scanty to justify a definition of the actual cause of the hæmolysis, yet sufficient to suggest the inadvisability of restricting attention to the discovery of a purely hypothetical microbic agent.

Harrogate

PERSONATING A SANITARY INSPECTOR.—The Swansea bench of magistrates on August 27th issued a warrant for the apprehension of a man who, it was alleged, had been passing himself off as a sanitary inspector. It was stated that the man wore a badge on his cap and boarded ships, obtaining money from the masters on false pretences.

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

THE USE OF CUPROL IN GRANULAR OPHTHALMIA.

BY SIMEON SNELL, F.R.C.S. EDIN.,

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OPHTHALMOLOGY, UNIVERSITY COLLEGE, SHEFFIELD.

THE number of remedies proposed and used at one time or another for the treatment of granular ophthalmia is multitudinous. The old-fashioned "blue stone" nevertheless still occupies a prominent place among the more reliable local applications and the benefit in many cases from its use is unquestioned. Recently in some cases I have substituted for the copper sulphate a new chemical compound of copper called cuprol. It is a form of copper in combination with nucleic acid and is said to contain 6 per cent. of copper. It is claimed for it that it penetrates the tissues more deeply and is much less irritating to inflamed surfaces than the ordinary copper salts. It does not coagulate albumin nor is it precipitated by alkalies and it is readily soluble in warm water. I have employed cuprol in several cases of trachoma. Many have been more or less chronic but a few have been more acute. In some also there has been pannus. Cuprol is supplied in the form of a fine impalpable powder and the application has been made by freely dusting the powder on the inner surfaces of the lids which were everted for the purpose. A convenient way is to take the powder up with a camel-hair brush and to dust it on the eyelids or to spread it about with the brush. The powder is so impalpable that it does not immediately irritate and the discomfort occasioned afterwards is very slight compared to that caused by the application of "blue stone." A lady, a sister of mercy, long accustomed to having "blue stone" applied to her granular lids, is very decided in her preference for the cuprol in consequence of the less discomfort it causes. Others have made the same statement. The patients at the infirmary have testified to this in a practical manner by quickly departing after the application, whereas if copper sulphate had been employed they would have wanted to wait about until the effects of it had somewhat subsided and this even when cocaine had been used. With cuprol the use of cocaine has not appeared to be necessary. The applications of cuprol have, in some cases, been made daily; in others, twice a week or less frequently. In the interval, a 5 per cent. solution of cuprol has, in a few cases, been prescribed to be dropped into the eye. Up to the present the use of cuprol as an alternative to other remedies is distinctly encouraging. I propose to use it in solution in other conjunctival affections.

Sheffield.

NOTE ON A CASE OF TETANUS SUCCESSFULLY TREATED BY ANTI-TETANIC SERUM.

BY E. MANSEL SYMPSON, M.A., M.D., B.C. CANTAB.,
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A MAN, aged 45 years, who was sent to the Lincoln County Hospital by Mr. Oswald Giles of Sleaford, was placed under my care on April 12th, 1901. Fourteen days before his admission to the hospital he had been kicked in the back by a bull and in falling forwards had knocked his nose on a piece of rusty iron which gave it a nasty ragged cut. On April 9th he noticed that his jaws were stiff and that his throat hurt slightly on swallowing. On admission he was found to have a scar on the bridge of his nose which was not quite healed and was discharging pus. His breath was very offensive and his teeth were in a very bad state. His jaw was stiff and could not be opened wide. He had a great deal of hair on his face and the moustache and whiskers quite veiled any risus sardonicus, but it was noted that the outer half of the occipito-frontals was much contracted, leading to wrinkling above the eyebrow and around the outer and upper edge of the orbit on

both sides of the forehead. His temperature was slightly raised. Twenty grains of potassium bromide with 15 grains of chloral hydrate were given every night, which was followed up on the 13th by a mixture containing 10 grains of potassium bromide three times a day. On that day the abdomen and limbs were somewhat rigid. On the 14th, as the hardness of the abdomen (it felt exactly as though the chest was continued down to the pubes) and the stiffness of the limbs and jaw had increased, 10 cubic centimetres of anti-tetanic serum were injected. On the 15th, 16th, 18th, and 19th the same amount was injected. On the 20th the patient was much better; he could move his jaw more easily and the rigidity of the abdomen and the limbs was very much less. These symptoms gradually passed off. On the 26th his temperature had risen to over 100° F.; he had a sore-throat and pain in his legs and feet which were considerably swollen. He had suffered occasionally from rheumatism, so he was given a mixture containing salicylate of soda, bicarbonate of potash, and sal volatile. His temperature (nightly) fluctuated from 102° to 102·6°, 103°, and 102° again. On May 11th he began to take five grains of salicylate of quinine every four hours and the temperature at once became normal and remained so till he went out on May 31st, when the pain in his lower limbs had vanished and the swelling had almost gone. His mouth had been carefully attended to also.

The effect of the injections of anti-tetanic serum in this case was well-marked and very satisfactory. Probably the serum had nothing to do with the pain and swelling of the legs and feet.

Lincoln.

INTERMITTENT PULSE UNDER CHLOROFORM.

By RAJABALI RAMJI LAKHDHIR, L.R.C.P., L.R.C.S. EDIN.

THE patient was a Hindu boy, about 12 years of age, suffering from sinuses just below the mastoid process on the left side, from which serous fluid exuded in pearly drops. This stained the boy's clothing and was a source of great discomfort to him. An operation having been resolved on, a preliminary examination was made by myself and by my friend, Dr. B. S. Paikar, who administered the chloroform, the result being that the patient's heart was found to be acting strongly and the sounds were normal. Nothing abnormal with reference to the circulatory system was noticed. Whilst chloroform was being administered he had struggled a good deal. When fully under its influence his pulse was distinctly felt to beat according to a well-marked intermittent type, the cycle being that after every fourth beat there was a pause, followed by four beats and a pause, and so on. After the operation was over, and as the patient was coming round from the anæsthesia, his heart sounds and pulse were very carefully watched. The heart sounds were normal and there was not the slightest trace of intermittency in the pulse. Since that time the patient has been kept under observation, but he has never shown any sign of intermittent pulse.

I have recorded this case on account of this intermittent pulse under chloroform being an exceptional occurrence. The explanation of this phenomenon may be of interest.

Bombay.

ACUTE HYDROCEPHALUS WITH EFFUSION THROUGH THE OCCIPITO-PARIETAL SUTURES.

By EDWARD J. BRADY, L.R.C.P. IREL,

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THE mother of the patient was a primipara who was delivered instrumentally at term after a rather tedious labour, owing to inertia uteri. The presentation was vertex right occipito-anterior. A caput succedaneum formed on the child's head and axis-traction forceps were used. Chloroform was given and delivery was effected without much trouble. The foetus was moribund and required artificial methods to bring on respiration. The mother and child did well, but six days later I suddenly received the message, "Child ill." There was a trained nurse in charge. On my arrival it was reported that the child had "twitchings," but no fit, and I accordingly ordered the usual

treatment. At a later visit on the same day I found two tumours, right and left, in the line of the occipito-parietal suture rather larger than a partridge's egg; the one on the left side was much lower (nearer to the ear) than that on the right side. There was no pulsation, but pressure on one tumour caused increased tension in the other. The child had had three or four marked convulsions, but at no stage of the case had it suffered from either diarrhoea or constipation. The digestive functions were almost unaffected; there was no vomiting or abnormality of temperature.

The case seems to have been one of acute inflammation of the arachnoid with effusion. It is known that the arachnoid, like the pleura, is a closed sac, and in the healthy state there is just sufficient fluid secreted to allow its surfaces to glide without friction one over the other. Here, I will not say from what cause, an excess of fluid was secreted, and in this infant only a few days old with the occipito-parietal sutures unossified it bulged out to form the tumours herein noted. The treatment consisted in careful dieting, the application of ice, and the administration of bromide of potassium. The diet consisted of sterilised milk given frequently and in small quantities, as the child was unable to take the breast. The child made a good recovery.

That the symptoms were due to the pressure caused by impaction of the foetal head against the maternal pelvic bones seems unreasonable for the "pains" were weak and the caput succedaneum which had formed was probably caused by simple congestion without any compression. Who has not met with large tense capita succedanea in labour complicated by a narrow maternal pelvis and strong bearing-down pains, without the foetus, whether delivered naturally or instrumentally, ever exhibiting symptoms as described above? "Pressure of the forceps" some might be tempted to say. That will not in this particular instance bear investigation, because from the application of the instruments until delivery was effected three minutes did not elapse and there were no marks of the blades on the child's head. The family history, both paternal and maternal, is unimpeachable. The recovery was, in my opinion, due to absorption of the effused fluid and to its elimination by the skin, bladder, and rectum.

Earlestown

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.

LONDON TEMPERANCE HOSPITAL.

A CASE OF MASTOID SUPPURATION; CEREBRAL ABSCESS;
TREPHINING; EVACUATION OF PUS; NECROSIS;
SEQUESTRECTOMY; RECOVERY.

(Under the care of Dr. W. J. COLLINS.)

FOR the successful treatment of intracranial suppuration early evacuation of the pus is necessary, but the diagnosis of this condition is frequently very difficult. In the following case the tenderness over the mastoid process, with the discharge from the ears, the presence of optic neuritis, and the mental condition were sufficient to indicate the existence of an intracranial complication, a meningitis or an abscess, with great probability in favour of an abscess. For the notes of the case we are indebted to Mr. J. S. Hosford, jun., surgical registrar.

A youth, aged 17 years, was admitted into the London Temperance Hospital on June 6th, 1900. There was some history of lung disease and insanity in the family. The patient had been healthy except for some discharge from the ears which had followed measles and whooping-cough about 10 years previously. When admitted he was very drowsy and stupid but was able to walk and to feed himself. There was offensive discharge from both ears and the left mastoid was tender to percussion. Both tympanic membranes were destroyed and he was deaf; the left optic disc was