gradually drop out of view, and, partly no doubt owing to the replacement of them by connective-tissue, and in part to the process of preparation, are almost absent. Where seen, they are granular-looking, and have absorbed diffusely the staining-reagent. A mesh-work of fibrous strands remains, dotted with a quantity of nucleated cells, and interspersed with capillaries, granule-masses, etc.

Sections taken through the mesencephalon, pons, medulla, and spinal cord, in various regions, show no recognizable disease in the course of the motor tracts. And, moreover, excepting the following site, no lesion appears in any portion. Only in the vicinity of the sylvian aqueduct is degeneration found; here, at the front, and laterally of the aqueduct, is there much thickening and condensation of the neuroglia, and in the former situation, as far forwards as the oculo-motor nuclei, there is a large number of freely-branching connective-tissue cells. The nerve nuclei and roots seem normal, nor is lesion found in the remaining areas of the section. Both internal capsules are stained by carmine, and after Pal's method, but no degeneration is discovered.

In the lumbar cord, the investing pia is somewhat thickened, congested, and the seat of a considerable cell-exudation around the larger vessels. The anterior nerve-roots are quite healthy-looking.

The optic nerves and chiasma present no morbid change.

Cerebral Tumour involving the Frontal Lobes. By A. Hill Griffith, M.D., Surgeon to the Royal Eye Hospital, Manchester, and T. Steele Sheldon, M.B.Lond., Cheshire County Asylum, Macclesfield.

Jessie P., aged 23, was a nurse at the Parkside Asylum.

She was a tall, well-developed, handsome girl, with brown hair and irides, and of clear pale complexion. Several members of her family had died of phthisis, and the father was rheumatic, but the patient herself showed no symptoms of tubercle and had not suffered either from rheumatism or from scarlet fever; there was no history and little probability of the acquisition of syphilis, and no injury to the head had been sustained. Menstruation had always been scanty.

She first consulted Dr. Griffith on the 9th December, 1886, but there had been these symptoms preceding: Severe left-sided neuralgia and occipital headache, accompanied with nausea and vomiting, had occurred in paroxysms during several months; occasionally there was nocturnal delirium, and she complained at times of temporary dulness of vision and hearing, especially in the morning; there was some impairment of memory, and she was losing flesh; hysteria seemed to afford sufficient explanation of the symptoms until the development of

a slight convergent squint on the left side attested to a more serious condition; the interference with vision caused by the squint was such as to induce her to seek the advice of an ophthalmic surgeon, and she accordingly visited Dr. Griffith at the Royal Eye Hospital. She was under his observation at intervals until the 4th September, 1888. The following is an abstract of his notes of the case:—

December 9th, 1886.—Vision equal and normal in each eye; patient read No. 1 Jäger easily with each eye and at a good range, showing that there was no affection of the accommodation; pupils equal and active. There was well-marked double optic neuritis, the papillæ being greatly swollen and vascular, and projecting well forwards into the vitreous, but no hæmorrhages were present. The fields of vision, traced on chart, were normal for white, red, and green, and the colour perception was keen. The sense of smell was lost on the right side. Taste and hearing unaffected. No staggering or affection of gait; tendon reflexes normal. Summary of symptoms:—*Double optic neuritis, paresis of left abducens and right olfactory nerves.*

December 11th, 1886.—Was admitted into the Royal Eye Hospital, and mercurial inunction was started. On the 19th she had an attack of screaming, became unconscious, and was hemiplegic on the left side; she was discharged on the 25th, some dragging of the left foot alone remaining of the hemiplegia.

A very striking improvement in the general condition of the patient then took place, and at her earnest request she was allowed to resume her duties in the asylum on the 18th May, 1887.

June 11th, 1887.—Visited Dr. Griffith, who notes that she looks in perfect health; is menstruating more regularly than she ever remembers. Pupils are 4 mm. in diameter and active; there is still slight convergent squint on the left side. Right eye—vision still 1 Jäger and $\frac{6}{8}$; field with hand-test normal; left eye—vision has sunk to $\frac{6}{18}$ and the field is much contracted all round. She recognizes colours even with the worse eye. She thinks the left leg is weaker than the other, but this is not evident on examination, and the calf-measurements are equal.

October 15th, 1887.—The vision of the right eye has sunk to 1 Jäger at 9 inches and $\frac{6}{18}$, of the left eye to 16 Jäger. The right disc is obscured at the circumference, and greyish; the vessels are of fair size, but obscured in places; left disc very pale grey. Her weight is 137 lbs., as against 122 lbs. six months before; she looks very well and stout. Vomiting has again come on, especially at night; her friends notice that she staggers. There is a tingling sensation in her left foot and sometimes in the left hand.

May 8th, 1888.—Right eye—4 Jäger and $\frac{6}{18}$. Left eye—can just see one's hand moving. The neuritis on the right side is almost as well-marked as ever. She looks well and stout. Mercurial inunction again ordered.

June 29th, 1888.—The right eye sees fingers. The left eye has

perception of light only. Hearing unaffected. Taste and smell gone. Has shooting pains in the knees, left ankle, and shoulders.

The patient remained in the asylum until August 1st, 1888, but had for many weeks been unfit for work, owing to the failure of vision, severe headache, giddiness, and, at last, prolonged attacks of screaming, between which she lay with her head buried in the pillow, paying no attention to anything. Her articulation had gradually been assuming a slow, drawling character, and there was evident simplicity of manner.

August 15th, 1888.—Was again admitted into the Eye Hospital, having been confined to bed at home for a fortnight.

Right eye—bare perception of light. Left eye—no perception. Pupils $7\frac{1}{2}$ mm. in diameter and fixed. There is subsiding neuritis and commencing atrophy of the discs. She is deaf with the right ear. Taste and smell quite lost. On the 26th August was seen by Dr. Dreschfeld, who found that the knee-jerk was absent and that there was a sharply defined loss of sensibility on the right side of the body. She left the hospital on the 4th September, 1888, and was not again seen alive by either of the reporters.

The patient remained at home until her death in November, 1889, being occasionally visited by the medical officers of the Macclesfield Infirmary. The mother reports that she was quite maniacal for about a week during the summer, and then settled into a quiet, comparatively contented state, remaining conscious and coherent until almost the end. Extreme giddiness compelled her to keep her bed; ultimately she lost almost absolutely the senses of sight, hearing, smell, and taste; the last sound audible was the loud, heavy strike of a "grandfather's" clock near her bed. Notwithstanding the loss of taste and smell, she preserved a good appetite, expressing preference for such articles of food as chops and steaks. During the last week coma gradually supervened, and one side of the body was convulsed, the other being flaccid. Nutrition was well-maintained. Articulation became more indistinct by degrees. Through the kind co-operation of Dr. Nuttall, of the Macclesfield Infirmary, an examination of the head was obtained 36 hours after death.

Autopsy.—The skull was decidedly thinned, and its inner surface was extremely irregular, sharp bony prominences being noticed here and there. The dura mater was more than usually adherent to the vault, but was otherwise of healthy appearance. The gyri of the convexity were flattened; the pia-arachnoid was thin and transparent, and the superficial veins were full. On raising the tips of the frontal lobes, there was discovered the anterior edge of a large tumour occupying both anterior fossæ, and adhering to the brain; in raising the tumour to reach the optic nerves, a short fragile attachment to the dura mater was broken through at a point about $\frac{1}{4}$ inch in front and to the right of the entrance into the orbit of the right optic nerve; the brain was then removed with the tumour adhering. The dura

was not unusually adherent to the roof of the orbit, and on stripping it, the bone underneath the area of attachment of the growth was found to be closely pitted, as if it had been penetrated by rootlets of the growth or dura. Viewed from below, the tumour had a rough resemblance in shape and size to a second cerebellum, thrust into and between the frontal lobes; a longitudinal groove, corresponding with the crista galli, divided it into two hemispheres, each of which occupied almost the whole of the orbital aspect of the overlying frontal lobe, whose interior white matter it had largely excavated. The growth was easily shelled out, when the left hemisphere was found to be the larger; on this side the excavation just reached, without involving, the anterior limit of the corpus striatum. There was no circumjacent inflammatory softening or œdema, and no evident atrophy of the convolutions of the convexity. Considerable direct pressure must have been exerted on the olfactory and optic nerves. The growth was invested by a smooth fibrous capsule, over which ran several large vessels; on section, it was pinkish-grey in colour, mottled and vascular, and of the consistence of an average kidney. Histologically, it proved to be a sarcoma which has been variously named—endothelioma (Ziegler), nested sarcoma (Gowers); for its appearance, reference should be made to the plate appended to the report of a case by Dr. McDowall in Vol. xxx. of this Journal. Moreover, the whole of the post-mortem appearances there described so closely resemble those of the present case that when the reporters brought it under the notice of the Manchester Clinical Society, Dr. McDowall's drawing was exhibited as fairly representing the state of things found by them; in their case, however, the tumour seems to have been larger.

Remarks.—No hypothesis as to the position of the growth was formed during the life of the patient, and, so far as we can gather from the literature at our disposal, diagnosis seems to be very commonly at fault when the pre-frontal lobes are concerned. It would appear that not infrequently the presence of a tumour is unsuspected until the autopsy, and that the symptoms have been regarded either as those of simple insanity, or have led to a diagnosis of paralytic dementia or general paralysis of the insane. Dr. McDowall's case already referred to is in point, and we ourselves have notes of a case in which the defective articulation, dementia, general motor weakness, and epileptiform seizures gave rise to the mistaken diagnosis of general paralysis, the autopsy revealing a sarcoma at the base embedded in the left pre-frontal lobe; the use of the ophthalmoscope in both these cases would, no doubt, have revealed their true nature. The variability of the symptoms manifested by tumours in this region is well illustrated by a comparison between the cases just mentioned and that of Jessie P.; what

a different clinical picture with an almost identical lesion is that presented by McDowall's case! In it, the stress fell mainly on the mental side, whilst in our case, perhaps the most remarkable and unexpected feature, considering the degree of involvement of the pre-frontals, was the absence of any marked mental change; at the most, it amounted to some childishness. A more striking contrast still is afforded by the unpublished case above-mentioned, in which with a much smaller focus of disease, dementia was the leading symptom, extending in time over nearly two years. In Ross's work on the Diseases of the Nervous System, there is the following interesting passage:—"Pathological observation bears out the idea that disease of the cortex of the orbital surface produces much less mental disturbance than disease of the superior convex surface of the pre-frontal area. And this is only what might be expected if the former is developed at a later period than the latter. The convolutions of the orbital surface would then represent the later acquired cognitions and emotions, and abolition of them would cause less mental disturbance than abolition of those which are earlier acquired but more fundamental." This may be applied to the case of Jessie P., in whom the convolutions of the convexity of the lobe and the immediately underlying white matter were unaffected save by pressure; as regards the other cases, to which the quotation seems not to apply, it occurs to us to suggest that following on the destruction of the orbital gyri, serious nutritional changes may have occurred in the remaining convolutions sufficient to lead to a diminution or abolition of function. Thus, in the reference-case under our own observation, there was such an amount of local œdema as to give a straw-coloured, gelatinous appearance to the left frontal lobe which was thereby much increased in volume, the mesial surface of the right lobe being rendered strongly concave by the projection of its fellow.

It remains to mention two or three interesting points in Jessie P.'s case: The loss of hearing and the marked vertigo are perhaps sufficiently explained as a result of intra-cranial pressure; it will be remembered that there is communication between the arachnoid cavity and the labyrinth by means of the aqueduct of the cochlea. The anosmia, no doubt, was due to the direct pressure exerted by the growth on the olfactory tracts, and, as an aid to localization, the symptom should have been more critically considered. The optic neuritis presented no unusual features, but from the position of the growth, tem-

poral hemi-anopsia might have been expected to be present; such, however, was certainly not the case. The observation was made of loss of the knee-jerks. This has been once previously noted by one of us in a case of cerebral tumour; the symptom forms the subject of an interesting paper by Dr. Stephen Mackensie in Vol. vi. of "Brain." Lastly, the situation of the growth deserves notice; Gowers draws attention to the proclivity shown by tumours at the base of the brain for the neighbourhood of the anterior clinoid process and the petrous bone; in both McDowall's case and our own, the former was the site of election, and one of us has, in asylum practice, met thrice with growths similarly placed. A practical point is that in this situation they can be reached by the surgeon, but are we at present in a position to avail ourselves of his assistance? Hitherto, so far as we know, Professor Durante's case [*Lancet*, Oct. 1st, 1887], is the only one in which diagnosis has been followed by successful operative measures.

Case of Peripheral (Alcoholic) Neuritis, under the care of Dr. T. W. McDowall, reported by John Clarke Fenwick, late Clinical Clerk, Northumberland County Asylum.

Kate H., aged 42, married, the mother of one child, a barmaid in her younger days, was admitted into the Northumberland County Asylum on October 10th, 1889, suffering from delusions, loss of memory, and paralysis of the upper and lower limbs.

History.—She has a well-marked neurotic history. Her father had chorea when a young man. She has an idiot brother and a maternal cousin deaf and dumb. Her son, aged fifteen years, has chorea.

Present illness.—Her illness dates back some two years, about which time—indulging freely in stimulants—she had frequent attacks of headache. She now developed "rheumatism" (?) in her right leg, which was followed some months later by "pins and needles" in the ankles and knees and about the calves of the legs. At this time she had pains whenever she attempted movement in either the knees or ankles, more pronounced in the right leg. She now began to experience difficulty in walking, she "could not trust her legs," combined with which there was pain on movement, and a feeling of heaviness about the lower limbs, which slowly increased until she was compelled to take to her bed.

She now noticed that she was losing power in her hands; used to drop things, and was unable to carry a cup to her mouth, owing not only to loss of power, but also to irregular movements. She is described at this time as being exceedingly irritable and bad tempered, and partaking freely of alcoholic stimulants.