its way upwards into the nose and has led to the formation of a subperichondrial septal abscess (4). In some instances the explanation given is that the pus probably reached the septum by way of the anterior palatine foramen, but one or two observers suggest as an alternative route that followed from above by the pus in my case, namely, along the outer aspect of the bone of the maxilla.

Septal abscess is known to follow typhoid fever, smallpox, erysipelas and influenza, but, as I have already said, I have not been able to find any record of its association with furunculosis of the vestibule.

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SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE.—OTOLOGICAL SECTION.

January 16, 1914.

MR. RICHARD LAKE, *President, in the Chair.*

Mastoiditis without any Apparent Middle-ear Suppuration.—**Dan McKenzie.**—A girl, aged six. Tonsils and adenoids were removed on November 27, 1912. For several days after the operation pain was felt at times when the ear was touched, but no genuine earache was experienced. On January 1, 1913, the mastoid region began to show swelling, and on January 2 she returned to hospital, where the cortical mastoid operation was at once performed. As far as could be made out the membrane seemed to have a perfectly normal appearance, and at no time was there any discharge from the meatus. The mastoid cells were occupied by pus and granulations. Recovery was uneventful.

In Mr. STUART-LOW's experience these cases were not uncommon. He had often operated upon children where a mastoiditis has supervened, and even a mastoid abscess, and there had never been any aural discharge nor evident middle-ear implication whatever. Such cases were usually influenzal, and gave a history of "throat first being affected." No doubt in all such instances a fugitive otitis media had been present, but the infection seemed to rapidly pass on and settle in the mastoid antrum, and subsequently set up a mastoiditis, periostitis, and mastoid abscess.

Mr. WHALE had under his care at the moment a child, aged five, in whom there was a large peri-sinus abscess in the skull, extending backwards 1 in. along the horizontal part of the sinus. An ounce of pus was

evacuated, and there was evidence that the middle ear was the focus of the trouble, for the membrane bulged at the time, and after the operation this bulging subsided; the child was now rapidly recovering, the membrane being normal.

Dr. Kelson said the case must be considered not proven. It was the old argument—*post hoc, propter hoc*; the woman said the operation was performed two months previously, and unless there was evidence of some pathological condition being set up and persisting during this interval, it was only supposition to say it was due to the operation.

Acute Purulent Otitis Media, with Signs of Acute Labyrinthitis; Recovery without Labyrinth Operation.—F. W. Bennett and Dan McKenzie.—The patient, a hospital nurse, aged twenty-nine, came under Dr. Bennett's care in December, 1912, with pain in the right ear and discharge of two or three weeks' duration following influenza. The cortical mastoid operation was performed a month later, but fever, vertigo, and deafness continued. Three weeks later the wound was reopened and a further exploration made, in the course of which the middle fossa, which was very low, was opened. No fistula into the labyrinth was detected, although labyrinth symptoms were marked. The temperature fell to normal after the second operation, and the wound slowly healed. The patient came under Dr. Dan McKenzie's care on October 17, 1913, complaining of severe and continuous pain behind the right ear radiating up to the top of the head and down into the neck. There was giddiness on slight movement of the head; nausea, but no vomiting. The patient tended to fall to the right. There was no spontaneous nystagmus. The post-aural wound was healed, and there was no discharge from the ear. The tests showed absence of hearing in the right ear (noise-machine) and the vestibular reactions were absent. The temperature was normal. On October 20 the radical mastoid operation was performed as an exploratory measure, but all the parts were sound, and there was no sign of pus anywhere. A lumbar puncture gave normal cerebro-spinal fluid. The pain continued after the operation, and on October 25 lumbar puncture was again performed, and normal cerebro-spinal fluid again obtained. On October 28 a neurological examination was made, with the diagnosis of functional disorder. A few days later under strong moral suasion the pain and other symptoms suddenly disappeared. Recovery. The right ear is still quite deaf, and the vestibular responses are negative.

Malignant Disease of External Ear, with Extensive Invasion of Temporal Bone; Operation; Recovery.—W. Milligan.—Female, aged fifty-four, first seen on June 20, 1913. The whole of the right auricle, with the exception of the lobule, ulcerated away. Enlarged glands about angle of jaw and in front of sterno-mastoid. History of eight months' progressive destruction of tissue. Symptoms: Severe pain in the region of the ear and lower jaw; marked loss of weight and weakness. Right membrana tympani perforated in lower anterior segment. Portion of growth removed; epithelioma. June 26, operation: Ligature of external carotid artery. Complete removal of ulcerated surfaces including lobule of the ear. Underlying bone (squamo-mastoid portions of temporal bone) found to be extensively involved by growth. On account of collapsed condition of patient further operative interference postponed. July 17: The whole of the mastoid process, including apex, removed. Lateral sinus freely exposed. Squamous portion of temporal bone removed immediately below sutural line, with consequent large

exposure of dura mater of middle fossa, which in one place was found to be involved. Granulation-tissue removed and pure carbolic acid applied. Enlarged glands removed. Progress since operation good. After second dressing, 5 per cent. solution of scarlet red in olive oil applied every second day. Epidermisation over granulating dura rapid. Perforation of membrana tympani healing. About the middle of August patient transferred to Skin Hospital for Finsen light treatment. January, 1914: Whole surface healed with the exception of $\frac{1}{2}$ in. just above and anterior to the external auditory meatus. No sign of any recurrence, local or otherwise. Perforation of membrana tympani healed.

Dr. URBAN PRITCHARD considered that it was as yet early days to judge concerning the result in this case.

Mr. G. J. JENKINS alluding to the use of scarlet red in a malignant case, said that suggestions had been advanced that it favoured the incidence of epithelioma. When used for ulcers of the leg, for example, it was said to have caused epithelioma.

Dr. MILLIGAN was aware of the allegations against scarlet red which Mr. Jenkins mentioned, but did not know of a case in which any harm had actually been proved. He had used it on very many occasions, and had seen nothing go wrong. A colleague said recently he thought it a very irritating preparation, but he (Dr. Milligan) had not found it so. In this present case there had been a very large granulating surface; practically the whole temporal bone had been removed except the petrous, and he thought scarlet red would help matters; the new epithelium seemed quite good.

Cerebellar Abscess; Operation; Recovery.—W. Milligan.—Male, aged fifteen, first admitted April, 1909, with both ears discharging. Radical operation upon right ear; local treatment advised for left ear. Re-admitted November 10, 1913. Right ear perfectly well; antro-tympanic cavity completely epidermised.

For past three weeks he had complained of severe headache, mainly frontal. Had felt sick, but has not vomited until day before admission. Had been very constipated. Patient rational, but cerebration slow. Temperature, 98.2° F., pulse 66, respiration 18. No paralysis. Knee-jerks exaggerated, equal. No Babinski. Marked ataxia. Tendency to fall forward. Dysdiadokokinesis present. Pupils equal and dilated. Optic neuritis (?). Nystagmus on looking to left (affected side). Left auditory meatus full of dense polypoid tissue and pus—impossible, therefore, to make a complete labyrinth examination. Diagnosis: Left cerebellar abscess. Previous to operation 4 dr. of cerebro-spinal fluid withdrawn—clear and under pressure. Operation: Radical mastoid. Opening made through posterior wall of antrum; cerebellar dura exposed; incised. Abscess containing a little over $\frac{1}{2}$ oz. of pus evacuated. Drainage by means of rubber tube. Bacteriological examination: Almost a pure streptococcal infection; a few staphylococci present.

Mr. JENKINS asked whether Dr. Milligan had ever noticed that in doing a lumbar puncture there was, after the puncture, a more definite localising pain than before the puncture. He recently had a case in which the difference in that way was very marked; the patient, immediately after the lumbar puncture was done, placed a finger on the side of the head about the position of posterior part of the temporo-sphenoidal lobe which contained an abscess. Perhaps the experience is worth remembering as a possible aid to localisation.

Dr. MILLIGAN thought he would have been severely handled by

members for having done a lumbar puncture at all in the case; he had been criticised for having done so on previous occasions, but in his opinion it was a valuable proceeding under certain circumstances.

An Uncommon Form of Malignant Disease of the Ear.—**Sydney Scott.**—The following example of malignant disease of the ear is uncommon, in that there was an ulcerating growth which resembled a rodent ulcer in appearance and structure, but contained large numbers of keratinised epithelial "cell-nests," and was accompanied by metastases in the neighbouring lymphatic glands and in the sterno-mastoid muscle. Male, aged forty-six, an engineer's fitter, was first seen in October, 1913, when he had an ulcerating growth which involved the left auricle. The growth blocked up the external auditory meatus, and the left side of the face was completely paralysed. History: The disease had begun as a swelling behind and below the ear five years previously. The swelling grew steadily larger, and then after twelve months "broke" and formed an ulcer which persisted, spreading steadily for four years. The face had been paralysed for four or five weeks. Local condition: The lower half of the left auricle was involved in an ulcerating swelling. The ulcerated area corresponded to the retro-auricular sulcus. The ulcer took the form of a deep fissure about 2 in. long. The edges were indurated and everted. There was a second ulcer in the floor of the meatus which was occluded by the growth. A considerable swelling was obvious in the parotid region and in the adjacent part of the sterno-mastoid muscle. The cervical lymphatic glands lower down were palpably enlarged and an isolated hard lump was found in the sterno-mastoid muscle. Treatment: The disease was removed in October, 1913, in two stages—the main mass with the parotid salivary gland at the first stage, and the cervical lymphatic glands with a second portion of the sterno-mastoid muscle at the second stage. An attack of erysipelas followed the second operation. As it had been impossible to cover the exposed tissues with integuments the process of healing was expedited by Thiersch skin-grafts.

Pathological Report on Sections of Growth in Region of Pinna.—Section 1: Piece of edge of ulcer close to pinna. The section shows masses of deeply-staining, small spheroidal cells with a tendency towards a palisade arrangement at the margins resembling that seen in a rodent ulcer. These masses of cells are infiltrating adjacent tissues. Scattered throughout the section are large numbers of "cell-nests," composed of keratinised squamous epithelium. These are singularly well formed and perfect. Section 2: Of a secondary deposit in the sterno-mastoid. The section shows a mass of striped muscle, in the substance of which there is a secondary deposit of growth similar to that shown in the first section. The cell-nests are not nearly so numerous. Section 3: Of a lymph-gland from the neck. The section shows the structure of a lymph-gland affected with tubercle. There is a considerable amount of endothelial proliferation and many multinucleated giant-cells. In one part of the gland there is a small deposit of growth similar to 1 and 2, but there are no cell-nests.

Dr. MILLIGAN did not feel certain concerning one little spot; it seemed as if a nodule was there. From the description—not having seen the microscopic sections—he would have thought it was a carcinoma. Was the gland in section 3 infected from the throat? On reading the notes over, it seemed that there might have been some infection from the throat. Also, did Mr. Scott think the attack of erysipelas was bene-

ficial in this case? Once or twice erysipelas had arisen in patients after aural operations, and had appeared to constitute an excellent whipper-up, causing rapid healing.

Mr. MOLLISON asked whether Mr. Scott proposed to use radium emanations with a view to preventing a recurrence.

Mr. JENKINS asked whether Mr. Scott regarded the secondary deposit as a rodent ulcer, or as epithelioma. He was aware of the difficulty of classifying these tumours, but cases were known in which a rodent ulcer had shown something like cell-nests. He also had intended to ask as to whether or not there was improvement associated with the occurrence of erysipelas in this cancerous condition.

Mr. SYDNEY SCOTT replied that he would not care to express any views in favour of erysipelas in the treatment of malignant disease, but recalled the introduction of Coley's fluid, which was manufactured from strains of streptococci obtained from erysipelatos patients. The secondary deposits had the histological appearances of rodent ulcer. He was in favour of the view that the recurrences would behave as rodent ulcer.

[*Addendum.*—January 30, 1914: Mr. Scott had removed the ulcerated spot referred to by Dr. Milligan and it presented the same histological characters as the original growth. The patient was still under observation.]

Patient after Operation for Aural Vertigo.—Richard Lake.

Male, aged sixty-one, had been totally deaf on the left side for at least three years, and had suffered with constant attacks of giddiness and sickness for about seven years. He had led an extremely active life. The first attack of vertigo came on seven years ago quite suddenly while he was in bed and asleep. Since then the attacks have steadily increased in frequency, but are not so severe as the first one. The attacks came on without warning, and he either falls to the ground, or if he has time to get hold of some support he lowers himself down and remains quiet until the attack has passed. He does not lose consciousness. He head appears to spin round and objects seem to rotate in a vertical plane. He vomits unless he keeps his eyes shut, and if he attempts to move he gets marked deviation to the left. He has to lie down for four or five hours for each attack. He has continued tinnitus in the left ear, which is also deaf. The attacks occur much more frequently from March to November. On examination the patient's blood-pressure was found to be 110. His heart, lungs, etc., were all normal. There was no Rombergism; his gait was steady, with no deviation and no ataxia. No nystagmus in the left eye. (The right eye is an artificial one.) Caloric tests: The left ear syringed with water at 60° F., nystagmus to the right. The right ear ditto, nystagmus to the left. Rotation, clockwise, vertigo and nystagmus for ten seconds. Counter clockwise, no vertigo, nystagmus for three seconds only. Operation, October 30: Complete vestibulotomy. One must not forget that this patient is at the time of year when he previously had the least vertigo. The case is shown chiefly to demonstrate the ease with which a patient of his age is able to tolerate the operation.

Mr. SOMERVILLE HASTINGS asked what guided Mr. Lake in his selection of cases for operation. As he was known to have operated upon a number of such cases, mostly with complete success, it would be useful to know, briefly, in what way he selected the cases for the operation.

Dr. A. GRAY asked if there had been a Wassermann reaction taken. The right eye was an artificial one, and it would be interesting to know what it was removed for. He had felt some curiosity as to how many of these cases were syphilitic, and how many were not.

Dr. MILLIGAN asked as to the ætiology, as no reason was given for the trouble; 110 was a low blood-pressure for a patient of his age. Was such a case likely to be due to progressive thrombosis? He asked the patient whether he had had any attacks of vertigo since the operation, and he replied that he had had none. That was a very satisfactory result for such a difficult class of operation. He had operated upon several such cases. Many of his patients suffered a good deal from shock shortly after operation, and did not get rid of their vertiginous feelings for two or three weeks. After clearing out the bony cavity, he asked what method of disinfection or otherwise Mr. Lake carried out; such a little matter often made a great difference in regard to the destruction of the end-organ.

Dr. A. GRAY said the case had interested him deeply, and he would like to know whether information could be given as to the patient's muscular tone. Ewald and some others had said a good deal about muscular tone being controlled by the semi-circular canals, but he had not much belief in the idea. Of course, the shock from this or any operation would affect the muscular tone long afterwards. Ewald said the skeletal muscles derived their tone from the "tone labyrinth." A vestibulotomy, especially a double one, should, on this idea, leave the muscular tone greatly affected. Mr. Lake had a case on which he did a double vestibulotomy, and he remarked that the muscular tone was not affected at all.

Dr. FITZGERALD POWELL would like to hear about the character of the man's deafness, and what was found at the operation; whether he had mastoiditis, and what was the character of the ear trouble, if any.

The PRESIDENT (Mr. RICHARD LAKE) replied that he was much averse to operating on this man, because of two things: he was aged sixty-one, and his blood-pressure was very low. He had never felt certain whether these cases should be operated on when the blood-pressure was low. He would not operate on any man who was not absolutely deaf on that side, or at least practically deaf. Secondly, to justify operation the labyrinth should be an active one. All extraneous causes of vertigo must be eliminated; they were now fairly well known, and it was not now really difficult to avoid making mistakes. One of his cases had some vertigo afterwards. The present was his sixteenth. With regard to muscular tone, von Stein, of Moscow, made a good deal of this, and for a long time he (Mr. Lake) tested the point, trying the grip of patients, and so on, and he concluded that in this, as in statistics, one could elicit what one specially wanted. The patient's right eye was lost owing to glaucoma. With regard to ætiology, it was chiefly owing to the uncertainty of this that he hesitated about operating; and he prepared his mind for failure. It was quite likely that the cause was progressive thrombosis. With regard to shock, he never used the hammer in the operation, so that no concussion was produced, and he thought that omission materially reduced the amount of shock. After having opened up above and below the facial nerve and scraped out, as far as possible, the whole of the internal surface of the vestibule, he wiped out the whole cavity with commercial formalin, by means of cotton-wool wound round a steel probe, in that way destroying every fragment of nerve-ending which was exposed. The nerves themselves were carried in bony canals in the vestibular wall, so it was necessary to scrape fairly hard. He did not take the Wassermann

reaction. This patient was absolutely deaf to all aerial sound-waves on the affected side, though he had some bone-conduction, which was not materially altered.

Demonstration of Photographs showing Sound-waves as produced by various Musical Instruments.—Richard Lake.—The photographs exhibited were taken by Mr. W. Duddell, F.R.S., by a method devised by himself. For many years the exhibitor had been trying to get photographs of sound-waves, but could not succeed until Mr. Duddell was kind enough to take this series by means of an instrument which had a period of its own. There was nothing in Nature which had not a period of its own and which did not vibrate to some musical note. The instrument with which these photographs were taken had a period of 760 vibrations per second, consequently the harmonics of this order were magnified, hence the curves could not be taken as absolutely correct, but the slight inaccuracy would probably not interfere with the interest. A complete octave could not be shown. As one approached the note produced by 760 vibrations per second exaggerations were noted, but in proportion as one receded from the fundamental tone the instrument became truer.

Hæmatoma Auris ; Operative Treatment.—G. J. Jenkins.—Female, aged thirty-two. The hæmatoma was the result of a blow received on December 19, 1913. When seen next day the swelling involved the whole of the internal surface of the cartilaginous part of the pinna, and was about the size of a hen's egg. The margin of the helix could just be distinguished. On December 20 an incision was made along the margin of the helix. The contents were mostly fluid blood ; some clots in lower part. The blood was on the external surface only and extended somewhat into the meatus. The present condition seems to justify the operative procedure.

Dr. MILLIGAN said the case raised the important point as to whether it was advisable to incise a hæmatoma so soon after its occurrence. Mr. Jenkins incised this on the day following its formation, and he asked whether that was deemed to be the best line of treatment. Was it not better, in such an early case, to try very gentle massage, cold compresses, ice, etc. ? Though this result was good, there were always risks in incising hæmatomata. He had tried pressure between two layers of Gamgee tissue, and an elastic bandage over the head, and the result had been good.

Mr. KISCH asked how long Dr. Milligan's cases took to recover. He thought Mr. Jenkins was to be congratulated on the rapidity of the healing in his case. His experience was that they took a long time to subside if left alone, and consequently any method which shortened the time of healing was advisable.

Mr. JENKINS replied that he had sent the case hoping that the point raised by Dr. Milligan would be discussed. He had no experience to show how long blood in this situation required to clot. By opening up the hæmatoma twenty-four hours after the injury and clearing out the blood, one avoided secondary bleeding, and should be able to get the perichondrium in close relation with the cartilage once more. If this hæmatoma had been left alone, there must have been more organised material to contract later on than under present conditions. If he were to have a similar case he would like to procure a cast of the opposite ear, and get a sculptor to produce a negative to put on the affected ear, and so ensure the perichondrium being in accurate apposition. After making

the incision in this case he took great care to pack the perichondrium in close apposition to the cartilage, but even when carefully putting on the bandage the dressings were liable to slip, and so disturb the parts. He had seen aspiration of blood-cysts carried out, but the result had not been anything like so good as that in this case. There was still some thickening left—possibly from perichondritis, or may be blood.

Case for Diagnosis.—Somerville Hastings.—A clerk, aged thirty-four. No family history of deafness. Though living in South America he had never had malaria. Fourteen years ago he met with an accident cycling, and was unconscious for four hours. He had no bleeding from nose or ears, but kept his bed for a fortnight. After this he was completely deaf in the right ear. Early in January, 1913, he states that he noticed that the hearing of the left ear became impaired, but this only lasted a couple of hours. Three weeks later he had a feverish cold, and in forty-eight hours the hearing of his left ear, which had previously been quite good, was completely lost. He was slightly giddy at the time and suffered from slight giddiness a few days later. He had never had ear discharge. The patient appears to be completely deaf. He hears nothing by air-conduction, and it is probable that he only feels the vibration when tuning-forks are placed on his mastoids. Both labyrinths react normally to irrigation with cold water. On rotation to the left, rotatory nystagmus to the right. Rotation to the right produces left nystagmus. In neither case is giddiness produced. On catheterisation air enters both tubes readily. Wassermann's reaction is negative. By way of treatment, iodides, pilocarpine injections and blisters have been tried. Recently, at the patient's urgent request, I have applied radium on the right over the mastoid and on the left in the meatus. Though there have been very definite reactions on both sides no improvement in hearing has resulted. The exhibitor invited suggestions as to the pathology and treatment of the case.

The PRESIDENT said this was one of the cases where one felt the disadvantage of saving whether a patient could hear in the midst of the other noises which were going on. He had a suspicion that it might be some functional trouble. The Wassermann reaction should be done independently by two or three people. Negative results were not so definite as positive ones.

Mr. SCOTT recollected having seen this patient a month or more ago and had then tested the hearing with the tone series apparatus and monochord. The patient was at that time absolutely deaf by air- and bone-conduction throughout the whole tone range. The rotation tests still give normal reactions. He, too, would very much like to know the pathology explaining this deafness.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

December 5, 1913.

DR. D. R. PATERSON, *President, in the Chair.*

Three Foreign Bodies, the Colour of which made Extraction more Difficult.—D. R. PATERSON.—(a) *Reddish seed from the bronchus.*—A child, aged four, admitted in April, 1913, was said to have aspirated

a small stone which she had in her mouth. There was some cough and wheezy breathing. Nothing was seen by radiography, but there were signs on the left side of the chest with impaired breath-sounds. When the child was going under the anæsthetic retching came on, and breathing stopped. It was surmised that the foreign body had got displaced into the glottis, and, as the child was in imminent danger, tracheotomy was done, with immediate relief to the respiration. The interior of the larynx presented a more or less uniform redness, and this puzzling appearance was explained when the foreign body, on extraction, proved to resemble closely in colour that of the laryngeal mucosa. It was a seed $\frac{3}{8}$ in. long, having a red, polished covering. (b) *Pink ring from the gullet*.—A child, aged two and a half, seen last Boxing Day. It had swallowed a ring, said to be white, concealed in a Christmas plum pudding. The X-ray plate showed it opposite the sternal notch. On passing a tube down, what looked exactly like a transverse œdematous fold of mucosa was difficult to explain until careful exploration made out that it was the ring, not white in colour, but pink. It proved to be 1 in. in diameter—the size of a halfpenny. (c) *Portion of red vulcanite tooth-plate from the gullet*.—A man, aged twenty-three, admitted in January, 1913, was said to have swallowed, two days previously, half a vulcanite tooth-plate with two teeth attached. An attempt made by his medical attendant with a coin-catcher was given up on the occurrence of bleeding. On examination the œsophageal mucosa, a little below the sternal notch level, was red and œdematous. The red plate was somewhat difficult to make out until the white tooth was localised, and then the bearings were easily obtained. On extraction it was found to have only one tooth left, the other probably having been pulled off by the coin-catcher. It measured $1\frac{1}{2}$ in. by 1 in., and had sharp corners. Alongside these I have placed a fragment of nut-shell removed from the bronchus (reported to the Section, March, 1907), also showing the reddish colour which made it difficult to distinguish from the inflamed mucosa around it.

The cases represented one of the difficulties connected with the extraction of foreign bodies—namely the close resemblance of their colour to that of the mucous membrane—so that it was difficult to distinguish them. At the last meeting emphasis was laid on the importance of carefully considering the history; these cases showed, on the other hand, that statements as to the nature of the foreign body must be accepted with some reserve.

Epidiascopic Exhibition of Skiagrams and Diagrams of Pharyngeal Diverticula.—**William Hill.**—Thirty slides in all were shown, made up of the following: (a) Pictures of some typical post-cricoid pouches in the London Museums. (b) Diagrams by Killian, Keith, and the exhibitor illustrating the anatomical relationships of those herniæ which protrude between the upper or oblique and the lower sphincteric or transverse fibres of the inferior constrictor. (c) Skiagrams of five cases recently seen by the exhibitor; three patients were females; only one had submitted to operation, the pouch being successfully removed. (d) Skiagrams illustrating the method of finding the mouth of the œsophagus by means of a "shot" string. (e) Skiagrams illustrating circumferential dilations above structures of the gullet, which in some points simulated the radiographic appearances and symptoms of post-cricoid pouches.

Pharyngeal Diverticulum.—**Patrick Dempsey.**—The patient from

whom the diverticulum was removed complained of all the typical symptoms of this condition. He was very emaciated, and for the past eighteen months had increased difficulty in swallowing, with regurgitation of food after meals. He was aged fifty-four. Examination with X rays, and by the direct method, demonstrated clearly the presence of the pouch, in the usual situation on the left side of the neck. An incision along the anterior edge of the left sterno-mastoid, followed by a little dissection, exposed the œsophagus from the extreme beginning of which the diverticulum originated. This latter, which was quite free, was next clamped as close to the site of origin as possible, and removed. The cut end was closed by a continuous suture, and then two "traction" sutures inserted in the wall of the gullet immediately above and below the beginning and end of the continuous suture already made. This enables one to pull the œsophagus up into the wound,¹ and facilitates the passing of the second row of sutures which engage the muscular coat only. A drainage-tube was inserted in the neck wound, and for the following five days the patient existed on saline enemata, with sips of sterile water, mixed with a little listerine. On the resumption of feeding by the mouth there was a slight leak round the drainage-tube for seven days, but after this nothing came through, and the patient made an uneventful recovery. Six months later he was in perfect health and had put on 20 lb.

The PRESIDENT had found extreme difficulty in such cases in finding the opening into the gullet; in one case he had several sittings, and carefully searched all over, without result. He asked whether, in the cases where the pouches had large mouths, the width of the mouth added to the difficulty and the risk of the operation: some of those illustrated seemed to be practically continuations of the pharynx. He knew two persons who had had such a pouch for years, yet got along fairly comfortably. They had both declined operation because they were not in robust health; but they had to renounce their social duties because of their difficulty of swallowing.

Mr. WAGGETT drew attention to the diagnostic method described by Dunham and Plummer in which a swallowed string and tube were employed. He had three or four patients with this condition, who, however, lived happily if they syringed out their pouches after food with a Higginson's syringe.

Mr. HERBERT TILLEY could sympathise with the statements of the President. The difficulty he referred to was a real one. Three weeks ago he examined an œsophagus by the direct method. There was some difficulty in swallowing, but very little swelling in the neck. He suspected a "pouch" because of the gurgling sound made by the patient, even during ordinary conversation. At the first attempt he passed the tube easily down the gullet, almost into the stomach, but saw nothing abnormal. He removed the tube and passed it again, but could not enter the gullet, although he was able to get into the opening of the pouch, and with his disengaged hand was able to squeeze from the pouch old evil-smelling *débris* of food. The pouch was on the right side, and the patient had had it many years. She declined operation.

Dr. DUNDAS GRANT said that in two cases of the kind he had had to deal with the pouches pointed on the right side. Both were operated upon, one successfully, but the other died.

Mr. T. B. LAYTON asked as to the after-history of the case operated

¹ W. Taylor, *Trans. Acad. Med. Irel.*, 1909.

upon. He had heard that the condition recurred because the spot at which one sewed the pharynx wall was weak, and therefore bulged.

Mr. NORMAN PATTERSON said he had assisted in operating upon a case in which the patient seemed, clinically, to have a sac on the left side. When a skiagram was taken it appeared to be mesial and extended to the suprasternal notch. At the operation it was found situated on the left side and was quite small; it did not extend farther down than the lateral lobe of the thyroid. The skiagram of the distended pouch was, in that case, misleading.

Dr. MAURICE HAYES said the last slide shown by Dr. Hill was that of a typical case. In that patient the pouch was on the right side. The second slide, which was not so characteristic, was that of the patient from whom the specimen passed round was taken. The operation was performed by Mr. Dempsey. The other case was not operated on. He did not himself operate, but he made the X-ray examination.

Mr. FITZGERALD POWELL asked Dr. Hill if he knew what was the mortality after operation? If it was not high it seemed a pity to leave a patient with a big sac of the kind to cause so much discomfort.

Mr. E. D. DAVIES, in reply to the question of recurrence after operation, stated that three years ago he collected records of a number of cases in connection with a report on Mr. Waggett's case. He personally wrote to try and obtain their history, but with the exception of Sir Henry Butlin's and Mr. Bilton Pollard's cases, he could not get it; they had all disappeared. Seven of Sir Henry Butlin's cases were quite well a few years after operation, and Mr. Bilton Pollard's case was well two years later. They had operated by excising the sac. Girard, of Berne, operated on two, and Halstead on one, by inverting the sac and ligaturing its neck. The after-history of these cases was not procurable. Mr. Waggett inverted the sac and ligatured it in his case, but some months later a recurrence took place and then the sac was excised. The patient was a vagrant, but when last heard of he stated he could regurgitate a little food amounting to about the size of the top of the thumb.

Dr. HILL, in reply, said he was not surprised to find that others had had difficulty in finding the pharyngo-oesophageal opening with the endoscope, which tended to pass into the pouch; to obviate this he used the "shotged" string, which when swallowed could be seen by the X-ray to be anchored in the intestine, and traction could then be made and the string used as a guide for intubating the gullet before and after operation. The operation mortality in sixty cases collected by Stett in 1910 was something over 15 per cent., but as many operation cases had probably gone unrecorded, more especially the fatal ones, the percentage was probably double that figure. With the improved method of operating in two stages and the use of an intubation apparatus till leakage had ceased, the mortality should be reduced almost to vanishing point. Of those cases which recovered the symptoms were usually reported as cured, which militated against the view that stricture of the mouth of the gullet was the cause of the dilation of the pharynx and subsequent formation of the hernia between the fibres of the inferior constrictor. General toxæmia from intestinal stasis was said to result in some unoperated cases unless lavage was regularly carried out.

Sarcoma of the Nasopharynx treated by Radium Emanations.

—**Herbert Tilley.**—Male, aged twenty-two; first noticed a "blocking of the nose" four months ago. There was no headache nor any pain in or around the nose. An operation for the removal of enlarged glands in

the right side of the neck was carried out in a military hospital in September.

The exhibitor first saw the patient on October 28 and noted the following points: Patient was very pale, and his voice was that of a young man with complete nasal obstruction. The soft palate was pushed forward into the mouth and was almost vertical in position. Behind and reaching just below its free margin a large tumour could be seen, which completely filled the nasopharynx, and the lower rounded border of the mass presented a greyish-white ulcerating surface, from which when manipulated blood oozed freely. A small portion of the growth was removed for histological examination. Digital examination of the growth proved that the tumour had a broad base which occupied the whole posterior wall of the nasopharynx, the only free portions being its lower rounded surface and that which was in contact with the soft palate. A large, soft, painless, ill-defined glandular mass was present under the left ramus of jaw. Two "emanation" capsules, each containing the equivalent of 40 mgrm. of radium bromide, were inserted through the anterior surface of the growth about 1 in. apart and left *in situ* for twenty-four hours. The patient returned for examination in a week, when the whole mass had entirely disappeared. The appearance of the nasopharynx was as if a large adenoid mass had been removed a few days previously.

On November 25 the patient expressed himself as feeling quite well; all signs of the growth have disappeared, and only a small gland can be detected under the left ramus of the jaw.

Sarcoma of the Nasopharynx treated by Radium Emanations.

—**A. J. Martineau.**—Male, aged fifty-nine, came at the beginning of October, complaining of deafness of five or six weeks' duration. On examination the left drum was seen to be retracted, the left side of the nose, of which the cavity was wide and mucous membrane wasted, was filled with crust, and there was similar material in the post-nasal space. This condition of the nose had existed many years. A catheter could not be passed into the left Eustachian tube owing to an obstruction in the choana. The soft palate was not quite symmetrical, the uvula being near the right side.

Examined under anæsthetic on October 18 the nasopharynx was found to contain a firm rounded swelling in its left half. The base seemed to be in the fossa of Rosenmüller of the left side; it projected forward into the left choana, and crowded the Eustachian cushion outwards and forwards. The prominent portion of the growth was removed, and reported to be "definitely a large round-celled sarcoma with practically no other tissue present." Between October 18 and November 14 he had on four occasions X-ray treatment. Examined under anæsthetic on November 14 the growth was softer in character. A tube of radium, approximately equal to 47 mgrm., was inserted from the front through the nose, and retained twenty-four hours. The patient experienced relief in about four or five days, and lost his deafness, and the nose became clearer. At the present time the breathing is free and the palate symmetrical; the hearing is good. A raw-looking, ragged surface can be seen from the front. January 5, 1914: This has now healed, and there is no visible growth.

Sarcoma of the Nasopharynx treated by Radium Emanations.—**Somerville Hastings.**—The patient is a labourer, aged twenty-nine. On August 11, 1913, he came complaining that for six months

he had had bleeding from the throat, that for five months he had been deaf in the right ear, and that for three months he had been entirely unable to breathe through the nose, and for the same time had lost all sense of smell. On examination there was a firm, smooth, pinkish tumour filling up the nasopharynx and pushing the soft palate in front of it. The area visible from the mouth was covered by large veins and bled easily if touched. The man was deaf on the right side and the right membrana tympani was retracted. On August 14 I examined him under an anaesthetic. With considerable difficulty I insinuated my finger between the soft palate and the tumour, and found that the latter was growing from the whole of the posterior wall of the nasopharynx and was firmly adherent to it. A small piece was removed for microscopical examination. The tumour is considered to be a small round-celled sarcoma. On August 25 a thin platinum tube, containing 82 mgrm. of radium bromide, was inserted into the growth through a small incision in the soft palate a little to the right of the middle line, and left in place for sixteen hours. After this treatment nasal breathing and sense of smell returned in five days, and the patient was able to hear with the right ear five days later. There was never any reaction seen in the mucous membrane of the soft palate on its buccal aspect. On September 16 all growth had disappeared, but there was slight swelling around the right Eustachian tube, and a slough of mucous membrane was visible at the junction of the soft palate with the right lateral wall of the nasopharynx. On October 10 I again saw the patient, who was quite well. The only abnormalities to be seen then were a small scar on the soft palate and a slight irregular, uneven scar at the junction of the posterior wall of the nasopharynx with its roof.

Dr. WATSON-WILLIAMS said one of the most striking features of a relatively short experience of the application of radium was the very different result obtained in sarcoma to that of cases of epithelioma and endothelioma. A few weeks ago he had a very advanced case of epithelioma of the hypopharynx—an utterly inoperable case. The patient had heard of radium and was very anxious to try it. A tube equal to 70 mgrm. of radium was procured and placed in the growth, and remained there twelve hours, when it was coughed out. Afterwards it was inserted externally in the glandular enlargement, and for a few weeks the patient experienced a very great degree of benefit, in that she could swallow food, but then she became worse again and died. Even in such cases radium was worth trying, if only to lessen the slow process of semi-starvation, but in cases labelled histologically sarcoma the benefit was much more lasting and might eventuate in apparent cure.

Mr. HOPE two years ago saw a patient who had a very large sarcoma in the nasopharynx, was deaf in the left ear, and could not breathe through the left nostril. One radium tube was put into the growth through the nose, and one up into the growth behind the palate. As there was much swelling of the throat, tracheotomy was done. Relief soon came; the tracheotomy tube was removed in eight days, and in a fortnight the growth was found to have practically disappeared. The deafness passed off and the nose-breathing became normal. He learned later that the patient had gone on well for eighteen months, that then he had dyspnoea, necessitating sudden tracheotomy, and a fortnight later died.

Mr. WAGGETT had had a case of chronic enlargement of the tonsil, the distress being so great that it was thought tracheotomy would be necessary. A tube of radium emanation was put into the mass, and left in

twenty-four hours, and in five days the growth had disappeared, and the tonsil was even smaller than its fellow. The macroscopical appearance was highly suggestive of sarcoma, but the microscopical findings were equivocal.

Dr. JOBSON HORNE considered that it would not be wise to draw from the case exhibited the conclusion that sarcoma could be cured by radium. In the first place, one had to bear in mind that there was sarcoma and "sarcoma," and that it presented different degrees of malignancy. Some years ago he had expressed his conclusions that the nasopharyngeal tumours commonly called fibro-sarcomata were not sarcoma in a malignant sense, inasmuch as when allowed to run their course they did not kill by metastases, but by local destruction of adjacent structures; but that they were embryonic growths developing from the basisphenoid.

Dr. FITZGERALD POWELL pointed out that whether these growths in the nasopharynx were typical sarcoma or not, clinically they presented the features of malignancy, and were infiltrating the surrounding tissues. Those, like himself, who had endeavoured to eradicate them by operation, knew that the results were often very unsatisfactory, and great suffering endured before the end was reached. Accepting the reports of these cases as correct, he could only say that radium appeared to him to be a perfect Godsend in their treatment.

Mr. HARMER believed it was generally agreed that with both sarcoma and carcinoma of the upper air-passages there was occasionally a complete disappearance of the growth, or almost complete, shortly after the application of radium. But in nearly all these cases recurrence took place, and sooner rather than later. One case was that of a man who had epithelioma of the upper jaw at the beginning of this summer. Mr. Harmer removed the upper jaw freely, but there was a recurrence, and he found the man had a larger tumour than before, projecting over the face and filling the orbit, the eye having previously been taken away. He put all the radium obtainable into this mass, and left it there forty-eight hours. At the end of three weeks the greater part of the growth had disappeared, leaving a small fibrous lump in the roof of the orbit. He expected that the patient would remain well for a time if it did not bore into his cranium; eventually he would get the usual recurrence and succumb to it.

The PRESIDENT reminded members of the cases that had been brought up of sarcoma of the pharynx which were proved to have disappeared under treatment by arsenic. In one case the glands had been extensively removed by a general surgeon, and the patient came under his own care with a great enlargement of the tonsil. Sir Henry Butlin saw the case, and strongly dissuaded him from operating, but suggested giving arsenic. That advice he acted upon, and the growth disappeared. That happened ten years ago, and it was ascertained a few days ago that the man was still following his occupation. There were cases which disappeared under less heroic treatment than one would adopt for epithelioma.

Mr. HERBERT TILLEY, in reply, said he was careful to avoid saying his case was "cured"; he did not know whether that would be so. But six weeks ago the condition of the boy seemed as hopeless as it could be, while to-day anyone might think he was normal. He did not think such a result could have been approached by any other method. There was not only a large growth in the nasopharynx, pushing the palate forwards nearly to the teeth, but he had had repeated hæmorrhages, and was very anæmic and weak. When the boy presented himself a fortnight after

the application of radium he did not recognise him because he looked so much better. With regard to infiltrating growths, the nearer these approach embryonic tissue the greater the likelihood that radium may do good. In squamous epitheliomata of the mucous membranes radium seemed to do no good at all. He had seen many of the latter in the gullet, but though he had seen improvement in swallowing due to sloughing away of the central portion of the growth, he had seen nothing in the way of permanent cure.

Mr. MARTINEAU, in reply, said that he was told at the Radium Institute that he need not expect a good result in less time than a month; and so, since inserting the radium he had not seen the patient again until to-day. He would have liked to hear whether further radium should be used to prevent a recurrence, or whether one should wait to see what the result would be. The strength was 55 mgrm. when sent out, but probably it was 46 mgrm. by the time it was applied.

Mr. SOMEVILLE HASTINGS, in reply, said that the clinical picture in his case was exactly that described by Mr. Tilley. The patient looked like one suffering from malignant disease; he was thin and pale, had lost all sense of smell, and was deaf in the right ear. Whatever the exact nature of the growth, the result was so far satisfactory, and it was worth while trying the same method for all similar cases which were not amenable to operation.

(?) **Bilateral Abductor Paralysis.**—T. B. Layton.—*Case 1:* Male, aged forty-two, was admitted with a history of three weeks' dyspnoea, worse at night. There was some laryngitis and complete loss of abduction on both sides. Twenty-five years ago he had a sore on the penis, for which he was treated with medicine during two months; he had no rash or sore throat. The Wassermann reaction is positive. There are no other signs of locomotor ataxia. Tracheotomy was performed under local anæsthesia; he was given salvarsan, 0.6 grm., and is now on a course of potassium iodide with weekly injections of 1 gr. of mercury. There is now a considerable degree of abduction. He is wearing a tracheotomy tube with a plug, but he never has to take out the plug, even during sleep.

[*Note.*—Sir Felix Semon examined the case, and said that the power of abduction being now practically normal, he felt that the original diagnosis must be wrong, and that it must have been a case of syphilitic laryngitis. For he did not believe that, even with the modern methods of treatment which had been used in this case, the abductor fibres could have recovered so completely in two months. Considering the difficulty of diagnosis in such cases, this opinion should be put on record, rather than the case should be published as one of bilateral abductor paralysis which has definitely recovered in a short time.]

Case 2.—Female, aged forty-eight, attended the out-patient department because she makes a "whistling noise" when asleep. She says she gets shortness of breath easily, but has no orthopnoea nor is ever woken up by it. Thirty years ago she had an abscess which burst in the upper part of the front of the left chest; this she dressed herself and did not apply to a doctor for it. Twenty-five years ago she attended at the Brompton Hospital for three months. No evidence of phthisis was found, and the only other evidence of locomotor ataxia is that the tendo Achillis jerk is either difficult to obtain or cannot be got at all. Under the X rays no evidence of scarring was found anywhere in the region of the recurrent laryngeal nerves. There are no signs of syphilis in the

fundus or other parts of the eye, nor other signs of this disease about the body. The Wassermann test gave a weak positive reaction. On examination of the larynx there is bilateral abductor paralysis.

The PRESIDENT said he had a case in a man who had this lesion, and in whom on passing a tube there was found, at the root of the trachea, a tumour which had definitely pressed on the trachea; there was laryngeal paralysis owing to this pressure, and consequently a double cause for the difficulty of breathing.

Subglottic Swelling of the Larynx.—T. B. Layton.—A man, aged forty, came on November 28 with a history of increasing dyspnoea of two weeks' history, worse when lying down. On examination the glottis was reduced almost to nothing and the cords could not move outwards. That this was not a paralysis was shown by the fact that a bilaterally symmetrical swelling could be seen immediately below the cords. He was taken in and given salvarsan next morning, with the idea of saving an urgent tracheotomy and in the belief that the condition was syphilitic. Unfortunately no blood was taken for the complement-fixation test before this administration; the patient denies syphilis, and no other symptoms of the disease have been found. On the first night in the ward he made much noise while asleep; he now sleeps quietly, and has no dyspnoea when not exerting himself. The subglottic swelling has largely disappeared, the cords are pink and do not move well on inspiration, the subglottic region opposite the cords becomes diminished, the hinder end of the glottis becomes wider, showing that the arytaenoid cartilages move and that the immobility is not due to paralysis. As there are now no urgent symptoms he is to be given a full course of mercurial injections and salvarsan on the Army system, and if this does not cure him a tracheotomy will be done to rest the larynx.

Dr. PETERS said he had seen salvarsan very usefully employed in two cases of obstructive syphilitic trouble; and it obviated tracheotomy. The relief was immediate, and contrasted with the results of potassium iodide, which at first increased the dyspnoea.

Mr. BARWELL thought it likely that this patient would continue to get deficient abduction for the rest of his life, because there appeared to be considerable scarring. Salvarsan admittedly worked wonders in these acute cases, but he was not sure that the intramuscular injection of a soluble salt of mercury did not act as well and almost as quickly.

Specimen of Thyro-glossal Cyst, causing Dyspnoea, in a Woman, aged fifty-four.—A. J. Wright.—This specimen was removed by operation, having given rise to increasing nocturnal stridor and slight dyspnoea for two years. The cyst presented in the neck over the thyro-hyoid membrane, and extended inwards through the membrane, displacing the epiglottis backwards and concealing the larynx.

Mr. HERBERT TILLEY referred to a case in the hope that it might prevent others falling into the error he had committed. A man, suffering from difficulty in breathing, had a large cyst on the laryngeal surface of the epiglottis; it was so large that it prevented a view of the glottis. In colour it was a very pale blue and semi-translucent, and minute blood-vessels were seen coursing over the surface of it. He cocaineised it and proceeded to remove it by the direct method, when there was a gush of thin yellow fluid, and the cyst collapsed. He removed all he could of the cyst-wall, scored the inner wall with the galvano-cautery, and concluded that all would be well. But the cyst recurred in three or four weeks, and

the laryngoscopical view showed that things had reproduced themselves. The man also pointed out a swelling in front of his neck which was painful on pressure. He (Mr. Tilley) then opened from the outside, and let out a large quantity of pus. No doubt the laryngeal operation had infected a large cyst. As the cyst continued to secrete in spite of free drainage, by means of a difficult dissection the cyst was excised, and was found to lead into the region of the larynx. The patient eventually made an excellent recovery.

Laryngeal Case for Diagnosis (?) Tuberculous Perichondritis.

—**G. Potts.**—Male, aged forty-five, complains of a husky voice and a lump on the right side of his throat. He was quite healthy up to six years ago, when he had rheumatic pains in his joints. He dates his throat trouble to whooping-cough five years ago. There is no history of syphilis. Two sisters had died from tuberculosis. Twelve months ago he noticed the right side of his throat begin to swell in the region of the thyroid cartilage; for the past three months there has been no change in size. He has had no cough, and is not losing weight; is naturally thin. Chest examination shows signs of a healed cavity in apex of right lung. There is a swelling over the right side of the thyroid cartilage about the size of a pigeon's egg, fairly firm and slightly fluctuating. The upper border of the right ala of thyroid cartilage is ill-defined, but the cricoid and hyoid cartilages can be distinctly felt. An exploratory puncture has been made and $\frac{1}{2}$ oz. of greenish pus withdrawn. On microscopical examination the pus proved to contain no tubercle bacilli, and the culture was sterile. On palpating the thyroid cartilage after the puncture the outline of the right ala could be distinctly felt and there was a feeling of a depression in the cartilage. Laryngoscopic examination: the whole of the right and the posterior half of the left vocal cords are obscured by a swelling bulging into the ventricles. The arytenoids are red and swollen, as is the ary-epiglottic fold. There is no ulceration. Wassermann reaction proved negative. No tubercle bacilli could be found in the sputum.

Dr. DUNDAS GRANT said it was probably a case of tuberculosis of the thyroid cartilage, producing perichondritis in the first place, and then breaking down.

Mr. BARWELL agreed; he considered the case to be one of tuberculous laryngitis with perichondritis of the thyroid cartilage.

Vertical and Horizontal Gripping Forceps for use in various Tonsil Operations.—**James Donelan.**—These are a modification and, it is hoped, an improvement on those shown by exhibitor last session. They will be found useful, especially where deeply embedded tonsils have to be dissected out from between the pillars. The tonsil can be seized either vertically or horizontally as may offer the better hold. The spring then locks the forceps, and the tonsil is freed from its bed to the desired extent or is dissected completely out. If preferred, a snare or guillotine can be passed over the proximal end of the forceps on to the loosened tonsil and the operation completed in this manner.

A Combined Septal Resector, comprising Knife with Straight and Curved Instruments for raising the Muco-perichondrium.—**James Donelan.**—This instrument consists really of a blunt- and sharp-edged tenotomy knife on a longer handle than usual. This form was used originally by exhibitor for resections of the cartilaginous portions of the septum by flap operation, and has been constantly used since in

cases where only that part of the septum is deformed and in which it did not appear desirable to perform the operation by Ballenger's method. In late years he has added a Freer's curved, blunt spatula at the other end. The chief advantage claimed for the contrivance is that no time is lost changing instruments. This is a great gain, especially in cases in which from any cause the ischæmia is imperfect, and the operation can often be completed after swabbing without laying down the instrument. When the muco-perichondrium has been freed from both sides of "the bulge" by means of the blunt parts of the instrument, the bulge can then be quickly cut out by a process of transfixion and without the aid of angular knives.

Polycythæmia Rubra with Chronic Rhinitis.—E. A. Peters.—A coachman, aged fifty-eight, had suffered for four years with shortness of breath and high colour. Four years ago he was laid up three months with an attack of bronchitis. Two blood-counts gave 10,320,000 and 13,000,000 red blood-cells. There is marked emphysema present. The nasal mucosa is dark red and swollen; it causes considerable obstruction to breathing. He has been treated with pot. iodid., sod. sulphat., and vaso-dilators. Local nasal treatment gave little relief, so an anterior turbinotomy was carried out on the left side after giving 20 c.c. of normal horse-serum by mouth for five days. Vaseline gauze was packed in the nostril and retained for twenty-four hours, when it was removed and followed by oozing, which necessitated replugging two days later. At no time was the hæmorrhage alarming, though excessive. The treatment was undertaken to relieve the patient, as he was suffering from obstruction of the nose, and, although there was fear of hæmorrhage, it was thought that slight puncture might help in a measure. He gave the horse-serum by the mouth, as it was found to be an excellent way of preventing hæmorrhage. He thought it would be advisable to operate on the other side.

Dr. F. DE HAVILLAND HALL said the bleeding would very likely, in itself, benefit the patient a good deal. Some of these cases of polycythæmia had been benefited by the withdrawal of 8 to 10 oz. of blood, repeated every two or three months.

Infiltration of both Vocal Cords; Deflected Septum.—E. A. Peters.—A bandsman, aged twenty-three, lost his voice in January; at the same time fell away in weight, but no sputum was observed. The voice has recovered from time to time. There is no history of syphilis or evidence of tuberculosis. Both cords are infiltrated superficially and present a mottled, rugose surface.

Dr. JOBSON HORNE noted that there was defective nasal breath-way. That he regarded as a factor in the laryngeal condition and considered that it should be remedied, more particularly as he understood that the bandsman played a wind instrument.

Sir STCLAIR THOMSON said he wondered whether the question of tuberculosis had been entertained. Both cords were superficially ulcerated, and there was a very mouse-nibbled appearance on both sides. Even if no constitutional affection could be traced, he would still be suspicious of it being tubercle, in an early stage.

Dr. PETERS replied that it was an interesting problem as to whether the condition was tuberculous, or a case of the very rare hypertrophic laryngitis.

Swelling on the Left Vocal Cord for Diagnosis.—H. D. Gillies.—A man, aged fifty, has noticed huskiness of the voice since March, 1913.

The patient was singing extra loud at a choir practice, and two days later, on reading in the church his voice gave out, and he was unable to continue. Since then there have been various degrees of loss of voice. General health good. Patient has suffered from nasal and post-nasal catarrh. There is deflection of the nasal septum. No sputum can be obtained. Wassermann reaction is negative. A grey swelling on the left vocal cord is surrounded by an area of inflammation. At the anterior end are two reddish nodules. There seems to be a patch of inflammation below the left vocal cord. The movements of the cords are free.

Dr. JOBSON HORNE said it was an unusual case and one about which it was not easy to express a very positive opinion. By a process of elimination, however, it was possible to arrive at a diagnosis. Tuberculosis and syphilis might be excluded. That reduced the diagnosis to an innocent or a malignant growth of the left vocal cord. The growth was situated in the part of the cord where an epithelioma would develop. Moreover, the movement of the left cord was not so free as that of the right cord.

Sir FELIX SEMON agreed with Dr. Jobson Horne. He had shown an illustration of a case exactly like the present one on the epidiascope before the International Congress at Budapest. The patient was a man, aged about fifty, who had a semi-transparent globular swelling on his left vocal cord, with a slightly granular surface. It remained perfectly stationary for eighteen months, during which he examined the patient at intervals. Then all at once its nature seemed to change, it became malignant, and thyrotomy was performed. In the present case, as Dr. Jobson Horne had said, the movement of the left cord was defective, and this, of course, did not augur well. Still, there was a distinct history of the hoarseness having suddenly arisen after a big vocal effort, and it was certainly possible that the internal thyro-arytænoid muscle might have been injured, which also would explain the curious appearance of the left vocal cord. He hoped the case would be shown again later.

Dr. HARRISON had seen a case similar to this eighteen months ago, and on removal the specimen was definitely epitheliomatous.

Epithelioma of the Soft Palate; Operations.—Norman Pater-son.—Male, aged sixty-five. About the beginning of May, 1913, he first noticed some difficulty in swallowing and pain in the throat. On examination of the throat a growth was seen involving the uvula and free margin of the soft palate on the right side. There were no enlarged glands. Treatment was carried out in three stages, and consisted of an extensive dissection of both sides of the neck and free removal of the primary growth. An interesting point about the case was the absence, on the right side, of the internal jugular vein. It was represented by two insignificant vessels with numerous cross connections. The jugular on the left side was abnormally large. Since leaving hospital in August the patient has had X rays applied at frequent intervals as a prophylactic measure.

Tooth-plates and Meat-bones removed from the Œsophagus.—Thomas Guthrie.—These were shown in order to illustrate the ease with which a vulcanite tooth-plate is detected by a good skiagram and the much greater difficulty of demonstrating the presence of a meat-bone by this means. The exhibitor had been informed that a vulcanite tooth-plate in the œsophagus could always be discovered by an adequate X ray examination. That foreign bodies of this nature were not infrequently

missed was due to a faulty technique on the part of the radiographer. One of the tooth-plates shown, which the skiagram demonstrated with clearness, had been overlooked in another hospital, and in another case the tooth-plate was only visible on screen examination, when a diaphragm was employed so that a small part only of the chest was examined at one time. Meat-bones, on the other hand, were much less opaque to the X rays, and two fairly large pieces which the exhibitor had removed from the oesophagus manifested their presence only by the arrest of a small quantity of a bismuth meal.

Trauma from Adenoid Operation.—H. L. Whale.—The patient stated that her adenoids were removed two years ago. She now had a trellis-work of adhesions between the Eustachian tube and the pharyngeal roof, probably the result of lateralising the curette.

Dr. PETERS said he would like to join issue with Mr. Whale as to the condition being due to lateralising the curette. He believed it was caused by the finger-nail being used to stir up the fossa of Rosenmüller. The best way to deal with these adenoids, which were mostly on the anterior wall, was by means of Meyer's ring knife. If that had been used in this present case he did not think the condition now seen would have been present.

Mr. NORMAN PATTERSON said the condition was very common.

The PRESIDENT did not think the condition was due to lateralising the curette, because with the old Hartmann's curette, which most men began with, the condition was but seldom seen.

Sir STCLAIR THOMSON said there was no trace left of adenoids. In the days of the old Society there were repeated discussions as to conditions found in Rosenmüller's fossa, and he did not agree that it was necessarily due to lateralising the curette. These bands did not cause symptoms, and the suggestion of some members to put such patients under chloroform and break down these adhesions because there was some middle-ear catarrh was not justified by results.

Dr. DUNDAS GRANT said there were shown in the Laryngological Society several cases in which there had been no operation in the nasopharynx at all, and in which such bands were present. It was probably in the natural involution of the adenoid tissue that, in favourable circumstances, the stringed form was seen.

Aphonia ; (?) Congenital Syphilitic Laryngitis.—W. H. Jewell.—Boy, aged fourteen; loss of voice said to have begun five years ago, following scarlet fever. Boy speaks with forced whisper. The ventricular bands are infiltrated, obscuring the anterior halves of the cords. Arytænoids also swollen. The glottis is unclosed on phonation. There is no evidence of tuberculosis. Wassermann reaction positive.

The PRESIDENT said the patient had some nasal trouble and there was a good deal of laryngitis, and some crusts were present, and he would like to know if the patient had congenital syphilis.

Mr. E. D. DAVIS asked whether tuberculosis was likely. The condition of the ventricular bands, the general appearance of the larynx, and the presence of sputum on the posterior commissure were suggestive of tuberculosis.

Sir STCLAIR THOMSON did not think an opinion could be given until the nose had been treated. It was common to see cases like this which were simply hypertrophic laryngitis infected from the nose or post-nasal space.

Dr. JEWELL replied that his idea of congenital syphilis was strengthened by the rapid improvement under iodide and mercury. The voice also had improved.

(?) Tuberculous Ulceration of Pharynx.—F. W. Bennett.—W. H.—, tram-conductor, aged twenty-seven. Ulceration in right pharynx. Four months ago, hæmatemesis (?). For several weeks, and especially during the last three, has had severe pain on swallowing. No chest trouble detected. Von Pirquet's reaction negative. No history of syphilis. Wassermann's test not yet made.

[*Note.*—Shortly after the meeting general pulmonary tuberculous inflammation supervened, causing death in about three weeks.]

Sir STCLAIR THOMSON said the case was of much interest, and required to be gone carefully into. Still, he thought the diagnosis might be reduced down to either syphilitic disease or pemphigus. No pemphigus was found anywhere else, but it was difficult to find the bleb of pemphigus actually out. Even in some fatal cases the bleb had not been seen. He suggested that scrapings should be taken and investigated from the point of view of tubercle or pemphigus.

Dr. DUNDAS GRANT said there was an appearance like that seen in the later stages of tuberculosis, in a more diffuse form. But the intense pain, and the miliary appearance, in spite of the fact that there was leucoplakia on the tongue, made one favour a diagnosis of tuberculosis. Investigations of scrapings were necessary.

Mr. HERBERT TILLEY thought it was tuberculous, because the epiglottis was œdematous and turban-shaped, and the lesion in the throat was very painful.

Extensive Pharyngeal Growth.—Herbert Tilley.—The patient was a woman with an enormous growth occupying the whole left side of the mouth and pharynx. It had existed for sixteen years, and was almost certainly not malignant. Mr. Tilley suggested puncturing it to find if it contained fluid. If not, radium might be tried.

Mr. T. B. LAYTON said the lump in the parotid region was part of the tumour. There was a swelling beneath the angle of the jaw continuous with the mass in the mouth; from this a process came round the posterior margin of the jaw which was continuous with the parotid mass. He thought it was a cyst arising in the pharyngeal wall, which bulged the palate down, and that it contained fluid.

Carcinoma of the Pharyngo-Laryngeal Party Wall.—C. I. Graham.—The case was shown in May, 1910. Operation: Total laryngectomy, May, 1910. Shown again at the meeting of the Section in February, 1911. Recurrence noticed October, 1913.

Sir STCLAIR THOMSON said that this having returned after a period of three years showed that extrinsic cancers did not follow the rule laid down by Sir Felix Semon for intrinsic growths. He had found that an intrinsic cancer which did not recur within a year did not come back at all. He advocated radium in this case.

Chronic Laryngitis in an Unusual Form.—Andrew Wylie.—The patient, a man, aged forty, by occupation a commercial traveller, a year ago contracted a cold, since when he has been hoarse, becoming gradually worse. Otherwise the patient is healthy. There is no loss of weight, no cough, no spit; nothing abnormal is detected in the lungs. Wassermann test is negative. Family history good. There is a redness of both vocal cords, swelling of the right ventricular band, and, at the

posterior end of the right vocal cord, extending into the inter-arytænoid space, a considerable number of little papillary elevations. Slight swelling of the arytænoid cartilages. The exhibitor intends to apply the galvanic cautery to the small papillæ, but shows the case in order to discuss this treatment.

Dr. DUNDAS GRANT said there were curious warty growths in the inter-arytænoid space. He had only seen an identical appearance in a tuberculous subject, who also had had syphilis—a comparatively young man.

Sir STCLAIR THOMSON suggested further research from the point of view of tuberculosis. There were not only papillary growths, but a breach of surface in the favourite areas for tubercle. When the patient was made to phonate, infiltration was seen in the arytænoid regions, and then one saw there was asymmetry, showing it was not physiological thickening, but probably a tubercular process.

Mr. WYLIE replied that he would endeavour to obtain some scrapings from the larynx, and investigate further with the view that it might be tuberculosis. Some of the members thought the case might be malignant.

Fungating Tumour of Tonsil.—Harold Barwell.—Boy, aged sixteen. Vaccination three weeks ago, followed by septic arm, fading, purplish eruption on left leg; vaccination marks unhealthy. Sore throat five days ago, no soreness or fever now. Right tonsil converted into large fungating mass with everted edge and very hard base. No enlargement of cervical glands.

Dr. PETERS said he had seen a similar condition, though not so marked, when everted follicles had become septic.

The PRESIDENT said if there had been a rapid history one would suggest sarcoma, especially as it was very firm, and did not look like an inflammatory condition.

Mr. BARWELL replied that the base of the lesion on the tonsil was hard, and it felt and looked like epithelioma. He would report later on the case.

PROCEEDINGS OF THE SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

Meeting at the Royal Infirmary, Edinburgh, November 22, 1913.

MR. J. D. LITHGOW *in the Chair.*

Reported by DR. W. S. SYME.

(Continued from p. 99.)

Epidiascopic Demonstration of the Pathological Anatomy of some Cases of Ear Disease, with Short Histories of the Cases.—J. S. Fraser.—(a) *Otitis vasculosa or otosclerosis* (?) affecting the labyrinth capsule. The case was one in which chronic suppurative otitis media was combined with cholesteatoma. Death occurred from temporo-sphenoidal abscess.

(b) *Acute Suppurative Otitis Media with Labyrinth Fistula*.—Male, aged twenty-eight, miner, suffered from coryza and earache in March, 1911; two weeks later discharge from left ear, with diminution of pain; discharge has continued. *Examination* (April 22, 1911).—Left meatus; pus and bulging of posterior part of membrane; no tenderness of mastoid. Patient did not report again till July 1, 1911, when he stated that discharge almost ceased and pain disappeared shortly after previous visit. On June 24, however, he had an attack of giddiness, with apparent rotation of external objects; patient could not stand on account of giddiness. June 27: Increased giddiness; loss of sleep; increase in discharge from left ear. July 1: Patient seen and admitted. Severe frontal headache; pain behind left ear; loss of balance; vomiting; temperature, 102° F.; pulse, 60; marked nystagmus to right (sound side); no nystagmus to left. Patient too ill for functional examination; rigidity of neck; Kernig present; fundus normal; no ocular paralysis; mental condition good. *Operation* (July 1).—Radical mastoid. Process diploëtic; pus in antrum (pneumococcus?); labyrinth-wall not perforated; erosion of external canal; cerebro-spinal fluid under tension and turbid, but sterile on examination. July 2: Headache less severe; no vomiting; temperature, 101.6°; pulse, 56; nystagmus as before; Kernig present; rigidity of neck; knee-jerks absent. July 3: Second lumbar puncture; fluid gave growth of a streptococcus. July 5: Patient restless; temperature, 102.7°; heroin given. Third lumbar puncture; many streptococci. July 6: Epileptiform fit; in spite of sedatives patient could not be controlled. July 7: Continuation of fits; death. *Post-mortem*.—Tuberculosis of right apex; purulent leptomeningitis at base; brain-tissue softened. *Ear*.—Fistula of external canal and acute purulent labyrinthitis.

(c) *Chronic Suppurative Otitis Media, Cholesteatoma, Labyrinthitis*.—Female, aged six; had discharge from left ear since measles at three. From December 25, 1911, to January 7, 1912, child was in bed with pain in left ear, vomiting, dizziness, and headache. From January 8 to 13, 1912, child was apparently cheerful. *Examination* (January 13, 1912).—Right membrane shows cicatrix; the left meatus shows pus and granulations; no mastoid tenderness; tonsils and adenoids enlarged. January 15: Adenoids and tonsils removed, and granulations in the right ear curetted. January 17: Vomiting; temperature, 103.2° F.; pulse, 160; patient cyanosed. January 18: Vomiting continues; giddiness; no mastoid tenderness; tongue is dry and breath foul; Kernig's sign slight; slight rotatory and horizontal nystagmus to right (sound side); left ear quite deaf. The movements of the head are free; cerebro-spinal fluid clear, but under pressure; films show Gram-negative bacilli and Gram-positive streptococci in cerebro-spinal fluid. January 19: Temperature, 96°; no headache, but pain in abdomen; child is drowsy, with occasional restless attacks; diarrhoea. Digitalis and strychnine given with stimulants; paralysis of left eye; coma; death at 6 p.m. *Post-mortem*.—Cloudy swelling of liver, kidneys, etc. Enteritis; petechial hæmorrhages in lungs. *Ear*.—Labyrinthitis and peri-labyrinthitis; cholesteatoma in middle ear.

(d) *Chronic Suppurative Otitis Media, Cholesteatoma, Labyrinthitis, and Cerebellar Abscess*.—Male, aged seventeen, admitted September 5, 1911. History of discharge from right ear since measles in childhood. On September 2 discharge suddenly ceased, and pain in right ear commenced. September 3: Swelling behind ear, and sudden attack of giddiness. *Examination* (September 6): Right ear displaced; tempera-

ture, 100.4° F.; pulse, 100; sagging of posterior wall of meatus; no functional examination. September 7: Radical mastoid operation; subperiosteal abscess opened. October 11: Patient discharged. October 28: Patient readmitted. Face pale; temperature 96° F.; pulse, 68. *Examination*: Tongue protruded only after several requests in a loud voice; questions not answered; pupils equal and dilated; do not react to light; patient occasionally draws up legs and turns on right side; breathing almost stertorous; no photophobia; deep reflexes present; water passed in bed; right meatus full of pus. One hour after admission patient suddenly became flushed and perspired profusely; pupils became contracted; respiration gradually stopped; the pulse was 140, but fairly strong. Artificial respiration carried out, but pulse rapidly became feeble, and, in spite of stimulants, patient died at 11.40 a.m. *Post-mortem*: 1 p.m. on the same day; abscess in right lobe of cerebellum. *Ear*: Labyrinthitis and peri-labyrinthitis.

(e) *Results of Chronic Middle-ear Suppuration* (chronic adhesive process): D. M. C.—; no history obtained, and no functional examination. The left tympanic membrane (*post-mortem*) showed a large retracted kidney-shaped scar adherent to the inner wall of the tympanum. *Ear*: Adhesive processes in middle ear.

(f) *Chronic Adhesive Process in Middle Ear*.—Female, aged thirteen, suffered from chronic suppurative otitis media in infancy; left ear still discharging; right tympanic membrane shows a retracted scar in the posterior half adherent to the long process of the incus, and a chalk patch in the anterior part. Functional examination showed middle-ear deafness on the right side. *Right middle ear*: Adhesive processes.

(g) *Tubercular Disease of Middle and Inner Ear*.—Male, aged nine months (breast-fed). Nasal catarrh and obstruction since birth; quiet onset of discharge from left ear ten weeks before admission; swelling behind left ear for eight weeks; Wilde's incision by child's doctor before admission. *Examination*.—Marked adenoids; large perforation left membrane; right ear also discharging; no sign of pulmonary tuberculosis. Removal of adenoids; child continues to vomit after meals. *Radical mastoid operation*.—Much granulation-tissue present. After operation child continued to vomit, and head-retraction developed; meningitic cry; internal strabismus (left eye); no optic neuritis or tubercle of choroid. Cerebro-spinal fluid shows increase in mononuclear cells. *Death. Post-mortem*.—Tubercular meningitis and general tuberculosis. *Left middle and inner ear*.—Tubercular disease.

(h) *Tubercular Disease of Middle and Inner Ear*.—Male, aged nine months (a twin); had epileptic fits at age of six weeks; two weeks later right ear began to discharge; fits continued. At three months right ear operated on at another hospital, but discharge has continued. *Examination* (August 3, 1910).—Child much wasted; mouth shows thrush; frequent vomiting; profuse nasal discharge (*Staphylococcus aureus*, diphtheroid bacilli and diplococci). Child's head sweats profusely, and is markedly retracted; photophobia present; periotic glands enlarged; fistula behind right ear; facial paralysis on right side. *Operation* (August 4).—Large flat sequestrum removed from roof of middle ear, exposing dura with granulations on it. Sequestrum also removed from floor of middle ear and from inner wall, opening up canals, vestibule, and cochlea. August 5 to 16: Progressive emaciation and glandular enlargement; wound cavity very dirty, and shows few granulations. *Death* took place on the 17th. *Post-mortem*.—Membranes of brain injected; increase of cerebro-spinal fluid; tubercular nodule in right

anterior corpus quadrigeminum and another in occipital region. *Right middle and inner ear.*—Results of tubercular disease.

(i) *Tumour involving Auditory Nerve.*—Female, aged twenty-five; was mentally dull and bed-ridden for many months before death; face very expressionless; patient was blind, and had double optic neuritis. Death from coma. *Post-mortem.*—The outer or cranial surface of the dura, over almost its entire extent, was covered with small pedunculated tumours about the size of canary seed. On removal of the dura the inner surface of the cranial bones appeared as if deeply marked by smallpox. In the region of the right internal auditory meatus and cerebello-pontine angle there was a tumour mass about the size of a walnut which pressed the pons, medulla, and cerebellum towards the left side. Right ear demonstrated.

(j) *Cerebello-pontine Angle Tumour.*—Female, aged seventy-five. Complained of giddiness and deafness of five years' duration, also of noises in left ear. Patient could not walk without assistance; almost complete deafness; well-marked arteriosclerosis. *Functional examination.*—C32 and C64 not heard by either ear. C128-C1024 heard faintly by right ear but not by left. C2048 not heard by either ear. Schwabach shortened markedly. Galton whistle not heard. During her stay in hospital giddiness improved for a time, but got worse again. One year later headache developed and deafness became complete. Before death right arm, leg, and face became paralysed. *Post-mortem.*—Tumour of eighth nerve on right side eroding internal meatus. (Subsequent microscopic examination of left ear showed spontaneous cure of labyrinthitis, but this was not demonstrated). Right ear and tumour demonstrated.

(To be continued.)

Abstracts.

PHARYNX.

Capps, Joseph A. (Chicago).—Epidemic Streptococcus Sore Throat. "Journ. Amer. Med. Assoc.," September 16, 1913.

A review of the three epidemics in Boston, Baltimore, and Chicago, in which over 12,000 people were affected. In all three cities a peculiar type of hæmolytic capsulated streptococcus was secured from the throat cultures, or the peritoneal exudate of fatal cases, and the infection was traced definitely to a single milk supply. The source of the milk contamination was: (1) Streptococcus in the mixed milk at the collecting plant or farm; (2) mastitis in cows, from whose udders streptococcus is directly obtained; (3) streptococcus sore throat in the milkers; or (4) streptococcus sore throat in other employees who handle the milk. Pasteurisation is strongly advised as the most radical and simplest way of ending the malady.

Birkett (Rogers).

Levinstein, Oswald (Berlin).—A Contribution to the Pathology of Diseases of the Mucous Membrane of the Mouth and Pharynx. "Zeitschr. f. Laryngol.," Bd. vi, Heft 2.

The writer records a case of stomato-pharyngitis ulcerosa disseminata (Frese). The patient was a male, aged thirty-six, who had suffered from attacks of ulceration of the mouth for five years. The ulceration was