introduced into the abscess on the inner side of the thigh and discovered a space (all the tissues being undermined) leading into a cavity in the adductor muscles. From the outer side the finger went down and round the neck, which was found bare. There appearing to be good movement in the joint at this stage, it was thought that free openings would enable the part to recover, but upon trying to account for the shortening, it was found that the bone was displaced upwards on to the dorsum ilii. The opening over the great trochanter was enlarged, and having peeled off the periosteum the bone was sawed through just below the trochanter, and what was remaining of the neck was removed. Several small pieces of the articular surface of the acetabulum were removed. A hole was found in the acetabulum, through which it was thought the fascia on the inner side could be felt. This opening seemed about the size of a threepenny piece. The wound was dressed with terebene lint, and a double splint put on. Morphia injection (one-sixth of a grain) was ordered every night. None of the head proper was left; there was only the stump of a neck, and this was much reduced in all directions. The bone was dense and yellow except just near the trochanter, where a little healthy bone remained. The head proper was not found.

June 10th.—No discharge from the wound.—23rd: Nearly well; the splint removed, and the boy able to sit up in bed.

July 5th.—The patient complains of pain at the inner part of the thigh, near Poupert's ligament, where there is a good deal of swelling, but no fluctuation can be felt.—8th: The swelling has increased a good deal, and there is a good deal of inflammation about the part; temperature 100° 2'.—9th: The abscess opened; a large amount of pus evacuated; double splint applied.

Sept. 7th.—The wounds discharging still; the splints removed, and the leg put up in sand bags.—10th: The splint reapplied.

Oct. 26th.—Doing very well; the drainage-tubes being gradually shortened.

Nov. 22nd.—The last drainage-tube removed.—28th: The leg has very fair movement of abduction and adduction, and flexion and extension.

Dec. 13.—The patient got up, and was able to walk with a little assistance and his crutches.—17th: Able to get along with his crutches without help.

The temperature ranged for the most part from 99° 4' to 100°; on the day of operation it was 101° 6' in the morning, and 103° 2' in the evening. It fell next day to 99° 2', and did not afterwards rise above 100°, except on July 6th, when it went up to 103° 8', but fell again on the following day to 100° 2'.

Jan. 20th, 1882.—The boy has every movement of the limb, and can bear the weight of his body on it; still to use crutches.

SOUTH STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.

CASE OF RUPTURED SPLEEN; DEATH ON THE SEVENTH DAY; NECROPSY.

(Under the care of Mr. VINCENT JACKSON.)

FOR the following notes we are indebted to Mr. J. W. Batterham, M.B., B.S. Lond., house-surgeon.

Two days previous to admission J. H.—, aged forty, was at his work unloading a barge, when the mast fell and struck him on the left side.

On admission, July 25th, 1883, the patient looked pale, had a very feeble pulse, and complained of pain in the left hypochondrium on deep inspiration. There was slight bruising over the ninth and tenth ribs, but no fracture, tenderness, or distension of abdomen. The patient was kept in bed on milk diet, and ordered four ounces of brandy daily. Evening temperature 99° 8'.—26th: The general condition had improved, pain in side was less, and the feeling of faintness had passed away. Temperature 97° 8'.—28th: Early this morning, on sitting up in bed the patient became extremely faint, and remained so the greater part of the day, but improved towards evening. Complained of pain at the seat of injury. There was slight abdominal tenderness.—29th: The patient had another attack of syncope. Abdomen very painful and distended; some dullness on percussion in the flanks. Ordered one grain of opium pill every four hours; glycerine and belladonna to abdomen.—30th: Patient lies on his back with knees drawn up; skin cold and clammy; features pinched and pallid; pulse scarcely perceptible. Respira-

tion rapid and entirely thoracic. Temperature 98°. Patient died about 1.30 P.M.

Necropsy, twenty-six hours after death.—Rigor mortis well marked; body well nourished; slight ecchymosis over the left hypochondriac and lumbar regions; abdomen much distended; tympanitic round umbilicus and dull in flanks. On opening the abdomen several pints of dark-blood fluid escaped and large blood-clots were observed. Surrounding the anterior edge of the liver, on further examination, large clots were found enveloping chiefly the liver and spleen. On removing the viscera, all were found to be extremely anæmic, but otherwise healthy. The spleen was of normal size and consistence, on its convex surface appeared four or five transverse ruptures, varying in length from one inch and a half to four inches; depending from these were several large clots. At the upper extremity of the organ a large clot was found between it and its capsule. No evidence of peritonitis. Thorax, pericardium, and heart healthy. Extensive pleuritic adhesions were found on the right side; the left pleuritic cavity contained several ounces (fifteen to twenty) of serous fluid. On removing the lungs both lower lobes were found to be collapsed and airless (sank in water). Brain not examined.

CHRISTCHURCH HOSPITAL, NEW ZEALAND.

MULTIPLE LYMPHADENOMA; ENLARGEMENT OF SUBMAXILLARY, CERVICAL, AXILLARY, BRACHIAL, INGUINAL, AND BRONCHIAL GLANDS ON BOTH SIDES; TREATMENT BY ARSENIC; RECOVERY.

(Under the care of Dr. BAKEWELL.)

D. Mc. N.—, aged forty-three, an Irishman, a contractor. No family history of any tumour. Personal history: Had "fever" thirty years ago; has been a hard drinker at times, but not systematically; has never had syphilis or gonorrhœa; has always been a healthy man until this illness commenced. Present state: Is very deaf; is a florid-complexioned man, with very great congestion of the face and head; looks robust and healthy in other respects; about 5 ft. 10 in. high, and muscular; voice rather squeaky. Showed first a tumour a little above the bend of the right elbow, which looks like a moderate-sized cocoanut (without the external husk), with the skin tensely stretched over it. It is situated along the inner side of, and partially overlapping the, biceps. It was not measured at first, but a week after the specific treatment was commenced it measured seven inches in length, and the circumference of the arm, including the tumour, was 13½ inches. The glands in the cervical regions of both sides are enormously enlarged; a tape carried over the seventh cervical vertebra and along the upper edge of the clavicles measured twenty inches at date of first measurement. The submental and submaxillary glands partake of the enlargement. The axillary glands on the right side are all enormously swollen; one of them is the size of a very large orange, and hangs pendulously from the other masses. The left axillary glands are enlarged, but not extensively. The inguinal glands are also enlarged, but not nearly to such an extent as the axillary. There is no enlargement in the popliteal regions. The skin over the tumour in the right arm is dark-purple, tense, and shining. Percussion showed absolute dullness on both sides between scapulæ and the spine posteriorly, with coarse expiratory murmur, and in some parts tubular breathing. The breathing when asleep is extremely stertorous, and when awake is husky. Says his voice has altered within the last week or two. In other respects is quite well.—History of illness: Fifteen months ago a swelling was first noticed at the bend of the right elbow, which has constantly increased since. Afterwards the glands in the neck began to swell. Has only been deaf for four days. Has had no medical treatment, but has been under some herbalist, without deriving any benefit. The blood examined microscopically showed an increase of white corpuscles, remarkable for a ruddy complexioned healthy man, but not more than is found in many cases of ordinary anæmia. There is no hæmatocytometer at the hospital, so that the number could not be estimated. The patient was admitted on March 22nd, 1883. The following mixture was prescribed, to be taken three times a day, five grains of iodide of potassium, twenty-five minims of liquid cinchona.—24th: The iodide has had no effect, as the tumours are all evidently increasing, especially on the right side of the neck. The rapid development of the tumours, and the

increased dyspnoea, made it necessary to arrange that the resident surgeon should perform tracheotomy at any time if urgent symptoms should require it. To take five minims of the solution of arsenic three times a day.—26th: Arsenic begins to purge. Bowels open three times this morning; no other discomfort from it. Tumours still increasing. Compound chalk and opium powder, as circumstances require.—27th: The patient himself called attention to the fact that the tumours about the neck seemed softer.—31st: Tumours decidedly softer; no apparent diminution in size. The arrest of the increase, and the softening of the tumours, gave rise to hopes that they might become absorbed, and accordingly the measurements as given above were made for the sake of comparison.

April 7th: The measurements are exactly the same. The nurse says that he sleeps now without making the "whistling" noise. He says that he can feel the right angle of the lower jaw, which he could not do when he came in.—11th: The tumours are evidently softer. He feels better. No cough.—13th: Purged occasionally.—16th: Measurement round the right arm 12 $\frac{3}{8}$ in. (gain of $\frac{1}{2}$ in.); in length 6 $\frac{1}{2}$ in. (gain of $\frac{1}{2}$ in.); round the root of the neck, as above described, 18 $\frac{3}{8}$ in. (gain of 1 $\frac{1}{4}$ in.). Hearing much better.—28th: Measurement round the tumour of the arm 11 $\frac{3}{8}$ in.; round the neck 18 $\frac{1}{8}$ in. From this time onwards there was steady uninterrupted improvement. The tumours all diminished in size; the deafness entirely disappeared; the face lost its congested look, and he was discharged to be an out-patient. On June 1st he presented himself. The tumour in the arm is barely perceptible; those in the axilla have entirely disappeared; the submaxillary glands are much diminished; and the cervical fast disappearing. He says he had epistaxis every day for a week. He has taken the arsenic regularly three times a day.—25th: Came again. All the glands (including the bronchial) are perfectly healthy with the exception of one cervical gland, which is about the size of an almond. Percussion in the chest normal, and respiratory murmurs normal. The man looks altogether different, the face having entirely lost its congested and swollen state. To take the solution of arsenic once a day for a month.

Remarks by Dr. BAKEWELL.—A more hopeless-looking case than this on its first admission I never saw. For the first few days death from pressure on the larynx seemed imminent; besides which there was pressure on the bronchi within the chest. I obtained the idea of using arsenic from an old volume of the Sydenham Society's Biennial Retrospect (1871-72, p. 244), which gives a brief account of a case of exactly the same kind, treated by Billroth, with recovery. My colleagues felt very incredulous as to any benefit that would occur from the treatment, and I confess I cannot in any way explain the *modus operandi* of arsenic; but Billroth's case and this one are at any rate enough to encourage its further use in these very intractable and severe cases of multiple lymphadenoma. The only inconvenience from the arsenic was that it purged a good deal at first. There was no nausea or vomiting. A few doses of the compound chalk and opium powder sufficed to check the purging until tolerance was established.

I might mention that an exploring needle was passed into the large tumour on the right arm, and the fluid was examined microscopically. I found nothing but round cells, in every respect resembling leucocytes. This was before the arsenic was given.

Reviews and Notices of Books.

Inquiries into Human Faculty and its Development. By FRANCIS GALTON, F.R.S. Pp. 380, with Plates. London: Macmillan and Co. 1883.

THIS is one of the most interesting books we have read for some time, for it treats of various forms of human faculty, which Mr. Galton may almost claim the merit of discovering, or at least of bringing into general notice. Some of the chapters are familiar enough to the readers of *Nature*, and others have been delivered in the form of lectures or addresses; but we think the author has done well to gather them in one volume, and thus enable his observations to be read and studied together. The most valuable additions to our knowledge of psychical processes are those bearing on the subject of "mental imagery," which will break new

ground for many of our readers. Mr. Galton, having noticed occasional statements and anecdotes in the public prints of persons whose visual memory is so clear and sharp as to present mental pictures that may be scrutinised with almost as much ease and prolonged attention as if they were real objects, determined to make systematic inquiry into the subject, and accordingly forwarded to some of the principal scientific men with whom he was acquainted a circular asking whether they were familiar with such vivid representations of scenes and events that were merely called up in the memory. The replies for the most part were negative, but, undeterred by this, he continued his investigations among the general public, and then found that a certain number of persons have an extraordinary power of visualising objects that they have seen, or of calling up mental imagery which corresponds to word-symbols with great vividness; others have it to only a moderate extent; whilst in probably the great majority it is absent, perhaps failing for want of use, as it seems to be pretty common in childhood.

The first group of questions circulated by Mr. Galton was thus worded:—"Before addressing yourself to any of the questions on the opposite page, think of some definite object—suppose it is your breakfast-table, as you sat down to it this morning,—and consider carefully the picture that rises before your mind's eye. (1) Illumination: Is the image dim, or fairly clear? Is its brightness comparable to that of the actual scene? (2) Definition: Are all the objects pretty well defined at the same time, or is the place of sharpest definition at any one moment more contracted than it is in a real scene? (3) Colouring: Are the colours of the china, of the toast, bread-crust, mustard, meat, parsley, or whatever may have been on the table, quite distinct and natural?"

We cannot of course quote the answers of his various correspondents, who appear to have been numerous; but we may give one of each of the three groups into which he has cast them, to show how great is the variation that exists in different individuals. One of the cases in which the faculty of developing mental imagery is very high, replies, "I can see my breakfast-table, or any equally familiar thing, with my mind's eye, quite as well in all particulars as I can do if the reality is before me." A second correspondent, in whom the faculty is mediocre, writes, "I can recall any single object, or group of objects, but not the whole table at once. The things recalled are generally clearly defined. Our table is a long one; I can in my mind pass my eyes all down the table, and see the different things distinctly, but not the whole table at once." Lastly, a correspondent in whom the faculty is low, replies, "It is only a figure of speech that I can describe my recollection of a scene as a 'mental image,' which I can 'see' with my 'mind's eye.' The memory possesses it, and the mind can at will roam over the whole, or study minutely any part." It will thus be seen that the greatest variations exist, and we have no doubt that in many instances good painters, musicians, and actors owe some of their pre-eminence to the vividness with which past scenes and events are reproduced before their mental eye. Mr. Galton remarks that one statesman has assured him that a certain hesitation in utterance which he has at times is due to his being plagued by the image of his manuscript speech, with its original erasures and corrections. He cannot lay the ghost, and he puzzles in trying to decipher it.

Not less interesting are Mr. Galton's observations in regard to number forms, for it appears that a certain proportion of individuals—roughly speaking, one out of every thirty adult males, and one out of every fifteen adult females—visualise numbers, and many of them in a very extraordinary way. The numbers often assume certain positions, and certain numbers come into prominence, so that a kind of framework appears on the visual field when