it dry, by preventing the rain beating directly against the walls of the house. The officers' barracks are two stories high, besides the basement floor, a circumstance which should be always attended to in hot countries, especially in military buildings, as European soldiers lodged on the ground floor are sure to be attacked by fevers, agues, rheumatisms, and other diseases induced by damp and cold, it being a well known fact, that persons living on the ground floors of houses have suffered severely, whilst those in the upper stories were entirely free from disease, although exposed to the same atmospheric causes. This building is well situated, airy, and comfortably finished; each officer is allowed at least two rooms, an arrangement absolutely necessary in every tropical country, but more especially in a climate so fatal to human existence as that of western Africa. The soldiers' barracks are about the same size as the officers' quarters; they also consist of two stories, besides the basement; the soldiers here, when not too crowded, are well and comfortably lodged. There is also a good barrack-master's quarter, which, when in repair, affords good accommodation. The military hospital is situated about five hundred yards from the barracks, on a hill much lower than Tower Hill, and consequently not in so healthy a situation as the other military buildings; it contains two good-sized wards, besides a surgery, an office for the principal medical officer, a room for the custody of the apothecaries' stores, and a quarter for the hospital sergeant.

(To be continued.)

CASES ILLUSTRATIVE OF DISEASE, SEATED CHIEFLY IN THE CEREBELLUM.

(Read before the Sheffield Medical Society)

By WILLIAM JACKSON, Esq., M.R.C.S., Sheffield.

On Aug. 20, 1830, Mr. R. first became a patient of mine. His age 25; married; being of a fair and florid complexion, with tumid lips, and had, previously to the invasion of this disease, enjoyed good health. He had been ill about twelve months previous to my attendance upon him, and had gradually become more and more afflicted, his attacks becoming so much more frequent, as to disable him from attending to the duties of his business, which was that of a draper. Two causes were assigned by him as concerned in the production of his complaint,—one, exposure to severe cold on a long journey; the other, great bodily exertion in lifting heavy weights. The commencement of the affection was attended by paroxysms of severe pain of the head, confined at first to the upper and anterior part, but for the last four months it became fixed (during the fits) in the upper and back part of the head and neck, shooting forward around the forehead; and during the continuance of those seizures the face was flushed and the head steadily fixed in a position slightly inclined forward. The attack would frequently be occasioned by rising from bed in the morning, and usually continued for two or three hours, sometimes for a less period, and, when under the influence of his greatest suffering, the patient urgently requested the attendants to make forcible pressure upon the back of his head and neck, calling out at the same time for fresh air, and the application of cold water to the head; and the use of these means afforded him decided relief. The pain was of the most agonising kind, and was described as if something were darting downwards along the spine. When he was lying in bed, and frequently when in a sitting position, Mr. R. would fancy himself falling down, not only at the time he was under the influence of an

attack, but also during its absence. The pulse was generally unaffected during the intervals of those attacks, and varied considerably under their influence, being sometimes rapid and almost imperceptible, and again slow, especially on one occasion, being reduced to 40. There was no loss of consciousness, or impairment of the functions of the senses; but the most invariable symptom was extreme vertigo, to relieve which in a great measure, as well as the pain, he urgently sought for some fixed position of the head.

The exciting cause, on many occasions, appeared to be muscular action succeeding a state of rest, as rising from bed, &c.; the proximate, the consequent determination of blood to the seat of disease. Any particular mental emotion, even in a previous state of tranquillity of mind, would, on other occasions, appear to be instrumental in producing an attack. The kind of pain, its suddenness, and rapid movement from a fixed point, which was invariable during the continuance of a paroxysm, precisely resembled those periodical neuralgic affections so frequently noticed in the face, head, and other parts, and which are usually ascribed to affection of the nerves of sensation of those parts. At one period the attacks were accompanied by a copious discharge of flatus from the stomach, with decided relief; and when the attack was of greater severity, and longer in its duration than usual, vomiting supervened. The cessation of pain would frequently be sudden, and its cause not appreciable, whilst at other times the means used, evidently afforded relief; but, as connected with this relief, one circumstance was sometimes noticed as remarkable—viz., that any new excitement, such as the introduction of a stranger, very enlivening conversation, or even the direction of the mind with force and attention to any important subject, would be followed by considerable, sometimes perfect relief: thus changing a scene of sorrow into one of cheerfulness and ease. The paroxysm was generally followed by perfect ease. Several of these attacks would frequently occur during the night, and in the intervals more or less sound sleep occurred.

That his vision was considerably impaired during the subsequent progress of the disease, there could be no doubt, for he frequently mistook one object for another, and could with difficulty distinguish the various colours of articles of drapery in his shop. The other senses to the last were unimpaired. Through this long and painful disease his faculties were unimpaired, except some slight affection of his memory at periods when the seizures were more frequent than usual.

The general functions of the system were generally unaffected, excepting that the stomach was sometimes deranged in its action, from sympathy with the brain. Digestion was generally performed correctly; and it was only during a paroxysm that flatulency or vomiting supervened. The general character of these attacks resembled in a striking manner hysterical affections; and this similitude was still further confirmed by the great relief afforded by fresh air—more or less appearance of globus; together with, on several occasions, a copious discharge of limpid urine; to which may be added the very fickle state of mind, as to sudden and alternate cheerfulness and despondency. But then the seat of pain, and the great desire for a fixed position of the head, modified the other more strictly nervous symptom, and caused some hesitation as to the real nature of the complaint.

I was inclined to regard the case as of a mixed character, and in this opinion Dr. Knight, who attended with me, I believe generally coincided.

In reference to the treatment of this case, I may briefly state, that, under the supposition of its being more or less inflammatory in its nature, local bleeding, counter-irritation, and rest, were the remedies adopted. It was, however, soon perceived, that in proportion as debility increased, the symptoms be-

came aggravated. This led to a plan calculated to invigorate the powers,—tonics, improved diet, with the moderate use of wine, change of air, and the shower-bath; under which treatment his strength improved, and the attacks became less frequent, and were not so severe as before.

One fact, which I learnt afterwards, was, that vinous or spirituous liquors, in quantities which formerly affected his head considerably, failed now to produce such effect. He did not, however, indulge to excess.

There was no means used from which he derived so much and immediate relief, as the shower-bath, which, together with a carefully-regulated diet—medicine having been for some time quite discontinued—had the effect of restoring all the functions to a natural state; and his strength was so much improved as to enable him to walk six miles uninterruptedly without fatigue. During the last fortnight of his life he had but one severe return of the painful attacks; and on this occasion he, being at a friend's house, walked home after the paroxysm had subsided. He was encouraged, from his improved state, to undertake a journey upon business to Liverpool, and he thence proceeded to Leeds, where he had remained several days in a more favourable state than usual, until the morning of October 13, at six o'clock, when a severe and unexpected attack of his disease came on, gradually increasing till a state of partial insensibility supervened, and, seemingly exhausted, he sunk in two hours, without suffering any spasmodic movement.

Post-mortem Appearances.

Stimulated by a desire to ascertain the morbid condition which had given rise to this very obscure affection, I repaired to Leeds, where, on the 16th, in conjunction with the late Mr. Thackray, under whose care Mr. R. had fallen on the occasion of his last seizure, I assisted in the examination.

The cranium was remarkably thin, and the dura mater very vascular. The veins of the pia mater were extremely turgid with blood.

The general substance of the hemispheres of the cerebrum was natural in colour and consistence, excepting that there appeared more numerous bloody points, on dividing the medullary substance, than usual. The ventricles were distended with a clear watery fluid. Several parts situated in the interior and base of the brain were in a softened state, especially the fornix, tractus opticus, hippocampi, and tubercula quadrigemina. The plexus choroides was pale. The pes hippocampi on the right side was enlarged, and within its substance was found a tumour of the size of a large garden pea, of a whitish-grey colour exteriorly, of rather firm consistence, and presenting a similar appearance interiorly.

The cerebellum was somewhat softened, and in the centre of its left lobe was found a well-defined globular tumour, as firm as the substance of the kidney, whose diameter was one inch and a half; having a whitish-grey outer coat, and being white within. The general aspect of this tumour resembled those found in scrofulous subjects. It was clearly a scrofulous tubercle; and now the morbid appearances were found to correspond with those peculiar marks of that constitution so conspicuous in Mr. R.'s general aspect, as before referred to.

The effusion into the ventricles had occurred, no doubt, during the last attack.

CASE II.—George Beighton, aged 44, married, of a sanguine temperament, had, till within a month of his application to me (May 7th, 1841), enjoyed good health. The first remarkable symptom of which he had complained, was constant vertigo, which continued with increased severity throughout his disease; he was unable to walk, except in a very unsteady

manner; he complained of severe pain in the head, which he referred to the vertex and more posteriorly; his pulse was 90, and full; tongue covered with a yellowish white coat; he was bled to sixteen ounces; had a blister on the back of the neck, and was freely purged with calomel and compound extract of colocynth; followed by a cathartic mixture.

9. No relief; vomiting was now added to his former symptoms; various remedies were administered with a view of relieving the head and the distressing sickness, but ineffectually. After a few days, especially about the 18th, the pain in the head had become more urgent, and was referred to the same place as before, and extending down the neck. The pain returned in distinct paroxysms, during which his exclamations were most distressing and vehement; and apparently with a view of affording relief, he brought his head forward towards the chest, and kept it fixed in that position by his hands firmly applied on each side.

There were no distinctly marked spasmodic movements; nor were the intellectual powers at all affected. Almost constant and extreme irritability of temper was manifested towards his wife and other attendants. The vomiting continued throughout his illness. There was no paralysis; nor did the strength seem materially impaired.

The slightest movement of the body would occasion a paroxysm; to prevent which, he constantly, as before stated, kept his hands firmly fixed upon his head, which was brought forward upon the chest. He carefully kept his eyes closed.

The paroxysms of pain at length became so severe, as apparently temporarily to derange his faculties; but, notwithstanding these sufferings, his pulse was but slightly affected. There was no improvement in the condition of the tongue, nor was there any diminution in the urgency of the sickness. He was further bled to sixteen ounces, and cupped twice; blisters were applied along the spine, and digitalis was administered, with a view of lessening any determination of blood to the head. The disease pursued a rapid and irresistible course; and the patient, apparently worn out by the severity of his sufferings, and conscious to the last, sunk on the 5th of June. This patient frequently expressed his feelings, as if he were on the point of falling into some imaginary gulf, even when in every other respect he was quite rational and awake. There was no tendency to coma: on the contrary, he hardly could be said to have slept from the commencement of his malady. At one time an attempt was made to procure some mitigation of his sufferings by the administration of the acetate of morphia, which he took in grain doses or more, but without the slightest effect.

Post-mortem Examination.

The head only was examined; at the point where the occipital joins the parietal bones, the dura mater adhered firmly to the brain and arachnoid. This morbid adhesion which was very firm, and had a granulated appearance, extended about two and a half inches on each side of the longitudinal sinus.

The ventricles were completely filled with fluid; and the choroid plexus was pale. The cerebrum generally was natural, and of its usual firmness.

The cerebellum externally presented increased vascularity; and its right lobe throughout was perfectly healthy. The left had a softened feel, and appeared in a disorganised state, especially about its centre, where a slightly increased prominence indicated either the presence of an abscess or fluid of some kind. On further examination, it appeared that the whole of this lobe, or nearly so, was the seat of a cavity filled with a sero-gelatinous fluid. There was no lining membrane, but the sides of the cavity, consisting of the substance of the cerebellum, were quite softened.

This case presented the progress of an acute disease.

whilst the former exhibited an example of the mere chronic form. They were both distinguished for the periodical and paroxysmal form of seizure, taking into account the more rapid progress and diminished intervals in the latter case. Are we not justified in considering this case as one of pure ramollissement in the highest degree? And further, does it not tend to confirm the opinion of those pathologists who regard that affection as resulting from inflammation? I confess I expected to find an abscess instead of the appearance which the autopsy presented.

CASE III.—J. G., aged 68, spare habit, and had enjoyed through life a good state of health, was suddenly seized in the spring of 1838, with extreme vertigo, temporary insensibility, vomiting, and extreme coldness of the whole body. Pulse slow and labouring, afterwards feeble. The attack was considered as of an apoplectic nature, no medical man being present at the time of its occurrence. He continued in an apparently exhausted state for two or three hours after the seizure, and vomited, at intervals, the half-digested food which he had taken at his dinner, about two hours previously. Blood was abstracted after the exhaustion had subsided, and warmth had been restored. The symptoms which remained two days after the attack, were extreme vertigo, pain in the occipital region, and a tendency to nausea. He retained perfect possession of his intellectual powers, and there was no paralysis. The vertigo, and unsteadiness in his muscular movements, were very tedious in wearing away. He was cupped, and repeatedly blistered; kept on low diet; and advised to remain at rest for a considerable time.

The appearance which he presented to a person noticing him whilst walking, was such as a man exhibits who is slightly intoxicated, in addition to which there was a peculiar nodding movement of the head, exhibiting a general aspect considerably different from the ordinary cases of paralysis or hemiplegia. His restoration was partial, and very gradual from the seizure till the period of his second and fatal attack. He was a man of temperate and active habits: if he erred, indeed, it is probable it was more in eating than drinking. He was always sensible that the seat of his ailment was in the posterior part of his head; and I considered all the symptoms to correspond to such as indicated some lesion of the cerebellum.

On May 26 of the same year (the former attack being early in March) he dined with his son-in-law, ate heartily, and returned home (a distance of a mile) two hours afterwards. He felt poorly soon afterwards, and expressed a wish to go to his son's house, distant about a quarter of a mile; whilst proceeding thither, he was seized with sickness; and the vertigo was so bad that he would have fallen had not a person passing by supported him. He appeared very faint, and was taken to his son's with some difficulty, in a half-insensible state. He vomited the food which he had taken at dinner, and became extremely cold. He afterwards became more sensible, and warmth having been restored, eighteen ounces of blood were drawn from the arm, and a large dose of calomel administered. On this occasion he exhibited no decidedly paralytic state, but a perfectly unsteady and unmanageable condition of the muscular powers. In the night (six hours after this seizure) he became insensible, and expired soon afterwards, without exhibiting convulsions or sickness.

Post-mortem Examination.

The cerebrum was generally in a healthy state, excepting that the ventricles were somewhat distended with serum. The branches of the basillary artery were in a decidedly morbid condition. They were not completely ossified, but presented a thickened opaque or whitish-brown appearance. To the feel, their coats communicated a sensation as if there was

in their texture a quantity of coarsely-powdered chalk, and were easily broken down.

The interior of each lobe of the cerebellum, into which the arterial branch passed, contained several dark coagula of blood—one, especially, surrounded by a cyst, as if of older date. Around those coagula the structure of the cerebellum was in a completely softened state, as, indeed, was more or less the whole substance of that organ.

REMARKS.

In offering a few remarks, which the foregoing cases appear to suggest, I would first of all allude to the great obscurity which has heretofore distinguished and rendered difficult the physiology of the nervous system, but more especially that of the cerebellum. The functions of that organ are as yet not perfectly understood; but if these cases tend to any conclusion, it is certainly much in favour of the views of Fleurens—that the cerebellum serves the purpose of giving to the muscular system a general harmony of action, and a precision of purpose; and that an impairment of its function is attended by agitation, unsteadiness, and irregularity of muscular action.

But that this is the only purpose of a part apparently destined by nature for a nobler and higher endowment, may be inferred from the care she has taken to protect it,—from its separation from the cerebrum, and its connexion with the medulla oblongata, by processes as well defined, and almost equal, to those of the general cerebral mass.

An interesting question again presents itself:—Is the cerebellum in any way concerned in the other great attribute of the nervous system—sensitivity? I think these cases (especially the second) would dispose the enquirer to answer the question affirmatively. The difficulty consists in separating the disease of the cerebellum itself from the simultaneous or consecutive advance of morbid action in contiguous parts, especially in the membranes. In the second case, over the seat of that part of the cerebellum which was diseased, the tunica arachnoides and dura mater were implicated. I do not remember, in any morbid state of other parts of the nervous system, the symptom of vertigo being so invariably permanent and severe as in the cases herein detailed, and in others in which I have regarded the cerebellum as the chief or entire seat of the affection.

Another feature of a negative character in these cases, was the absence of spasmodic action. It is true, in the first case, during the violence of the paroxysm, a partial convulsive action was noticed; yet it is to be remembered, that in that case there was combined, in a slighter degree than in the cerebellum, several smaller tubercular masses in the interior of the cerebrum, the latter being seated in those parts, a lesion of which, in the experiments of Fleurens, produced involuntary and spasmodic action.

It is highly probable that pathology will, at some future period, do more in explaining the real function of the cerebellum than experimental physiology, which is liable to two capital objections—viz., the operation being upon one of the inferior animals, and the general shock, and its necessarily involving other structures, together with more or less loss of blood. The case which would be required to elucidate this subject, would be, a chronic, uncombined, structural derangement in both lobes of the cerebellum. It is probable that the immediate cause of death in the two first cases, was effusion into the ventricles; and how rapidly that took place, it is difficult to say, but it is probable that this event is, in many instances, almost as prompt in its appearance as sanguineous effusion. The effusion filling the fourth ventricle, and compressing the upper part of the spinal marrow, would form pressure upon those nerves transmitting their influence to the heart, lungs, and stomach.

Vomiting was an invariable symptom, and it is probable that it would arise either from the contiguity of the disease to the origin of the pneumogastric, or to the commencing effusion into the fourth ventricle.

A singular feature in organic disease seated in the brain is, its paroxysmal form of attack, and the frequently entire freedom from pain or other symptoms during the intervals. It can only be explicable, as it appears to me, from the occasional application of an exciting cause—mental or corporeal—inducing a determination of blood to the carotid arteries.

Dr. Abercrombie gives a case of abscess, occupying one of the lobes of the cerebellum, exhibiting symptoms much resembling those of Beighton. The case terminated fatally on the fifteenth day. It has been observed by authors generally, how much less frequent are diseases of the cerebellum than those of the cerebrum.

REMARKS

ON THE

POSITION OF IMAGES IN THE EYE.

BY H. H. BROUGHTON, ESQ.

In the following observations, which are copied from my note-book, I shall endeavour to prove that objects are not represented inverted on the retina, and that muscular contraction may produce amaurosis.

First. On looking at any object through a common convex lens, and withdrawing the lens beyond its focal distance, the object is seen inverted.

Second. When within its focal distance, it is seen in its correct position.

Third. When at a point beyond the focal distance, and not yet so far as to produce inversion, the object is rendered indistinct.

Fourth. Take a bullock's eye, carefully remove the membranes from the posterior part, taking care not to disturb the vitreous humour; put it into a tube that will just contain it, without compressing it, so as to alter the diameter of the axis of vision; cut a piece of leather out in the form of a T; hold a light below so that it can only pass through the hole you have made in the leather; then hold a piece of paper close to the posterior part of the eye, and the opening will not be represented inverted, but correctly, and very small; withdraw it a little and it will be inverted and much larger.

From these facts I draw the following conclusions:—

First. That the point of vision is at A, and not at B; the point A being the focus, the rays are concentrated there.

Second. That the focal distance in the human eye varies according to the distance of the object to be looked at.

Third. That several diseases may be traced to this cause. That the focal distance varied may be at once proved by a common convex lens; get the focus, the eye being only an inch from it; withdraw the eye (say eighteen inches), and you can considerably elongate the focus by increasing the distance of the lens. That this takes place in the human eye, may be shown by the following experiment: direct any one to look at an object near to him; he contracts the corrugator muscles, thus shortening the axis of vision; desire him

to look at a distant object, the eye-ball is pushed out, and the axis lengthened. Provided you elongate it by pressing on the outer angle of your own eye, objects will become indistinct, and, I doubt not, if the distance were increased, would become inverted. Amaurosis often depends on congestion of the choroid coat, which, by its pressure, must elongate the anterior posterior axis; thus bringing the focus to the intermediate stage before inversion.

Dobcross, near Manchester, December, 1841.

TWO CASES

OF

CHRONIC LARYNGITIS,

IN ONE OF WHICH

TRACHEOTOMY WAS PERFORMED.

TO THE EDITORS OF THE PROVINCIAL MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—I shall feel obliged by your inserting the accompanying paper in your Journal, should you think the cases reported possess sufficient interest. I saw the patient, Mrs. Sharpe (case II), about three months ago, and she was then in good health.

I remain,
Your obedient servant,
HENRY EWEN.

Long Sutton, Dec. 18, 1841.

CASE I.—April 16, 1828.—Mr. John Drigon, aged 55, complained of great difficulty in swallowing—no swelling or redness about the fauces or upper part of the pharynx; six days previously he had a rigor, having, as he stated, taken cold; he had complained of a difficulty in swallowing for many weeks past. Mr. C— ordered a blister to the throat, some calomel and jalap, and a saline mixture. At eleven, p.m. he was suddenly taken worse, and expired apparently suffocated, before I reached his house, which was about one o'clock in the morning.

On examination after death, I found an oblong tumour extending from the right side of the epiglottis to the arytenoid cartilage of the same side; it was equal in size to a large almond, and formed apparently within the fold of the mucous membrane which extends from the epiglottis to the arytenoid cartilage; the epiglottis itself was very much thickened, and the mucous membrane on the left side, just above the rima glottidis, was oedematous, most likely the result of recent inflammation, and the immediate cause of death, the opening into the larynx being closed immediately above the rima glottidis; the mucous membrane of the pharynx was in a natural state.

CASE II.—Dec. 6, 1835.—Mrs. Sharpe, aged 55, has been suffering for the space of two years from great difficulty in breathing and swallowing, and constant uneasiness referred to the neighbourhood of the larynx; the dyspnoea has, within the last few weeks, increased to such an extent, as frequently to threaten her with suffocation, depriving her of sleep, and producing extreme emaciation; there was no evidence, on examining the chest, of the existence of disease of the heart, lungs, or great vessels. Palliative measures only had been adopted until this afternoon, when fearing that another paroxysm of dyspnoea might actually produce suffocation, I proposed the operation of tracheotomy, as the only probable chance of prolonging her existence.

Her present condition is as follows:—She is unable to continue for any length of time in the horizontal posture; respiration is attended with a loud croaking noise; her eyes have a remarkably glassy appearance; and at intervals she is attacked with severe suffocative paroxysms, which she feels confident will destroy her,