In both these cases the question of some inflammatory middle-ear lesion requiring operative treatment arose and was the chief reason for the consultation. This aspect of differential diagnosis was amply elaborated in the discussion of the Otological Section and the editorial above referred to, and does not here need repetition. One point, however, was apparently omitted which may deserve notice, that is the absence of middle-ear tenderness and pain on compression and aspiration. In each instance most of the typical signs of acute inflammatory otitis media were present, including in one case the appearance of the fundus, but the fact that here the membrane was freely mobile and movement was painless at once suggested a lesion limited to the drumhead and not involving the drum cavity.

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

February 5, 1915.

Dr. WILLIAM HILL, *President of the Section, in the Chair.*

The After-treatment of Submucous Resection of the Nasal Septum without the Use of Splints.—Sir William Milligan.—Sir WILLIAM MILLIGAN said that at the last meeting of the Section Dr. Dan McKenzie showed new splints for the after-treatment of cases in which a submucous resection of the nasal septum had been performed, but he considered that if these cases could be treated without a splint at all it would be a considerable advantage. The comfort to the patient was undoubtedly greater, and continuous drainage from the nose was better ensured. For some time he had not used any splints. After the requisite bone and cartilage had been removed he use Whitehead's varnish,[1] a varnish used by Mr. Walter Whitehead after his operation for removing the tongue, painting it on the two perichondrial surfaces, and then bringing those surfaces together. It caused the muco-perichondrial surfaces to adhere. Though he had used this method for a considerable time, he had not seen a hæmatoma ensue in any case, and patients expressed their appreciation of being able to breathe through the nose immediately after the operation. The opinion of the nurses was that recovery was more rapid under this plan than when splints were employed.

Dr. WATSON-WILLIAMS said that when, as often happened, there were complicated conditions present, *e. g.* more or less active sinus trouble, packing of the nose was a cause of considerable anxiety; sometimes one did not know whether to deal with the septum or the sinus first. Again,

[1] Gum benzoin, 4 dr.; styrax, 3 dr.; socotrine aloes, 40 gr.; balsam of Tolu, 1 dr.; iodoform, 4 dr.; pure ether, 5 oz.

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the sinus might be difficult to pack and operate on through the nose when the septum was much deflected. Hence dispensing with packing became a most useful procedure.

Dr. DUNDAS GRANT said this varnish seemed to be the one thing wanted for the prevention of the formation of hæmatoma without plugging. He had in some cases passed stitches from one side to the other, and this had acted very well. Another plan which answered well was to make a perforation far back on the side opposite to that of the original incision, to allow of the escape of blood. It was in the cases in which the technique seemed most successful that hæmatoma seemed most likely to form. He remembered having tried some ingenious clamps devised by Brünings, but his own patients could not tolerate them, and they were given up.

Dr. DAN MCKENZIE asked whether, in the cases in which an artery was cut low down in the nasal crest, the varnish sufficed to control the hæmorrhage. The packing was used to prevent a hæmatoma after the effect of the adrenalin had worn off.

Sir STCLAIR THOMSON said that dispensing with plugging was suggested in America some eighteen months ago, and urged in the *Laryngoscope* and other journals. He had never put in plugs when there were sinus complications, and the septum did very well. For some five years now his practice had been to do a resection of the septum, and then put the septum practically entirely back again, removing only any redundant pieces. He made a kind of mosaic of the portions and put them back, packing them between the two flaps. To keep them in position for the first twenty-four hours he put in small rubber sponge plugs, and there was seldom any complaint.

Mr. HERBERT TILLEY said he had not tried the varnish in such cases, but it was very useful as a styptic antiseptic in operations on the larynx for the removal of malignant disease, in order to stop bleeding in the deep posterior part of the removed cord. The evil of the splint was the discomfort to the patient during the first twenty-four hours. For the last six months he had been using an oval drainage-tube, through which the patient could breathe. It was anchored in position by a piece of plaster on the cheek.

Mr. HOPE said he had never used an ordinary hard splint for these cases, but employed iodoform gauze soaked in vaseline, and he did not find patients complained of it. He had also used a small piece of rubber tubing on the floor of the nose, and packing on the top of it; but some patients complained of that.

Sir WILLIAM MILLIGAN replied that patients complained of discomfort even when he used the simplest of splints, *i. e.* a rubber finger-stall lightly filled with gauze and smeared over with vaseline. In answer to Dr. McKenzie, if the naso-palatine artery bled freely, it was best to needle it with a Krause's hook, and then on painting it over with the varnish the bleeding stopped. He was not aware the method had been used in America; he did not believe it had been employed in this country. He had not performed the operation described by Sir StClair Thomson; when he took the cartilage away he was glad to get rid of it. He found that an excellent septum formed from the fibro-cartilaginous structures.

Chronic Lymphangitis of the Tissues covering the Nose.—Sir William Milligan.—The patient was a woman, aged thirty, of healthy history, but at the age of eighteen she had a very bad nasal catarrh,

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which disappeared after lasting some months. Three years ago she began to complain of her nose becoming enlarged. The interior of the nose did not seem to depart much from the normal, nor did the pharynx or naso-pharynx. He suggested it was a chronic lymphangitis. If any reasonable treatment could be suggested he would take her into hospital and carry it out.

Dr. WATSON-WILLIAMS asked whether sinus affection had been excluded. In the last edition of his text-book he illustrated two cases of somewhat similar lymphangitis of the nose, in one of which the lip was involved; and in both he found latent sinus trouble. There might not be discharge or gross evidence of that, but careful washing out of the antra and culturing the discharge might give a clue. He did not think the sphenoidal sinus was likely to be at fault. The chronic condition was more likely to cause trouble than the more acute and manifest conditions, in which many polymorphs were poured out.

Mr. STUART-LOW said that some years ago he had a similar case (a young lady) under treatment. There was considerable improvement in the external appearance of the nose after repeated scarification of the interior of the nasal passages; this caused very free bleeding at the time and resulted in great diminution of the swelling and of the redness of the nose.

Dr. SYME did not think this condition was chronic œdema such as was met with in disease of the sinuses. From the photograph he would judge it was a case of simple lymphangitis. He had seen the auricle in the same condition. More harm than good was likely to follow interference.

Dr. DUNDAS GRANT asked whether anything in the way of elastic compression could be devised. Such compression had been found of benefit in elephantiasis or lymphangitis of the leg when Martin's india-rubber bandages came into vogue.

Mr. HERBERT TILLEY suggested that before attempting any operation an attempt should be made to obtain a culture from the blood; that might give an indication as to the possible source of the trouble, and an autogenous vaccine might be made. After the South African war he had a case involving eyelids and forehead; the sinuses were opened by another surgeon and nothing abnormal found. Eventually, an anti-streptococcic serum did most good, an attenuated form of that micro-organism having been discovered in the exudations of the swollen areas.

Dr. BROECKAERT (Ghent) said it would be well, in this case, to take out a wedge and make use of flaps. He considered that the scars would not be very disfiguring afterwards.

Sir WILLIAM MILLIGAN replied that he transilluminated the patient, but did not make a puncture. He would have a skiagram of the frontal sinuses taken. He had thought of taking a culture, but had not yet done so; but he proposed to adopt this suggestion at once. He did not think the case sufficiently severe to justify the carrying out of Dr. Broeckaert's suggestion. The doctor who sent the case said that diathermy had been tried. He was grateful for the various hints, and he was inclined to try Mr. Tilley's suggestion first.

A Nasopharyngeal Fibroma enucleated by a Curved Dissector and the Finger.—E. D. Davis.—A boy, aged fourteen, was sent to hospital on July 20th, 1914, for the removal of an adenoid growth. Six years before a tonsil and adenoid operation had been performed at a throat hospital. The patient was suffering from nasal obstruction, with

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slight deafness, but there was neither epistaxis nor pain. The post-nasal mirror showed a large, globular, smooth swelling, filling the nasopharynx, and attached to the body of the sphenoid. The tumour could be seen from the right anterior nares, and almost completely obstructed the corresponding choana. It was elastic, firmly attached, and had caused absorption of the posterior edge of the vomer and hard palate. He was examined under an anæsthetic, and the growth was considered to be a sarcoma. A hundred milligramme radium emanation tube was inserted into the tumour through the right anterior nares, with no result. A section of a piece of the growth was found to be a fibroma. In August, 1914, the tumour was completely enucleated with a strong dissector and the finger without splitting the palate. The operation was considerably facilitated by the administration of intra-tracheal ether.

Mr. HERBERT TILLEY asked whether "enucleated" was the right term to use. If the tumour was enucleated, he would like to hear what had been done with the capsule. He believed these growths gradually grew from a broad fibrous base.

Dr. FITZGERALD POWELL supported Mr. Tilley's remarks. Considerable force was required to remove these fibromata with a raspatory, as they were usually firmly attached to the base of the skull and extensive in their attachment. Of course, such methods were only suitable for small growths, and would be quite useless in the larger fibromata, which were fixed to the basi-sphenoid, pterygoid plate, etc.

Dr. DUNDAS GRANT for these cases used a periosteal elevator, passing it down through the nose, and guiding it with his finger to the under surface of the sphenoid, and possibly to the adjoining pterygoid plate. He used considerable force, so as to detach the periosteum with the tumour. In his cases the attachment had been very widespread. The cases where the growth arose from the antrum should, of course, be differentiated from these. He believed these fibromata grew from the periosteum, and he asked whether Mr. Davis passed the elevator through the nose or behind the soft palate. Doyen devised an instrument for working behind the soft palate, but he (the speaker) had found it better to work through the nose.

Dr. D. R. PATERSON said he had several cases of the kind, which he operated upon in the way Dr. Dundas Grant had just described. The growth was seized by a vulsellum from below and traction made by an assistant. A long, narrow, periosteum elevator was then passed, first through one nostril, then through the other, towards the nasopharynx, one or two fingers of the left hand being pushed behind the soft palate to the same spot. The seat of the attachment was in this way dealt with, and the growth detached and pulled away. There was very little hæmorrhage, and the result in each case was most satisfactory.

Sir WILLIAM MILLIGAN said the case recalled to his mind that of a boy upon whom he had operated fifteen years ago by means of a long carpenter's chisel, $\frac{1}{4}$ in. broad, using it as an elevator passed through the nose. The growth was levered out; there was no capsule. Using the finger in the nasopharynx as a guide, he regarded it as an excellent method, and he had done it several times since.

The PRESIDENT said the method employed must depend upon whether the growth was loose or was firmly attached over a wide area.

Mr. E. D. DAVIS replied that he first struggled with the growth by attacking it through the nose with snares and a small dissector. Then he tried lifting the soft palate with a retractor, which gave him a good view of the tumour. He used Doyen's raspatory, and after reflecting

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the mucous membrane, to his pleasant surprise he found the right layer and the tumour peeled out quite easily with the finger. He used the term "enucleated" metaphorically, and only in the sense in which it was applied to the removal of a prostate. He also attempted to remove it with Sir StClair Thomson's adenoid forceps, and then with a huge naso-pharyngeal forceps, but could not make any impression on it. Intra-tracheal ether was a most useful anæsthetic and greatly facilitated the operation. At the conclusion of the operation the bleeding was so slight that he did not plug the nasopharynx, but this had to be done four hours later.

Post-mortem Specimen of a Pituitary Cyst opened by the Killian-Hirsch Operation.—E. D. Davis.—A man, aged thirty-seven, was sent for operation to relieve progressive blindness. In April, 1914, the patient was seen by Mr. Treacher Collins, who detected optic atrophy and signs of hypopituitarism. A skiagram revealed a large sella turcica with absorption of the dorsum sellæ. July 26: The Killian-Hirsch operation was satisfactorily performed, but the hæmorrhage on incision of the dura was profuse. On the next day hemiplegia developed, with loss of speech, paralysis of the right face, right arm and leg. July 30: The sight improved and the patient could read a newspaper. August 12: Severe occipital headache and restlessness occurred. Temperature, 103° F. Two days later the temperature was normal and remained about the normal for nine days, and then a similar attack of pain, restlessness, with high temperature occurred. September 11: About seven weeks after the operation, the patient died with symptoms of meningitis, but the paralysis of the leg had practically disappeared.

A *post-mortem* examination revealed a cherry-red cyst projecting between the optic nerves into the anterior fossa of the skull, with the tail end of the cyst lying immediately over the opening made by the operation on the floor of the sella turcica. There was considerable absorption of the dorsum sellæ and basal meningitis.

The cyst, with microscopy, perimeter, and temperature charts and skiagram, are shown.

Sarcoma of the Pituitary Body treated by the Killian-Hirsch Operation.—E. D. Davis.—A commercial traveller, aged twenty-three, complained of right frontal and temporal headache, at first spasmodic, and then continuous, of two years' duration. July, 1912: The eyes were examined at an ophthalmic hospital and found to be normal. At a later date, an adenoid operation was performed for nasal discharge at a throat hospital. February, 1913: Retro-bulbar neuritis was diagnosed. The right eye was affected first, then the left. The neuritis was considered to be caused by sinus suppuration, and a nasal operation was performed, when apparently the left middle turbinal was removed, but no relief from the headache or nasal discharge was effected. February, 1914: Sent home from Ceylon for frontal sinus operation, as headache was now continuous and worse. June, 1914: Central optic atrophy and posterior synechia were detected, and the patient was sent for an examination of the nose. The nose and nasal sinuses were normal, with the exception of absence of the left middle turbinal, and the drying of mucus in that position. Acromegaly was then diagnosed by the large hands, feet, lips, and jaw, and by his general appearance. He was almost distracted by continuous headache. Pulse, 80. Temperature, 97° to 98·4° F. X-ray photographs of the large sella turcica, etc., taken before

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and after operation, are shown. Skeletal changes with ununited epiphyses were marked. Wassermann reaction negative. Lumbar puncture? Low tension, small lymphocytes in excess. No relief of headache. Urine normal. Sugar, tolerance test not done. Fields of vision: The perimetric charts are shown. June 17: The Killian-Hirsch operation was performed with no relief, and later, increase in the loss of sight of right eye. Pieces of glandular pituitary with proliferating cells were removed. On August 5, Mr. Percy Sargent attacked the growth by raising large parieto-frontal osteoplastic flap, including the removal of the roof of the right orbit. The brain was elevated, and an easy and clear access was obtained to a cherry-like growth projecting between the two optic nerves. Severe hæmorrhage occurred when an attempt was made to remove the tumour. Patient died the same day. A piece of the large cystic growth projected into the sphenoidal sinus through the opening made at the first operation.

Post-mortem Specimens of a Malignant Growth of the Pituitary Body.—E. D. Davis.—A laundress, aged fifty-two was admitted for symmetrical ophthalmoplegia of about eighteen months' duration. A pale, bedridden woman of slow cerebration, and with the appearance of a hypo-pituitary case with slight œdema of the upper eyelids. Complete paralysis of the third, fourth, and sixth cranial nerves on both sides. Pupils equal, of moderate size with no reaction to light or to accommodation. Optic discs and sight normal. Weakness of both legs. Skiagram: Huge sella turcica and opaque sphenoidal sinuses. Nose and ears normal, but aspiration of the right sphenoidal sinus with a Watson-Williams syringe and straight trocar resulted in a syringeful of old and recent blood which suggested a growth. The Killian-Hirsch operation was considered inadvisable. The specimens show a large soft growth of the pituitary body which has eroded the sella turcica and dorsum sellæ. The tumour has extended laterally and compressed the cavernous sinus and nerves, and has also burst through into the nasopharynx. The sphenoidal sinuses are filled with growth. Secondary growths are present in the omentum.

The PRESIDENT said that when he had used the term "Killian-Hirsch operation" Hirsch rather objected, because Killian had never operated for a pituitary lesion. He (the President) used the term to indicate the route taken, as Killian's submucous septal operation was first performed preparatory to opening the sphenoidal sinuses and the anterior wall of the sella. It was thus sufficient to speak of the Hirsch operation in this connection.

Mr. HOWARTH said that members would have been struck by the fact that these cases were usually shown as *post-mortem* specimens. He was, perhaps, fortunate in having operated some two years ago upon a case which was still alive. It was not generally the fault of the surgeon that so many cases were fatal, but was due rather to the fact that the cases were unsuitable for this particular operation. The operation of sellar decompression was a good one if there was a tumour in the sella turcica, below the diaphragma sellæ; but one was often largely dependent for diagnosis on the physician and the ophthalmologist, and sometimes they asked one to operate in cases where the tumour was not in the sella. If the tumour was an interpeduncular one it would be above the diaphragma sellæ, and this operation would not relieve the condition. Still less would it do so if the tumour was a pontine one lying in the dorsum sellæ. If, however, one hit off a case of true pituitary tumour which was

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confined to the sella turcica, the operation was useful. His successful case was one of these. The pathologist who examined the piece of growth that was removed said that it showed a simple hyperplasia of the pituitary body. The patient was much benefited by the operation. He could recall three fatal cases, in two of which the tumours were interpeduncular and one in which it was pontine.

The PRESIDENT had recorded a case[1] which died from hæmorrhage some hours after operation; *post-mortem*, it was found to be an unsuitable case for operation. One of Mr. Davis's cases was that of a cyst in the pituitary fossa and above the diaphragma sellæ, and that kind was often relieved by this form of decompression. Mr. Graham had operated upon a case which did very well for two months, but he had to do a second operation, and post-mortem examination showed it was not a favourable case for obtaining substantial decompression by the nasal route, owing to the amount of intra-cranial growth above the diaphragma sellæ.

Dr. SYME said Mr. Davis's "hard luck case" ought to have recovered, and he suggested that these patients should be kept in the sitting posture after operation, to allow of better drainage than could take place in the recumbent posture.

Mr. DAVIS replied that the cyst case was disappointing, for the cyst proved to be beyond his reach. At that operation one would have liked to have passed the finger into the cranial cavity.

Laryngeal Obstruction following Specific Infection in a Young Man.—W. H. Kelson.—The patient, who is a meat salesman, was sent to the exhibitor owing to his difficulty in breathing. He acquired specific disease in 1904, and was successfully treated for this by Mr. Shillitoe, marrying in 1907, and having three healthy children. His voice, however, which was affected in the early stages of his complaint, has never recovered; and this winter the breathing has been much embarrassed.

On examination, fleshy masses resembling pachydermia were to be seen just below the ventricular band and in the inter-arytænoid space, and the whole larynx was much congested. After cocainisation there was seen to be a good deal of subglottic swelling. After the use of vapour benzoin co. and alkaline lotion the swelling somewhat abated, but as the breathing is still affected the question arises whether any operative measure is desirable, and if so, of what nature.

Dr. ADOLPH BRONNER suggested the use of "606." He had seen a marvellous improvement follow from it in a case in which the tonsil was similarly affected.

Dr. JOBSON HORNE considered the condition might be described as *pachydermia laryngis diffusa*. The condition was rare; a similar case had not been brought before them for a great many years. About twenty years ago, in conjunction with the late Prof. Kanthack, he exhibited before the Laryngological Society of London the larynx from such a case, in which the pachydermatous excrescences were perhaps more diffuse and extensive, reaching to the trachea, and had caused death by suffocation. The description of the case would be found in the *Proceedings of the Laryngological Society of London*, May, 1895, ii, pp. 82–83. The specimen itself was placed in the Museum of St. Bartholomew's Hospital. The case before them was distinct from the cases of tertiary syphilis of the larynx with which they were all familiar, possessing gummatous infiltration and ulceration. Those of them who were practising laryngology before

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., vol. xxix, p. 39.

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the days of salvarsan could call to mind the gratifying results obtained in such cases by iodide of potassium and perchloride of mercury without operative measures. In the present case there was not a loss but an increase of tissue, and it might be necessary to resort to surgical treatment.

Mr. WHALE said he showed a very similar case six months ago, and under "606" it cleared up entirely. He saw the woman a fortnight ago, and she was then well.

Dr. HARMER asked whether any member had, in these cases, tried the effect of intravenous injections of perchloride of mercury. It was suggested, some time ago, that by using 1 in 1000 perchloride of mercury, dissolved in normal saline solution, and by giving 5 to 15 c.c. intravenously once a week, as good results were obtained in tertiary syphilitic conditions as those produced by salvarsan. This treatment had given good results in the few cases tried at St. Bartholomew's Hospital. It was an easy treatment, and perfectly safe.

Mr. E. D. DAVIS said he had had two cases of a similar kind. In one he had to perform tracheotomy, and then gave neo-salvarsan. There was a complete sequestrum of one arytænoid. The patient had two doses, and did very well. The other was a case of perichondritis, in which tracheotomy seemed inevitable; but he gave neo-salvarsan, and the condition cleared up without the necessity for tracheotomy.

The PRESIDENT said he supposed all were agreed that in syphilitic cases surgical operation should be regarded only as a *dernier ressort*.

Dr. KELSON replied that he was grateful for the suggestions, and he would put them before the patient. Whether this condition was syphilitic or post-syphilitic was unknown. Wassermann's reactions had not been done recently.

Fixation of Right Crico-arytænoid Joint; (?) Traumatic.—W. M. Mollison.—Male, aged twenty-seven, attended hospital in July, 1914, on account of a cough of a few days' duration, thought to be due to the inhalation of a lemon pip. There was no evidence of this at all, and he soon recovered. The fixation of the right vocal cord and the very prominent and apparently displaced right arytænoid were, however, noted; the Wassermann reaction then, as now (January, 1915), was negative. There is a scar in the neck, of an operation performed ten years ago for removal of a goitre. His hoarseness certainly dates as far back as the operation, but perhaps even antedates it.

Dr. SYME said he exhibited a similar case before the Scottish Otological and Laryngological Society last May. It seemed to be congenital, and this case also appeared to be congenital. He asked how the tilting of the arytænoid could be accounted for. He found the same displacement in his own case. This could not be accounted for by traumatic paralysis.

Sir WILLIAM MILLIGAN asked whether Mr. Mollison associated this condition with the operation. He thought these cases were not very uncommon. He had seen a case in which the condition was bilateral. An operation was done many years ago, and one cord became paralysed. Then the other lobe of the thyroid was removed a few years afterwards, and paralysis ensued on the other side. The patient was in such a bad condition with abductor paralysis that he had to do tracheotomy. He did not know whether there was an injury to the nerve at the time of operation, or whether cicatricial contraction ensued afterwards.

Dr. FITZGERALD POWELL said he had seen cases in which this condition had occurred in goitre previous to operation; the gland had

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become inflamed and adhesions had been formed, involving the recurrent nerve. He thought the fixation of the cords was not uncommon in goitres before operation.

Dr. JOBSON HORNE agreed with the previous speakers as to the frequency of fixation of a vocal cord in cases of goitre which had been operated upon; and he also agreed with the statement in the notes of the case that it, perhaps, antedated the operation. In this case he did not regard it as traumatic in origin. If it had been traumatic one would have expected, after this lapse of ten years, to have seen some atrophy of the vocal cord and arytænoid affected, but in this case there was some enlargement and prominence of the arytænoid region of the affected side.

The PRESIDENT said this was the typical condition met with when there had been injury to one nerve either before or during a goitre operation: perhaps after about one in ten goitre operations there was some paralysis in the larynx. If one fact more than another was apparent, it was that in the traumatic post-paralytic condition there was contracture, in the same way that a fixed knee following paralysis got out of position. The last thing he would expect would be to find the arytænoid in a normal position after post-paralytic contracture. He had exhibited a case in which the joint was fixed and displaced in the same way. The contracture drew the arytænoid forward, so that, as in this case, the healthy side of the glottis was the longer. In the case now exhibited the arytænoid was, he thought, larger and more prominent than usual. In his own case removal of a portion of the arytænoid was performed, with rather good results; hæmorrhage prevented him getting the whole arytænoid away, however. Excessive bleeding was common in goitrous patients.

Mr. MOLLISON replied that he called it fixation because that was the condition. At some time the patient had had paralysis of the cord, and fixation of the crico-arytænoid joint had taken place subsequently. He did not agree that the arytænoid was enlarged, but thought the appearance due to displacement. In examining a large number of normal larynges one now and then saw a slight degree of this displacement. Sir StClair Thomson, who had now left, wished him to say he looked at the case and thought it unnecessary to assume that the nerve had been damaged at the operation: it might have become involved in the scar after the operation. The hoarseness might have come on a short time after the operation. The voice was now good, and he had not contemplated any treatment.

Report upon Sir StClair Thomson's Specimen of Laryngeal Growth, from Case shown December, 1914.[1]**—S. G. Shattock.**—"In my opinion the specimen is an early squamous-cell carcinoma. The section marked × is the best. Besides the fact that the epithelium takes the form of ingrowths, there are other characters to notice, viz., the presence of cell-nests; the great size of many of the cells and their nuclei; the presence of more than one nucleus in many of the cells; the infiltration of Unna plasma cells about the lesion."

(Signed) S. G. SHATTOCK.

Pachydermia Laryngis.—W. Jobson Horne.—At the previous meeting, in the course of a discussion upon a case of epithelioma of the larynx and the microscopic sections of the growth removed, Dr. Jobson

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., April, 1915, p. 161.

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Horne remarked[1] that the sections as seen upon the lantern screen, and which he had not seen under a microscope, reminded him of sections of pachydermia of the larynx, which he would be pleased to exhibit at a future meeting. He now demonstrated these sections and pointed out that pachydermia of the larynx, as is known, may be *pachydermia laryngis verrucosa* or *pachydermia laryngis diffusa*. The former is the clinical condition more commonly known through the text-book descriptions, but the latter is of equal or of greater importance clinically as liable to simulate, or to be part and parcel of, the more serious disease, epithelioma of the larynx. *Pachydermia simplex* is, therefore, a condition to be be eliminated in the differential diagnosis of cancer of the larynx.

Dyspnœa, Perichondritis, Tumour (?) of the Mediastinum.—W. Stuart-Low.—A man, aged fifty-three, was sent on account of increasing difficulty of breathing, especially on exertion; for some weeks he had been liable to attacks of nocturnal dyspnœa. He was at once admitted as an in-patient, having had a dyspnœic recurrence of such severity that the necessity for tracheotomy seemed imminent. There was a fulness in the neck over the left side of the trachea, filling out the lower part of the carotid triangle, and a swelling over the left side of the thyroid cartilage, which was tender on pressure. The vocal cords were somewhat suffused, but the movements were normal. A livid bulging was observed under the left vocal cord, extending downwards in the trachea. Dry cupping, applied over the left side of the thyroid cartilage, relieved the difficulty of breathing. This has been repeated twice daily for a fortnight. The exhibitor has recently employed dry cupping in a variety of laryngeal cases with advantage. The subglottic swelling disappeared under this treatment, and the swelling on the left side of the trachea was also reduced. The Wassermann test was found to be positive. Iodide of potassium and mercury have been given in increasing doses and neo-salvarsan intravenously on three occasions. A skiagram revealed a large mass in the chest. There are no indications of pressure on the phrenic or vagus. A second skiagram was taken a week ago (both skiagrams exhibited). It is very remarkable that there are no indications of pressure on nerves or veins, such an extensive growth being present.

The PRESIDENT asked whether Mr. Stuart-Low had had advice as to whether the condition was possibly aneurysm, as there was decided pulsation, and the skiagram led one to think of that lesion; though he (the speaker) could show skiagrams suggesting aneurysm where the condition was really mediastinal growth, and *vice versâ*. In mediastinal growth there might be communicated pulsation. In this case the outline in the skiagram was very sharp, and was, in his opinion, much more suggestive of aneurysm than of growth. The case ought to be shown again if there were further developments.

Dr. DUNDAS GRANT said the pulsation and the tracheal tugging strongly suggested aneurysm, but it was not absolute proof, as shown by a recent case in which tracheal tugging was very marked, but Dr. Inman had found the Wassermann reaction negative, and as a pathologist he held that this negatived aneurysm; in point of fact, it was a mediastinal new growth. In the present case the Wassermann reaction was positive. The complete absence of paralysis of the left vocal cord was an interesting hiatus, but this did not exclude the possibility of aneurysm.

Dr. DAN MCKENZIE, alluding to the difficulty of diagnosing pulsating

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., April, 1915, p. 163.

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tumours at the root of the neck, recalled a case which came under his care four or five years ago, a weak-minded girl, aged fifteen, with a tumour in the thyroid region of the exact contour of the thyroid gland, and pulsating. He thought it was goitre, and as it was causing trouble in swallowing, and there was also difficulty of breathing, he decided to remove it. It was easily freed from its connections, and the capsule was smooth. On cutting through the capsule he found that he was inside a dermoid cyst which extended down behind the sternum into the anterior mediastinum, and was adherent to the aorta, from which pulsation was imparted. He did not feel justified in attempting to dissect it out. The girl got well from the operation, but naturally the tumour still continued to discharge dermoid material. It was a very rare condition, and rather a startling one to encounter.

Dr. Fitzgerald Powell asked whether the two pulses were equal, and whether a pulse tracing had been taken.

Dr. Kelson said the man was evidently suffering from active syphilis, and he had what looked like syphilis of his thyroid. The tumour he regarded as a gummatous mass in the chest. The only point against that was the absence of response to anti-syphilitic remedies, though that did not put gumma altogether out of court. Absence of pressure signs with such a large mass was rather in favour of syphilis.

Dr. Syme suggested that abductor paresis existed in the case on the right side.

Mr. Stuart-Low replied that Dr. Purves Stewart had examined the case and was of opinion it was not aneurysm. Dr. Ironside Bruce and the physicians at Charing Cross Hospital expressed a similar opinion. There was no pressure anywhere, and it was described as an infiltrating neoplasm, of very slow growth. It could not be dermoid, because the patient was a hard-working man and had been at work until a few weeks ago. The two pulses were equal. It was generally thought that it might be a gummatous infiltration, but it must be remembered that the man had had iodides, mercury, and neo-salvarsan without improvement. He had not heard of there being any impairment of vocal cords until Dr. Syme mentioned it. The larynx was now normal. He would report subsequent happenings.

Epithelioma of Pharynx and Tongue.—W. Stuart-Low.—A man, aged forty-eight, who came to the clinic complaining of a hard swelling in the neck, and pain in the throat and tongue of three months' duration. The middle and left sides of the base of the tongue were felt to be stony-hard, and the uvula, lower and left half of the palate, and left side of the pharynx, were thickened and firm to the touch. Dr. Wyatt Wingrave's report pronounced the growth to be a rapidly growing epithelioma. The infiltration and induration being so extensive as to make it inoperable, diathermy was resorted to, the first application being made on January 14. Six punctures were made—two in the palate, two in the lateral wall of the pharynx, and two in the base of the tongue. There was so very little reaction, and the man was swallowing so much better five days later, that a repetition of these punctures was made a little way off from the original places of puncture. In a week, more punctures were made into those parts of the tongue and pharynx that felt the hardest to the finger. The cutaneous structures over the hard mass in the neck were incised and reflected, the hard glands were punctured in three places, and the skin incision stitched up. The man says that he has less pain and is swallowing better.

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Epithelioma of Left Tonsil and Adjacent Part of Tongue after Operation (Specimen shown).—C. I. Graham.—Male, aged fifty-six, noticed pain and difficulty in swallowing about mid-December, 1914. It was equally difficult to swallow solids and liquids, but solids produced more pain. He was admitted to hospital on January 6 with an ulcer confined to the lower pole of the left tonsil and a hard nodule in the adjacent part of the tongue. There was a hard mass, the size of a walnut, at the level of the tip of hyoid beneath the left sterno-mastoid. There was no limitation of the tongue movements, and a No. 12 œsophageal bougie passed easily to the stomach. Pyorrhœa was well marked. All the teeth were removed on January 7, and operation took place on January 13. The left anterior triangle was dissected clean, including the posterior part of the digastric triangle. No vessels of importance were tied. The left cheek was then split, and the left faucial arch and a considerable portion of the tongue were cut away in one piece. The wound in the neck was completely sutured except for one drainage-tube at the lower angle, and another at the level of the hyoid. The cut edge of the tongue was united to the alveolar mucous membrane, and the gap in the tonsillar region was reduced by means of catgut sutures. There was very little hæmorrhage, in spite of the fact that no important arteries were tied, and the intra-tracheal administration of ether made the operation most comfortable. Laryngotomy was performed four hours after operation on account of dyspnœa. There is a sinus at the left angle of the mouth which is rapidly disappearing.

Epithelioma of the Tonsil.—W. Jobson Horne.—The patient, a married woman, aged forty-three, for years on and off had had an uncomfortable stuffy feeling at the back of the nose and throat, getting no ease until "something moved." About five or six months ago the back of the tongue and throat ached and the throat was very dry, so the patient tried painting it with glycerine and tannin. A swelling on the left side of the throat was then discovered; this had got worse, causing pain in the tongue, throat, and ear, and at times dysphagia. The left tonsil, which is enlarged, together with the anterior and posterior pillars, formed a red projecting mass with an ulcerating surface. The swelling felt very hard on palpation. The larynx was not involved.

The case was shown with a view of eliciting opinions as regards treatment, the patient being opposed to an operation.

Dr. Dundas Grant asked whether in Mr. Stuart-Low's case the glands gave evidence of having contracted to any considerable extent under diathermy. If the method would produce that result without breaking down and suppuration it would be a very welcome addition to the means of treatment.

Mr. Harmer said he had never yet used diathermy for treatment of the glands. The cases now shown were interesting, because one saw, side by side, results after diathermy and after radical operation. He had no doubt that diathermy caused much less shock to the patient than a cutting operation, and recovery was more rapid. In regard to results, there was very little to choose. He believed, however, that diathermy would, in the future, when more was known about it, yield the best results. Dr. Horne's case he did not regard as a good one for diathermy, because it infiltrated deeply into the tissues of the neck. But the greater part of the growth could be destroyed, and the patient would have three to six months of happy existence.

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Mr. MOLLISON said he had now a case undergoing diathermy very similar to Dr. Horne's, and he had been very disappointed in the results so far. Diathermy had been done three times, and, beyond the fact that the surface of the growth was now looking cleaner, there was very little change. Indeed, the extension downwards into the pharynx was now greater than a few weeks ago. But the glands disappeared under small doses of radium.

The PRESIDENT said it was often helpful to use both radium and diathermy in these cases, if these means were available. Results from diathermy seemed to vary with technique. Even if the small apparatus of Schall was used, it promised well in faucial conditions.

Dr. FITZGERALD POWELL said he regarded Mr. Graham's as a very successful case, and he did not see why the woman should not have the same treatment. If there were a deeper recurrence, diathermy could be used. If untreated, there would soon be a rapid extension.

Sir WILLIAM MILLIGAN said he had seen the injection of a few drops of pure formalin into a malignant tonsil give great relief in a case in which operation was declined. A large slough ensued, and the patient was comparatively comfortable for a considerable time.

Mr. STUART-LOW replied that the reduction in his patient's case was very considerable indeed. He made several punctures, moving the needle about in the tissues, so that a considerable area was treated. Next day it was decidedly softer, and the incision healed immediately after stitching. The patient felt much better for this treatment, the pain being less and the hard, stony glands being much softened and greatly reduced in size.

Mr. GRAHAM replied that his case was more suitable for removal by operation, and he thought that was the best method. He emphasised the extreme comfort experienced by the surgeon when the anæsthetic was administered by the intra-tracheal method.

Dr. JOBSON HORNE expressed his indebtedness to those who had made suggestions. His patient had definitely made up her mind not to submit to surgical procedures, and he had sympathy with that attitude in this case, as the growth, he thought, was really more extensive than it appeared to be. He would avail himself of Mr. Harmer's suggestion and advise treatment by diathermy.

Bullet Wound of Pharynx, etc.—C. W. M. Hope.—A. B——, whilst resting two miles behind the firing-line in France, was shot in the neck on October 28 by a rifle bullet. He spat up a little blood at the time of receiving the injury. Entrance wound is behind right sterno-mastoid, 1½ in. above clavicle. The bullet was removed (by incision over it) just below angle of left lower jaw.

On January 8, 1915, marked brawniness of neck on each side of larynx and upper part of trachea was noticed, and a hard mass was felt in the region of right transverse process of lower cervical vertebræ; nodding and rotatory movements of head were limited. Patient was only able to swallow fluids, and that with some difficulty. He had definite weakness of left vocal cord, which was narrower than the other, and had poor abduction. On January 13, 1915, he was examined by direct method, under chloroform. The post-cricoidal pharynx was found to be obstructed by two nipple-like processes of granulation tissue, ¾ in. long and ¼ in. broad, growing from posterior wall. No abscess cavity or pouch could be demonstrated. The masses were removed by forceps. Within twenty-four hours patient was able to swallow solid food with

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ease. January 22: Examined again under cocaine. Tiny tag of tissue found on posterior pharyngeal wall and removed. No stricture of lumen. Patient able to eat anything. Gained 8 lb. in weight in ten days. All swelling of neck subsided except over right transverse processes. Movements of head free. Vocal cord *in statu quo*.

Specimen and Skiagram of a Case of Œsophagotomy.—H. L. Whale.—Gunner S——, drinking the gravy out of a bully-beef tin in the trenches, swallowed this circular piece of tin, which is $1\frac{3}{8}$ in. in diameter, bent and jagged. It was impacted in the coronal plate opposite vertebra D_3. He came under my care eight days later. As his occupation in peace time is to play the oboe, it was necessary to avoid tracheotomy or laryngotomy. The œsophagus was exposed in the left posterior triangle of the neck and opened. The mucous membrane was found folded around the jagged edges of the tin, making extraction very difficult. An œsophageal tube was passed, which the patient subsequently was taught to pass for himself for feeding purposes. This tube was used for ten days. The œsophagus was closed, and the outer wound packed. At the operation the cervical sympathetic and its middle ganglion were clearly exposed, and at several dressings the left pupil was observed to dilate when ribbon-gauze was being packed between the œsophagus and spine. Recovery was uneventful.

The PRESIDENT said Mr. Whale was to be congratulated on the result.

Mr. O'MALLEY also congratulated the exhibitor on the result because of the difficulty of operating in this region. Two days ago he had witnessed an operation in which a bullet was removed from between the third and fourth ribs, and he appreciated how difficult it was.

Gunshot Wound of the Neck; Injury to Larynx, resulting in Formation of Web.—H. Buckland Jones.—A private, in the Oxford and Bucks regiment, aged twenty-eight, was wounded at Ypres, on October 23, 1914, by a piece of shrapnel casing, about the size of the little finger-nail, which he coughed up two days later. There was dyspnœa for five or six hours; he was in pain for a week and coughed up clots of blood. On admission to hospital on December 17, the case was investigated under the X-rays with negative results. On examination there is a scar on the right side of the neck over the sterno-mastoid opposite the cricoid cartilage. The glottis is closed by a crescentic web occupying its anterior half. The ventricular bands are somewhat thickened. Both arytænoids have equal and almost complete movement; possibly the left is a little more free than the right, except that adduction leaves a chink in the posterior one-third of the glottis.

Sir WILLIAM MILLIGAN said he thought the patient would be best left alone; he doubted whether anything could be done successfully.

The PRESIDENT said he once dealt very well with a web by doing laryngo-fissure and keeping the fissure open by means of a special splint until the wounded edges of the cords healed up. He sutured the fissure three weeks after operation.

Dr. DUNDAS GRANT thought one would only feel called upon to operate if there were stridor or dyspnœa. He did not think the respiration was being interfered with in this case; though if laryngitis occurred now there would be more discomfort than in an ordinary person. Brünings suggested injecting paraffin into a paralysed vocal cord. He agreed that the web was best left alone for the present.

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Mr. O'Malley said that eighteen months ago he showed a boy who had a web, and a full crop of suggestions for treatment was made at the meeting. He followed the active advice, but the result was unsatisfactory; considerable œdema ensued, and the web returned to its former condition. He dealt with it endo-laryngeally. He advised Mr. Jones not to take an active line in this case. With regard to the voice weakness, he asked that consideration should be given to an emotional factor.

Mr. Whale thought it a suitable case for suspension apparatus, if anything were done. From what he had seen of similar wounds in France recently, he thought malingering was a possibility, especially if there was a desire to avoid getting back to the front.

Mr. E. D. Davis said he had had two cases, both neck wounds, in which there was functional aphonia. The bullet had gone through the pharynx without injuring the larynx in both cases, but whereas one patient recovered the day after being seen, the other had not yet recovered his voice.

Sir William Milligan said he had seen, at the military hospital, three cases of functional aphonia in men who had had no injury at all.

Gunshot Wound of the Neck, with Extensive Injury to Larynx.—H. Buckland Jones.—A private in the Grenadier Guards, aged twenty, was wounded at Ypres on October 21, 1914. He was standing up firing and was surrounded by the enemy, when he was hit in the neck by a bullet. He believes this entered near the tip of a thyroid cartilage and came out behind the sterno-mastoid on the right side. He was unconscious for about fifteen minutes, and then walked to the field hospital. He had difficulty in breathing and speaking for about two days, when the latter improved to a low whisper. Some blood was coughed up for about twenty-four hours. He was admitted to hospital late in December. An X-ray examination showed no sign of foreign body. There was a swelling at the level of the thyroid cartilage in the right anterior triangle, which eventually resulted in suppuration, and was opened and drained. On examination with the laryngoscope no vocal cords are to be seen; the regions of the ventricular bands are occupied by masses of granulation tissue, especially the right.

The President had seen a similar case in a man from the Front. In such cases he supposed an expectant attitude must be adopted for a considerable time.

Mr. Buckland Jones thanked members for their suggestions. In the first case he thought of doing some endolaryngeal operation, but he gleaned that this would not be very hopeful. Perhaps he should try some voice-training method first. In the second case there was much perichondritis. Certainly there was some improvement after the abscess was drained, but there seemed to be much granulation tissue in the larynx. He proposed to do nothing for the present until the perichondritis had subsided.

Shrapnel Wound of the Neck; Injury to Buccal Cavity; Exit beneath Angle of Jaw on opposite Side.—W. Jobson Horne.—The patient, a Grenadier Guardsman, on November 7, 1914, at Ypres, was wounded by a shell in the left thigh, the occiput, and the left side of the neck. There was also the scar of a wound on the right side of the neck, which was regarded as the point of exit. The trench was blown in by the bursting shell, and the man was buried in the *débris*. He was unconscious for about twelve hours. He was in hospital in Boulogne

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when he recovered consciousness. The mouth contained blood and dirt and broken teeth. He was not able to swallow saliva, and during the nine days he was in Boulogne a feeder had to be used. Whilst he was in Boulogne pieces of shrapnel were removed from the wounds in the neck, at the sites of entry and of exit. From Boulogne he went to Manchester, where he was convalescing until December 19, and then he was on sick leave until January 26. The following day he was sent to hospital on account of pain in the region of the wounds in the neck and disease of the right ear. The wounds in the thigh and occiput had healed and gave no trouble. The injuries to the mouth might have been occasioned by the blowing in of the trench. The X-ray examination of the neck had not so far yielded any definite evidence of a foreign body.

Synechiæ in the Nose treated by Diathermy.—Dan McKenzie.—The patient is a corporal in a Lancer regiment, who sustained a shrapnel wound of the face four months ago. The ball traversed the face from one cheek to the other, passing through the nose. During the healing of the wound the nasal cavities became blocked by masses of scar tissue, so that when he came under my care respiration was almost wholly conducted through the mouth. The poor outlook for such a patient, if treated by ordinary methods, led me to employ diathermy, the apparatus used being Schall's small variety. The result has exceeded all my expectations. There was an entire absence of reactionary swelling, and the cicatricial tissue has shown no sign of forming again. It is suggested that for synechiæ of the more simple and everyday kind diathermy might with advantage be tried.

Dr. Pegler said he had just discharged from hospital a soldier who had also been wounded in the nose at Ypres. Deep scarring showed where the lower end of the nose had been almost entirely severed from above and re-attached by sutures (at Rouen); the right nostril was almost completely obstructed by circumferential contractions and thickenings, the left rather less so. As a submucous operation was not practicable, the old routine methods were adopted, and india-rubber tubes were afterwards inserted to maintain an airway. The result was good and permanent on the left side, but the right vestibule he hoped to further improve.

The President raised the point whether diathermy was justifiable in such a condition as this.

Dr. Dan McKenzie replied that he would like to add the word "my" before "ordinary methods" in the seventh line of the note. His experience of treatment of cicatricial adhesions in the nose was not good; whatever he tried, the adhesions seemed to form again, but the result in this case had been surprising, as there was no reaction. After cutting or cauterising operations on the nose there were always swelling and œdema, and sometimes granulation tissue formation. This man breathed now even better than he did shortly after the operation. Contrary to his expectation, there had been no necessity to interfere further, as there had been a subsequent slow removal of redundant scar tissue, as the result of coagulation necrosis—an important part of the diathermy process.

Acute Suppuration of the Nasal Accessory Sinuses in Children.—Herbert Tilley.—(*a*) O. H. B——, aged thirteen. When aged seven patient had scarlet fever. During the last days of convalescence, pain and swelling commenced over right eye, accompanied by purulent nasal discharge on right side. Œdema and redness over eye

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continued. Incision in eyebrow, escape of pus; anterior ethmoidal cells diseased—these were curetted. Frontal sinus opened, but found healthy. Healing of wound by granulation. On December 9, 1914, patient seen again; both eyelids were closed by œdema of upper lids, the œdema extending to vertex. Temperature, 101·5° F. Pain on pressure, most acute over site of right frontal sinus. No nasal discharge. December 10: Old incision opened. Remains of sinus filled with purulent granulation tissue. Sinus walls completely removed, also one fronto-ethmoidal cell. Wound left open and drained; recovery uninterrupted. Sinus seems quite obliterated.

N.B.—Acute frontal sinus suppuration at seventh year and long period of quiescence (six years) until recent recurrence.

(*b*) *Acute Suppuration of Frontal, Ethmoidal, and Maxillary Sinuses.*—R. P——, male, aged eight, on December 21, 1914, at 5 a.m., complained of severe pain in and around the region of the left eye. Temperature, 102° F. December 23: Pain in eye severe. Conjunctiva reddened. Small reddish, tender swelling below and in front of tear sac. Considerable œdema of left upper eyelid. Left nasal cavity inflamed and much muco-pus. Examination rendered difficult by septum being deviated to left. Upon transillumination left antrum seen to be slightly darker than right. Exploration through inferior meatus established presence of pus in antrum. Continuous hot fomentations ordered. December 25: Eyelids quite closed by œdema of upper lid. All symptoms increased except temperature, which was normal. December 25 to January 10: Symptoms all abated except the swelling in front of lacrymal sac, which was tender, red, and semi-fluctuating. Free discharge of pus from left nostril. January 11: Under general anæsthetic, anterior halves of middle and inferior turbinals removed. Inner antral wall removed. Anterior ethmoid cells broken down with curettes until lacrymal bone and os planum were reached. Frontal sinus ostium enlarged by author's small raspatory. It was not possible to establish any connection between external swelling in front of lacrymal sac and interior of nose. After operation fomentations were continued. The patient has made a complete recovery and is now practically free from any discharge.

The exhibitor thinks this may be the youngest case in which intranasal opening of sinuses has been carried out. Great difficulty was experienced during operation because of deviation of the septum. Killian's speculum had to be employed all the time while the higher sinuses were being dealt with.

(*c*) *Acute Suppuration in Maxillary Antrum following Measles.*—S. R——, aged ten, female. January 24, 1913: Patient had measles. February 14: Exhibitor saw patient in consultation, when she was suffering from severe pain over left eye, in which region there was marked tenderness on pressure. Temperature, 102° F. Pain on pressure over left canine fossa. Free discharge of pus from left nostril. Nasal mucosa very red in left nasal cavity. Left antrum appeared dark upon transillumination. Exploration yielded a quantity of greenish-yellow pus. No indications of pus from higher cavities; the frontal sinus was irrigated. Irrigations of antrum on four following days, the purulent discharge rapidly giving way to a preponderance of mucus. March 31: Exhibitor last saw patient, when all symptoms had disappeared.

Dr. Watson-Williams said Mr. Tilley had done a service in bringing forward these cases, because they emphasised the fact that,

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even in children, one could treat these extensive sinus conditions. In the first, though there was no dead space and the condition healed up, there was a recurrence. Surgeons sometimes put down to a "dead space" what might be a re-infection. One saw that the surgeon was not always to blame, for there might be a re-infection from a latent condition. With regard to the intranasal method, it must be remembered that in very young children there might be an opening direct into the frontal sinus from the middle meatus, because the space formed by the development of the ethmoidal cells did not intervene as in adults. He did not think anyone would deliberately open the frontal sinus in such a child unless a skiagram were first taken, and even then it would be risky by intranasal methods.

Mr. STUART-LOW said but little pus was now to be seen, and the treatment seemed to have been beneficial; but he took exception to the amount of deformity in one of the cases. In a number of cases he had himself shown he attributed the absence of marked deformity in which this operation had been done to the wearing of a cage which took off the pressure. The use of this cage might have helped in the case of the boy, in whom there was one very great deformity, which would, he considered, be permanent.

Dr. SYME said he was not convinced that it was advisable to operate on a child's antrum by the intranasal method, because he had found there was difficulty, even with the ordinary operation in children aged from ten to twelve, in keeping the opening into the nose patent. Antral cases in children should, he thought, be attacked from the canine fossa.

The PRESIDENT said he did not think Mr. Tilley had carried out more operative interference than the cases demanded.

Mr. HERBERT TILLEY replied that Mr. Stuart-Low's argument would not apply to this case, because the child he had referred to had no external dressings beyond lightly applied warm fomentations. In Case (*a*), when, six years ago, the sinus complication followed scarlet fever, it was an ethmoidal suppuration—there was a bulging into the nose and an external abscess. Mr. Hett opened it, and he only explored the frontal sinus, but, finding it healthy, he did no more. When he (the speaker) saw the case in December the œdema extended from the upper eyelids to the parietal suture, and there was much tenderness over the right frontal sinus. He re-opened the formal incision and obliterated a diseased frontal sinus and an orbito-ethmoidal cell. In Case (*b*) he operated by the intranasal method because, when opening through a child's canine fossa, one destroyed the nerves supplying young teeth. There was no difficulty in operating through the nose, except that the septum was deflected. Neither had he any particular difficulty in entering the frontal sinus. In the early days of the disease he fomented the eye and forehead for ten days, but later, when the temperature went up, pain returned, and there was a recrudescence of the swelling in front of the eye; he considered that something more radical should be done in order to establish free drainage.

Tuberculosis of Nasal Fossæ.—C. I. Graham.—A female, aged sixteen, who had never had any nasal symptoms, nor any other illness, noticed slight nasal obstruction early in December, 1914, and she was seen at Christmas. There was a slight enlargement of the anterior end of the right inferior turbinal, which was red and granular in appearance, with a slight amount of clear sticky discharge. The left inferior turbinal presented the same appearance, but in a less degree. A small piece was

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removed from the right side for examination. She was again seen on January 28, when there was definite ulceration of the right vestibule involving the outer wall, ventricle, and a small area of the adjacent septum. The left inferior turbinal remains practically stationary.

Dr. PEGLER said he hoped Mr. Graham would add the statement that tubercle bacilli had been found in the tissues, and congratulated Mr. Graham on his success.

Mr. GRAHAM replied that the credit of finding the tubercle bacilli was due to Dr. Kettle.

Tuberculous Ulcer of the Mouth.—H. Buckland Jones.—W. M——, a male, aged thirty, came to hospital on December 31 last, complaining of ulceration of the mouth, which he had been troubled with on and off for twelve months. On examination a large ulcer with indurated edges was found in the region of right inferior wisdom tooth admitting the tip of the finger and spreading on the adjoining cheek. Some enlarged glands were found on both sides of the neck in front of the sternomastoid. There was a history of a cough and wasting for twelve months. On examination of the chest there was slight dulness over the right apex with prolonged expiration, some bronchophony, and a few coarse crepitations. There was no history of syphilis. A piece of tissue was examined by Dr. Leatham showing numerous giant cells, but no tubercle bacilli. No sputum has been available for examination.

(Unfortunately this patient died of tuberculous meningitis a few days before the meeting.)

Abstracts.

CEREBRO-SPINAL MENINGITIS.

Lundie, A., Thomas, D. J., and Fleming, S.—Cerebro-spinal Meningitis: Diagnosis and Prophylaxis. "British Medical Journal," March 20, 1915, p. 493.

This paper is the outcome of work in the Aldershot command. Cerebro-spinal meningitis is discussed in its three stages: (1) Catarrhal, (2) septicæmic, and (3) meningeal. The first stage is usually detected almost by accident; by examination of all the men sleeping in the room where a case has occurred. The authors use West's swabs, from which they inoculate plates of "nasgar" medium. They find that all carriers have catarrh. Stage 2 is that febrile condition which is undiagnosable, unless it passes on to stage 3. In their conclusions the authors state that the disease is more widespread than is usually recognised; it gives warning of its onset by catarrhal symptoms and often goes no further. In its second stage it may run a long non-malignant course. As an adjuvant to spraying and swabbing treatment, an autogenous vaccine is recommended. *Macleod Yearsley.*

Arkwright, Joseph.—Cerebro-spinal Meningitis. "British Medical Journal," March 20, 1915, p. 494.

The author points out that one of the most outstanding features of epidemics is the isolation or want of ascertained contact between the cases of the disease. Two explanations suggested themselves: (1) An infective

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