

occasionally contained blood after much exertion. He stated that about nine months ago he passed a small rough stone. There was only a slight trace of albumen in the urine. Mr. Sydney Jones sounded the bladder and detected a stone about the size of a pheasant's egg.

The patient was a rather thin, wiry man, was intelligent, and seemed well coached up in the differences between cutting and crushing. He pressed particularly to have some anæsthetic and have all done at once. He seemed a fair subject for lithotomy, so that on May 19th, the patient being under the influence of ether, lateral lithotomy was done by Mr. Sydney Jones. A uric acid stone, roughened by incrustation with phosphates, measuring one and a half by one inch, was removed. Rather free hæmorrhage followed, apparently from the prostatic veins. Compression was used by means of an umbrella plug firmly, perhaps rather too firmly, stuffed with lint.

After operation his morning temperature varied from 100.2° to 97.6°, and in the evening from 101.6° to 99.2°. The tube was removed on the second day. Six days after the operation, the urine having been perfectly clear before, it was discovered that some fæcal matter escaped from the wound. On examination an opening in the rectum was found about an inch above the anal orifice. It was probably due to sloughing, from pressure of the tube, with surrounding lint, passed into the wound. On the 28th tenderness was complained of, with slight swelling of the left testicle. This soon passed away. On June 16th, the urine, which had passed along the urethra for a few days after the removal of the tube, then ceasing, now resumed its proper passage, and daily increased in quantity in that direction. After June 19th, for a week or ten days no fæcal matter passed from the wound, but then a small quantity did pass. The patient progressed until only a small sinus existed in the perineum, which gave exit to a few drops of urine, and, when the bowels were relaxed, to a trace of fæcal matter. Examination per rectum barely allowed a director to pass into the perineal sinus. The patient suffered but little and only occasional inconvenience, and, declining further interference, was dismissed from the hospital.

### WEST RIDING LUNATIC ASYLUM.

#### CASE OF EPILEPSY OF TRAUMATIC ORIGIN; HÆMORRHAGE FROM VESSELS AT THE BASE OF THE BRAIN.

(Under the care of Dr. MAJOR.)

THE following record, for which we are indebted to Mr. Robert Lawson, M.B., is replete with interest, whether it be regarded from a physiological and pathological or from a purely clinical point of view. The notes are extended, but unavoidably so; a more or less complete history being essential to a right comprehension of the various abnormal manifestations.

B. W.—was admitted on May 23rd, 1873. His symptoms were those of epilepsy, with excitement and dementia. His relatives stated that till he was six years old he was a bright intelligent boy. When at that age, however, he was knocked down during a Royal procession through Leeds, and his head was run over by a carriage-wheel. From that time he began to have fits, which increased gradually in number and severity till he fell into a state of dementia. He was sent to a London hospital, and while there had necrosis of the bones of the skull. His mother stated that one or two pieces of bone had been removed from the right side of his head. There was no family history of epilepsy or of any allied disease. When admitted, the patient was very stupid and demented. He was listless, drowsy, and reticent. To some extent he understood what was said to him, but did not know his age, and to most questions answered "I'm sure I don't know." His speech was low and drawling. He was wet and dirty, and had to be fed and dressed. Physically he was fairly well, and there was no derangement of any of the main systems of organs. The pupils were normal, but the cornea of the right side was opaque. The upper lid of the same eye was drawn upwards by a cicatrix which involved the whole of the right temple, and in the postero-parietal region there was a small depression in the bone, surrounded by small bony projections.

The following is an abstract of the record of the case:—

May 28th, 1873.—The patient had a severe fit yesterday, and has had many less severe ones, especially at night.

June 6th.—Is having four or five fits a day, and a great deal of noisy excitement and muscular agitation. Ordered twenty grains of bromide of potassium twice a day.

16th.—No change. Bromide stopped, and inhalations of nitrite of amyl ordered every hour.

26th.—The bromide was resumed a week ago, and he has improved very much. He has not had even a slight fit for three or four days. He is less dirty, and can wash and feed himself. The bromide is to be increased to thirty grains three times a day.

Sept. 13th.—He has not had any fits for a long time. He is gaining flesh, and works in the shoemaker's shop.

Oct. 15th.—Fits much less severe and less frequent. He has had only one during the past month. Since the fits became reduced in number he has gained flesh and strength, but has been liable to paroxysms of excitement, in which he fights fiercely, and yesterday he had a severe and prolonged struggle with another patient. This excitement made it necessary to withdraw him from the workshop.

During the year 1874 he continued to be aggressive and quarrelsome, and up to January of the present year his symptoms consisted of frequent fits, and repeated attacks of excitement. During the whole of this period he had an offensive discharge from the left ear, and in September, 1875, had a small abscess behind that ear, but no bone was emitted from it.

Jan. 25th, 1876.—He has had a very serious attack of hæmorrhage from the mouth, nose, and left ear. The blood was pure arterial and came in so plentiful a stream that about a quart was parted with in five minutes.

29th.—He has had another smart attack of hæmorrhage in which he lost about a pint and a half of blood. In these attacks the attendant had orders to hold his hands over his head whenever the bleeding commenced. This treatment was generally followed up by the hypodermic injection of five to ten grains of ergotine on the arrival of the medical officer. Though both of these measures were apparently useful, yet the bleeding was generally so suddenly arrested that it is much more probable that it stopped spontaneously. Considering the known element of the case and the rapidity and alarming extent of the hæmorrhage, it was now diagnosed that caries at the base of the brain leading to the ulceration of some large vessel or vessels was the cause of the recurrent attacks. Iodide of potassium and cod-liver oil were ordered. Before the bleedings came on he was seen to be very pale and to have lost strength.

30th.—Has had a severe bleeding again. His pulse is very weak and he is exceedingly anæmic.

Feb. 4th.—No recurrence since last report. His pulse is stronger and he is on the whole much better.

5th.—Lost about a pint of blood.

12th.—Yesterday he had another severe attack of hæmorrhage.

16th.—Lost about a quart of blood. The hæmorrhage was seen by the medical officer. The blood came from both nostrils and from the left ear. From each nostril there was a constant stream of about one-sixteenth of an inch in thickness, and that from the ear was a mere trickling. It was presumed that the main current of blood ran along the course of the olfactory grooves and through the broken-down cribriform lamellæ. The structure of the left ear had now been damaged, and the patient was very deaf.

21st.—He had a severe fit to-day.

26th.—He has had a recurrence of the hæmorrhage.

March 4th.—Has had no return of bleeding. He is much better, and is to get up.

7th.—He has had a slight attack of bleeding this morning.

14th.—He had a severe fit yesterday, but no hæmorrhage. Between the bouts of bleeding he improves in physical condition amazingly. He is querulous and stupid, and sometimes refuses his extra diet, but is much attached to several of the excited occupants of the same ward, who form a body guard around him to protect his delicacies from the encroachments of predatory epileptics.

April 20th.—He has had several attacks of sickness, which caused bouts of hæmorrhage. It was frequently observed that epileptic fits never brought on, nor were associated with, hæmorrhage, but that sickness almost in-

variably caused bleeding. This observation suggested two things: first, that the lesion which caused the hæmorrhage was not identical with that which produced the epilepsy; and, secondly, that the condition of the circulation of the brain during epilepsy was, in this instance at least, widely different from that present in vomiting.

On the evening of April 20th, the patient, after a respite longer than usual, had a frightful outburst of bleeding from the mouth, nostrils, and left ear. When the medical officer arrived, B. W.— was found to be having slight general convulsions, and immediately afterwards he had two or three stertorous respirations, after which life appeared to be gone. He was turned on to his side, and his mouth was cleared. Artificial respiration was practised. At the same time a stimulant injection was administered. The respiration was re-established, but only for a very short time. Passive movements of the respiratory muscles were maintained for half an hour, but resuscitation was impossible.

It may be added that in this case the epileptic convulsions were so general that no exact localisation of the lesion producing the epilepsy could be suggested. There was no paralysis.

*Post-mortem examination.*—The autopsy was held forty hours after death. The body was fairly nourished, but its surface very pale and blanched. Rigor mortis was present, but there was no hypostatic congestion. On the right side of the head, in the region of the frontal eminence, and extending backwards as far as the outer end of the superior curved line of the occiput, there was a white puckered scar about an inch in breadth. The upper eyelid of the right eye was also involved in and drawn up by the cicatrix. On removing the scalp there was found to be a depression in the skull, commencing at the right parietal eminence, extending downwards and backwards for about an inch and a half, and gradually deepening till at its termination its floor consisted of fibrous tissue filling up a breach in both plates of the bone, which was circular in form and about as big as a threepenny piece. In front of this depression there was slight roughening and elevation of the external plate. In this region, and over the cavity, the periosteum was thickened and adherent. On removing the skull-cap it was found that at the site of the small opening in the cranial wall the subjacent membranes adhered to the bone, to each other, and to the brain, and that in the act of removal a portion of dirty softened grey matter was left adherent to the inner surface of the calvaria. There was only slight opacity of the membranes and little or no wasting of the convolutions except in the neighbourhood of the opening in the skull. At this spot there was brown discolouration, softening and wasting of the cortical substance extending over the surface for about an inch in length and half an inch in breadth, and affecting the angular gyrus on the right side. On the orbital lobule on both sides there were lines of brown staining running parallel to the olfactory sulci, and apparently resulting from previous pressure of blood. On the first temporo-sphenoidal gyrus of the right side there was a brown film evidently formed by altered blood, and about the middle of the left orbital lobule there was a small pit with brown walls, also apparently resulting from the pressure of blood. The whole brain-substance was blanched and anæmic, and there was no trace of internal clot. The degeneration of the grey matter corresponding to the breach in the cranial wall was found to be continuous with a distinct cavity in the white matter, the walls of which were of a brown colour. On examining the base of the skull it was found that the upper and inner aspect of the petrous portion of the temporal bone on both sides presented a ragged, rough, unsymmetrical surface, being in some places formed into sharp, irregular ridges, about a quarter of an inch in height. The upper aspect of the petrous portion on both sides was very rough, and immediately posterior to the carotid canal on the right side there was a deep depression, the walls of which were anteriorly elevated into a sharp ridge overhanging the upper end of the canal. The canal itself was partially obstructed by rough projections from its bony walls. On the left side the roughness and brown discolouration of bone extended much farther back, and the upper end of the carotid canal was almost occluded by a cribriform projection of bone, which was rough and of a deep brown colour. With pressure the canal admitted a round instrument about one-eighth of an inch in diameter.

There was brown staining of the dura mater over the petrous portion of both temporal bones. The other organs were healthy.

*Observations.*—There were two main elements in this case—(a) epilepsy, and (b) hæmorrhage. That the epilepsy was due to injury of bone and membranes over the angular gyrus of the right side, and probably to damage of the brain-matter itself, admits of little doubt. How far the appearances of inflammation and degeneration of bone around the carotid canals were traceable to the primary injury it is almost impossible to determine. With regard to the epilepsy, one or two passing observations are admissible. First, when the patient was brought to the West Riding Asylum the fits had become dependent on too wide a range of causes to admit of exact localisation of the original lesion. Secondly, the development of excitement after partial suppression of convulsions by large doses of bromide of potassium is an instance of what is frequently observed in this asylum. Repeatedly patients who appear to be almost if not altogether cured of their fits by the use of that drug, break out into unexpected attacks of destructive or homicidal excitement, and afford striking evidence of the correlation of mental with motor irritability. This observation has acquired strong confirmation from the interesting investigations of Dr. Bevan Lewis, of this institution, who, in papers published during the present year establishes the belief that this correlation exists not only between convulsions and excitement, but also between convulsions and the evolution of heat. With regard to the hæmorrhage, the appearances presented after death went to confirm the opinion formed during life, that the bleeding resulted from rupture of some large vessel or vessels at the base of the brain. The condition of the bone around the carotid canals renders it probable that at their upper part the internal carotids were very much reduced in calibre, and also suggests that friction of the walls of the carotids, or more likely of some of their large branches, against the roughened bone may have produced recurrent ruptures and consequent hæmorrhages. The diminished arterial pressure following on great loss of blood must have led to a comparative cessation of the mechanical rubbing of vessels against the roughened osseous surfaces. To this cause may be traced the total freedom from hæmorrhage between the severe outbursts, while the recurrence of the latter as soon as the patient's physical condition improved and his bloodvessels became fuller, is also explicable by the increasing and consequent tendency to laceration of the vascular walls by their pulsatile grating against denuded and roughened bone.

## Reviews and Notices of Books.

*An Introduction to Animal Morphology and Systematic Zoology.*  
By ALEXANDER MACALISTER, M.B., Professor of Comparative Anatomy and Zoology, University of Dublin.  
Part I. Invertebrata. London: Longmans.

THIS is a sound and accurate introduction to Animal Morphology, its only fault being that it is almost too much condensed, so that the meaning sometimes becomes obscure. Dr. Macalister states that his reason for writing it has been the desire expressed by students "to have a text-book in their hands to enable them to learn the terminology of the science, and, by giving them a connected view of the varieties of animal forms, to assist them in remembering the practical instruction of the class-room." The present volume embraces only the Invertebrata. We can entertain no doubt that it is well adapted to enable Dr. Macalister's students to follow his lectures, and freely admit that it is extremely difficult to make a book of this kind interesting. Still, if its pages are looked over by anyone who will place himself in the position of a student and with no more knowledge than a student is likely to possess, we can scarcely imagine anything more uninviting. Fancy the amount of information a lad of twenty, who had no opportunity of seeing drawings or specimens of the animals referred to, would obtain from reading—