tion mentioned in the notes, and he thought if he brought it forward it might deter others from opening the dura. In neither of the cases was there any outward sign of antrum disease; the hardest pressure did not reveal mastoid tenderness.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

November 7, 1913.

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

Cases of Foreign Body in the Bronchus, illustrating Points of Interest.—D. R. Paterson.—(*a*) *Piece of Button removed from Left Bronchus.*—A girl, aged ten; admitted to hospital, May, 1913. She was said to have inhaled a small piece of button which she had in her mouth. Beyond a slight occasional cough there were no symptoms, and the child looked well. X-ray examination was negative. Though symptoms were absent, the child gave such an intelligent account of what happened that it was decided to explore the air-passages. In the left bronchus, wedged in the branch to the upper lobe, was seen a small, dark body. As the bronchus was small, only a narrow tube was practicable; the fine, telescopic forceps drew it out, but in passing through the glottis it slipped from their grasp. Fortunately it remained impacted in the subglottic space and was easily removed with the crocodile forceps. The body was a wedge-shaped piece of a black coat-button, $\frac{3}{8}$ in. in size.

(*b*) *Piece of Mutton-Bone impacted in Right Bronchus.*—The patient, aged thirty-two, admitted July, 1913, was a hospital nurse, who gave a history that, three weeks before, whilst eating mutton broth, she felt a piece of bone "go down the wrong way." There was choking at the time, which soon passed off, and, beyond an indefinite uneasiness about the chest and an occasional cough, there was a total absence of symptoms. She looked well, had no rise of temperature, and had done her work regularly. Though there were no auscultatory signs, she was "certain it was still there." Accordingly she was placed under a general anæsthetic, and at the bottom of the right bronchus was found a piece of flat bone $\frac{3}{8}$ in. square. Its sharp edges followed the long axis of the wall of the bronchus, allowing the air to pass freely to and fro. Beyond a slight injection of the mucosa in the immediate neighbourhood there was no sign of irritation, though the bone on extraction had a very foul odour.

(*c*) *Feather, 6 in. long, in Trachea and Right Bronchus.*—A woman, aged forty-seven, admitted July, 1913, had worn a tracheotomy tube for two years on account of syphilitic laryngeal stenosis. She was in the habit of cleaning the tube by pushing down a long feather, and whilst doing this a portion broke off and could not be recovered. She came to hospital fifteen hours later, looking very ill, with dyspnœa and wheezing. An attempt to lie down brought on much distress. A bronchoscopic tube was passed through the tracheal opening, and after clearing the profuse secretions which filled the trachea, the feather was seized and drawn out of the right bronchus. It was 6 in. long and was very

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offensive. The mucosa of the trachea and bronchus was covered with a dirty grey coating, the lumen being filled with frothy secretion. The patient was very ill for a few days with bronchitis, but afterwards did well.

These cases illustrate (1) variations in the degree of irritation set up by a foreign body in the bronchus. The first two patients had practically no symptoms, and a very clear account in each was the only ground for interference. Even a very septic piece of bone may be tolerated if it does not obstruct the airway or imprison secretions. On the other hand, the third case shows how serious a condition may be readily produced by a septic body. (2) In the first case there was a not uncommon accident in the course of extraction—slipping of the foreign body from the forceps. This is sometimes attended by serious consequences when it falls into the other bronchus. It is a practical problem how best to prevent it.

Removal of a Green Pea from the Right Bronchus by an improvised Method.—Herbert Tilley.—On August 6, 1913, I was asked to see a man, aged sixty-three, who had suffered from a harassing cough for three days. He said he was eating some peas when one "went the wrong way." Examination of the lungs revealed slight dulness on percussion over the lower half of the right lung posteriorly; breath-sounds and vocal resonance were diminished over the same area.

The lower pharynx, larynx and upper tracheal regions were anæsthetised with a 20 per cent. solution of cocaine. The bronchoscope was passed into the right bronchus, and, when a quantity of mucus was removed, the pea could be easily seen impacted at the end of the main bronchus. Fearing it would be very soft and macerated, I did not attempt to remove it with forceps or hooks, but passed the end of the bronchoscope firmly on to the pea and then slowly passed a well-fitting plug of wool soaked in liquid paraffin down the bronchoscope until it reached the foreign body. Then, by a sudden but short movement of withdrawal of the piston-plug, the pea was sucked into the lower end of the bronchoscope and removed together with the tube.

It is well known that foreign bodies such as nuts, peas, beans, corn-seeds, etc., which quickly soften and macerate, are peculiarly dangerous when they enter the lower air-passages, and are equally difficult to remove. The method above described seems worthy of report.

The PRESIDENT added that an interesting case had been reported by Hinsberg, in which a plum-stone had got lodged, in the first instance, in the right bronchus. It was seized without difficulty, but in the act of extraction it slipped from the forceps and dropped into the left bronchus. The patient got into a serious condition, and though the stone was seen and grasped it could not be moved, and the woman died some hours later. At the autopsy it was found that the right lung had been entirely shrunken for many years, the patient using practically solely the left lung, which had become blocked up by the entrance of this foreign body. A foreign body obstructing a bronchus soon abolishes the respiratory function of that lung, and consequently if it happened to slip from the forceps in the course of extraction it was more than likely to be drawn into the bronchus of the sound side. Brünings had suggested that before attempting extraction, a "bronchus protector"—a small arrangement like a sweep's brush—should be placed in the unaffected bronchus, so that if the foreign body happened to slip from the grasp of the forceps it would be prevented from entering it.

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Mr. Westmacott gave an illustration of the importance of paying attention to the statement of the patient. Two years ago a lady was having teeth removed in a dentist's chair, and on recovering from the anæsthetic she said she felt there was something in the windpipe. Upon examination he found nothing there. She did not appear to have irritation or cough, but persisted in her statement that there was something present. On being radiographed no foreign body was seen by screen or plate. Ten days ago, however, she brought a biscuspid root, with the crown detached, which she had coughed up that morning. There had been an attack of pain, and a violent coughing fit resulted in it being brought up.

Dr. Jobson Horne said that not only had suction action been resorted to for the extraction of foreign bodies, but some eight years ago a writer suggested the application of some adhesive matter to the end of the piston plug to prevent, if possible, the foreign body slipping away and, perhaps, lodging in another bronchus.

Dr. H. J. Davis wondered that soft foreign bodies, such as peas and beans, required so much expiratory effort to cough up, unless they happened to be in one of the large bronchial tubes. This did not apply to those of firmer texture. Such things as needles and steel pins when in the œsophagus were often difficult to find, and hence it had occurred to him to have for such cases a slender rod of iron highly magnetised, and to have the extracting forceps magnetised also. This should greatly diminish the risk of relinquishing the foreign body after once having located and grasped it. Sometimes, though a needle or a pin could be seen by X rays, it could not be found because a fold of mucous membrane enwrapped it. The patient's statement as to the presence of a foreign body could not always be accepted, as illustrated in a case of his. The patient gave a history of having had a foreign body, a pin, in the lung fourteen days. The girl had urgent dyspnœa and seemed very ill. She was taken in and skiagraphed, but without result. Something about the child's appearance made him think of diphtheria and there was found to be albuminuria. On looking into the larynx with the laryngoscope he found no indication of diphtheria, but on passing a bronchoscope he found trachea and bronchi filled with diphtheritic membrane. This was peeled off by the advancing tube and bled profusely. The pathological report was that it was not diphtheria, but the girl is still in the hospital with diminishing knee-jerks, a rapid pulse, and paralysis of the palate, and, clinically, there was no doubt whatever as to the case being one of diphtheria. The passage of the tube gave permanent relief to the retraction and dyspnœa.

Dr. Lambert Lack agreed that the greatest respect should be paid to patients' statements. In the case of adults a definite history of a foreign body could usually be relied on. Alleged fish-bones could not always be found, but it did not follow that they were not there. Some years ago a patient came to him with a tooth-plate and teeth attached firmly embedded into the larynx, yet there were practically no symptoms, or so few that the local medical man had sent her away for a change to the seaside to get rid of a slight sore throat. He thought Mr. Tilley's explanation of his case was probably wrong; the piston action did not seem likely to have had anything to do with it; the end of the tube was probably jammed on to the pea, and it was secured in that way.

Dr. Donelan also thought the reason such soft bodies were not coughed up was chiefly physiological. The body was probably first held by spasm, then there was swelling of the mucous membrane followed by

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absorption of the air in the alveoli supplied by obstructed tube, hence there would in addition be no *vis à tergo* on coughing.

Sir StClair Thomson said he was surprised to hear that rubber did not show up on the X-ray plate. Last year he had a case in which a vulcanite denture had been lodged in the œsophagus for two and a half years. It had been X-rayed at several Metropolitan hospitals, but they had failed to find it; even with the œsophagoscope it was not found. On the skiagram made for him, however, it showed sufficiently plainly for those skilled in reading skiagrams. Morals could be drawn from these excellent cases, and one of them was that there was no great need for hurry about extraction in certain cases. Knowledge of this fact would do much to obviate the tempestuous attempts at removal sometimes made by practitioners, who were without the special apparatus; and there was time to take the patient to a hospital, or to someone experienced in such matters. This rising generation might well be reminded that in former days the death-rate from the lodgment of foreign bodies in the bronchi was 60 per cent. if operation was not done —and the only operation available in those days was tracheotomy, which reduced it to 30 per cent. Nowadays the figures were probably from 1 to 3 per cent.

Mr. Tilley, in reply, said that in difficult cases it was very valuable to have a screen examination to guide one in the extraction. In certain instances he thought the invisibility of the foreign body in the lung or bronchi was due to an instantaneous radiogram not having been taken. In answer to Dr. Lack, the foreign body was not attached to the end of the tube, but the suction had drawn it some way up the tube.

The President, in reply, said that when confronted with a soft foreign body in the bronchus he always had some anxiety. He remembered a case in which a piece of bean had been there some time, and was much macerated. Though he got hold of it without much damage, he realised what might happen if it slipped and dropped into the healthy bronchus. In reply to Dr. Hill, he did not think one should rely too much on the X-ray photographs. On the other hand, sometimes bodies which were shown on the X-ray plate were very difficult to find with the bronchoscope, and recently Prof. Killian showed him a case which had been in his clinic for some time, and in which repeated attempts had been made to find a foreign body which the radiograph showed. In these attempts with the bronchoscope it was important not to prolong the *séance* too much, for that added to the risks.

Notes, Specimen and Drawing of Case of Cerebro-spinal Rhinorrhœa, with subsequent Ethmoiditis, Mucocele, and Frontal Sinus Suppuration, indistinguishable from Ethmoidal Mucocele; Operation; Death.—P. Watson-Williams.—See Journal of Laryngology, Rhinology, and Otology, vol. xxviii, p. 623.

Mr. Somerville Hastings said that early in the present year he had had a somewhat similar case. A woman came to hospital complaining that, eight weeks before, she had had much pain in the neighbourhood of the right eye, associated with fever, and that a swelling then developed. The right globe was pushed outwards, and there was a large, tense, fluctuating swelling to the inner side of the right eye. He punctured this, and drew off dark-brown thick fluid, which bacteriological examination showed to be sterile. By feeling about in the cyst with the end of the needle he found there was a communication with the frontal sinus. He operated, and as the septum was much deflected, he did a submucous

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resection. The right middle turbinate was then seen to be glued down to the outer side of the nose, and when he removed it a large quantity of the same dark-brown fluid came out, and a probe passed easily into a thick oblated frontal sinus. The patient did well for two days, and then suddenly developed meningitis, and died on the fourth day. At the autopsy there was no injury to the dura, but the pressure of the fluid had caused absorption of long walls of the frontal sinus, so that the mucous membrane of the sinus was in contact with the dura. The meningitis was most marked at the base of the brain and was almost entirely absent in the frontal region.

Sir StClair Thomson, in his book on the cerebro-spinal fluid, had referred to a case published in full by Mermod. There a very similar occurrence took place, and the author regretted he did not collect the fluid. At one time it was thought that cerebro-spinal rhinorrhœa affected only young people, but cerebro-spinal rhinorrhœa had been proved in patients up to sixty-five years of age; it might occur at any age and in either sex. All the published cases had ended fatally. He had collected reports of twenty-three. When there was sinusitis the slightest touch, though the instruments were aseptic, appeared to set up fatal meningitis.

Mr. Clayton Fox asked whether the pyrocatechin reaction had been tried.

The President asked whether, if the nature of such a case were known beforehand, one should abstain from operating. His question was founded on Sir StClair Thomson's remarks.

Dr. Watson-Williams replied that no opportunity occurred for collecting the fluid and examining it. He did not suspect cerebro-spinal rhinorrhœa before operating, and no pus was observed in connection with the discharge of fluid, and he had regarded the "clear fluid" as simply mucus. From the examination of the specimen he concluded that the debiscence was congenital; there was a large area of dura mater exposed. He first of all opened what he at first thought was the ethmoidal mucocele, but when he found suppuration in the frontal sinus, he was proceeding to do a Killian, when he found that the raspatory in elevating the periosteum was not against the bony orbit, but in contact with the membrane where it was exposed in the roof of the orbit. In the specimen a small round pin-point opening existed during life, and had a perfectly even margin. In reply to the President, one could not argue from a single case, but had he had a suspicion it was cerebro-spinal rhinorrhœa he would not have operated.

Endothelioma of the Ethmoid.—**Dan McKenzie.**—The patient, a woman, aged twenty-three, came under my care in May of this year. For about a couple of months she had been noticing some stuffiness in the right nostril, and a fortnight before her first visit to the hospital she became aware of the presence of a small swelling on the right side of the bridge of the nose. This swelling, which at first sight looked more like a hæmatoma from a trauma than anything else, turned out to be an extension through the right nasal bone of a growth in the ethmoidal region. Further examination revealed a second extension of the growth into the orbit, where it could be felt deep to the inner canthus. The eyeball was markedly displaced outwards, but there was no diplopia. Intranasally, there was very little to be seen. The middle turbinal seemed to be fuller and lower than normal, but no sign of new growth could be discerned. Probing the ethmoidal region, however, set up very free

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bleeding. The diagnosis of ethmoidal tumour, probably malignant, led to operation on May 15. The nose was opened through a lateral incision traversing the protuberance on the nasal bone, and the whole mass, light, loose and very vascular, was scooped out with sharp spoons. It seemed to be growing from the cribriform plate, and it involved the whole ethmoidal labyrinth on the right side, including the middle turbinal. A flattish mass about the size of a terminal digit lay in the orbit, the mesial bony wall of which had been destroyed. In addition to that, and to the window in the nasal bone through which the tumour had reached the subcutaneous tissue of the nasal bridge, there was also a fenestra in the ethmoidal septum. Save for rather free bleeding, the operation presented no difficulties, and healing by first intention resulted, except at the spot corresponding to the lump on the nose, where the wound remained opened for some weeks. It is now entirely closed, but an adherent depression marks this spot. There is, so far, no sign of any recurrence. Unfortunately, the specimen was not suitably preserved, and when Dr. Wingrave came to examine it he hesitated to commit himself as to the nature of the growth. It "looked like endothelioma."

The PRESIDENT said that there was an advantage, when dealing with extensive intranasal malignant growths, in a combination of the Denker and the Moure operations. He did that ten days ago in a case of sarcoma where the disease was very extensive, involving the antrum right up to the frontal sinus. The combined operation enabled him to clear out the whole interior of the nose.

Epithelioma of Floor of the Mouth and Tongue, and Ulceration on the Palate.—W. M. Mollison.—J. C——, aged seventy-two, was shown at a meeting of the Section in June last.[1] At that time he had a movable whitish mass under the tongue and ulceration on the palate. The surgeon under whom the patient was admitted considered that operation was inadvisable; the man had therefore been having treatment with X-rays. The ulceration on the palate had changed very little either in extent or in appearance and its pathology was still *sub judice*. The mass under the tongue had developed into a typical ulcerating epithelioma deeply invading the tongue.

Mr. HERBERT TILLEY considered the ulceration on the palate to be epithelioma. It was uncommon to find a growth on the floor of the mouth and unconnected with another growth of the same nature on the soft palate. At the present time he had under his care an old man who had syphilitic scars and granulation areas in the soft palate. From time to time during the past two years these granulations had disappeared under local and general anti-syphilitic treatment, but recently one small area had refused to heal; it had increased in size and now presented an everted edge which histological examination showed to be epithelioma. In Mr. Mollison's patient it would be easy to remove a piece under local anæsthesia and submit it to the microscope.

Mr. DE SANTI asked whether Mr. Mollison had any idea of operating on the epithelioma. He regarded the case as hopeless, and would recommend diathermy; very good results had been shown after diathermy by Mr. Harmer in such cases.

Mr. HARMER regarded both growths as epitheliomata, and did not think such cases were excessively rare. During the last two years he had seen two cases with two epitheliomata in the upper air-passages, about

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., January, 1914, p. 39.

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2 in. apart. One man had epithelioma of the lower lip and a separate growth involving the tonsil and part of the tongue. The other was a man from whom he removed an epithelioma of the soft palate, and shortly afterwards he discovered that there was an advanced growth between epiglottis and tongue. As there had been no symptoms, the laryngeal growth had been overlooked. In the present case he believed the greater part of the disease could be destroyed by diathermy. He would treat the front of the mouth first and afterwards the palate, if that were found to be malignant.

Mr. A. J. WRIGHT agreed with Mr. Tilley that the growth on the palate was epithelioma. Two years ago he saw a man who had had his tongue removed for epithelioma, and six months after operation was found to have epithelioma of the œsophagus, which led to the death of the patient: the nature was verified *post mortem*.

Mr. CLAYTON FOX said that in view of the multiple nature of the growth it would be well to know whether the Wassermann reaction had been tried, and whether the patient had had leucoplakia, and been an ardent smoker or imbiber of spirits.

Mr. MOLLISON replied that he was not aware that the patient had had any leucoplakia; the Wassermann reaction was negative, though the result was not very satisfactory as the patient was already taking iodide. No operative treatment was suggested as the growth was too extensive. He would try diathermy, though his previous experience of the method had not been very good; possibly he had been using the wrong applicator. If possible, he would remove a small piece from the palate for microscopical examination.

Pneumococcal Infection of the Pharynx and Larynx.—Philip Turner and **W. M. Mollison.**—H. F——, aged twenty-three, was admitted to hospital in April last on account of tenseness and a brawny swelling in the right submaxillary region; this was incised under an anæsthetic. During the course of the operation the patient developed so much dyspnœa as to necessitate a laryngotomy; the tube was removed in a day or two and the patient made a fair recovery, though he had all the time some swelling about the pharynx and tonsils. In July the patient was readmitted with increasing dyspnœa. Tracheotomy had to be performed and ever since the tube has been worn. Examination of the larynx before readmission had shown œdema of the epiglottis and arytænoid regions.

In August a further examination of the patient was made under an anæsthetic; it was found that the soft palate and uvula were œdematous and the tonsils large and ragged. The right tonsil contained a cavity into which the tip of the finger could be introduced; it was enucleated, and on bacteriological examination a pure culture of pneumococcus was obtained. The œdematous epiglottis was punctured and cultivations taken from the serum obtained; these cultivations showed pneumococcus and *Micrococcus catarrhalis*. The patient still has much swelling about the upper aperture of the larynx, and is unable to dispense with the tracheotomy tube. The temperature has varied from 99° to 97° F., except for two days following the tracheotomy. Two weeks ago the patient had a quinsy on the left side.

Dr. DAN MCKENZIE said that two years ago he showed a case[1] which this reminded him of—a woman, a cook, well over middle age. The

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., vol. xxvii, p. 156.

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disease first simulated sarcoma of the pharynx; there was great œdema of pharynx and larynx, and neck, the hollow of the neck being filled up. The œdema slowly spread to the larynx below the glottis. He tracheotomised early, and she wore her tube eighteen months. Finally, after many viscissitudes the tube could be dispensed with, and she was able to return to her work. There still remained some subglottic stenosis in the cricoid region, of a cicatricial character, and her breathing was somewhat impeded; otherwise her condition was as good now as it was before her illness. He suggested that a similar course of events might occur in this case, and the patient recover; that is to say, we were dealing in these cases with a slow pneumococcus infection of the cellular tissue, slowly advancing, slowly retreating, and finally slowly disappearing with little scarring or contraction.

The PRESIDENT asked whether serum had been tried. He had himself tried it in one case, but without any very good result.

Mr. MOLLISON replied that a pneumococcal vaccine had not been tried. Since this case he had seen two of pneumococcal infection of epiglottis or larynx at Guy's Hospital. The first was a woman of the type mentioned by Dr. McKenzie; her epiglottis was so much enlarged that she had some dyspnœa and dysphagia. He punctured the epiglottis, cultivated the serum, and found a pure growth of pneumococcus. She got well in four or five weeks. The other case he saw a week ago, and here also there was much swelling of epiglottis and arytænoids. On puncturing the epiglottis, he obtained a growth of pneumococcus. That patient was also slowly recovering.

Mr. PHILIP TURNER, in reply, said that although no vaccine had as yet been used for this patient he was slowly recovering; he could now get some air through the larynx.

Tumour of the Soft Palate.—Thomas Guthrie (*see p.* 68).

The PRESIDENT said he thought these glands were very much like glands met with in the soft palate of the rat, which were regarded by the biologist as of the type of mucous gland.

Dr. H. J. DAVIS said he had not seen the case, but asked whether it was possible that a piece of adenoid tissue had got implanted on to the palate; he had seen such fixed on to the back of the pharynx after incomplete removal.

Mr. GUTHRIE replied that he did not think it was adenoid tissue, as it showed lobules and resembled salivary gland. He had not found any record of a similar case. There were cases recorded of so-called mixed parotid tumour in connection with the palate, but he regarded them as endotheliomata.

Fixed Crico-arytænoid Joint; Phthisis; Healed Tertiary Syphilis.—T. B. Layton.—A woman, aged thirty-four, was being treated with X rays for a skin lesion on the lip. Complaining of a sore throat she was sent to the Throat Department, where it was found that she had a tertiary syphilitic ulceration of the pharyngeal wall. The Wassermann reaction was positive. She was given salvarsan and a course of mercury, and the pharyngeal condition cleared up. She has also a fixed left crico-arytænoid joint which she says she has had since she was fifteen, and which followed an acute specific fever. Signs of phthisis are present at both apices, and tubercle bacilli and elastic fibres are present in the sputum.

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Mass attached to Laryngeal Wall.—T. B. Layton.—A woman, aged forty-one, has had a short, dry cough since birth. In 1911 she consulted a doctor for cough and hoarseness. In August, 1912, she went to another, who had the sputum examined and tubercle bacilli were found in it. In November, 1912, she complained of cough, hoarseness, and languor, and had a temperature of 100·4° F., with physical signs of limited active disease at the right apex. Examination of the larynx showed that the cords did not meet on phonation, the left arytænoid was reddened, and a small nodule was seen on the epiglottis near the top. During the night of November 12, 1912, she had a hæmoptysis of a few ounces. She was sent to a sanatorium and returned to London in October, 1913. Ten days before the meeting the whole larynx was acutely red; peeping out from under the front end of the left false vocal cord was an intensely red polypoid mass. On the anterior surface of the left arytænoid process there appeared to be some ulceration. One week later the larynx was much better. The polypoid mass still projected, but was now of a pink rather than a red colour, the general laryngitis was well, the condition of the arytænoid process nearly so. There are now no signs of active tuberculosis in the lung.

The PRESIDENT suggested that the mass might be a prolapsed sacculus laryngis.

Tumour of Right Vocal Cord.—T. B. Layton.—A man, aged twenty-four, has complained of a "rising in the throat" whenever he swallows his saliva. He has a subacute pharyngitis with very carious teeth. On examining the larynx a small mass lies attached to the right vocal cord and half covered by it. It is the colour of the rest of the cord, and lies just behind the middle of the glottis, being the size of an ordinary pin's head. Attention to the teeth and a gargle cured the pharyngeal symptoms. No symptoms attributable to the laryngeal mass were present.

Dr. JOBSON HORNE regarded it as pachydermia, for which he counselled rest of voice.

Dr. FITZGERALD POWELL thought it was a small fibroma, which should be removed by the guarded cautery.

Mr. DE SANTI advised leaving it alone.

A New Pattern of Knife and Cartilage Scissors for Submucous Resection of the Septum.—F. H. Westmacott.—The knife exhibited presents a long and curved blade, with a cross-handle, which gives a firm grip to the instrument. The curve enables the operator to cut the cartilage above and below, in two sweeps; the curved incisions meet posteriorly by intersection. The special feature, however, is the cutting edge of the knife, which is a V-shaped curve and will cut through the softest cartilage, because it always presents a sliding edge, and obviates the difficulty experienced with any transverse blade of a soft cartilage doubling up before it and not being cut through.

The scissors also shown are curved in the same radius as the knife, and the whole incision of the cartilage may be carried out with them. The edges are serrated, to prevent slipping of the cartilage between the blades.

The PRESIDENT said that the longer he continued doing the operation of submucous resection, the fewer instruments he relied on. He had now practically abandoned Killian's and Ballinger's knives, and adhered

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to the ordinary forceps, with which he got out ordinary cartilage and bone satisfactorily. The membrane was very rarely perforated.

Dr. FitzGerald Powell thought that the scissors shown would be found most useful. There was often much trouble in starting the incision in the cartilage with the swivel knife.

Dr. Kelson asked whether the instrument was used only for the cartilaginous portion of the septum.

Mr. Westmacott replied that he did not attempt to remove the bony portion of the septum with a knife, but used punch forceps for that. With a knife one was liable to fracture the vertical ethmoidal or cribriform plate.

Tonsils enucleated by Matthieu's Guillotine.—F. H. Westmacott.—The specimens were taken from seven successive cases operated upon to demonstrate that tonsils may be enucleated by means of "Matthieu's" guillotine, after the upper pole of the tonsil has been dug out and tilted forward by means of the forefinger only.

The Rhinomanometer.—H. A. Kisch.—The instrument has been designed for the purpose of ascertaining whether slight degrees of nasal obstruction are present. It will indicate both inspiratory and expiratory obstruction. The principle of the instrument consists in measuring of the distance through which a column of water can be moved in a definite time. During the test the mouth is kept wide open. The instrument is a glass tube with a wide nose-piece, and a resistance at the distal end.

The President said the difficulty about these instruments was to apply them in an absolutely natural method, without disturbing the nasal passage. He supposed it was necessary to put the bulb of the instrument into the nostril so as to get the air to go through, the other nostril being closed at the same time. Once the nostrils were touched or influenced, the air-stream was modified.

Mr. Westmacott said the rhinomanometer was useful for demonstrating to patients that nasal obstruction existed. Last week he had a case in which there was complete obstruction of both nostrils, yet the patient declared there was no trouble about breathing through the nose, and there was no snoring. He proved to the patient that it was a physical impossibility to breathe through the nose. It was also useful when obstruction was complained of, and yet there was a free passage. He recently had such a case in a girl claiming under the Workmen's Compensation Act. She had an accident in the mill, which smashed in the nasal bones and crumpled up the septum. She said she could not go back to work because the air was dusty and she had obstruction of the nose. A colleague had removed the turbinal bodies and straightened the septum, and there was even more than the normal amount of airway.

Mr. Kisch, in reply, said that it was difficult to determine whether there was slight obstruction. The instrument was designed for this purpose. He had tried to obviate the objection mentioned by the President by making the nose-piece large. This rested in the orifice and the opposite nostril was closed by the thumb pressed upwards in the same way.

Fibroma on the Vocal Cord.—H. J. Davis.—Patient a woman, aged thirty-six. The tumour, the size of a pin's head, is either a fibroma

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or papilloma and is attached to the anterior surface of the cord, but is very difficult to see owing to its position in the anterior commissure. It evidently drops down between the cords on phonation, causing cough and slight hoarseness. November 25: The growth was removed by the direct method with Paterson's forceps and proved to be a soft fibroma.

Farthing in the Œsophagus of a Baby, aged two.—H. J. Davis.—The coin, which was vertically impacted, was removed with the President's forceps by the direct method. A skiagram showing the coin was exhibited.

Fixation of the Right Vocal Cord, producing no symptoms.—H. J. Davis.—The patient is an actor, aged sixty-one. He came for deafness. In the course of examination it was observed that the right cord was drawn to the middle line, and, on phonation, the glottis presented the appearance, shape and direction observed in left complete total recurrent paralysis, although it is the right cord which fails to abduct; this points to the diagnosis of ankylosis of the right arytænoid joint. The patient states that, in 1873, he was operated on in Paris by Isambard, who removed a "fibro-mucous polypus" from the right cord. He was then taken to the hospital and exhibited to the students as a curiosity, as this was one of the first intra-laryngeal operations successfully performed in Paris. The patient had no symptoms and the voice is strong and powerful, but the cord is motionless on abduction.

Mr. CLAYTON FOX said he thought that the cords moved both in adduction and abduction; there was hampering of movements of the right cord, but that could perhaps be accounted for by over-use of the voice, inducing functional paresis.

Mr. HERBERT TILLEY agreed that the right cord moved, but the movement was not free.

Dr. DONELAN said it looked rather like abductor paralysis of the right vocal cord in a previously oblique larynx. He would like to know why Dr. Davis abandoned the diagnosis of ankylosis. He had shown several years ago a young lady who, during an Alpine excursion, had got sudden laryngitis affecting the right arytænoid body, and having appearances very like those in this case.

Dr. H. J. DAVIS, in reply, said he did not consider that the right vocal cord on abduction moved at all. The man had right abductor paralysis, and the left cord did not adduct normally, hence the glottis was askew. The patient had had no symptoms since the operation, which was in 1873, and he did not know there was anything the matter with the larynx.

Peculiar Deformity of the Lower Jaw.—H. J. Davis.—A girl, aged eighteen. The patient had had four operations for adenoids. There appeared to be no chin, and the report from the X-ray department was that the ascending ramus of the mandible was absent on one side. It was suggested that the deformity might be the result of long-standing nasal obstruction.

Mr. DE SANTI said the ramus was present, and could be felt by putting one finger inside the mouth and another outside. Moreover, he could feel the condyles moving in the mandibular joint. He looked upon the condition as a rudimentary jaw.

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Small Tuberculous Ulcer of the Aryepiglottic Fold, close to the Attachment of the Margin of the Epiglottis.—J. Dundas Grant.—The patient is a middle-aged woman, suffering from pulmonary tuberculosis. She complained of violent pain on swallowing, which she located in the lower part of the left side of her throat; when asked she stated that it frequently shot up to the left ear. The extreme pain had been present for a week, but for two months she had complained of a feeling as of something sticking in the throat. The throat was very irritable, and on the first cursory examination no ulcer was visible, but on further closer examination an ulcer, localised at the anterior part of the left ary-epiglottic fold, was to be seen.

The exhibitor has occasionally seen cases of such extreme pain with apparently no visible lesion of the framework of the larynx. He considers it possible that a similar condition to that existing in the present case—though in a slighter degree, and eluding inspection—may have been the cause of the pain.

Perforation of the Septum Nasi causing Inspiratory Whistle. —Douglas Harmer.—Patient had severe epistaxis after boxing seven months ago. Otherwise he had never been troubled by his nose, and no operation has been performed. There was a small perforation in the anterior part of the septum, and the whistling noise was produced by inspiration. The whistle could be stopped by plugging the hole. The perforation could probably be cured by a flap operation.

The PRESIDENT said he remembered a similar kind of case, in which the whistling was most noticeable when the person happened to be annoyed. That patient declined a flap operation, therefore he had the hole enlarged, which stopped the whistling.

Epithelioma of Epiglottis, with Extensive Involvement of the Cervical Glands on both sides; Removal of Epiglottis and Glands. —P. R. W. de Santi.—Male, aged sixty-three. Seen in the third week of March, 1913. History of slight sore throat and difficulty in swallowing three months. On examination a well-marked, irregular, hard nodular growth was seen, occupying the whole of the left side of the epiglottis, and extending over to the right side and towards left ary-epiglottic fold. Examination with the finger revealed considerable hardness and fixity of the epiglottis. The cervical glands of the neck were extensively involved on both sides. A piece of the growth was removed for microscopic examination, and revealed typical epithelioma. Wassermann negative. I performed tracheotomy and laryngo-fissure, and removed the epiglottis freely and wide of the disease. Some three weeks later the glands were removed on both sides of the neck, and on the right side I had to remove $2\frac{1}{2}$ inches of the jugular vein. The patient left the hospital two weeks later. The glands microscopically showed typical epithelioma. The case is shown to illustrate the good results that may follow a very free removal of the epiglottis for carcinoma without having recourse to complete laryngectomy, a procedure usually done for malignant disease of the epiglottis, also to illustrate the very extensive implication of the glands in so early a stage. He is at present free from disease, but it is only seven and a half months since operation.

The PRESIDENT said Mr. de Santi was to be congratulated on a most admirable result. He asked whether there was any infection of the interior of the larynx.

Mr. DE SANTI replied that it was an early case, and the disease was

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limited to the epiglottis. Five glands examined afterwards showed typical epithelioma. In former days Mr. de Santi would probably have removed the whole larynx for such a condition, but greater experience led him to adopt, when possible, a less severe operation.

Large Pulsating Vessel in the Right Posterior Pharyngeal Wall.—J. H. Connolly.—The patient, a boy, aged five, has enlarged tonsils and adenoids, associated with nasal obstruction, and would probably be benefited by their removal. This large blood-vessel is a danger—an uncommon one—and may contra-indicate operative interference. Presumably it is the internal carotid or the ascending pharyngeal artery, or perhaps it may be an abnormal vessel. Its size appears large for the ascending pharyngeal, although it is true that the pulsation is apt to give a wrong impression of the calibre of the vessel. He was inclined to regard it as the internal carotid, and, whilst prepared to remove the tonsils, thought it wise to leave the adenoids alone.

The PRESIDENT said the vessel looked like the ascending pharyngeal, and he did not think there would be much difficulty in removing the adenoids without damaging the vessel.

Dr. H. J. DAVIS agreed that the vessel was the ascending pharyngeal. It appeared to be more at the side than it really was, as the tonsils were so large, but if they were not there the vessel would be seen to be much nearer the mid-line than it seemed. He would leave the adenoids alone.

Mr. HARMER recollected a case in which the house-surgeon removed one tonsil, and there was a tremendous rush of blood, obviously from some large artery which had been cut. The bleeding lasted only a few moments, but a few hours later was repeated, and the patient died. *Post-mortem*, the girl was found to have two complete coils in the internal carotid arteries, and these coils pushed in towards the middle line, under the posterior wall of the pharynx; in cutting off the tonsil one of the coils had been completely removed.

Dr. DONELAN said that Dr. Jacobson, of New Orleans, reported a case in private practice some twenty years ago, in which he had to tie the common carotid before hæmorrhage could be arrested. It was tonsillotomy. That patient recovered, so it was impossible to ascertain the nature of the abnormality.

PROCEEDINGS OF THE SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

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

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

Reported by DR. W. S. SYME.

The Radical Mastoid's "First Dressing."—J. D. Lithgow.—(See JOURN. OF LARYNGOL., RHINOL., AND OTOL., November, 1913, p. 589.)

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