

During the whole of this time quinine had been given—four grains every two hours whilst the temperature was falling, and eight grains whilst rising,—but without any apparent decided effect. On the 10th the quinine was discontinued, as the man complained much of his head, and of deafness and tinnitus aurium, and salicylate of soda was given in its stead, in twenty-grain doses every two hours for the first twenty-four hours, and ten-grain doses afterwards. During the 10th, 11th, and 12th of February the temperature, though fluctuating, never rose higher than 101° nor fell below 98.4° . The headache was much better, but the deafness continued. On the 13th the temperature rose to 104.8° , falling below normal during the night, and as neither the quinine nor salicylate appeared to influence these irregular rises, all medicine was discontinued.

On the 14th he complained of pain down the right side of the neck, deep-seated more than superficial, with some little swelling beneath the right ear, and on the following day profuse fetid otorrhœa commenced, with relief to the pain. He was quite deaf on the affected side, but could hear perfectly with the left ear. The auditory meatus was washed out with warm dilute carbolic lotion, and the temperature during this and the four following days remained steady at about 99° . He begged to get up, as he was tired of bed, and was allowed to do so for a couple of hours on each of these days. There was no prostration, his appetite was very fair, and the headache was almost gone. The stools were no longer clay-coloured, but had regained their natural colour. Urine, pulse, and tongue normal.

On being questioned about the discharge from his ear, he thought he had once before had a discharge when he was a child, but nothing of the sort for the past twelve years.

On the 19th, and following days, the pain in the head returned, and now for the first time the man localised it as being worst over the right parietal region. The otorrhœa continued, and the temperature again rose and fell as it had previously done. Thus, on the 22nd, at 8 A.M., it was 98.2° ; a slight rigor came on soon after, and in two hours, at 10 A.M., it had risen to 106.2° , rapidly falling after reaching this point. The discharge from the ear had decreased in quantity, and on examination with a speculum the tympanic membrane appeared to be destroyed, no trace of it being apparent.

During the 22nd, 23rd, and 24th, the temperature never rose above 101° , and on the latter date the otorrhœa had ceased.

On the 25th, 26th, and 27th, the temperature again rose each day to 106° , the maximum height being immediately followed by a decline. The pain in the head had now become intense, and but little doubt was felt that some intra-cranial inflammation was going on; and twenty grains of bromide of potassium were given, with morphia at night, to procure sleep.

On the 28th a marked change was apparent; the patient lay in a heavy somnolent condition, taking no notice of anything around him, and was with difficulty roused to a state of conscious intelligence. He took the food and drink given him, but never asked for anything. The pupils were dilated, but sight was not affected; sensation on the right side of the face and on the left side of the body appeared impaired. Temperature continued steady between 103° and 105° . The bromide was stopped.

On March 1st the above condition had become more marked. He lay in a state of semi-coma, with marked right facial paralysis and left hemiplegia, with almost complete loss of sensation in the same parts, the right arm being somewhat rigid. Temperature remained about the same. Next day he was much the same, except that he appeared blind in the left eye, but flinched when a light was brought near the right one. He passed fæces and urine involuntarily, both being normal in character. He lay in the same unconscious state until 11 P.M. on the 4th, when he died; the temperature, which during the last three days had on an average stood at 104° , rose at death to 106.5° .

Necropsy.—On removing the skull-cap and cutting through the dura-mater a large quantity of pus gushed out on the right side. The brain being removed, there was seen to be a large abscess situate in the cavity of the arachnoid, the pus extending over the greater part of the surface of the upper and right side of the cerebrum. A deep depression had been caused by its pressure on the ascending frontal and ascending parietal convolutions, where it extended across the sulci in the form of a lowly organised membrane; but owing to the way in which the pus had spread backwards and forwards

from this spot it was difficult to fix any definite boundary to it. It nowhere dropped into the sulci, nor did it descend at all into the base of the skull. The brain substance cut firmly; the punctavascularia were rather enlarged and prominent. On examining the bones (the dura-mater having been stripped off) no disease could be detected in the temporal or other bones at the base of the skull. The temporal bone of the right side was removed, and there was then seen on the under and inner extremity of the petrous portion extensively diseased, softened, and inflamed bone extending about an inch outwards. Sections were made through the internal ear, and the membrana tympani and ossicles were found destroyed, and the fenestra ovalis perforated. The thoracic and abdominal viscera were healthy.

Remarks.—Some of the points worthy of note in the above case are the vagueness of and difficulty in interpreting aright the early symptoms; the remarkably fluctuating temperature, simulating to a great extent that seen in remittent fever; the apparent want of connexion between the abscess on the surface of the brain and the disease in the temporal bone, for after careful examination of the parts no communication could be found by which any of the discharge from the ear could have been derived from the abscess; and, lastly, the probability that if the seat of the abscess could have been satisfactorily localised the case might have been benefited by trephining.

HÔPITAL TENON, PARIS.

CEREBRAL ABSCESS; DEATH; NECROPSY.

(Under the care of Dr. D'HEMILLY.)

THE following case is interesting owing to the error of diagnosis that was made, the symptoms having been attributed during life to lead-poisoning, whilst the necropsy showed that they were caused by a purulent collection which had formed in the left sphenoidal lobe.

Eugénie T—, aged twenty-eight, was employed in a printing-office, and had been thus exposed to the risks of lead-poisoning for some years, but had never given any signs of the poison, such as colics, paralysis, or articular disorders. She had menstruated at the age of fourteen, and her courses had always been regular. With the exception of an attack of acute articular rheumatism, which occurred four years before the present illness, she had been in fair health. She presented signs of scrofula. The patient had become excessively anæmic, and her complexion was of a yellowish-white hue, and this had become more and more marked since she had taken to her late employment. Her digestion had become defective, being accompanied by flatulence. She had lost her appetite, and was constipated. At the same time she suffered considerably from palpitations, and lost her breath after the slightest exertion, or from emotional causes. Auscultation revealed the presence of a systolic souffle at the base of the heart. In the vessels of the neck a very strong double souffle was to be heard. She often had vertigo and dizziness, and a few days before entering the hospital she was seized with these symptoms in the street and fell. She became unconscious. The left side of her cheek and head were bruised by the fall, and she received a large wound near the orbit on the same side. She remained in a state of unconsciousness for several hours, and when she recovered she complained of great weakness in her legs and pain in her head. After her fall the weakness in her legs went on increasing, and she had frontal headache, most marked on the left side. The headache was always present, but at times it became almost unbearable. She was unable to sleep on account of this pain. Constipation continued. There was no sign of fever; the skin was not hot. The face presented great pallor, and the pupils were normal. She had nausea, but did not vomit. Whenever she attempted to sit up in bed she became dizzy, and was obliged to lie down again. Urine normal. The lungs were healthy.

On the 6th March, two days after admission, she subsided into a heavy sleep, out of which she only woke to complain of the pain in the head. She became slightly agitated, and was delirious at night. There was no paralysis of any of the limbs, nor was sensation at all affected. She had been treated up to this time by emetics and opiates. Purgatives were prescribed, and ice was applied to the head.

On the 7th she was agitated, and had noisy delirium with slight remissions, followed by profound coma. There was

no fever. The pupils were normal. No paralysis, nor any disorder of sensation.

On the 8th the coma became more pronounced, the breathing was stertorous, the face was red, the skin hot and covered with moisture. The temperature rose to 41.4° C. During the course of the evening she died.

Necropsy twenty-four hours after death.—The lungs, pleura, and heart were healthy; spleen slightly congested; liver hard and difficult to cut; kidneys slightly congested. A quantity of serous fluid was found under the membranes of the brain; the pia-mater presented a great number of dilated vessels, and the cerebral tissues appeared very red; the convolutions were flattened down and pressed one against another. In the left hemisphere the sphenoidal lobe presented a swelling on its external surface; this swelling was about the size of a hen's egg, and was soft and fluctuating; when opened, a thick greenish liquid escaped from the interior of the mass; a granulating membrane was distinctly seen surrounding the collection; the layer of tissue forming the outside wall of this cavity was extremely thin. The ventricular cavities were normal, as was also the remainder of the nervous tissue. The analysis of the cerebral substance showed it to contain twenty centigrammes of lead.

The diagnosis which was made during life was therefore mistaken, and it is probable that death was due to the collection in the sphenoidal lobe. The diffuseness of the symptoms and the absence of any local manifestations may be explained by the seat of the lesions, which was situated so far away from the motor and sensory centres, which were in no degree compressed.

Reviews and Notices of Books.

The Elements of the Anatomy and Physiology of Man. By G. G. BALE, M.A. St. John's College, Cambridge. Student's Edition; pp. 292. London: Remington. 1879.

THIS treatise is an endeavour on the part of the author to produce a work on human anatomy and physiology which should present to the student a fairly accurate reflection of the exact state of this field of knowledge. He states that it was written whilst he was recovering from an illness as long ago as the spring of 1876, which may account for some of the errors and omissions we have noticed. The balance between anatomy and physiology is fairly kept, and the author has managed to introduce a considerable quantity of histology, whilst he has paid unusual attention to the illustrations, which number no less than 441, or more than two to every three pages, and as a rule are very fairly done.

The facts given are generally correct, and have been culled from works of good repute, and, though written in a condensed style, the accounts of the structure and function of different organs is sufficiently intelligible, and is made as interesting to the beginner as the space at the disposal of the writer would allow. It will probably prove most serviceable as an introductory text-book to physiology for a first-year's student. The points which we desire to bring under the notice of Mr. Bale, with a view to some change being made in the next edition of his work, are, amongst others, that the skin is stated to be one of the chief sources of gain to the body. Now it may be doubted whether any absorption at all is effected by the skin, but if he even admitted that some interchange of gases takes place, the oxygen absorbed is certainly extremely small in amount, and quite overbalanced by the carbonic acid and watery vapour eliminated. Again, in regard to saliva, it is stated that "its chief active principle is ptyalin which acts (weakly) upon hydrocarbons, especially starches, converting them into dextrine, grape-sugar, or lactic acid, and defending them from the acidity of the stomach." We should be disposed to take exception to almost every statement in this sentence except the first, and even in regard to that the term "ptyalin" has been applied to such different substances that it has recently been suggested its use should be dis-

continued. The author does not mean that ptyalin acts weakly on starches, for ptyalin is very active, but that saliva acts feebly.

The term "hydrocarbons" is a misnomer; the word intended to be used was "carbohydrates." Ptyalin does not convert starch into grape sugar or lactic acid. Lactic acid fermentation is quite a distinct process, and not an effect of the action of ptyalin. Lastly, it cannot, we think, be said with accuracy that the action of the saliva is to defend the starches from the action of the gastric juice. The gastric juice simply does not act upon them, it does not exert any injurious action upon them. The subject of the pancreas is dismissed in seventeen lines, and yet eight lines are devoted to the pituitary body. What does the "early student" want to know about the pituitary body. The account of the coagulation of the blood would we fancy be objected to at any of the examining boards. The author describes the blood as forming a clot which sinks through the serum. What ground he has for saying that for each pulsation of the heart there are twenty million births and deaths of red corpuscles we are unable to say.

New Theories of the Great Physical Forces. By HENRY RAYMOND ROGERS, M.D. Published by the Author. pp. 107. 1878.

THIS little work deals with very large and interesting subjects—the light and heat of the sun, the force of gravity, the causes of winds, and the nature of sound. The author, proceeding on the principle that action and reaction are equal, considers that the heat and light of the sun are only phenomena existing where there is a body like the earth or one of the planets, which can give back, by a play of forces, what it receives. "Beyond the boundaries of the solar cone," he says, "no light is." Some of the statements of the author are, however, in flat contradiction to the best ascertained facts in science. He denies that the propagation of light requires time. He denies that the surface of the earth, or objects upon it, can reflect light. He regards the "thunderbolt" and the aurora borealis as substances, and, in fact, runs counter to so many well-established facts that we are bewildered, and can only recommend our author to take some books on natural science, rusticate for twelve months, and then rewrite his treatise, which may perhaps contain a germ of truth in it.

Atlas of Histology. By E. KLEIN, M.D., F.R.S., and E. NOBLE SMITH, L.R.C.P. Parts II., III., and IV. London: Smith and Elder. 1879.

THE second part of this Atlas is, we think, better than the first. It contains four carefully executed plates: the first two representing endothelium as seen in the mesentery of the cat and newt; the central tendon of the diaphragm; the lymphatic sac of the frog; tendon and other regions. In the last two plates the cells of the cornea are represented. One or two of the drawings are copied from Professor Klein's drawings, published in his "Anatomy of the Lymphatic System"; but the rest are original. Most are coloured. The appearances are those seen under an enlargement of 350 or 400 diameter.

The plates in the third and fourth parts contain illustrations of the following tissues:—Fibrous connective tissue; elastic tissue—the specimens being taken from the mesentery, the subarachnoid tissue, the aorta, and the ligamentum nuchæ; adipose tissue; pigment cells; cartilage, divided into hyaline, fibrous, and reticular. This last is very prettily illustrated. But we have seen better representations of fat than are here given; in fact, the fat-cells of adipose tissue are not shown at all. The whole of the fourth part is occupied with an account of the structure and development of bone. The results of the processes of staining which have