EPILEPTIC ATTACKS WITH A WARNING OF A
CRUDE SENSATION OF SMELL AND WITH
THE INTELLECTUAL AURA (DREAMY STATE)
IN A PATIENT WHO HAD SYMPTOMS POINT-
ING TO GROSS ORGANIC DISEASE OF THE
RIGHT TEMPORO-SPHENOIDAL LOBE.

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THE patient, A. B., a member of the medical profession, was 51 years of age, married, and of excellent health until three and a half years ago. He then had a severe attack of septicæmia, during the course of which an abscess formed in his anterior chest-wall and required to be opened surgically. From that illness he recovered and remained well until October, 1898, when he had a fresh septic infection in his right hand, which required several incisions. At that time his temperature was over 105° on several days and he was occasionally delirious. Since his second attack of septicæmia his general health has never been quite so good. There was no history of specific disease nor of any exposure to it. He never had any head injury nor had he, at any time, suffered from otorrhœa.

Ever since his second attack of septicæmia the patient had been subject to occasional attacks of excitement, without sufficient apparent cause. He used to come home from his rounds in a state of excitement. His general manner became different; his memory also became impaired, so that on several occasions he forgot important appointments. On one occasion he called to enquire for a patient who had long been dead.

About eight weeks before he came under our observation he began to have occasional attacks of nausea and what he called

"giddiness," with frontal headache. In these attacks there was a strong sensation of smell, which he described as being "like camphor or ether." This smell was succeeded by what is commonly called an intellectual aura (dreamy state), in which—to use his own words—he "felt as if he were saying, doing, and looking at things which he had experienced before." He also stated that surrounding people seemed to have strange expressions on their faces, and that "people and things seemed to be far away" (he meant in physical distance). The average duration of each attack was about a minute; the patient's face, according to the account of a competent eye-witness of several seizures, one of which was very carefully observed throughout, was pale and his expression was that of one "facing an expected horror," but he was not apparently unconscious. No twitchings of face or limbs were ever observed. There was no vomiting either during or between the attacks.

After four weeks of such attacks, the crude sensation of smell ceased to occur, but there were numerous attacks, sometimes three in a day, of a slightly different type, in which he had nausea and vertigo. External objects did not appear to move, but the patient himself felt giddy, and he had a sense of fear and of impending death. Occasionally, during such an attack, he became momentarily unconscious and fell backwards. His face was always pale during an attack, and his pupils were dilated.

He never had diplopia, though six weeks after the commencement of his "attacks," when lighting a cigarette one day, he applied the lighted match to the cigarette-holder, apparently owing to some mental confusion.

His headache gradually became almost constant, the pain being both frontal and occipital, but within a week or so before he came under our observation the headache became less severe, and he seemed rather drowsy. Three weeks before, his left foot was noticed to drag a little in walking, but he could walk fairly long distances until he took to his bed, a week before we saw him.

His condition, on examination on September 11, 1899, was as follows:—He is a very intelligent man, able to answer clearly all questions put to him, though he seems somewhat drowsy; speech and articulation are normal. He can smell *asafoetida* and cloves in both nostrils, and names them. He can taste sugar and salt equally on both sides of the tongue, back and front. He hears a watch better in the right ear than in the left, and Mr. Ballance, on applying Weber's test, finds that the tuning-fork on the vertex

is heard louder on the right side, all wax being previously removed from the right ear. The visual fields are normal on rough testing. There is no hemianopia on careful testing with small objects moved at the periphery of the visual fields, nor is there any obvious defective sight.

On ophthalmoscopic examination there is found well-marked neuritis of the right eye, with + 2 D of swelling there are no hæmorrhages; the left optic disc is red but not swollen. The pupils are equal in size, and react normally to light and during accommodation. The external ocular movements are normal. There is no squint, no diplopia and no nystagmus.

There is slight but distinct weakness of the left facial muscles, more marked in the lower than the upper part of the face. The left angle of the mouth is less energetically retracted and the left naso-labial fold shallower than on the right side. The left eye is less tightly "screwed up" by the orbicularis palpebrarum than on the right side when he is told to close both eyes as strongly as he can.

The palate rises normally on phonation. The tongue comes out straight on protrusion, but can be pushed better into the left cheek than into the right.

There is no anæsthesia anywhere on the face, trunk, or limbs to the lightest touches or pricks, but when the fingers of the left hand are touched and the patient is asked to point with his other hand to the exact point touched, his eyes being closed, he is several inches wide of the mark in every instance. There is no constant relation between the point touched and the position to which he refers the sensation.

The sense of position on passive movement is normal at all joints of the upper and lower extremities.

As to motor power, the patient can move all parts of the head, trunk and limbs as he lies in bed, but the left grasp is much weaker than the right. (L. = 30, R. = 63, with dynamometer.) There is no ataxia of the limbs and no tremor on voluntary movements.

The patient cannot stand alone; when supported he tends to fall backwards and slightly to the left side; in walking he scrapes the left foot very slightly on the ground.

The knee-jerks are normal and equal. There is no ankle clonus. The right plantar reflex constantly shows flexion of the hallux. The left side is sometimes flexion, at other times extension of the hallux. The sphincters are normal.

The lungs and heart are normal on physical examination;

the pulse is 70, regular, and of moderate tension. There is a scar of an old abscess on the front of the chest. The abdomen and urine are normal. The temperature is normal.

To-day, for the first time, he complains of unilateral headache, and indicates the right temporal region as the seat of pain. There is no tenderness on pressure or percussion over any region of the skull.

September 12.—During last night the respiration was of Cheyne-Stokes type, and the patient passed urine and fæces unconsciously. To-day he feels better and talks with perfect intelligence. The headache is less severe. His appetite is extremely good, and he can smoke cigarettes. The left facial weakness is more evident than yesterday. The pulse is 72, respiration 20 per minute. The knee-jerks are very faint, and can only be elicited by Jendrassik's method.

September 13.—During the night patient's temperature rose to over 100° F. He rapidly became comatose, and was observed to have occasional clonic spasms, confined to the left arm and hand. Death occurred at 1 a.m. from failure of respiration. The temperature at the time of death was not taken.

Unfortunately no autopsy could be obtained.

Summary.—To sum up the history of the case: the patient had gradually increasing mental dulness, followed nine months later by attacks of headache and nausea with a sensation of smell and a "dreamy state." Later the attacks changed in type. The paroxysmal smell ceased to occur, but there was occasional momentary unconsciousness. A few days before his death slight left hemiplegia developed, most marked in the face, without hemianopia or hemi-anæsthesia, but with some "cortical anæsthesia" of the left hand. There was some impairment of hearing in the left ear and optic neuritis in the right eye. Two days before death the headache became more localised and was referred to the right temporal region. The patient rapidly became worse and died from failure of respiration, slight jerking being observed in the left arm and hand just before death.

REMARKS BY DR. HUGHLINGS JACKSON.

I saw A. B. with Sir William Gowers about September 9, 1899. We concluded that there was disease, probably tumour, of one temporo-sphenoidal lobe. Sir William,

from the right-sidedness of the optic neuritis, suggested before the setting-in of the left hemiplegia, that the right lobe was the one implicated. I saw A. B. again a day or two later, this time with Mr. Ballance and Dr. Purves Stewart. Mr. Victor Horsley also saw the patient. The question of operation was considered; it was decided not to operate.

It is very unfortunate that necropsy was not permitted, but the case is clinically a very important one, especially, I think, as exhibiting the association of a warning of a crude sensation of smell with the "dreamy state," and with the emotion fear, in slight epileptic seizures. The notes were taken by Dr. Purves Stewart. Dr. Stewart will remark on the question of localisation of the lesion, on the olfactory and paralytic symptoms, and on some other points.

I have published a case somewhat like that of A. B. (BRAIN, July, 1888, part xlii., p. 191), but unfortunately necropsy was not permitted; that case,¹ however, is one of great clinical interest. Dr. Stewart will mention other cases already published of epileptic fits with crude (warning) sensations of smell, cases completed by necropsies.

I have several times² written on the group of cases of epilepsy to which that of A. B. belongs; and have (*Lancet*, January 14, 1899), suggested for these cases the name of Uncinate Group of Fits; this was on the hypothesis that the discharge-lesions in these cases are made up of some cells, not of the uncinate gyrus alone, but of some cells of different parts of a region of which this gyrus is part—a very vague circumscription, I admit—the uncinate region. In cases of this group there is at the onset of the paroxysms a crude sensation of smell or one of taste, or there are movements of chewing, smacking of the lips, &c.,

¹ The title given to the report of the case is a short summary of its symptomatology: "Epileptic Attacks with crude Sensation Warnings, by Smells and the 'Epigastric' Sensation, 'Intellectual Aura,' or 'Dreamy State.' Double Optic Neuritis. Attacks of Left-sided Tremor. Apoplexy and left hemiplegia. No necropsy."

² *Med. Times and Gazette*, vol. i., 1879; BRAIN, July, 1880; BRAIN, July, 1888; BRAIN (with Dr. Beevor), Oct., 1889; BRAIN (with Dr. Colman), Winter Number, 1898; *Lancet*, January 14, 1899.

(sometimes there is spitting). In some cases of this group there is a warning by what is known as the epigastric sensation, a crude development of a systemic sensation; this warning sometimes occurs along with a crude sensation of smell or with the chewing, &c., movements. Different varieties of this group of cases depend, I suppose, on discharge-lesions of different parts of what I call the uncinata region. As will have been inferred, it is supposed that especially in this cortical region, not confined to this region, are the physical bases of some of the systemic sensations—the physical bases of those systemic sensations which, to speak very roughly, especially appertain to the digestive system.

Many of the symptoms of even slight paroxysms of uncinata fits depend, of course, on discharges wide-spread beyond, some far beyond, the uncinata region—depend on discharges *secondary* to the *primary* discharge, that of the discharge-lesion.

There is the dreamy state in the paroxysms of many, not of all, cases of the uncinata group of epileptic fits.

I hope soon to be able to write more fully on the uncinata group of epileptic fits. I shall then consider exceptions to the statements made in the preceding paragraph, and shall re-enquire particularly as to the relation in slight epileptic paroxysms of crude auditory sensations to the dreamy state.

A. B. had only slight epileptic attacks, *le petit mal*, and two degrees of them; in the slightest of his slight attacks he had crude sensations of smell and the dreamy state; in the severer of his slight attacks there was “unconsciousness” without the crude sensation and without the dreamy state.

The dreamy state in the uncinata group of epilepsies varies very much in different cases.¹ In A. B. it was the peculiar intellectual state which many healthy people or people slightly out of health have occasionally—Reminiscence.

¹ As I have said, the dreamy state does not occur in the paroxysms of every case of the uncinata group, and I now say, too, that the dreamy state may, according to statements of patients and their friends, occur without any one of the crude sensations I have mentioned in the text, and without the chewing, &c., movements.

It is quite evident that in some slight epileptic paroxysms with the dreamy state—in all of them, I believe—there is a kind of double consciousness—a “mental diplopia.” In a quotation from Herpin (*vide infra*) will be found clear evidence of “mental diplopia” in several of the cases he mentions. I think, too, that there is probably some defect of consciousness in every paroxysm with the dreamy state; certainly there is in some of them. The psychical condition, therefore, is a very complex one. There is defect of consciousness, so far negatively. Positively, there is (1) the quasi-parasitical state of consciousness (dreamy state), and (2) there are remains of normal consciousness; and thus (1 and 2) there is double consciousness. To discover the physical conditions correlative with this complex psychical condition is a very difficult task. There was also an abnormal¹ emotional state in some at least, of A. B.’s severer slight attacks—fear, and a sense of impending death; in the slightest of his slight attacks there was an expression of “one facing an expected horror” (see Herpin, *Des Accès*, &c., p. 111, quoted at the end of these remarks). I have said, *Med. Times and Gazette*, March 1, 1879, that the epigastric sensation in epileptic paroxysms is often accompanied or quickly followed by the emotion fear. Sir William Gowers thinks that this association is very rare. A. B. had no epigastric sensation warning.

We must not, in his part of our investigation of epileptic paroxysms, limit enquiry to the symptom fear; we have to take heed of all departures from the patient’s “ordinary state of feeling.” And it must be well borne in mind that the departure in uncinatè paroxysms is in some cases towards a more pleasurable, although more often towards a more disagreeable, state. Further, what is obviously equally significant, early in the course of a case of epilepsy the feeling in the slight paroxysms may be pleasurable, and, later, disagreeable—differences depending probably on the degree and rate of the discharge of the discharge-lesion.

The symptom at the onset of A. B.’s attacks—that

¹ I say abnormal because, of course, I do not mean the natural fear of the fit itself, but a fear which “comes by itself”—the *symptom fear*.

external objects seemed to be far away—deserves careful attention.

In, or before, or after some slight paroxysms of cases of the uncinæ group, there are gastric or intestinal symptoms, or both.

To speak very roughly, much of the symptomatology of uncinæ fits refers very especially to the digestive system; the crude sensations, smell, taste, and the epigastric sensation are, to speak with brutal disregard of psychological propriety, crude developments of "digestive sensations."¹ In what, for reference, I will call Herpin's "third smell case" (*vide infra*), there were in the patient's paroxysms crude sensation of smell, abnormal intellectual and emotional states, and gastric spasm. The dreamy state, an abnormal intellectual state, is not a "digestive symptom," nor is an abnormal emotional state. But the occurrence in healthy people of gastric and intestinal states, things physical, along with the psychical states, pleasure and pain, is known to everybody ("bowels of mercy," &c.). The occurrence of gastric and intestinal symptoms in some cases of uncinæ fits with abnormal emotional states is obviously significant.

I take this opportunity of advising the younger medical neurologists to study carefully Herpin's writings on Epilepsy. I have long known his valuable work, *Du Pronostic et du Traitement Curatif de l'Epilepsie*, 1852, but I have only recently heard of his still more valuable work, *Des Accès Incomplets d'Epilepsie*, 1867. I give, from the latter work, a quotation which mentions one case of the association of an intellectual aura ("dreamy state") with a crude sensation warning of smell in epileptic paroxysms ("third smell case").

Among three hundred cases of epilepsy observed by Herpin there were three, the paroxysms of which began by a warning of smell. In the report of only one of these

¹ Although smell takes low rank as it serves as a "digestive sensation," it has very high rank in another way. It has been called the most suggestive of all the senses; and smells have remarkable power in calling up remembrances of past scenes. We must, however, for several reasons, not be hasty in concluding anything from this with regard to explanations of the nature of the association of crude sensations of smell with the dreamy state in slight epileptic paroxysms.

three (I called it Herpin's "third smell case") is what I take to be a "dreamy state" ("tristes souvenirs"—"un trouble intellectuel") mentioned; the patient's emotional state in her paroxysms, from the description Herpin gives in the words I italicise, was similar to that A. B. had ("sense of fear and of impending death") in those of his paroxysms in which he lost consciousness. Herpin writes, *Des Accès Incomplets d'Epilepsie*, pp. 115 and 116, 1867:—

"L'un de trois malades à début par de fausses perceptions d'odeurs perdait si vite connaissance qu'il ne pouvait que rarement avertir. Un autre sentait l'odeur descendre dans la gorge; alors toute perception se perdait. La troisième éprouvait une sensation qui de la gorge descendait dans l'estomac où elle se convertissait en inquiétude et en tortillements; pendant ce spasme, de tristes souvenirs assiégeaient la patiente; *il lui semblait qu'elle allait mourir*; aussi, quoique l'odeur fût agréable, l'impression qu'elle en éprouvait [était] *des plus pénibles*, mais bientôt elle perdait ses sens.

"Dans les débuts par l'organe olfactif, l'abolition de la conscience suivait donc le plus souvent le prélude; dans un cas, celui-ci était suivi d'un *spasme gastrique précédant un trouble intellectuel* pendant lequel la connaissance se perdait."

In the following quotation from p. 140 *op. cit.*, Herpin mentions a case so similar to the third case mentioned in the foregoing quotation from pp. 115 and 116, that, I think it is the same case—that there is, in one of the two reports (pp. 115 and 140), some mistake in the words which indicate sex.

"De trois patients à début par de fausses perceptions d'odeur, deux n'avaient pas d'accidents moindres que les vertiges. Le troisième avait quelquefois de simples préludes; la mauvaise odeur ne s'étendait pas au de là des fosses nasales (tandis que dans le vertige la sensation descendait dans la gorge); bientôt tout était fini; il n'y avait pas trace de trouble intellectuel; il appelait ces accidents légers '*ses mauvaises odeurs*.'"

In this third case (supposing it to be the same as the third case Herpin mentioned, pp. 115 and 116), the paroxysms were sometimes very slight indeed, simple

preludes; there were then crude sensations of smell without the "trouble intellectuel"; in somewhat stronger slight fits there was the "trouble intellectuel" also—differences due to differences in the degree of "intensity" of the primary discharge, that of the discharge lesion, and consequent differences in the range of the induced (secondary) discharges of the normal nervous elements with which the fulminant cells of the discharge lesion were connected.

I have several times drawn attention to the importance of taking careful note of chewing, &c., movements in epileptic paroxysms; they occur in one variety of uncinatè fits, and sometimes there is, as in the other varieties, the dreamy state with them, and sometimes, as in the other varieties, there are elaborate actions during so-called unconsciousness after such seizures. There were no such movements in A. B.'s paroxysms.¹ I published (with Dr. Colman) a case in which there were such movements in the epileptic paroxysms of a patient who had the dreamy state (case of Z., *BRAIN*, Winter Number, 1898), small focus of, or relics of, softening in the left uncinatè gyrus. As I have several times mentioned, I consider in accord with certain of Ferrier's inferences from experiments on the monkey, that these movements signify—are indirect consequences of—epileptic discharges of cortical gustatory elements. I quoted an account of an epileptic paroxysm with these

¹ Most neurologists will have read the report of a very remarkable case published by Dr. Mesnet (*L'Union Médicale*, Juillet 21 et 23, 1874), a case of what he calls "Pathological Somnambulism." I draw attention to the words of Dr. Mesnet, which I have italicised in the subjoined quotation.

He writes of his patient: *Sa démarche est facile, son attitude calme, sa physionomie paisible; il a les yeux largement ouverts, la pupille dilatée; le front et les sourcils contracturés, avec un mouvement incessant de nystagmus accusant un état de malaise, de souffrance vers le tête; et un mâchonnement continu.* There is no mention of a dreamy state, and it appears that the "mâchonnement" was not at the onset of the paroxysms only.

This case is remarked on by the late Professor Huxley in an article "Animal Automatism" ("Collected Essays," vol. i.). The case has also been remarked on by Azam (Tuke's "Dict. of Psych. Med.," article, "Double Consciousness"), and by the late Hack Tuke, in his work on Somnambulism. Huxley alone mentions the "chewing motion of the jaws."

Without expressing any opinion as to the nature of the case Dr. Mesnet reports, I may say that I have notes of cases in which after epileptic fits which began by chewing, &c., movements, or by a crude sensation of smell, there have been post-epileptic actions of great elaborateness during so-called unconsciousness.

movements (mâchillement, &c.) *Lancet*, January 14, 1899, from Herpin's *De l'Epilepsie*, p. 275, 1852; there is in Herpin's report of that case no mention of a dreamy state. I now give a quotation from Herpin's other work, *Des Accès*, &c. I do so to impress on the younger medical neurologists the great importance of observing a symptom which at first thought may seem to be of little value.¹

Herpin wrote, *Des Accès Incomplets d'Epilepsie*, pp. 150-1, "En étudiant les débuts des attaques, nous avons décrit les symptômes qui se lient à ce spasme [le spasme pharyngé] sous les noms de mâchonnements, de mastication, de gustation, de déglutition, nous ne répéterons pas cette description, mais nous devons insister sur le fait *que ces signes sont précieux pour le vertige comitial qu'ils distinguent du vertige ordinaire d'une syncope légère, d'un faible accès hystérique, &c.* (No italics in original.) Ces phénomènes sont, chez quelques épileptiques, tellement caractérisés et constants, que les patients, au lieu de donner aux accès incomplets dans lesquels il se montrent, les noms, en quelque sorte génériques, d'absences, d'étourdissements, de fausses attaques, &c., les appellent *mouvements de bouche, mâchonnements, mâchillements, rincements de bouche.*" (Italics in original.)²

I give also part of what Herpin wrote on *perturbations de l'intelligence* (commonly called intellectual auræ), which I call dreamy states. It is a pity that he did not mention the particular "hallucinations" some of the patients had; I imagine these "hallucinations" were what I call crude sensations.

"Pour dix patients le début consistait en des *perturbations de l'intelligence*, avec ou sans hallucinations. Des exemples peuvent seuls donner une idée juste de ces aberrations; une malade d'un esprit très-distingué nous disait: 'Il s'agit d'un trouble purement intellectuel; je n'ai ni éblouissements, ni vertiges, je puis lire encore les mots, mais je n'en

¹ I do not think, I may say here, that Herpin distinguishes between what we now call the epigastric sensation warning and warnings by gastric spasm.

² One of my patients who had such movements at the onset of slight epileptic attacks (no dreamy state, but a temporary very elaborate quasi-somnambulistic state after his seizures), in a letter to me, spoke of his fits as "champing fits."

comprends plus le sens. C'est un état des plus pénibles ; il me semble qu'une partie de mon intelligence assiste à l'égarement de l'autre.' . . . Un jeune prêtre de grande espérance s'exprimait ainsi : 'Ce sont des idées sans suite et cependant contradictoires ; si j'entends une conversation, elle me suscite deux idées qui se combattent ; je perds la tête et non pas la connaissance ; j'entends, je comprends, mais mon esprit est ailleurs.' Autre version d'un autre patient : 'Il y a en moi deux personnes dont l'une jouit de la raison et l'autre déraisonne.' Un épileptique parlait d'une idée fixée, toujours la même, mais qu'il n'a jamais pu se rappeler. Un autre mentionnait seulement un égarement de la raison. Une jeune personne d'un esprit très-observateur racontait ainsi le début de ses attaques : 'Je suis prise, sans cause, d'une tristesse subite, et à l'instant même mes yeux restent fixés sur un objet et ma pensée sur une idée qui me rappelle l'image très-nette d'un ancien rêve ; l'idée fixe m'absorbe tellement que, quoique je regarde toujours vers le même point, je ne vois plus l'objet.'—*Des Accès Incomplets d'Epilepsie*, 1867, p. 111.

One reason for giving these quotations is that some of the symptoms I have mentioned here and in other papers as occurring in some slight epileptic paroxysms, seem so odd that the reports of the cases may appear to some medical men more like collections of scientific curiosities than things with practical bearing. I wish to show by the quotations from Herpin that statements essentially the same as those I make were made by a great authority long ago. I will here quote from a former article, *BRAIN*, July, 1888, p. 187.¹

"Before leaving this part of my subject, I remark, by way of recapitulation, that he who neglects the 'dreamy state,' because it is indefinite and 'merely curious,' and such symptoms as chewing, &c., movements, and apparent alteration in the size and distance of external objects, because they seem trifling things, may not even surmise that his patient has the serious disease, epilepsy, in a rudimentary form, until a severe fit comes to tell him so."

¹"On a Particular Variety of Epilepsy ('Intellectual Aura'): One case with Symptoms of Organic Brain Disease."

REMARKS BY DR. PURVES STEWART.

In the above case the history of gradual mental impairment followed by attacks of unconsciousness, together with the presence of headache, of optic neuritis, and of slight hemiplegia, pointed to the existence of gross intra-cranial disease. The left-sided weakness, most marked in the face, but also distinct in the arm and leg, indicated clearly as the site of the lesion some part of the motor tract, or of its vicinity, in the right cerebral hemisphere. The absence of hemianæsthesia and of hemianopia showed that the lesion was probably not in the neighbourhood of the internal capsule, but that it was situated more towards the cortex of the brain, a view which strengthened by the presence of "cortical anæsthesia" of the left hand. The occurrence of Babinski's extensor plantar reflex—extension of the hallux instead of the normal flexion, on tickling the sole of the foot—was not sufficiently constant to be of much significance.

The peculiar nature of the paroxysms, and especially their association with a sensation of smell, pointed to some abnormal condition of the temporo-sphenoidal lobe.

Drs. Hughlings Jackson and Beever¹ record the case of a sarcoma, the size of a tangerine orange, situated at the most anterior extremity of the right temporo-sphenoidal lobe. During life the patient had left hemiplegia without hemianopia, hemianæsthesia, or affection of smell, taste, or hearing. She also had numerous fits with an "intellectual aura" and a "horrid smell of dirty burning stuff."

Drs. Hughlings Jackson and Colman² also record a case of a small subcortical patch of softening in the left uncinate gyrus. The patient had been subject to epileptic attacks accompanied by a "dreamy" state, with smacking movements of tongue, lips, and jaw, but without crude sensations of taste or smell.

Dr. James Anderson³ published a case of a large basal cystic sarcoma arising from the pituitary body and spreading into the left temporo-sphenoidal lobe. It had given rise to attacks of peculiar sensation in the right hand, preceded by a sensation of a bitter taste in the mouth, with occasionally

also a peculiar smell, and accompanied by the "dreamy state." There were never any chewing or smacking movements of the lips. Smell was impaired on the left side, and there was slight defect of taste on both sides, especially the left. From affection of the left optic nerve, optic chiasma, and optic tract, the patient had blindness of the left eye with temporal hemianopia in the right.

Mr. Nettleship⁴ also records a case of tumour of the pituitary body implicating the left optic nerve, chiasma, and tract, as well as the left temporo-sphenoidal lobe. In that case there had been paroxysmal sensations of suffocation in the nose and mouth. There is no mention of a dreamy state in that case.

Sanders⁵ records a case of a large glioma on the under surface of the brain, involving the anterior part of the left temporo-sphenoidal lobe and the lower convolutions of the left frontal lobe, and destroying the left olfactory tract. The patient had fits, preceded by a warning of a "dreadful disagreeable smell," also chewing movements of the jaw and spitting of saliva. Later he had convulsions affecting the face, but not the limbs. No dreamy state was recorded in that case.

Dr. McLane Hamilton⁶ also published a case of localised chronic pachymeningitis affecting the right uncinate gyrus and part of the adjacent convolutions, but without involvement of the olfactory bulbs. The patient had been subject to attacks, preceded by a peculiar disagreeable odour, either of smoke or of a foetid character. No mention was made of any dreamy state.

In our case of A. B. the view as to the localisation of the disease in the right temporo-sphenoidal lobe was further supported by the impairment of hearing in the left ear without any discoverable cause in the ear itself, and, therefore, possibly referable to some slight affection of Ferrier's auditory centre on the side of the lesion.

The slight "cortical anæsthesia," the slight hemiplegia, most marked in the face, together with the occurrence of localised fits in the left arm and hand before death, are facts which, so far as they go, indicate either that the lesion was

not confined to the temporo-sphenoidal lobe alone, and extended to the lower central convolutions so as to affect the face and arm centres, or, more probably, that it pressed upwards in that direction.

The absence of an autopsy unfortunately leaves undetermined the exact nature and limits of the lesion. On the whole, the slow course and progressive march of the symptoms indicate that it was a new growth of some sort. The history of septicæmia rendered it conceivable that a chronic abscess might have been present. Mr. Ballance informs us that he has known a brain abscess to lie latent for fifteen months after an attack of septicæmia, without previous otorrhœa or other apparent local exciting cause, at the end of which period symptoms appeared for the first time, and rapidly proved fatal. But in A. B.'s case the symptoms were those of a lesion involving not only the temporo-sphenoidal, but also the lower central region, and this with very slight motor weakness, less in amount than an abscess of such size would have been likely to produce. It is, therefore, more probable that there was an infiltrating growth involving the temporo-sphenoidal lobe and the adjacent part of the "central" region. This, however, is mere hypothesis, and the absence of an autopsy is much to be regretted.

Amongst other points of interest in the case is the unilateral optic neuritis present on the side of the cerebral lesion. Mr. Marcus Gunn,⁷ in a discussion on the diagnosis of brain tumours, states that unilateral, or preponderatingly unilateral, neuritis is, on the whole, in favour of the tumour being on the same side as that on which the neuritis is more intense, if other reasons exist for localising the tumour far forward in the brain. Our patient's case, so far as it goes, seems to bear out Mr. Gunn's views. But the rule is not an invariable one, for I have seen a case of a large frontal tumour in which the optic neuritis was both earlier and more intense on the opposite side from the lesion.

The remarkably large appetite, which our patient exhibited up to the last, is of interest when considered with a case of temporo-sphenoidal abscess and a series of cases of head injuries published by Mr. Stephen Paget,⁸ in which voracious hunger or thirst were outstanding symptoms.

REFERENCES.

- (1) BRAIN, vol. xii., 1889, pp. 346-357.
- (2) BRAIN, vol. xxi., 1898, pp. 590-590.
- (3) BRAIN, vol. viii., 1886.
- (4) *Ophth. Soc. Trans.*, vol. iv., p. 235.
- (5) *Archiv f. Psychiat.*, vol. iv., 1874, p. 234.
- (6) *New York Medical Journal*, 1882, vol. xxxv., p. 575.
- (7) BRAIN, vol. xxi., 1898, p. 337.
- (8) "Essays for Students," 1899, pp. 92-100.