a zone of precipitation along the plane of contact of a test solution and the urine, can do so by aid of these papers. A test tube and a wineglass are required. Into the latter the reagent paper rolled up is placed with about fifteen minims of water, and, without shaking, is set aside, while a similar quantity of urine is put into the test tube with citric paper. After withdrawing the latter, the reagent, now in solution, is taken up by the pipette and is allowed to trickle down the side of the tube, in which it will collect at the bottom. After developing the ring, the two fluids may be shaken together, when the albumen will be more largely precipitated as a milky cloud.

The keeping power of the test papers.—None of the papers have been bottled or kept from the air and light during several weeks; on the other hand, they have been purposely exposed without covering. Still I cannot discover the least deterioration of their power to precipitate albumen or any change of colour or of other physical quality. From the first I rather suspected the mercuric papers might not stand the exposure of daily work for any length of time; but I am now of opinion I over-estimated, if I did not misjudge, this possible source of failure. I am surprised they do not partake more than they appear to do of the deliquescence of the potassium iodide, which is merged in the new definite salts with which they are charged; for it was only after free exposure in a dampish room without a fire, a trial to which no delicate test should reasonably be submitted, that they became slightly limp, but even then without showing any diminution of their albumen-precipitating property. So far I can assert I have seen nothing to cause me to doubt the stability of even these reagents employed as test-papers, and they are the only members of this series of albumen precipitants which *a priori* might be thought at all susceptible to the deleterious effects of atmospheric influences. Though referring to a test touching another subject, I may say that my cupric papers, designed for the qualitative and quantitative estimation of sugar, and made over two months ago, are to-day as good and as sensitive as they were when freshly prepared.

In a leader of the *Medical Times and Gazette* for 1874³ will be found the following passage, which tersely expresses the opinion of the writer as to the trustworthiness and adaptability to the requirements of medical work of the tests for the detection of albumen as then known: "The reader who has followed us so far will, we think, agree with us that none of the common tests are quite satisfactory, and that we still lack one which shall be cleanly, portable, cheap, and certain." I leave it for my readers to decide whether this remark still holds good.

In concluding these notes on the qualitative tests for albumen, I must state my consciousness of the imperfection of isolated observation, however faithfully recorded, and I would fain seek the scrutiny of many eyes, to correct if needful, or to more truthfully limit, any of the matters here advanced. With this object in view I have asked Mr. Hawksley, 357, Oxford-street, W., to place a limited supply of these test papers at the disposal of the profession, and to furnish gratuitously the series to anyone who desires to put them to a careful trial, and who will kindly communicate the results of their observations to me or to THE LANCET. In the meantime I hope that favourable evidence will not be long forthcoming to prove, as I have found, how satisfactorily they meet the requirements of daily work at the bedside, and to indicate which of them should be regarded as the best workable tests.

Harrogate.

² Vol. ii., p. 366.

THE annual meeting of the Weymouth Royal Hospital and Dispensary was held on the 18th ult. The number of out-patients was 182 in excess of the highest number ever recorded in the annals of the charity. The Hospital Sunday collection had increased from £182 to £203, and the amount owed by the institution was less than at the beginning of last year. The chairman paid a high tribute to the medical officers for their services.

DONATIONS TO HOSPITALS.—The funds of King's College Hospital and the Middlesex Hospital have received a welcome addition of £1000 each by the benevolence of a donor signing himself "T.W.R.," who has also given £500 to the Brompton Consumption Hospital, and to the British Home for Incurables.

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.

SEAMEN'S HOSPITAL, GREENWICH.

CASE OF PERNICIOUS ANÆMIA.

(Under the care of Dr. CARRINGTON.)

FOR the following notes we are indebted to Mr. E. Penny, M.B. Lond., house-physician.

Heinrich L—, aged twenty-one, a Norwegian sailor, was admitted on March 2nd, 1882. As he spoke no English, a clear history could not be obtained; but it appeared that he had been at Wilmington, Mexico, in the winter, and had had ague there.

On admission he was very anæmic, and became rapidly worse. Towards the end of April he presented the following symptoms:—Extreme pallor and smoothness of the whole cutaneous surface; mucous membrane of the mouth and eyelids almost colourless; rapid and excitable cardiac action, often causing much distress by the violence of the beating; no distinct cardiac murmur, but a slight systolic roughness at base; respiration on the slightest exertion deep and hurried; a few moist sounds generally through the lungs; subject to syncope attacks, during which the pallor became more intense, and the breathing very distressed. He complained frequently of pain in the epigastrium, while extreme tenderness with slight swelling of the lower part of the right thigh came on. There was also very slight œdema about the ankles; hæmorrhage into the retina took place, while the blood showed extreme diminution of red corpuscles without increase of white ones, the former being of very abnormal shapes and sizes. Examination of the patient caused much distress, and often alarming attacks of syncope towards the close of life, so that it was impossible to investigate the case very closely. Although he seemed generally tender and resented disturbance in any way, no distinct tenderness over the bones was made out.

On April 29th Dr. Stephen Mackenzie examined the patient, the following being the result of his observations. Numerous superficial retinal hæmorrhages, some flame-shaped, some fan-shaped, and others round, and a few white patches; discs swollen; edges indistinct. Microscopic examination of the blood showed the red corpuscles much reduced in number, variable in shape, some tailed, some elongated, and others very small; they showed no tendency to form rouleaux, though congregating in clusters; the smaller corpuscles were not deeper in colour than the larger normal ones; no granular corpuscles.

During the patient's residence in hospital his temperature varied generally between normal and 100° F., being often lower in the evening than in the morning, and rising at times as high as 101°. Diarrhœa occasionally came on. He took nourishment well the whole time. From March 22nd to April 19th he took, every four hours during the day, one-thirty-second of a grain of arsenious acid, combined with ten grains of sulphate of quinine.

On April 19th the arsenic was raised to one-twenty-fourth of a grain in a dose, but as very troublesome vomiting followed, the medicine was discontinued on April 22nd. Some days before death the patient complained of pain in the left chest, which was followed by slight effusion in the pleural cavity; his breathlessness became more marked, so that he could not rest in the recumbent posture; vomiting returned about the same time.

The patient died on May 4th after a syncope attack, in which the breathing became extremely distressed and rapid. With the exception of a single attack of epistaxis, no loss of blood took place during his stay in hospital.

Necropsy.—The body was not at all wasted; there was much fat in the abdominal walls and omentum. The heart was flabby and relaxed, containing clots, uniformly of a dark-amber colour. On section, the inner third of the cardiac wall was very pale, while the outer two-thirds

showed thickly scattered ecchymoses. The pericardium contained three-quarters of a pint of clear fluid; there were some ecchymoses beneath the visceral layer of membrane. A considerable amount of clear effusion was found in both pleural cavities, and a patch of recent lymph at the left base. The liver was pale; spleen soft, but not enlarged; kidneys pale, showing points of ecchymosis here and there. The cancellous structure of the sternum and vertebræ seemed normal. The swelling of the thigh was due to œdema, apparently caused by venous thrombosis.

ADDENBROOKE'S HOSPITAL CAMBRIDGE.

OBSTRUCTION OF THE ABDOMINAL AORTA BY CLOT; GANGRENE OF LEGS; DEATH; POST-MORTEM EXAMINATION; REMARKS.

FOR the following notes we are indebted to Mr. A. M. Sheild, house-surgeon.

Mary F—, aged thirty-six, married, was admitted on Nov. 1st, 1882. She was a spare, pale, anxious-looking little woman, of a patient, quiet, disposition. Pulse 136, weak and irregular, temperature 100°, tongue red and glazed, bowels confined, urine acid, lithatic, no sugar, a little albumen. Action of heart irregular but no bruit to be heard. Skin covered with acid, sour-smelling sweat. Abdomen discoloured from the use of mustard plasters. The right foot and lower two-thirds of the leg were gangrenous. The skin had lost its elasticity, was dusky red and mottled with purple. Over the heel and on the sole of the foot were sanious black bullæ, the toes and anterior part of the dorsum of the foot were dry, shrunken, and the colour of tallow, contrasting with the black hue of the matrices of the nails. There was absolute loss of motion and sensation in the affected parts, which felt cold and dead. The parts near the upper limit of the gangrenous process were very painful, but there was no emphysematous crackling, or evidence of rapid advance of necrotic action. The left foot was cold and numb, the toes were a little dusky, and sensation was greatly impaired. She could move the leg, however, freely. No trace of a pulse could be felt in either femoral artery. The abdominal aorta pulsated violently to a little below the umbilicus; here all pulsation ceased. A slight bruit could be heard with the stethoscope, about two inches above the umbilicus, over the aorta, but there was no evident dilatation of the vessel. No bruit could be heard over the thoracic aorta. There was some abdominal tenderness, especially in the right iliac fossa and left hypochondriac region.

The following history was obtained:—The patient had rheumatic fever at the age of seventeen; ever since then has been "a martyr to the rheumatics." Has had four children and two miscarriages. The last child was born in May; she had an easy labour, and was soon well and about again. There was no history of syphilis. For the last fourteen days she has had to keep her bed with pains in the body and down the legs. On the morning of Oct. 29th she found her right foot very painful and numb; the left foot also suffered, but not to the same degree. Declares that at that time she could move both her limbs easily. From this date to the time of admission she has been getting steadily worse.—Nov. 2nd: She slept badly. Pulse 130; temperature 101°; other conditions much the same. Takes her nourishment well. Bowels freely open.—4th: The gangrene is extending slowly on the right side; it has now reached the knee. The left foot is now evidently gangrenous. Pulse 130; temperature 101°.—6th: Had a bad night; this morning is apathetic, and very drowsy. Pulse 140; temperature 104°. She died quietly at about 11 A.M.

Treatment.—This merely consisted in applying warmth to the affected limbs, supporting the strength by nutritious diet, and giving small doses of opium at night to alleviate the pain.

Necropsy, about twenty hours after death.—The heart and lungs were fairly normal. There was a slight fibrous thickening of the mitral valve, but no granulations or ante-mortem clot. On following down the aorta these curious appearances presented themselves: The arch of the aorta was to the touch and naked eye normal. On the posterior part of the thoracic aorta, just above the diaphragm, was a small, tongue-shaped, firm, pinkish, fibrinous clot. This was quite adherent to the wall of the vessel, which in this situation presented a wheal-like elevation, fibroid to the touch, and having the endothelial coat over it roughened

and altered. A little lower down was another small patch of disease; this was calcareous, and seemed of older date than the one first mentioned. The coeliac axis and its main branches were blocked by firm, adherent, fibrinous, somewhat stratified clot. This projected a little into the aorta, which here again presented a thickened opaque condition of its lining membrane, feeling in one spot gritty and calcareous. Just above its bifurcation the aortic tube was completely blocked by a firm clot, having its conical end of a gelatinous consistence and pink colour, and projecting some little way upwards. The clot quite filled both common iliac arteries; the internal iliac and external iliac vessels were also completely obstructed. The whole clot was stratified, and very adherent to the intima of the implicated vessels. Near the junction of the right common and internal iliac vessels it was most decolourised and firm, greyish-white, and adherent, as though this was the oldest part of it. The vessels of the brain seemed healthy. There was nothing worthy of note in stomach or intestines. The right kidney was small, and there was a slight puckered cicatrix on its surface, to which the capsule was adherent. The spleen was enlarged, its capsule thickened, and it presented some pale wedge-shaped patches near the surface, as though the result of old embolic processes. The liver was enlarged slightly; there was one small wedge-shaped patch of evidently old origin on its surface.

Remarks.—Complete obstruction of the abdominal aorta by clot is sufficiently interesting to justify such a case being fully recorded. A number of such cases may be found related in Sir James Simpson's works, dependent, however, upon the puerperal state. Cases are also recorded in Vol. xxiii. of the Transactions of the Pathological Society; one of them bears in its results a close resemblance to the one now related, the aortic tube being blocked close up to the origin of the renal vessels. The chief point of interest in the present case is the nature of the arterial degeneration, which evidently caused the blood to clot. It was unlike ordinary atheroma in the absence of distinct implication of the aortic arch, the age of the patient, and the evident mischief to the endothelial layer of the inner coat. The primary clot was, doubtless, the small one upon the wall of the thoracic aorta; here the endothelium being altered and abnormal, caused the blood, which must have had a preternatural tendency to fibrinous excess, to coagulate upon it. The coeliac axis seems next to have got plugged, and from the conical projecting end of the coagulum that filled it, another clot got washed away by the impact of the powerful stream of blood in the aorta into the right common iliac vessel. Here it lodged at the bifurcation of the common iliac artery into its external and internal divisions, completely obstructing it, and also causing thrombosis to take place, and so secondarily block both the left common iliac artery and the aorta itself. The oldest portion of clot below was certainly in the right iliac vessel, and the clinical history of severe abdominal pain, followed by sudden gangrene—first of the right, then of the left lower limb—would support the view above advanced. The origin of the clot and the primary seat of its arrival in the iliac vessels are very interesting and open to several explanations. It is also worthy of remark that but slight indications of mischief showed themselves in the great abdominal viscera, though the great artery, the coeliac axis, was quite firmly plugged.

BARROW HOSPITAL.

CASE OF COMPOUND FRACTURE OF SKULL WITHOUT HEAD SYMPTOMS.

(Under the care of Mr. WILLIAMS.)

FOR the following notes we are indebted to Mr. R. Heelis, house-surgeon.

Robert A—, aged fifteen, was admitted on Oct. 20th, 1882. Three hours before admission he was struck on the right forehead by a tipling truck, in rapid motion, and thrown some distance. He was insensible for about five minutes, and then got up and went on with his work. He applied to the hospital at midday as the wound seemed serious.

On admission there was a small oblique wound one inch above the upper and outer angle of the right orbit extending to the bone, which was bare for about half an inch beneath the lower edge of the wound. This bare bone was bounded above by a sharp, free edge of crescentic shape, which could be felt through the skin, its extremities being above and