The Larynx, Trachea, and Œsophagus.	(84)
Tracheotomy	3
Intubation	2
Removal of laryngeal papilloma	4
Removal of laryngeal granulations	1
Removal of vocal nodules	6
Removal of adenoma of larynx	1
Tracheoscopy	5
Bronchoscopy	1
Œsophagoscopy and suspension laryngoscopy	47
Foreign body removed from œsophagus	14
	84
The Ear.	(264)
Furunculosis	15
Paracentesis	44
Aural polypi removed	17
Granulations curetted	2
Aural cyst removed	1
Foreign bodies removed	7
Abscess over mastoid	3
Shrapnel removed from mastoid	1
Schwartze operation	42
Radical mastoid operation	94
Plastic operation after Schwartze	8
Modified radical	2
Exploration of lateral sinus	9
Ligature of internal jugular	6
Extradural abscess	3
Temporo-sphenoidal abscess	2
Cerebellar abscess	2
Labyrinth operation	5
Jugular bulb operation	1
	264
Miscellaneous: Intra-venous injection of neo-salvarsan	9
Anæsthetics.	
Local anæsthesia	637
Ethyl chloride	964
Chloroform	17
Chloroform and ether	194
Intra-tracheal administration of ether	2
	1814

New patients during 1914 = 3380.

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

November 6, 1914.

Dr. G. William Hill, *President, in the Chair.*

Aspergillosis of the Nasal Accessory Sinus.—H. Tilley.[1]

Mr. Harmer said that in this case fungus could be grown, and it was found to be typical *Aspergillus fumigatus*. The symptoms in his

[1] See page 145 of the present issue.

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case were very similar to those described by Mr. Tilley, but there had been great difficulty in curing them; ordinary drainage and washing out of the antrum was useless. In his own case probably the ethmoidal region was also involved. The symptoms could be controlled by giving large doses of iodide of potassium, but the fungus tended to recur, and the case was still uncured, though treatment commenced eighteen months ago.

The PRESIDENT expressed the gratitude of the Section for Mr. Tilley's clear description of the clinical symptoms, and for Mr. Shattock's lucid explanation of the pathology of this newly described disease, which might be designated morbus Tilleyi. In reference to the statement that potassium iodide sometimes had a favourable effect on this condition, it was to be noted that in an allied mycotic disease, actinomycosis, it had been claimed that iodide sometimes acted so well that radical surgical measures became unnecessary.

Dr. D. R. PATERSON said he had known a case where an aspergillus was found in the contents of the lacrymal sac. It was thought to have entered through the nose by the lacrymal duct and established itself upon a condition which had existed for some time. He wondered whether, in Mr. Tilley's cases, the aspergillus was grafted on to some old suppurative condition.

Mr. TILLEY replied that he was unable to answer Dr. Paterson's question. He could get nothing but an indefinite history of pain, sneezing, etc. He thought that the aspergillus gained an entry to the nose and sinuses and caused the symptoms, rather than that it was grafted on to a chronic empyema. It was a point which might be settled in some future cases.

Mr. SHATTOCK replied that it was quite possible, of course, that an aspergillary infection might be grafted upon a commoner suppurative condition, *i. e.* that the infection might be mixed, as it might be in cases of pulmonary aspergillosis.

December 4, 1914.

Intrinsic Epithelioma of the Larynx One month after Laryngofissure.—Sir StClair Thomson.—This gentleman, aged sixty-nine, was shown at the last meeting in November.[1] The whole of the left vocal cord was then replaced by a red, knobby, ulcerating infiltration. The cord moved well and there were no enlarged glands.

On November 12, under chloroform anæsthesia, the usual laryngofissure was carried out. The growth was found limited to the central three-fifths of the cord, which was clipped out intact in one piece, including the vocal process of the arytænoid. No Hahn's tube was used. Patient swallowed liquids easily the same day and was out of bed within twenty-four hours, eating semi-solid food.

The microscopic examination of the removed left cord showed the structure of an early epithelioma, consisting of a downgrowth of altered squamous epithelium into the underlying tissues. Examination of sections showed that this growth had not penetrated to any distance, and that ample healthy tissue had been removed deeply and anteriorly. But posteriorly the growth had spread right up to the line of excision in the subglottic area—*i. e.*, just below the vocal process of the arytænoid.

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., March, 1915, p. 133.

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As, from the pathologist's point of view, excision could not be looked upon as complete in this region, a second laryngo-fissure was done on November 20, a fortnight ago to-day. The intra-laryngeal wound looked well. The bare stump of the arytænoid cartilage showed that the cord had been removed close up to the arytænoid base. A sweep of tissue subglottic to this area was removed and this was submitted to the pathologist, who reports as follows: "The subglottic tissue was divided into three portions and each piece cut. The middle piece shows a tiny downgrowth of squamous epithelium into the sub-epithelial tissue, which, in view of the known facts of the case, is certainly the posterior edge of the epithelioma. The other sections are free of growth, and hence removal is now doubtless complete."

Patient made as rapid a recovery as after the first operation. He was walking about out of doors a week later. For a week he has been allowed to whisper. There is only a little sinus in the neck leading down to a bare portion of the thyroid cartilage.

Sir StClair Thomson said, in reply to the President (Dr. William Hill), that he would briefly describe this technique, which was only a simplification of the procedure laid down by the late Sir Henry Butlin and Sir Felix Semon. The patient was prepared in the ordinary way and the line of incision was injected with eudrenine, a mixture of adrenalin and eucaine. As a consequence no vessel required tying and only one vessel had to be clamped throughout the operation. After trying various anæsthetics he had reverted to chloroform. The incision was carried down to expose the thyroid and trachea; then he took an ordinary hypodermic syringe, filled it with 2 per cent. cocaine, and stabbed the trachea before opening. He believed he obtained the idea from an American paper, and Mr. Hope and he had used it for a year or two, both in private and at King's College Hospital. There were several present who saw the operation three weeks ago, and they would agree as to the way in which this intra-tracheal injection abolished the very inconvenient spasm which used to occur on opening the trachea, causing a great spurt of blood and mucus over the vicinity. One waited a little after the stabbing and when the tracheotomy tube was inserted there was no reaction. For years past he had abstained from using the Hahn's tube. After splitting the thyroid he put in a tethered sponge from above, and that prevented the blood from getting into the air-passages, and was more reliable than the Hahn's tube. When the growth was exposed three weeks ago, it was exactly as shown in the drawing. He clipped it all round. But he wished to confess to an oversight which he must have made. He took the growth out whole and examined it with his finger to appreciate the cartilaginous consistency, and inspected it with the naked eye; and there seemed to be a clear space all round. Several of those present at the operation agreed that he had gone wide of the growth, and that the result was promising. The specimen was sent to be microscoped, and he asked that three sections should be made. One section showed epithelioma in an early stage; the growth being superficial. The epithelioma was on the surface of the cord, but did not extend into the ventricle of of Morgagni, though it was well down on the subglottic area. Still, removal was free of the growth above, below, and deeply. The second section from the anterior end was also free. A section was also made posteriorly through the vocal process, and the report was that at one part the growth came so close to the edge that it was doubtful if the operation had gone beyond it. In view of this latter finding, he felt that there was no course open but to go back and do his work nearly all over again.

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Though the patient was aged seventy, and had a blood-pressure of 200, he opened up the larynx again in ten days. The cut edge of the vocal process was visible. He took away a piece (indicated) which might have been removed at the first operation. In that corner it did show a thickening of the epithelial cells. He had two cases last summer in which there was no recurrence, and in both the disease had extended farther into the subglottic region; and if the growth extended far it got in between the thyroid and cricoid, and one could not get beyond it. The danger zone extended back not only into the arytænoid but into the subglottic region. He urged the importance of looking into the subglottic region, chiefly posteriorly.

The PRESIDENT said the supplementary details to which they had listened were most valuable. Sir StClair Thomson used the term "laryngo-fissure" as the operation performed, but he (the speaker) imagined it was only fissure of the thyroid cartilage. When he used the term "larygo-fissure" as synonymous with thyro-fissure, Sir Felix Semon used the term "thyrotomy" or "thyro-fissure" for the minor operation, and reserved the term "laryngo-fissure" for vertical median section of the thyroid and the cricoid cartilages. Mr. Tilley had spoken of thyro-chondrotomy as more exact than either thyrotomy or thyro-fissure. Sir StClair Thomson's remark about the danger of leaving some of the disease behind appealed to him, because about eighteen months ago he operated upon a similar case—which was still alive without recurrence—and he found he had to remove the arytænoid cartilage as well to be perfectly certain of getting at least a $\frac{1}{4}$-in. margin of mucosa free from the disease. It undoubtedly complicated the operation to remove the disease from the anterior surface of the cricoid plate together with the arytænoid. In his case there was trouble in breathing and swallowing through œdema of the aryepiglottic fold left behind, which flopped about like a polypus and had to be snared, and, owing to absence of the arytænoid, for a time food had to be given through a tube to prevent its entering the trachea.

Dr. JOBSON HORNE said that, when he saw the series of three sections of the vocal cord exhibited on the lantern screen, he regretted not having had the opportunity of examining them under the microscope. It was, therefore, with reservation he raised the question as to the nature of the growth. So far as one could draw conclusions from seeing the sections on the screen, he doubted whether the growth were an epithelioma. There was a redundancy of epithelial tissue along that portion of the cord which is covered with squamous epithelium. He asked whether there was any infiltration of this epithelial overgrowth—that was to say, whether the basement membrane had been broken through, and whether there was an ingrowth into the substance of the cord itself. When the case was shown prior to the operation, favourable comment was made by more than one speaker, in view of the diagnosis of malignant disease, upon the remarkable free mobility of the vocal cord. That mobility would suggest infiltration had not taken place. The section exhibited reminded him of some he had met with in studying pachydermia of the larynx. Of course he was not suggesting that the case had presented clinically the typical text-book picture of pachydermia of the larynx; the sections on the screen suggested pachydermia as the pathological condition. He hoped that Sir StClair Thomson would afford them the opportunity of studying the very instructive sections under the microscope.

Dr. DAN MCKENZIE said he was interested in the remark concerning the removal of a portion of the arytænoid, because in a thyrotomy which

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he had done six or eight weeks ago he found it to be necessary to carry the removal well into the arytænoid region; as a result, swallowing was incommoded, and the food came through the tracheotomy tube. The patient developed septic pneumonia, which had proved fatal. There seemed to be borderline cases, in which one was tempted, after having opened the thyroid cartilage, to proceed to remove as much of the disease as could be seen. But in doing so one damaged the swallowing; and in such cases the mortality would necessarily be higher than if the operation were limited to the cases for which the operation was primarily intended. The moral was that when the growth extended beyond the limits proper to classical thyrotomy the larynx should be removed. It was praiseworthy of Sir StClair Thomson to have opened up the larynx a second time and to have removed the portion of disease left behind. Many, in similar circumstances, would have been tempted to leave it alone and trust to Providence. He hoped his effort would be crowned with success. When the patient was first shown no specimen, he believed, had been removed for examination; so that the operation was undertaken upon a diagnosis reached without assistance from the pathologist. Probably Sir StClair Thomson would not advise this course in a routine way; and though there might be rare cases in which it was impossible to remove a portion for the pathologist he (the speaker) would be very chary of operating on any case in which an attempt had not been made. It seemed to him the attempt at least should always be made before proceeding to thyrotomy.

Mr. Herbert Tilley said that in 1907 he published a case of ordinary thyro-fissure, in which he removed the arytænoid of set purpose, because the disease extended so far back. The patient got well, and lived for nine years afterwards, then died of recurrence in the other cord. On two or three occasions he had removed half the arytænoid so as not to disturb the anterior part of the lower pharynx. Last year he operated upon a case which Sir Felix Semon had operated upon fifteen years ago; and at the operation a small abscess was discovered with necrosis of the arytænoid cartilage, surrounded by suspicious looking granulations. The patient lived for nine months, but recurrence of epithelioma took place. Feeding became difficult, and gastrostomy was performed. The patient died with an extensive recurrence over the front of his neck. Probably that had been recorded as a "cured" case, but it showed us that because there was no recurrence of cancer within two or three years of operation it was unwise to speak of "cure." He had not used a Hahn's tube for ten years. He performed a tracheotomy in these cases, packed a long strip of a gauze above it—in the trachea—and then split the larynx.

Mr. W. Stuart-Low said he had as a patient a gentleman, aged sixty-nine, who appeared to have the same condition. He had been treating him for two years for what he diagnosed as pachydermia laryngis. There was a marked levelling up of the inter-arytænoid space and a thickening and rough-looking appearance of the left vocal cord, but no impairment of movement. What had decided him against this being malignant was, that on palpating the cord with the finger through the mouth—and it was quite possible to do so—there was apparently no induration.

Mr. Norman Patterson suggested that the microscopic section should be submitted to the Morbid Growths Committee.

Dr. Dundas Grant said it was possible to remove the lower part of the arytænoid cartilage and leave the upper part. He had done that, and found it satisfactory. It was important to preserve the attachment of the sphincter laryngis if possible, for it diminished regurgitation of

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liquid during drinking, which was, of course, a most serious complication.

Mr. O'Malley said the diagram drawn by Sir StClair Thomson showed that the growth had gone beyond the area which was normally covered with squamous epithelium. It reached into the subglottic area, and that seemed to confirm its being an epithelioma.

Sir StClair Thomson, in reply, said Mr. Gillies saw the specimen, and agreed that it was epithelioma. Still, he would be pleased to submit it to the Morbid Growths Committee.[1] He did not suppose Dr. Horne wished to suggest this as a favourite region for pachydermia laryngis, which had now been clinically defined as a thickening over the vocal process, not in the centre of the cord, as this was. Never having had a death himself, he agreed that this should be an operation free from risk! The risk was swallowing-pneumonia. Of some twenty cases, he had had to feed only one through the nose for a week or two. Removing part of the arytænoid complicated the condition. On looking into the larynx a week later, one saw a horrible œdematous condition of the remains of the arytænoid, and frequently of the other arytænoid. In one case he had to enter again, by the direct method, and get the shifting mass out. He agreed with Dr. McKenzie as to the desirability, if possible, of removing a portion beforehand for examination. But in this case he did not think that was feasible; and if the report had been negative he would still have gone on with the operation. Therefore, of what use would a preliminary examination have been? As he had learned from Dr. Bond, of Golden Square, he was accustomed to feel with his finger round the epiglottis and introitus of the larynx, but he had never got as far as the glottis in adults.

Demonstration of Foreign Bodies removed from Air-passages.—Sir W. Milligan.—(1) *Damson-stone removed from Left Bronchus.*—A boy, aged four, while eating damson jam accidentally inhaled a stone. Sharp attack of dyspnœa. During following ten days several attacks of dyspnœa accompanied by spasmodic attacks of coughing. X-ray examination negative. On admission to hospital the child was found to be suffering from slight bronchitis with diminished entry of air into left lung. Examination under general anæsthesia. Sudden arrest of respiration; performance of rapid tracheotomy and artificial respiration, followed by recovery. Child put back to bed for half an hour; again anæsthetised; tracheotomy tube withdrawn and bronchoscope tube passed. Damson-stone seen in left bronchus with pointed end protruding (specimen shown). Successfully recovered with forceps. Rapid recovery.

(2) *Carpet-tack removed from Bronchus of a Female.*—Female, aged thirty-five, accidentally inhaled a carpet-tack which she was holding in her mouth when engaged tacking down a carpet. Sudden and severe paroxysm of dyspnœa. During the following four days several slight attacks of dyspnœa and coughing fits. Admitted to hospital eight days after accident. (X-ray photograph shown of the tack *in situ*.) Under general anæsthesia tack grasped, but on traction being made forceps slipped off. Many unsuccessful attacks at extraction made. Patient kept quietly in bed for three days. Vapor benzoin co. administered every two hours. Patient again anæsthetised and removed to X-ray dark room. Fluorescent screen employed and forceps made to grasp tack. Withdrawal again unsuccessful owing to forceps not holding the stem of the tack

[1] The Committee have since reported on the growth as being a typical epithelioma.

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sufficiently firmly. Many more unsuccessful attempts at extraction, unt an attempt was made to twist the tack round on its own axis. After muc trouble this was accomplished and the tack was immediately withdrawn by grasping its head (specimen shown). Despite prolonged manipulations on these two occasions no systemic disturbance followed, and the patient left hospital upon the third day in perfect health.

(3) *Halfpenny in Œsophagus of a Child, aged two.*—Coin readily seen impacted at about the level of the sterno-clavicular joint. *In situ* for ten days. Removal with forceps. Œsophageal wall intact. Rapid recovery (specimen shown).

These cases demonstrated: (1) The tolerance of the tissues under certain conditions; (2) the advisability, if not necessity, of not relying upon the results of radiography; (3) the value of the fluorescent screen as an aid to the removal of foreign bodies from the lung.

The PRESIDENT recommended the method which he had first seen Mr. Tilley use for removing a foreign body from the bronchus—viz., having the patient on the X-ray table and guiding the forceps by means of the screen. He had himself succeeded on one occasion in which he had previously failed to get the foreign body by the ordinary procedure.

Mr. TILLEY suggested that in the case of a foreign body in the lung, where good definition was not achieved, instantaneous radiography would then secure good definition. He agreed that one must not absolutely rely on the results of radiography.

Sir STCLAIR THOMSON said one was often successful when trying to remove the whole apparatus *en masse*, because it had happened to him more than once that the head of a shawl-pin or a reversed tack had caught against the end of forceps, and the forceps came out minus the foreign body. And in the case of larger things, such as tooth-plates, one could pretty safely remove the whole thing together.

Dr. D. R. PATERSON had had a case similar to the second case, and as he could not get enough control over the tack with a long forceps he did a low tracheotomy. A shorter forceps enabled him to manipulate and extract very easily. The child was about three years of age.

Dr. IRWIN MOORE asked Sir William Milligan whose forceps, or which type of forceps, he had used in this case? If Brünings' forceps were used, which end had been tried? He ventured to say that if Sir William Milligan had used the forceps which he (Dr. Moore) had introduced two years ago for use with Brünings' tubes for the removal of foreign bodies, the difficulties met with in this case would not have been experienced. The forceps introduced by Brünings as shown by this case would grasp a tack by the stem, but the grip would not hold—this was the weak point of the forceps in the removal of foreign bodies. Whereas the forceps which he (Dr. Moore) had introduced would easily grip a tack by the point, firmly hold it, and successfully remove it. He had shown this forceps at the British Medical Association Meeting at Liverpool in 1912, and since then it had been used by many of his colleagues. In fact, he had not known of a failure when this forceps had been used.

The PRESIDENT said that Brünings' and Killian's forceps were very fragile, and cases had been recorded in which, instead of one foreign body in the patient, there were three—the original foreign body and two portions of forceps. Dr. Irwin Moore's œsophageal forceps was a good instrument.

Mr. O'MALLEY said he had had some similar experiences when trying to extract foreign bodies with Brünings' forceps; the pressure of the spring of the forceps tended to withdraw the prehensile portion into the

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casing, and it was difficult to be sure whether a small object was really being grasped. For this reason he considered that Dr. Irwin Moore's forceps was a decided improvement on Brünings'.

Mr. E. D. D. Davis said he had been collecting records of cases similar to the third one. In this case there was neither the history of the swallowing of a foreign body nor the indication for a skiagram, and a diagnosis was well-nigh impossible; but in some cases there was a history of the swallowing or inhalation of an object, but enough attention had not been paid to it. For example, in one case a swallowed halfpenny lodged in almost the same position and ulcerated into the aorta, and the child, aged seven, died of hæmatemesis. The history was that about five years after the swallowing of the coin he had vomited a little blood, and in the night he had a profuse hæmorrhage and died. In another case an ordinary pin had passed through the œsophagus into the aorta, and the patient died from hæmorrhage. Dr. Rolleston sent a case to him at Charing Cross Hospital, with the history that four months ago a rabbit-bone had been swallowed. At the casualty department of another hospital not much attention was paid to the history, and the child was sent away. It returned a week or two later, and was admitted and treated for bronchitis for three weeks, and then discharged; a week later it was sent to the Fever Hospital as a case of diphtheria. Dr. Rolleston, suspecting a foreign body, sent the case to him (the speaker). He examined the child with the laryngoscope and a greyish object was seen, which he felt confident was the lost rabbit-bone. The bone was impacted edge-on between the vocal cords, so that there was room for air to pass on either side. Had it fallen flat the child would probably have been suffocated. The bone was removed by Killian's suspension laryngoscopy under chloroform. In a case of his own a safety-pin was removed by the same method; the pin was open and sticking into the wall of the pharynx opposite the cricoid cartilage. His colleague, Mr. Waggett, and he had been in the habit, when a patient was alleged to have swallowed or inhaled a foreign body, of making an ordinary examination of the pharynx and larynx; sometimes a sharp foreign body lodged in the tonsil or the base of the tongue. If that failed, a skiagram was taken, the stools watched, and finally they resorted to the œsophagoscope or broncho-scope, but in every case the foreign body should be accounted for. Many foreign bodies had been missed because the history was difficult to obtain, or the child had very few and slight symptoms, or symptoms simulating other affections. This child was difficult to examine; she had glands in the neck, aphonia, stridor, etc., and he thought she had enlarged medi-astinal glands. At a second examination with the laryngoscope a few minutes later he could see the bone in the larynx. Suspension laryngo-scopy was therefore performed under chloroform. He did not attempt to feel the bone with the finger, because of the danger of dislodging the bone and producing severe dyspnœa.

Sir William Milligan, in reply, said he had been in the habit of carrying out removal *en masse*. The point raised by Dr. Paterson, as to more frequently doing a low tracheotomy in these cases, was an important one. He had gone on the rule that in young children it was advisable to do a low tracheotomy; but not in adults. He had nothing but praise for Dr. Irwin Moore's forceps, which had the best grasp of any forceps he had ever handled. That of Brünings was really a toy when it came to anything serious. Had it not been for the help of the radiologist, the foreign body would have been there still. He agreed that one should not rely entirely on the radiogram. He had had the radiographer's reports

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that there was no foreign body present, yet he had found them with the bronchoscope. In one case a child swallowed a bean, and in ten days it had marked respiratory dyspnœa. But the radiogram was negative. He found the bean lying on the carina. During the ten days some portion of the bean must have got detached, for septic pneumonia followed by a lung abscess developed, and the child died.

Inoperable Angio-fibroma; Maxillary Antral Sarcoma (?) (Microscopic Section.)—Sir W. Milligan.—Patient, a male, aged seventeen. Three years' history of unilateral nasal growth. Two attempts at removal had been made before he came under observation. Patient complained of left-sided nasal obstruction and intermittent attacks of hæmorrhage and pain. The left nasal passage was completely blocked by a polypoid growth with smooth, glistening surface traversed by somewhat enlarged blood-vessels. On posterior rhinoscopy the growth was seen to occupy a considerable portion of the nasopharynx. The soft palate was pushed forwards. The left side of the face appeared much swollen, due to distension of the bony walls of the antrum. The antrum was quite opaque upon transillumination.

Operation: Kuhn's per-oral intubation tube was passed and the mouth was packed with gauze. Lateral rhinotomy was performed. On attempting to remove the growth there was furious hæmorrhage. The cavity was rapidly packed. Several attempts were made to remove the growth, but unsuccessfully on account of the extraordinarily severe bleeding. Patient collapsed and the operation was stopped. The cavity was tightly packed with gauze and saline administered. Forty-eight hours afterwards the packing was removed; again there was very severe hæmorrhage. Radium emanation tube (50 mgrm.) was inserted into the middle of the growth. No return of hæmorrhage. Rapid retrogression of growth. Three weeks afterwards there was no trace of growth, but a dense, firm, fibrous mass was found attached to the posterior antral wall (microscopic section shown). The general and local condition of the patient was now excellent.

The President noted that the case was a hæmorrhagic one, and that radium had acted as a hæmostatic. He had usually embedded from underneath the lip, and he had no serious hæmorrhage. In one case of sarcoma of the anterior wall of the antrum it disappeared completely under radium in two days without embedding.

Dr. Jobson Horne inquired about the site of origin of the growth; whether it arose in the basi-sphenoid and spread to the antrum, or within the antrum and extended to the adjacent parts. That point had an important bearing on the treatment. To get rid of such growths it was necessary to get behind them and to attack the seat of origin. Dr. Jobson Horne preferred the title angio-fibromatosis before the second title, suggested by the exhibitor, of maxillary antral sarcoma. Some years ago he had given reasons for not regarding these growths as sarcomata. They destroyed by local extension and not by metastases. The growths consisting mainly of embryonic tissue rapidly retrogressed under radium.

Mr. Tilley said he had had to deal with a case in which a large growth seemed hopeless in nature and situation, but after putting in radium it had disappeared completely; there was now no disfigurement. Ten days after putting in the radium he passed an exploring needle into the antrum and washed out a quantity of very foul smelling material. He asked why Sir William Milligan preferred to operate before using the radium.

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The PRESIDENT said many believed in applying radium in the first instance in cases of sarcoma. He had a case of growth the size of a turnip at the hospital, and 200 mgrm. of radium were being applied at the moment. It was a mixture of round and spindle cells, which did not yield so well to radium as one of purely round cells.

Mr. HUNTER TOD asked whether, in these cases, the exhibitor had tied the external carotid. He had done so recently in a similar case, with the result that there was practically no hæmorrhage.

Dr. DUNDAS GRANT thought it an encouraging illustration to the use of radium, and asked how long it was since the operation was done; he presumed long enough to test whether there was likely to be recurrence. Recently, with the aid of Dr. Knox, he introduced a tube of radium into the nasopharynx in a case of round-celled sarcoma, and caused absolute stoppage of the nose in consequence; there followed a most striking yielding of the growth to the radium and restoration of nasal patency. The patient did not come back, as agreed, a few weeks later to have it repeated, and he died. With Sir William Milligan's experience perhaps most members would try radium in the first place in such a case, as perhaps Sir William himself would. A firm fibrous mass was described. Was that information derived by inspection or palpation?

Sir WILLIAM MILLIGAN replied that he doubted if the growth was sarcoma; he regarded it as a vascular angio-fibroma. But the clinical aspects of the case made one think there must be something more at the bottom of it, because the growth had been twice removed before the patient came to the infirmary. Had he felt certain it was sarcoma he would probably have used the radium in the first instance, but he operated in the belief that it was a large vascular innocent growth. It grew from the posterior wall of the antrum, and extended back into the nasopharynx; it was not in the vault of the pharynx; there was a small space in which it did not touch the vault or the roof. He had tied the external carotid in a large number of similar cases, but he did not do it in this case; he could not say why, although when he did it in other cases it had proved of great advantage. His query in the title was due to the clinical course of the case. The operation was done three months ago. One of the immediate effects of the radium was to arrest the hæmorrhage, which at the time of the operation was furious. Though only 50 mgrm. were used the effect was wonderful. The remains of the growth could be seen from the front; there was practically no lateral wall of the antrum, it had been absorbed as the growth extended. There was need for a revision of ideas as to the degree of malignancy of these growths. Some which the microscope led one to think were very malignant turned out to be clinically quite mild.

Ulcerated Naso-antral or Choanal Polypus.—Herbert Tilley.—Mr. Tilley said that when he looked at the polypus with the posterior mirror the mass looked like a tertiary syphilitic ulcer. He thought that what he saw by anterior rhinoscopy was œdema probably connected with the ulcer; the latter had a red, well-marked border, with sloughy base. On removal he found an ulcer the size of a shilling on the posterior surface of the polypus; he had never seen anything quite similar. He did not open the antrum, because out of many cases of choanal polypus he had only had to make a second removal in three of them. He evulsed them the first time with forceps, and if there was more than one recurrence he opened the antrum through the canine fossa.

Mr. CLAYTON FOX asked whether the polypus was cystic. A few

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years ago he had to deal with a very decided case of this nature, in which he did two removals, and on each occasion 2 or 3 dr. of clear serous fluid escaped from the pedicle after removal. By means of a small mirror he could see through the accessory opening into the naso-antral wall.

Dr. DAN MCKENZIE said, that sometimes antro-nasal polypi became gangrenous from kinking round the accessory opening. Possibly that accounted for the ulceration in this case. He agreed that single removal sufficed for most cases. German authorities contended that it was necessary to open the antrum in all such cases; but he dissented from that.

Dr. DUNDAS GRANT said it was desirable to make sure, by palpation, whether there was a large opening. Forceps could be guided into the antrum and one could tear and scrape away with the assurance that recurrence would not take place. But he had seen cases in which recurrence took place after a number of years.

Sir WILLIAM MILLIGAN raised the question as to the possibility of this ulceration having been self-inflicted by the use of the finger or the tongue. He had seen patients able to put their tongue to the very back of the nasopharynx.

Mr. CLAYTON FOX suggested that the ulceration might be due to simple friction and pressure.

The PRESIDENT said these cases did not often recur. Mr. Harmer had been injecting bismuth into antral cavities. The amount of bismuth used would give an indication of the size of the cavity; and if the antrum were filled with polypus its outline would be different from that seen in the normal antrum by X-ray examination. Whether it was worth while to fill up the antrum to make a diagnosis was a debatable matter.

Mr. TILLEY replied that the possible factitious origin of the ulceration had not occurred to him; but he did not think it was probable, because this patient had a long, narrow, high-arched palate, and it would have been impossible for him to insert his tongue into his nasopharynx. He believed there was always a cyst in these naso-antral polypi.

Retropharyngeal Gumma.—G. J. F. Elphick.—Patient noticed a "swelling in the throat" about the end of September, 1914, which caused slight difficulty in swallowing. There is a rounded swelling visible on the posterior pharyngeal wall towards the left, which has a definite right border, is hard to the touch, and not very tender. Patient has occasional pain radiating up the left side of the neck towards the head, and is certain that the swelling is getting larger. There are no enlarged glands in the neck. There is no limitation of cervical movements, and a skiagram excludes cervical caries.

The PRESIDENT said the Wassermann test was positive, and it was evidently a gumma. There was an obvious large swelling when first seen, and it was thought to be possibly a parotid tumour.

Tuberculoma of Nasal Septum.—C. W. M. Hope.—E. L——, aged twenty-four, single. History of two and a half years' nasal obstruction right side, with very slight bleeding, and soreness at anterior nares. No pain. On admission to hospital: Pedunculated cauliflower-like growth from septum blocking up right anterior nares. Small patch of lupus scarring in post-nasal space; portion removed for microscopic examination from septal growth. Report from Dr. Emery: "Tuberculoma." Chest examination: No lung affection. Operation, November 11, 1914, under cocaine anæsthesia. Whole of right septal mucous membrane for a

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distance of 2 in. from vestibule and almost up to roof found affected; removed by stripping away underlying perichondrium. Cartilage and bone not touched. Floor of nostril and inferior meatus found affected and treated in the same way. Anterior two-thirds of superior turbinal also found affected and removed.

Dr. VINRACE asked whether there was evidence of tuberculosis or lupus in any other part of the body, or whether such existed at the present time. In effect, the diagnosis was primary tuberculosis of local nature in the nasopharyngeal space; and if that were correct one would have expected there would have been manifestations of the disease elsewhere. He would call it a chronic inflammatory growth.

Dr. JOBSON HORNE said the section exhibited under the microscope appeared to be stained for tubercle bacilli, but it was impossible to say whether they were present in the section, as it was not under an oil immersion. He had microscoped growths from similar cases of so-called tuberculoma of the nose, arising generally from the septum; he usually found a definite giant cell formation, but he could not find tubercle bacilli, and guinea-pigs inoculated with the tissue did not respond. It would be a pity to regard such cases as instances of primary tuberculosis of the nose.

Mr. HOWARTH said that giant cell systems were commonly seen in all granulomata. Clinically the condition was lupus.

Dr. DUNDAS GRANT said the difficulty of finding tubercle bacilli in lupus was well known. This case accorded with the typical description of that mitigated form of tuberculosis of the nasal septum, and it seemed a likely spot for infection. It was seen in people who had no other sign of tuberculosis.

Sir WILLIAM MILLIGAN doubted whether this was primary tuberculosis, from the clinical point of view. He regarded the case as lupus with proliferating granulomatous changes, the result of chronicity. He had never seen tubercle bacilli in a lupus section. He regarded lupus as a non-bacillary form of tuberculosis.

Mr. CLAYTON FOX asked what was the disposition of the giant cells in the pathological specimen? Were the giant-cells in the periphery? If so, it was in favour of lupus, which was modified tuberculosis.

Sir STCLAIR THOMSON, replying for Mr. Hope, said he had this case at heart, because he had watched a similar one for seventeen years. The present case was sent to his clinic as a suspected case of malignant disease, because of the fungating sessile growth on the right side of the septum. It had existed for some time, and the youth of the woman did not contra-indicate its malignancy. But as it had not penetrated the septum, and there were no enlarged glands, it was clinically non-malignant. He agreed that histologically it was a tuberculoma, and clinically it was lupus. He raised this question at the old Laryngological Society of London, and it involved him in a discussion with Prof. Massei, of Naples, who was so pathological that he wanted to abolish lupus, and class what was known as lupus as a mitigated form of tuberculosis. He (the speaker), however, held that it was important to distinguish between them. This was a sessile growth, going farther back than was expected, and on the posterior wall of the nasopharynx there was a glazed and infiltrated condition which he regarded as the next step in the lupus infection. He gave a diagram of what happened in a similar condition seventeen years ago. It was a case of tuberculoma shown by Dr. Watson-Williams at the old Society, and he had watched the growth penetrate into the other side of the nose, and infect the inferior turbinal and go

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into the nasopharynx. The patient married, and he warned her against having children. But she did have children, and each pregnancy led to further extension of the disease. It invaded her larynx, and she developed it on her face; and she now had tuberculosis of the lung, and was probably dying. The giant-cell system was the only pathological evidence that this was early lupus in the form of a tuberculoma. Tubercle bacilli were rarely discoverable in the tuberculomata or lupus growths, although, of course, Koch's bacillus was the primary cause.

Enlarged Tonsils in Leukæmia(?).—C. W. M. Hope.—Male, aged twenty-nine, came to hospital on November 14, 1914, to have his tonsils removed. There was no complaint except that the tonsils had troubled him for the past few weeks. On examination: Tonsils size of large walnuts, rather hard, surface covered with irregular, dark nævoid patches; masses of soft, movable glands, both sides of neck and in each axilla; bluish nodules in skin over chest and abdomen, up to the size of a shilling-piece; marked anæmia. Diagnosis: ? Sarcoma of tonsils, with sarcomatosis cutis. Gland from neck and a nodule from skin of chest removed for microscopic examination. Report from Mr. Gillies: "Lymphatic leukæmia." Blood-count not made, as the patient has not been up to the hospital since his first visit.

Injury to the Nose with subsequent Deformity.—W. Stuart-Low.—*Case* 1.—A boy, aged four, who five weeks ago fell in the road and struck his nose. The nose bled considerably, but there was no abrasion of the skin. There is now a firm thickening on the left side over the alar cartilage and the frontal process of maxilla; the lower edge of the alar cartilage is retracted and the deformity is increasing. There has evidently been a periostitis and perichondritis, and some organisation of the extravasated blood. The swelling is unusually firm and is gradually increasing, and the lumen of the nostril is being narrowed. Suggestions as regards treatment are requested.

Case 2.—A girl, aged nine, who fell in the road five weeks ago, striking her forehead on a piece of iron. Rapid effusion of blood took place, but there was no abrasion. There is now present a hard mass above the left inner canthus, causing marked deformity. The friends say it is slowly enlarging. Excision is proposed.

In neither of these cases was there hæmatoma of the nasal septum, but in the case of the girl there was probably effusion of blood in the left ethmoidal region, as the nose bled freely and was obstructed for days.

Tubes of Soft Metal for Insertion into Nose after Submucous Resection.—Dan McKenzie.—The tubes are inserted immediately after the operation and the packing applied round them. Their use does away with the objectionable blockage of the nose inseparable otherwise from packing after resection.

Mr. Harmer said that he had used rubber tubes in the nose after submucous resection for four years. When placed in the inferior meatus they kept the septum in position and very little plugging was necessary. In most instances they enabled the patient to breathe comfortably through the nose. The use of tubes was originated by Mr. Walsham, who claimed that in addition to making the patient comfortable they acted as drains and prevented the formation of adhesions.

Dr. Jobson Horne said he was glad these tubes were being reintro-

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duced. Mr. Walsham, he remembered, used ordinary rubber drainage-tubes passed through the nose after septum operations. The tubes were perforated. The perforating was an advantage.

Sir WILLIAM MILLIGAN agreed that they were excellent tubes, but it raised the question whether tubes were desirable at all.

Mr. W. STUART-LOW thought this question would make an excellent subject for a set discussion.

Dr. MCKENZIE replied that the tubes were not intended for drainage; they were for the patient to breathe through during the time the packing was in the nose. Pressure of the swelling caused rubber tubes to close. He thought anyone who had once tried his tubes for twenty-four hours after the operation would continue to use them.

New Growth of Tonsil and Faucial Pillars.—H. Clayton Fox.—The exhibitor thought the growth was an epithelioma; the pathologist, on the contrary, pronounced it to be an infective papilloma.

Mr. STUART-LOW thought it was epithelioma. There was induration, and on palpation it was very firm. In a similar case radium administration had done good.

Dr. VINRACE asked whether the Wassermann test had been applied, and why there was no glandular enlargement? The faucial pillar was eroded and infiltrated and had an angry appearance, and it was as likely to be syphilis as malignant disease.

Dr. LEATHEM said he had examined the specimen and regarded it as infective papilloma. The most doubtful part of the specimen showed one or two epithelial masses resembling cell-nests, but on the whole he thought it was papilloma.

Dr. DUNDAS GRANT regarded it as epithelioma; it was diffuse and ulcerated, and there were cell-nests. If so, it was a most instructive case, showing how latent a malignant process might be.

Mr. CLAYTON FOX, in reply, said that Escat, in his work on diseases of the throat, mentioned the fact that cervical abscesses had been observed as the earliest manifestation of latent epithelioma of the pharynx. He believed that in this case the epitheliomatous growth had started in the supra-tonsillar fossa or in a palatine recess of the same. Wassermann's reaction had not been tested. He wondered whether the early overrunning of the area involved, together with the subsequent cicatrisation, might not have had some influence in blocking the lymphatics, and thus accounting for the absence of glandular enlargement met with in this case.

Abstracts.

PHARYNX.

Conroe, Julina (York, Pa.).—The Use and Abuse of the Tonsils. "Journ. Amer. Med. Assoc.," October 17, 1914.

From a review of the literature and personal investigation the author attributes to the tonsil the following functions:

(1) Protective. The tonsils are generators of lymphocytes and leucocytes, which are undoubtedly present in large numbers, where they may even be stored up for ready action when called on, and that, in addition

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