ROYAL SOCIETY OF MEDICINE—SECTION OF LARYNGOLOGY.

December 6, 1929.

President—Dr Dan McKenzie.

Specimen: Larynx of a Patient who was operated on by Laryngo-fissure for Epithelioma, showing no Recurrence at his Death Twenty Years Afterwards — Sir St Clair Thomson, M.D.—The patient was a schoolmaster, aged 59, seen in January 1909, with irregular, grey growth over middle of left cord. A portion was removed for biopsy, and the growth was reported to be a squamous-celled carcinoma (Cuthbert Lockyer, S. G. Shattock, H. T. Butlin). Operation on 17th February 1909. Patient continued his work as a schoolmaster for some years, and once when written to in reference to his habits he replied: "I never have any trouble with my throat; I smoke no end and never stop talking!" He died from heart failure last winter (1928), with no recurrence of cancer anywhere, at the age of 79, and twenty years after the operation.

Mr Colledge grades the malignancy in group I.

Four Cases illustrating some Points in Subglottic Cancer of the Larynx, and the Condition Four, Six, Nine and Fourteen Years after Operation by the Laryngo-fissure Route—Sir St Clair Thomson, M.D.

(I) *Subglottic epithelioma, involving all one cord and the anterior third of the other. Division of the cricoid cartilage. No recurrence fourteen years after operation.*—Mr W. F., referred in November 1915 by Mr A. J. Hutchison, who had diagnosed a subglottic malignant growth. Both cords were mobile. The growth extended from vocal process of left cord, forward to the commissure, which it crossed to invade anterior third of opposite cord. It descended so far in the subglottic space that the cricoid cartilage had to be split in the middle line so as to peel the growth from its inner surface. Fifteen months afterwards the patient returned with a malignant cervical gland, which was removed. There has been no recurrence either in glands or larynx. He has a useful voice, and, until recently, he has enjoyed what he himself describes as "excellent health," at the age of 73 and fourteen years after operation.

Mr Colledge grades the malignancy in Group III. This high degree of malignancy is interesting in view of the fact that recurrence took place in the glands fifteen months later. As regards freedom of the larynx from

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recurrence, the examination of the sections made in the three usual sites warranted Dr C. Fletcher (who reported on my specimens during many years) in stating as follows: "Excision is clear above, below and behind; the cancer cells penetrate deeply into the substance of the cord reaching down to the muscles. In one spot the cancer cells are to be seen very near to the line of excision, and, though there is no actual evidence that the excision is not deep enough, this must be regarded as the only doubtful point. Anteriorly, the epithelioma has spread to the opposite (right) cord, but excision is clear above, below and behind." We may conclude that though malignancy was marked, and that though the disease involved all one cord, part of the other, and the subglottic area down to inside the cricoid—yet complete excision had been affected by the laryngo-fissure route and a lasting cure effected.

(II) *Subglottic cancer, invading anterior two-thirds of cord. Good mobility. No recurrence eight years and nine months afterwards.*—A solicitor, aged 60, referred in February 1921 by Mr Musgrave Woodman, who had performed a biopsy and made the diagnosis. At operation we found that the irregular infiltration of the anterior two-thirds of the right cord was an upward extension of a typical, anterior, subglottic cancer. The removal of the greater part of the thyroid ala facilitated the extension of the subperichondrial dissection to the inside of the cricoid ring. The tracheotomy tube was discontinued after twenty-four hours. The patient was reading the evening newspaper the same day. Next day he was sitting out of bed and swallowing easily. The temperature chart shows the uninterruped recovery.

A small portion of the opposite cord and subglottic tissue was also removed. In spite of this, the patient has a voice strong enough to carry on a large business. He has not been inspected for seven years and a half. His age is now 68.

The growth was reported by the late Professor Shattock, whose experience was unique in this department, to be "a squamous-celled carcinoma of a low grade of malignancy."

Mr L. Colledge (who had not been informed of this report) graded the removed neoplasm as Group II. This is interesting, as Dr C. Fletcher, after examining sections from all the removed mass, reported "the margin of uninvaded tissue, exteriorly and anteriorly, was extremely small and that he would consider recurrence likely in this case."

There has been no recurrence in eight years and nine months.

(III) *History of voice trouble for five or, possibly, thirteen years; misleading report from biopsy; large subglottic epithelioma. Laryngo-fissure exposing inner surface of cricoid. No recurrence and good voice six years later.*—Mrs H., physician's widow, referred by Mr F. H. Westmacott in 1923. Then aged 50. Gave a history of being "husky" in 1910, of having been kept on silence for two months, and

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of having taken a trip to the Canary Islands for the benefit of her voice. In 1918 pink polyp seen on anterior portion of left cord. Removed under suspension laryngoscopy August 1922. Pathologist's report: "A small portion of the epithelium shows irregular hyperplasia, not enough to enable us to decide whether this is the beginning of a malignant growth, but we think it is probably not."

First seen by me a year later (*i.e.* July 1923), as "the papilloma had recurred and required removal." The note I then made was as follows:—

"The whole left cord is pink and beefy, as if infiltrated with a growth from below. The margin is serrated. Below this, in the subglottic space, is a typical grey cupped growth. The cord moves freely, but flags in the anterior third. The epiglottis, ventricular band and arytenoid are not invaded."

The report entered was:—

"Epithelioma, for which a laryngo-fissure may be tried, although in view of the long history (five years since lesion of cord first detected), extension to whole cord and large subglottic growth, the prognosis is not good."

At operation (3rd August 1923) Dr Gabriel Tucker (Philadelphia) and Mr L. Colledge assisted. Growth typically subglottic, with cupped centre and raised margin, upper border of which just involved edge of cord, along which it extended backwards to the vocal process. Great care was required in peeling growth off inner surface of cricoid. It was removed, intact and *en masse*, with a good margin in all directions. Only little bleeding, so tracheotomy tube was abandoned at conclusion of operation, but had to be replaced, a week later, owing to suffocative attacks due to a sloughy condition along inner margin of the cricoid. Tube discontinued after a week and patient returned to the country twenty-five days after the operation.

Has remained in excellent laryngeal health. Uses voice naturally and freely and it is surprisingly good, when it is noticed that there is some web formation on the right (the sound) side. This is due to the fact that the thyroid cartilage was split a little to the right of the commissure, so as to ensure a good margin anteriorly. A little scar tissue can be seen in the endocricoid region, but there is no stenosis.

Pathologist's Report.—"An undoubted epithelioma, forming an elevated tumour the size of a sixpenny piece. The growth passes down and amongst the muscle planes with much surrounding small-celled reaction in the depths. Excision is complete in all directions" (G. L. Eastes).

Mr L. Colledge considers that the malignancy should be graded in Group III. It is noteworthy that though he puts the degree of malignancy so high, yet examination of the slides in the three usual

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sites showed "excision complete in all directions," and it is doubtless due to this that there is a lasting cure.

(IV) *Subglottic cancer with impaired mobility of anterior half of cord. Diseased area removed* en masse (*specimen shown*). *Remarkably good voice and no recurrence after four years.*—A gentleman, aged 59, referred in 1925 by Mr F. Wrigley, who had diagnosed the condition and noted that "the movement of the cord was slightly impaired." The anterior two-thirds of the left cord was "occupied by a red, infiltrating, slightly cupped growth, extending forwards close to the anterior commissure and downwards on the inner margin." The opinion was given that the case was "suitable for removal of the growth by the laryngo-fissure route, but with the reserve that the growth might be found to have crossed the anterior commissure or descended far into the subglottic area. In that case careful watch should be kept for a recurrence and then promptly operated on."

Drs Chevalier Jackson, Dean, Sutherland (U.S.A.) and Gavin Young were present at the operation. The larynx was inspected a few days later by Drs Birkett, Robertson (Brisbane), J. W. Mackenzie (Inverness) and Gardères (Pau).

At the operation a typical growth was found descending half an inch below the cord, but stopping short of the anterior commissure. The removal of the thyroid ala facilitated the dissection from the inner surface of the cricoid ring. The tracheotomy tube was left in for only nine hours.

The patient was sitting out of bed and swallowing solid food on the fifth day.

Dr LOGAN TURNER, commenting on the fact that in one of Sir James Dundas-Grant's cases (see p. 493), and in one of Sir St Clair Thomson's, the patient was a woman, said that he had recently heard an interesting paper by the Registrar-General for Scotland on the alleged causes of the increase of cancer. From the death-certificate records three periods were reviewed (1911, 1921, 1928), showing a definite progressive increase. It seemed clear, however, that the increase was apparent rather than real, being based first on a more accurate and early recognition of the disease and, secondly, upon the greater longevity of people at the present time. There seemed, further, to be an increase of cancer of the larynx in women. Sir St Clair Thomson had stated that in recent years he had seen more cases of cancer in women than formerly. At the discussion on the paper referred to he (the speaker) had raised the question whether some of the deaths certified as being due to cancer of the larynx in women might not have been due to a secondary infiltration, the primary disease having been in the post-cricoid region, which in the female was a common area for primary carcinoma.

Dr A. J. HUTCHISON said he regretted that the patient whom he sent to Sir St Clair Thomson in 1915 had been unable to attend this meeting. Two other patients sent to Sir St Clair and operated on by him in 1917

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had died last year without any recurrence of the growths. One of these had had huskiness for only eight weeks before the operation. A few weeks before he died, aged 79, he had written saying that there had been no delicacy in the throat since the operation, that he went out in all weathers, and that in February 1928 he had addressed a meeting of one hundred people and had been well heard.

The other had had huskiness for six months before the operation. He died suddenly, aged 85, from fatty degeneration of the heart. His son had written saying that the old man had enjoyed life up to his last hour.

The PRESIDENT said he had always had the impression that it was unwise to treat subglottic growths through a laryngo-fissure, but the cases shown to-day would lead to a revision of these ideas. Sir St Clair Thomson seemed to be leaving his old love, laryngo-fissure, for he had done what amounted to a hemi-laryngectomy in some of these cases. Removing a portion of the thyroid cartilage and doing ordinary laryngo-fissure seemed to be another departure. The drawback of hemi-laryngectomy in the old days was that the cases were liable to become septic. That was less likely in laryngo-fissure. He asked what were Sir St Clair's reasons for extending his operation in this direction.

Sir ST CLAIR THOMSON, in reply, dealing with the question of the greater frequency of occurrence of cancer in women, said that of seventy cases treated by laryngo-fissure, sixty were in men and ten in women, those in women being at an earlier stage of life. In none of the ten women was the growth a secondary cancer; it was always primary in the larynx. As to predisposing causes, none of the ten women either smoked or drank spirits. Subglottic cancer was much more serious than pure cord cancer, and it was not even favourable for complete laryngectomy. In more than half the subglottic cases he had operated upon the condition had recurred, whereas among his cases taken as a whole the successes were 78 per cent., and the pure cord cases 84 per cent. of lasting cures. It was worth while trying to remove the growth in subglottic cases, but it must be realised how deep one might have to go. Operations had advanced a good deal since the larynx was opened and the cord simply clipped out. In the last forty cases he had not only raised the diseased area on its perichondrium, but he had taken out the thyroid ala. Hemi-laryngectomy of former days was rightly looked upon as more fatal than complete laryngectomy. As the President had remarked, the technique of the operation known as "a laryngo-fissure" had been developed until now it was practically a hemi-laryngectomy, done through a thyrotomy from the inside.

Fibrous Stricture of the Œsophagus caused by swallowing Lysol Five Years Ago. (Skiagrams shown.)—ARCHER RYLAND, F.R.C.S.Ed.—R. P., a girl, aged 9, first seen by me five years ago, when she was admitted to hospital on account of difficulty in swallowing, following the accidental taking of lysol by mouth. Skiagrams at this time showed the formation of a long, narrow stricture about the middle of the œsophagus.

Treatment by gradual dilatation by means of the œsophagoscope was carried out and maintained over a period of months. During the

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last five years the child has been lost sight of until a few days ago, when she was admitted to the Central London Throat Hospital with a history of having swallowed a plum stone, which was presumed to be impacted in the œsophagus. Skiagram and œsophagoscopy excluded the presence of a foreign body.

The case is now brought forward to show the state of this fibrous stricture, five years after its formation. The child is on ordinary diet and is "eating well." It will be noticed that, for her age, she is small, puny and under-developed.

Tumour of Nasopharynx.—J. D. M'LAGGAN, F.R.C.S.—J. B., male, aged 21. *History.*—Seen at Central London Throat Hospital, 16th November 1929. Complained of nasal obstruction and post-nasal discharge of about nine years' duration.

Examination shows a tumour in the nasopharynx, situated on the roof and posterior wall, oval in shape, and of the size of a grape. It is covered with smooth epithelium and is elastic in consistency. There is also an œdematous swelling on the left side of the septum. Provisional diagnosis, lipoma.

Enchondroma of Larynx.—DAN M'KENZIE, M.D.—The patient, a woman, aged 61, has been under observation during the last three or four years. There are no laryngeal symptoms and the tumour was discovered accidentally.

It forms a smooth prominence below the left vocal cord, extending not quite to the middle line. Direct examination shows it to be hard to the touch. During the time it has been under observation it has not shown any increase in size. It is evidently growing from the cricoid cartilage.

Dr DOUGLAS GUTHRIE said that he had on two occasions observed, in men past middle age, a well-marked prominence on the cricoid cartilage just below the anterior commissure. Was it possible that abnormalities of chondrification accounted for such an appearance, apart from the presence of an actual tumour, which might be styled chondroma.

Osteoma of the Frontal Sinus. Operation for Removal—L. GRAHAM BROWN, F.R.C.S.—L. B., male, aged 34, referred from an ophthalmic hospital, complaining of intermittent pain over left eye of fourteen days' duration. Tenderness over left frontal sinus. Rhinoscopic examination negative.

Skiagram [shown] suggested an osteoma growing from the floor of a very large sinus.

Operation.—Diagnosis confirmed. Removal of bony growth with part of the floor of the frontal sinus. Creamy pus evacuated from the supra-orbital portion of the sinus, distal to the growth. Wound treated

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by the open method closed completely in a fortnight. Sinus now apparently functioning normally.

[Mr Graham Brown showed a second skiagram of an apparently similar condition discovered accidentally in another patient. This, up to the present, had not given rise to any symptoms.]

Mr HERBERT TILLEY said that many years ago he had operated upon an osteoma of the fronto-ethmoidal region in Edinburgh, where he had the advantage of being assisted by Sir Harold Stiles. He (the speaker) made an external incision, opened the frontal sinus, and exposed the upper part of the tumour, but grasped the lower part with forceps inserted into the right nasal cavity. The growth was loosened and drawn downwards, and the problem was, having got it into the nasal cavity, how to deliver it through the nostril. Sir Harold Stiles then gave him a hint which he had since found useful in cases of large growths inside the nose, such as fibromata. If one cut through the whole length of the lower attachment of the septal cartilage the delivery of a tumour was much easier than otherwise. That had been done in the case referred to; the osteoma was removed without difficulty.

Laryngeal Growth. Case for Diagnosis—L. GRAHAM BROWN, F.R.C.S.—B. S., male, aged 51, first seen 19th November 1929, complaining of hoarseness and occasional left earache for the past four years. The larynx shows a large, irregular ulcerated growth occupying the region of the left vocal cord and extending to the anterior third of the right cord. No immobility apparent. Chronic suppuration of the left middle ear. Wassermann reaction of blood negative, though patient states that, when in the Navy thirty years ago, he contracted syphilis, for which he received appropriate treatment.

The tentative diagnosis of epithelioma is put forward, the result of biopsy not yet being available. An intraspinal-fluid examination is also being undertaken.

Dr P. WATSON-WILLIAMS said it was an open question whether the long previous syphilis had anything to do with this condition, which sometimes occurred when there was no history of syphilitic infection, and which he thought was best described as a pachydermia diffusa. He had watched such a case many years; it looked remarkably like the present one, and at first it had caused a good deal of anxiety. There was, however, nothing malignant about these cases, though he supposed they might possibly become so in course of time and should be under observation at intervals.

Mr ALEX. R. TWEEDIE said that he had been unable to obtain approximation of the cords on phonation and noted that with the glottis still wide open the stridor was unaltered.

Mr H. TILLEY said he thought there was a definite and extensive ulceration of the left vocal cord, involving the ventricular band, and he would regard the condition as epithelioma.

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Dr JOBSON HORNE said that whilst admitting that the case presented points of difficulty in diagnosis, he considered that it could not be regarded as pachydermia laryngis verrucosa; the history of syphilis might suggest pachydermia laryngis diffusa syphilitica.

In pachydermia the mucosa was thickened but intact; in the present case there was evidence of ulceration. In pachydermia there was no impairment of the mobility of the vocal cords; in the present case there was impaired adduction of the vocal cords. Lastly, pachydermia laryngis did not become malignant; in the present case there were points suggestive of malignant disease.

Mr E. WATSON-WILLIAMS said that he had seen a number of cases similar to this, of which only two or three were comparable in degree. They had all occurred in patients who had had syphilis, which was no longer active. He regarded the condition as a hyperplastic laryngitis of syphilitic origin. One of his cases he had been able to watch for three years, during which time it had remained practically stationary. There were horns on one cord, on the other recesses into which these fitted, and bosses and knobs on the arytenoids and in the inter-arytenoid space. He did not think there was any suggestion of malignancy in the present case.

Mr ANDREW WYLIE said he did not see any ulceration in this case; he regarded the condition as pachydermia. It would be easy to settle the diagnosis, however, by removing two or three pieces for microscopic examination. The patient had had the disease four years, and if it was malignant, the condition would be far worse than it is at present.

Mr H. V. FORSTER said he thought he saw, far out on the right ventricular band, well away from the main amount of overgrowth, a separate nodule, looking like a discrete papilloma.

Sir ST CLAIR THOMSON said that Dr Jobson Horne was positive that the condition was not pachydermia, and he (the speaker) felt equally positive that it was not malignant disease, though admittedly it might become so. The right cord was absolutely fixed and the left was nearly fixed. Between them there was a great inter-arytenoid irregular hypertrophy. It looked quiet and non-ulcerated. This reminded him very much of what he saw before the days of the Wassermann test and before treatment by salvarsan, *i.e.* a parasyphilitic, hypertrophic laryngitis. He suggested that if this patient would entirely stop smoking, have his mouth properly cleaned, and then have inunction of mercury, his condition would be greatly improved, but he would never become well.

Sir JAMES DUNDAS-GRANT said he thought the condition was a warty growth in the ventricular band and inter-arytenoid space. It was probably the result of syphilis; he did not regard it as epithelioma. It was more like the condition which Virchow described as pachydermia verrucosa.

Mr GRAHAM BROWN (in reply) said that his tentative diagnosis had been rather a hasty one. He now thought the condition was hypertrophic, and there was the possibility that it might become malignant. He felt that more active treatment was required than merely prohibiting smoking and ordering inunction of mercury.

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Royal Society of Medicine

Two Cases of Spontaneous Hæmorrhage into the Fossæ of Inflamed Tonsils—V. E. NEGUS, M.S.

(I) Patient, male, aged 47. Referred by Dr J. S. Rogers (Farningham).

22nd October 1929.—Acute tonsillitis. One week later appearances of quinsy on right side. Opening made; nothing except blood followed the incision. Improved for the next week.

8th November.—Had severe hæmorrhage twice; thinks he lost a pint of blood. Hæmoplastin (2 c.c.) given, and at the request of Dr Rogers the patient was taken into King's College Hospital. Hæmorrhage had then ceased. Patient rather pale but general condition good. Blood-count showed: Red cells 4,000,000, hæmoglobin 73 per cent. On the second day after admission (10th November) he had two small hæmorrhages and one large one. Blood seen to ooze from upper pole of tonsil and also from a crypt towards lower end. None oozing from incision in palate. As the blood appeared to be from tonsillar vessels, it was necessary to remove the tonsil. As soon as the anæsthetic was given, blood poured from the tonsil and filled the mouth and pharynx. After clearing this away the tonsil was removed, and appeared friable, resembling a new growth. Outside the capsule there was a large cavity containing some fresh blood and many clots. This was cleared out and no more bleeding was seen. A large pack was sewn in, the two pillars of the fauces being united over it. The red cells had fallen to 3,440,000 and the hæmoglobin to 54 per cent.

Transfusion was carried out (Group IV, 600 c.c.); patient improved rapidly. Pack was taken out two days later and there was no further hæmorrhage. When he left hospital two weeks after admission (21st November) blood-count showed red cells 4,680,000, hæmoglobin 65 per cent. Report by Dr Creed stated that the section of tonsil removed showed evidence of fibrosis and acute inflammation. Some parts showed infiltration with polymorphonuclears and plasma cells were very numerous in other places.

(II) Boy, aged $13\frac{1}{2}$. Referred by Dr Bland, June 1927. History of fever, vomiting, rhinitis with some epistaxis, swelling of glands in the neck and inflammation of pharynx. Swab showed pneumococci only. Tonsils had been removed previously.

When first seen by me ten days after commencement of illness, glands below angle of jaw on right side were enlarged, there was considerable swelling of right side of pharynx and nasopharyngeal wall, with enlargement of tonsillar remains. Two days later patient had two small hæmorrhages and one larger one, a cupful of blood being expectorated. When seen he had great pain and marked swelling of palate, with all appearances of quinsy. Incision made in ordinary

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position, but instead of discharge of pus, blood poured from the opening made, filling two kidney dishes. Bleeding was stopped by firm pressure with the finger. The bleeding was so free that it appeared as though a branch of the external carotid artery had burst into a peritonsillar abscess, and it was thought necessary to tie that vessel. Mr Dunhill arrived with Dr Langton Hewer, who gave the anæsthetic. As soon as the anæsthetic was administered the wall of the pharynx burst and blood filled the mouth, pharynx and trachea. The patient became cyanosed and tracheotomy was performed. Blood was swabbed out and the external carotid was exposed. The superior thyroid and lingual arteries came off separately and were tied, but bleeding continued. The external carotid was tied higher up. Bleeding ceased.

Because of œdema of the pharynx, the tracheotomy tube had to be left in. Patient progressed well for one week. There was paralysis of the right side of the tongue. On the seventh day he awoke from sleep, had a sudden violent hæmorrhage, and bled to death in a minute or two.

Post-mortem examination showed a large sloughing inflammatory cavity lying under cover of the angle of the mandible and containing some pus and blood outside the pharynx, extending up to the base of the skull. The ascending pharyngeal artery appeared to go through the cavity and to have burst. The hypoglossal nerve was found to run through the cavity. There was early pneumonia in both lungs.

Mr H. BELL TAWSE said that a more suitable title for the first case would be "Secondary hæmorrhage after incision of a quinsy." An incision had been made in the palate ten days before Mr Negus saw the case and possibly a small vessel was injured and additional sepsis introduced then, thus providing the two principal factors necessary for a secondary hæmorrhage. Moreover, secondary hæmorrhage after a tonsillectomy usually occurred about nine days after operation. That the blood did not come out through the palatial incision did not negative his argument. The blood followed the line of least resistance through a crypt. In such a case he suggested that one should immediately ligature the external carotid and deal with the tonsil then or later. This would obviate the necessity for plugging the septic tonsillar cavity and stitching the faucial pillars over it, a proceeding which he disliked as tending to produce secondary hæmorrhage. In secondary hæmorrhage elsewhere one ligatured the main vessel well away from the septic wound and drained the latter. In the second case, Mr Negus had tied the external carotid twice, but he did not state whether he ligatured below the origin of the ascending pharyngeal artery. This was an important point, as at the post-mortem examination the ascending pharyngeal was found ruptured in the middle of the abscess cavity. In April 1929 he (the speaker) had reported a case * of spontaneous hæmorrhage from the right tonsil. The patient was a man who had had frequent quinsies

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for twenty years, but they always burst and no attempt had been made to incise them. On this occasion he had been ill for a fortnight and a quinsy on each side appeared to be on the point of bursting, when without any warning blood gushed out of his mouth and he rapidly lost five pints. A week later three more pints of blood came from the right tonsil and he nearly died. He had had syphilis in his younger days, and although his Wassermann reaction had been repeatedly negative, the possibility of a deep-seated gumma could not be ruled out. A ligature was put round the common carotid and left untied. The pharynx was constantly under inspection, whilst the external carotid was ligatured so that a sudden hæmorrhage could be immediately controlled. For over a week a nurse was at his bedside night and day ready to apply traction to the common carotid ligature, and on the tenth day the ligature was removed. An interesting point was that within twenty-four hours the pain had left the right tonsil, which had shrunk to one-half its former size, whilst in the other tonsil an abscess formed and was opened. Two months later the tonsils were dissected out with the greatest difficulty from a bed of scar tissue. These cases should always be regarded as serious. Many of them were fatal; he had known a patient die from hæmorrhage during the induction of anæsthesia. They should be treated as cases of secondary hæmorrhage, by ligature at a distance, and not as cases of primary hœmorrhage, by ligature of the bleeding point in the midst of an inflamed and septic area.

Mr A. J. WRIGHT said that some years ago a patient had repeated secondary hæmorrhages following spontaneous rupture of a quinsy. He was brought from the country on an ambulance, and when he (the speaker) first saw him he was white from loss of blood. However, after removing the tonsil, he (Mr Wright) controlled the bleeding at the site, and the patient recovered. Ligation at a distance from the bleeding point should be reserved for cases in which attempts at the site were unsuccessful.

Mr E. WATSON-WILLIAMS said that an article by Mayer in the *Wiener Klinische Wochenschrift*, in April 1926, might have been written to illustrate these two cases. In the first part the ordinary quinsy was discussed and mention made of severe hæmorrhage following the usual incision. A case was described where excision of the tonsil was adopted to control the bleeding. The second part dealt with a second type of peritonsillar abscess, which he (the speaker) preferred to call parapharyngeal; the pus collected not in immediate relation to the tonsil, but behind the palato-pharyngeus, in the substance of or outside the pharyngeal wall. Mayer laid emphasis on the danger of pus travelling down the carotid sheath, and of the possibility of arterial erosion; he advocated external opening and drainage. He (the speaker) found that this type was not very rare; he had met with eleven cases. Clinically they resembled quinsy, but without the œdema of the uvula which was seldom lacking in the latter condition. It was easy to open the abscess, when one was on the look-out for it, behind the lower pole of the tonsil. A blunt instrument was quite sufficient, as there was only unsupported mucous membrane to divide; he himself had done this with the tip of his finger, and in his last case with a tongue-depressor. The abscess tended to point in the lateral wall of the pharynx.

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Mr F. C. CAPPS said he had had a similar case three weeks ago. The patient, a woman, aged 25, had come to hospital after having had a fortnight's treatment for tonsillitis. As she seemed better her doctor allowed her to get up. Bleeding had begun suddenly, and when he (the speaker) saw her was still continuing. In her case there had been no opening of a quinsy or any surgical treatment. The bleeding was from an upper crypt in the left tonsil, and in hospital the patient vomited another pint of bright blood. He decided it was better to stop the bleeding at the site. He removed the tonsil, but it was difficult to do so owing to the recent inflammation of the pillars. The whole fell away as a friable mass, and beneath was a clot the size of a damson. When this was cleared out, a free space was left in the tonsillar fossa, and he plugged it with bipp gauze. There seemed to be no sepsis. The plug was removed in three days, and recovery was uninterrupted.

Mr BROUGHTON BARNES said he had had a case of hæmorrhage on the fifth day after a quinsy was opened. He saw the patient fifteen minutes after the beginning of the free hæmorrhage; he had then brought up half a pint of blood, which was coming from the quinsy opening. He enlarged the opening, and packed it with iodoform gauze, taking out the plug in twenty-four hours. Bleeding did not occur again for twelve hours, and then there was a small hæmorrhage. He repeated the procedure and there was no further trouble.

Mr NEGUS (in reply) said the doctor who had opened this abscess was afraid he had caused the trouble, but he (the speaker) had tried to reassure him by telling him of the earlier case in which no incision had been made. It was not necessary to think that the operation had infected the peritonsillar space, as the infection was already there. This patient had quinsy, which was sufficient to cause sloughing, but in some cases further infection might have been carried in. In the earlier case there had been no operation, and therefore the sloughing was from sepsis which had travelled outside the tonsil. He did not himself tie the carotid, because he was concerned with controlling the bleeding in the pharynx. The superior thyroid and lingual arteries came off separately. When the external carotid was tied, the bleeding ceased. As the bleeding came on again a week later and the boy bled to death, the tying of the carotid was not very satisfactory, first because of the wide anastomosis with the opposite side, which was established after a few hours, and, secondly, because then the bleeding might be venous as well as arterial. Therefore controlling the bleeding in the tonsillar fossa seemed to be better, when practicable. In the case of the boy the area involved had been too widespread for this to be done.

He never put in a pack after tonsillectomy, but, in this case, having taken out the tonsil, the whole tonsillar fossa was laid bare and there was no arterial bleeding, and therefore the only way to control the bleeding was to put in a pack. He soaked it in protargol.

Mr Wright had said that controlling the bleeding at the site was preferable, because anastomosis on the opposite side was dealt with then, as also bleeding from veins.

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Mr Watson-William's suggestion might be correct for such cases as the earlier one, but it would not have been correct for the patient shown at this meeting, as in his case the blood was between the superior constrictor and the capsule of the tonsil.

A Radium-Needle Introducer for Use in the Hypopharynx—D. A. CROW, M.B.—Whilst the simpler forms of introducer are convenient enough for the middle pharynx, I have felt the need of an instrument such as this which gives an accurate aim and is slender enough to be used through a direct laryngoscope on epiglottic or other circumlaryngeal growths. To avoid damage to the silk thread, movements must be slow and gentle.

A longer instrument on the same principle might be used for œsophageal growths, but it is felt that some method of intubation is preferable, where the presence of a stricture makes access to the lower part of a growth difficult.

One advantage is that it does not make a bigger hole in the tissues than the diameter of the needle. That is the difficulty with some introducers which are themselves plunged some distance into the tissues. The trouble is not in planting them in, but retaining them there.

Mr NORMAN PATTERSON said that a needle with a barbed end stayed in position better than one with an ordinary point. On his suggestion self-retaining radon needles had been manufactured.

Carcinoma of Tongue and Floor of Mouth—NORMAN PATTERSON, F.R.C.S.—Male, aged 54. Two years ago noticed something in the right side of the floor of the mouth which felt like a crumb. Last six months at times intense pain which shoots to the tip of the tongue and sometimes spreads to the right ear. No loss of weight; appetite good. Ulcer has been cauterised on three occasions; on one the actual cautery was employed. Wassermann reaction negative. The case was sent to me with a provisional diagnosis of lupus, an opinion with which I do not agree.

On Examination.—Tongue protruded to right of middle line and cannot be pushed beyond the lips. Superficial ulcer on right side of tongue with irregular edge, which bleeds on probing. Ulcer extends to floor of mouth and on to alveolar margin and anterior pillar of fauces, where the condition is more granular in appearance. Some swelling of posterior third of tongue on right side. On palpation, right side of tongue is firm; rolled edge on anterior faucial pillar. Hard swelling in the right digastric triangle, which patient states has been present for about two months.

Microscopical examination confirms the diagnosis of carcinoma.

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Societies' Proceedings

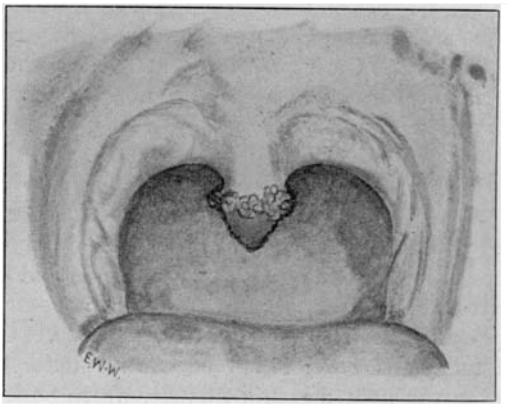
Lymphadenoma, with Involvement of the Larynx—Sir JAMES DUNDAS-GRANT, K.B.E., M.D.—Patient, male, aged about 38. Complained of huskiness of six months' duration. Appearance of larynx: Fleshy infiltration of aryepiglottic folds and, to a lesser degree, of epiglottis; infiltration of left vocal cord with ulceration along the edge; infiltration of right vocal cord. No tubercle bacilli found in sputum after three examinations. X-ray examination of chest negative. In May 1928 gland removed from right axilla and right side of neck—reported to be lymphadenoma. Has had treatment by means of X-rays—sometimes three times a week, sometimes twice. Patient says that the hoarseness came on after X-ray treatment of neck.

He says that he has felt much better and that swallowing has been easier since he began to take iodide of potassium (5 gr. three times a day).

Mr HAROLD BARWELL asked whether the appearance was now the same as before the irradiation. He did not think that œdema of the larynx was common in lymphadenoma, and he wondered how much of what was seen was due to the irradiation.

The PRESIDENT said the relationship of lymphadenoma to the region of the laryngologist was interesting. He used to think this disease always began in the tonsils, and that infection reached the glands by way of the tonsils, but he had recently seen a case of the kind in which the disease definitely began in the mediastinal glands, the neck glands and tonsils being unaffected.

Specimen showing Carcinoma of the Uvula removed at Operation from a Patient aged 80—E. WATSON-WILLIAMS, M.C., F.R.C.S.Ed.—A. T., male, aged 80, consulted me, July 1927,



complaining of pain in the throat, worse on swallowing, for about one month. No other relevant history. On examination I found a

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papillomatous mass at the end of the uvula, ulcerated in the centre. I considered this probably malignant, and during the ensuing fortnight the edge advanced visibly up the uvula, the ulceration following, so that the tip of the uvula presented a blunt red cone emerging from a collar of papillary growth. The mass was very tender and hard and bled readily. No glands left.

Owing to age and arteriosclerosis a severe operation or even a general anæsthetic were considered inadvisable. Under local anæsthesia I removed the uvula, with a small area of soft palate [shown]. The wound healed well and the patient remained in good health for nearly two years. In July last he died from cardiovascular disease, having had no recurrence of the growth.

This appears to be one of the growths of relatively low malignancy, not rare in the aged. The section shown is that of typical epithelioma, infiltrating the muscle tissue.

Epithelioma: Patient Well after Treatment ten years and eleven months ago—NORMAN PATTERSON, F.R.C.S.—Male, aged 71, early in January 1919 was sent to London Hospital complaining of pain on swallowing.

On Examination.—Large epithelioma involving nearly whole of right half of soft palate, crossing middle line as far as left side of base of uvula and extending downwards on right anterior pillar of fauces to the tongue. The tumour extended forwards nearly as far as the junction of the hard and soft palate.

On 6th January 1919 diathermy was applied. On 2nd February 1919 a complete block dissection, including the removal of the sterno-mastoid and internal jugular vein, was carried out on the right side. It is now ten years and eleven months since the diathermy, and the patient still remains well.

Microscopic report: "Squamous-celled carcinoma."

The PRESIDENT: The question as between radium and diathermy will be settled by the survival factor. What method cures most cases? It is that method which will survive. These were admirable cases of Mr Patterson and showed what could be done by diathermy.

Sir JAMES DUNDAS-GRANT said this was a more promising case than any he himself had had. In a case of epithelioma of the uvula which he had treated with diathermy, the result for the time was perfect, except that air came through his nose, but eventually there was a recurrence.

Mr NORMAN PATTERSON (in reply) said that the patient thoroughly recovered, and he drove a railway express train for five years after the operative treatment. He then retired at the usual age, and still remained a useful member of the community.

Swelling above Right Vocal Cord; Outgrowth on Left Vocal Cord. Case for Diagnosis—Sir JAMES-DUNDAS GRANT,

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K.B.E., M.D.—Patient, male, aged about 70. Singer in a synagogue. Complained of hoarseness of three months' duration. Appearance of larynx: large rounded swelling above right vocal cord; irregular sessile outgrowth on left vocal cord. No tubercle bacilli in sputum. Wassermann reaction negative.

[Microscopic examination showed chronic inflammatory changes in subepithelial tissues and hyperplasia of epithelium—non-malignant.]

Mr HAROLD KISCH said that this patient went round from one hospital to another. His (Mr Kisch's) own diagnosis when he saw the man had been papillomata of the larynx, on the strength of which operation had been performed in Germany some years ago, and a good deal of the cord had been taken away. He (the speaker) removed a portion and found that it was papilloma. There was no sign of malignancy.

A Chromium-plated Head Mirror—D. A. CROW, M.B.—This has the advantage of being non-breakable and yet gives as bright a reflection as the ordinary silvered glass.

Modification of the Davis Gag—J. C. CLAYTON, L.R.C.P., M.R.C.S. (introduced by HAROLD KISCH, F.R.C.S.).—This modification in no way alters the general principle of the gag, but, by an easily-worked contrivance, different dental pieces can be fixed to suit different mouths.

Further Reports of Three Cases previously shown.

Reticulo-Sarcoma, formerly Left Tonsillar Region, lately Right Tonsillar Region (shown June 1928).* Radium Treatment. Recovery—Sir JAMES DUNDAS-GRANT, K.B.E., M.D.—Male, aged 64. In March 1928 extensive invasion of left tonsil and root of tongue; "grubbed out" in pieces. Tube containing 25 mgrms. of radium sewn into the cavity by Mr Cole; retained twenty-four hours. Parts clear when previously shown.

Further growth on left half of epiglottis, causing pain and difficulty in swallowing, removed by Goughenheim's punch forceps. Later enlargement of right tonsil, enucleation followed by recurrence in right tonsillar region, and then enlargement of glands of neck on both sides.

July 1929 insertion of radium into tonsillar growth on right side, 1020 millicurie hours. Rapid diminution of the tonsillar growth. Surface application of radium to glands on right side, followed by considerable diminution. Later distance irradiation to glands on left side with "bomb"—36 grm. hours — great diminution in size of glands.

At present no abnormality except a defect in left half of epiglottis from operation with punch forceps.

* *Proceedings*, 1928, xxi., 1798 (Sect. Laryng., 100).

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Epithelioma of the Larynx: Laryngectomy (shown November 1923)*—Sir JAMES DUNDAS-GRANT, K.B.E., M.D.—Female, aged 35. Complete laryngectomy over six years ago. No recurrence. Good health. Microscopical section and specimen. The case is a contradiction of the ideas which used to be expressed, that subjects of laryngectomy were so miserable that their life was worse than death. This patient is exceptionally cheerful.

(?) Localised Hodgkin's Disease. Case for Diagnosis. Previously shown as a case of Tonsillar Tumour, 2nd November 1928†—LESLIE POWELL, M.B.—Patient seen again 27th August 1929. For three months had had swelling of glands of neck on left side; no pain; feels well. The pharynx is perfectly healed. The glands are soft, discrete and smooth, forming a considerable swelling, without signs of inflammation or breaking down. They extend down to the clavicle. The axilla is clear and there are no glands palpable elsewhere. This, I think, confirms the suggested diagnosis of localised Hodgkin's disease. The patient has since been treated with arsenic and the glands have considerably diminished in size.

February 7, 1930.

President—Dr DAN MCKENZIE.

Demonstration of Apparatus used to treat Functional Aphonia and Allied Disorders, with some Notes on the Classification of such Disorders—E. C. MACLEOD (introduced by Mr V. E. NEGUS).—As a result of the observation and treatment of about seventy-five cases of loss of voice, in the Orthophonic Department, King's College Hospital, it has been found advisable to divide the cases into two main groups and several subdivisions:—

(*A*) *True aphonia*, in which there is little or no approximation of the vocal cords on attempted phonation—the glottis is in the position of normal expiration or very slightly narrowed. In most cases the cords move normally on coughing. In some male patients, however, the cords close on fore-arm pressure, but this is not often the case in female patients. The majority of cases of true aphonia are in females.

(*B*) *Hyperphonia*, when the cords are brought forcibly together and the ventricular bands are also approximated, making phonation almost, if not entirely, impossible. If voice is produced at all, it is either high in pitch and "hard" or very hoarse. Occasionally double

* *Proceedings*, 1923, xvii. (Sect. Laryng., 5).
† *Ibid.*, 1928, xxii. (Sect. Laryng., 7).

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voice is produced, the vocal cord note being relatively high in pitch, with a superimposed note from the ventricular bands of a much lower pitch.

Groups *A* and *B* are subdivided as follows:—

(*A*) (1) Hysterical incoördination: Neurotic condition: organic cause (tuberculosis) excluded. (2) Mechanical interference: Inflammation of larynx—new growth, such as simple papilloma, keeping the vocal cords apart. (3) Muscular weakness: Tuberculosis—after various exhausting illnesses—following prolonged hyperphonia.

(*B*) (1) Hysterical overaction. Primary — following aphonia. (2) Result of neighbouring inflammation. Inflammation of pharynx—after whooping-cough, etc. (3) Resulting from surgical operation: Following removal of papilloma—following laryngo-fissure—and partial laryngectomy. (4) Misuse: Result of speaking against noise—faulty breath control (too little breath)—over emphasis—faulty training in voice production (singing)—emotional disturbance. Patients in this group are usually teachers, preachers, orators, actors, singers, drill-sergeants, auctioneers, costers, exchange clerks, etc.

The method of treatment which has been found most satisfactory for Group *A* cases is the administration of the faradic current by means of the synchronised stimulator, together with strong "suggestion and persuasion." The apparatus is specially designed to enable these two forms of treatment to be combined, and has many advantages over the sudden, strong electric shock method, and over manipulation of the laryngeal mirror or probe.

Group *B* can best be treated by vocal and muscular exercises designed to relax the existing tension, and to induce gentle phonation. The use of the synchronised stimulator is contra-indicated in Group *B* cases, except on rare occasions.

Dr DAN MCKENZIE (President) said that the ordinary treatment by the faradic current, in many if not most cases of functional aphonia, was almost brutal. They had all felt unhappy in applying the faradic current with anything like full force, and if the apparatus shown by Miss MacLeod achieved the result without such distress, they should be very grateful.

Miss MACLEOD explained that there was no particularly unpleasant sensation from the current as applied by means of the apparatus she had demonstrated. The current was a very gentle one, and it was frequently unnecessary to get beyond the stage of "pins and needles." It was pleasant to be able to assure the patient from the beginning that nothing sudden was going to happen, particularly if he had had experience of previous treatment by violent means. The patients had no hesitation whatever in coming back for further treatment if they felt the need of it.

Mr V. E. NEGUS said it had always seemed to him that the treatment of speech defect should be in the hands of someone interested solely in that particular work. The Orthophonic Department at King's College

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Hospital was in close collaboration with the Department of Laryngology. The laryngologists saw all cases of aphonia. Organic causes, such as tuberculosis, were first of all excluded, and the others were sent to Miss MacLeod. He had not yet seen a patient with functional aphonia who did not respond on the first occasion. A few minutes after Miss MacLeod had finished with them the patients were usually speaking normally. The cure was generally lasting, but occasionally the trouble recurred, and then they came back again. He had no recollection of one who did not respond the first time.

Sir J. DUNDAS-GRANT said that various procedures had been tried in attempting to restore the voice in cases of functional aphonia. There seemed no limit to the ingenuity that had to be exercised in one way or another—such, for example, as teaching the patient to begin with an inspiratory voice first, and in various other ways. The apparatus shown by Miss MacLeod was certainly ingenious and impressive, but it was not what might be called a "waistcoat pocket edition," and one would like to hear that the results were much better than those which could be obtained by simpler means.

Mr V. E. NEGUS said that Miss MacLeod was quite aware of the uses of fore-arm pressure, and found it valuable for some patients—in those, for example, who had had laryngo-fissure. This procedure, however, was chiefly useful in men, as could be seen on watching the larynx of a male patient and getting him to exert an arm effort. His experience was that women had not sufficient power in the arms to require to fix the thorax to the same extent on muscular effort. Therefore it was of much less use to get women to execute these adduction efforts of the arms than it was in the case of men. As these cases of functional aphonia occurred chiefly in women, not much use for the method had been found at King's College Hospital.

Sir J. DUNDAS-GRANT said that he had found the fore-arm pressure method in the case of women (founded on Mr Negus's views on the function of the vocal cords in climbing animals) useful, more especially for vocalists in whom fatigue or overwork had resulted in hoarseness and loss of voice, with imperfect approximation of the vocal cords, especially at the posterior part. It was a rather common habit of singers on the platform to place their hands together almost in the attitude of supplication. This need not be altogether a pose on their part; they might in reality be making use of muscular pressure which helped them to approximate their vocal cords and bring out their voice.

Miss MACLEOD, in reply, said that an objection to fore-arm pressure in a certain type of aphonia was that it necessitated general muscular effort. To restore perfect phonation of the voice one did not want general muscular effort. The procedure certainly was useful in some functional aphonia cases at the outset, but there was a certain danger in proceeding with it if it did not work at once, for there would be force behind it, and such force would produce a hyperphonic variety of voice. She preferred gentle phonation rather than the phonation which would result from strong muscular pressure applied to close the cords. The fore-arm pressure method was valuable in cases of laryngo-fissure, in which an extra effort was required to make up the deficiency by increased movement.

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Growth on Right Side of Larynx—H. BELL TAWSE, F.R.C.S. —W. S., male, aged 44, in April 1915 was gassed in France. Aphonia developed, followed by hoarseness, but this lasted only a few days, and he was quite well till early in 1928, when he again became hoarse. The hoarseness increased and dyspnœa developed.

15th May 1929.—On examination a fleshy-looking mass, with whitish patches, involved the right vocal cord, ventricular band and arytenoid, and spread across into the anterior commissure and downwards into the subglottic space. The right side of the larynx appeared to be fixed. Marked dyspnœa. Wassermann reaction negative. No tubercle bacilli in sputum. Chest negative.

18th May 1929.—Tracheotomy on account of urgent dyspnœa. Diagnosis: Malignant disease of larynx.

29th May 1929.—Haslinger's directoscope. Extent of growth confirmed. Pieces removed. Wassermann reaction again negative.

Pathological reports:—(1) *Royal College of Surgeons' Museum, Edinburgh.*

30th May 1929.—"All the material was sectioned. One of the portions showed a papillomatous condition with some hyperkeratosis. There is a well-marked subacute inflammatory cell reaction in the corium with special abundance of plasma cells which might suggest a gummatous affection, but there is no evidence whatever of tubercle and, if you can trust the Wassermann being definitely negative, there is no sufficient reason to conclude that it is syphilis. There is no evidence of malignancy. The appearance is really that of a small papilloma with a chronic inflammatory subepithelial reaction."

(2) *Pathological Department, Nottingham General Hospital.*

31st May 1929.—"Sections show thickened and keratinised squamous epithelium. There is no infiltration or other sign of malignancy."

In view of these reports operation was postponed. The effect of a prolonged course of potassium iodide and mercury was negative.

4th December 1929.—Growth *in statu quo.* Wassermann reaction negative.

Suggestions are requested as to diagnosis and treatment.

The patient is claiming a war pension on the grounds that his present condition is due to gassing. Is one justified in even partially attributing his disability to gas?

Dr JOBSON HORNE said that as laryngologist to the Ministry of Pensions he had met with similar cases. He would have had no hesitation in attributing the growth in the larynx to being gassed and in recommending the man for a pension.

Mr HERBERT TILLEY exhibited on the screen a drawing of a papilloma removed from a patient whom he had shown to the Section ten years

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previously.* The case had been one of mustard gas poisoning, the patient having been gassed in 1918, and practically from the moment of the gassing, difficulty in breathing had begun, and eighteen months afterwards had become extreme. The lower portion of the trachea was filled with a pale reddish growth, which was removed on the day after he (the speaker) first saw the patient, and a section was examined by the late Professor Shattock. He had asked Professor Shattock whether he thought that the mustard gas had caused ulceration of the trachea and that the resulting granulations could eventually have become a tumour the size of the growth which had been removed. Professor Shattock thought that this was the most probable explanation, and he showed that this growth was a papillary granuloma. The history was continuous from the time of the gas attack. As Mr Bell Tawse had raised the question of gas, he (Mr Tilley) thought it would be interesting to the section to be reminded of a lesion which had dated from the inhalation of the gas, and which might have resulted from it.

Mr NORMAN BARNETT said that everything else having been evidently excluded, the probability was that this was a case of the late results of mustard gas poisoning, which was responsible for some very unexpected conditions.

He believed Mr Bell Tawse's case came under the category of those unfortunate men who did not "go sick" for every little thing that came along, but struggled to do their jobs, and so had no entry on their Field Service Cards. Other men with no worse gas poisoning "went sick," and in due course got their pensions.

Mr A. D. SHARP said that any degree of gas poisoning resulting in disability would certainly have been reported in the records of the Field Ambulance. When men were exposed to gas to any serious extent, they were unable to carry on their duties for a few weeks—even in the most favourable cases.

Mr E. WATSON-WILLIAMS said that the question of the date at which mustard gas was introduced should not invalidate the man's claim to a pension. If mustard gas produced such results, he saw no reason why chlorine should not also do so. Those who saw the early chlorine gas casualties in the spring of 1915 could imagine almost any degree of destruction of mucous membrane taking place as a result of exposure to chlorine. His own first case of granuloma of the larynx had been in a man gassed in 1917. The patient had been hoarse for a few days, and then apparently for some time all laryngeal symptoms had disappeared. He consulted him (the speaker) in 1923. He had then been complaining for a few months of hoarseness and spasmodic difficulty in breathing. He was found to have a subglottic growth—soft, faintly lobulated, greyish pink—which could be blown up between the vocal cords. On removal this had proved to be a granuloma. An interesting point in connection with this case was the interval of six years between the time of gassing and that of the appearance of severe symptoms. The man's pension, given on account of laryngitis, was stopped after his clinical examination, when the condition

* *Proceedings*, 1919, xiii. (Sect. Laryng., 3); *Journ. Laryng. and Otol.*, 1920 (special January number).

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had been diagnosed as a fibroma of the larynx, but a section was sent up with a further claim after operation and the pension was restored. The appearance of the growth was not like that in this case; it was softer and rather smoother and more like that in Mr Capps' case (see p. 505).

Mr NORMAN PATTERSON said that had this not been camouflaged in the report as a case of gas poisoning it would have had the label "malignancy." It was difficult, of course, to get away from the pathological findings.

Mr W. J. HARRISON had seen two cases of growth in the larynx in pensioners who had been gassed. These also had resembled Mr Capps' case rather than the one under discussion. In April 1915, when Mr Bell Tawse's patient was gassed, chlorine and lachrymatory gas contained in a certain type of field-gun shell were the only gases used. Mustard gas was introduced a number of months later.

Mr O. POPPER said that before syphilis could be definitely eliminated, a provocative injection of novarsenobillon should be given and the Wassermann test made again.

Mr J. S. FRASER said he wondered whether this patient would submit to treatment. If he would not do so, the refusal would weigh against his claim. The connection between the condition as seen at present in the larynx and the gassing nearly fifteen years ago was, to say the least of it, rather tenuous.

Dermoid Cyst attached to the Epiglottis—DAN M'KENZIE, M.D.—Patient, male, aged 28, had noticed a swelling in the throat for eighteen months before his doctor (Dr Donald Todd-White) saw it and diagnosed it as a cyst.

It presented a remarkable appearance. Bright yellow in colour, and about the size of a hen's egg, with vessels ramifying over it from left to right, it lay across the base of the tongue in such a way as to prevent a view of the larynx. Yet it caused very little discomfort, there being no difficulty in swallowing or breathing, except sometimes during sleep, when it would wake the patient by blocking the larynx, but he was always able, by a short, half-coughing, half-retching movement, to propel it on to the tongue and so to clear the airway. To the touch its wall was lax, loose and diffluent, as if the sac was not quite full. Its attachments could not be made out, but its range and direction of movement showed it to be anchored somewhere towards the left side.

It was removed under local anæsthesia without difficulty. The cyst-wall was caught up with Tilley's tonsil forceps, and, after the yellow glutinous contents had been evacuated through the tear thereby produced, the laryngeal mirror showed it to be attached to the left side of the lingual surface of the epiglottis, from which it was then severed by scissors.

The microscope (section of the wall on exhibition) shows it to be

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"an epithelial proliferous growth," and Dr Scott-Williamson regards it as a dermoid.

As far as I can learn from a hasty run through the available literature, this seems to be the first time a dermoid attached to the epiglottis has been described. But the likelihood is (and with this suggestion Dr Scott-Williamson is inclined to agree) that it has developed in connection with the thyro-glossal duct.

Dr P. WATSON-WILLIAMS asked whether Dr M'Kenzie had had any reason to suspect the nature of the growth before he had had an opportunity of examining it microscopically, and, if so, what were the distinctive appearances of these rare growths in this region.

Dr M'KENZIE said that the idea of a dermoid had occurred to him when he first saw the case, but, then, some mucous cysts behaved in curious ways. Of course it was impossible to tell clinically, or from the naked-eye appearances alone, what the cyst was going to be like until one opened it.

Unilateral Fixation of the Larynx, apparently Congenital—DAN M'KENZIE, M.D.—Patient, female, aged 21. The entire left side of the larynx is fixed and the left ventricular band appears rather full. Voice stridulous and husky.

History of hoarseness and throat trouble dating from birth, stridor during sleep being noticed shortly after birth, and breast-feeding being impossible on account of dyspnœa. When aged 2 years, was examined under an anæsthetic by Sir Robert Woods of Dublin, who is said to have reported that there was "a slight enlargement of the left side of the throat."

There is a history of some congenital heart trouble, but that has apparently disappeared, as the patient is now free from any cardiac abnormality.

This case also seems to be unique. The laryngeal picture is, of course, quite different from that of the better known "congenital laryngeal stenosis."

The parents are extremely intelligent and have watched the development of the case during the whole of the patient's life. I have no doubt that the symptoms have existed ever since birth. The birth was a long and delayed one, but it was not instrumental and was perfectly natural, so that there was probably no reason to attribute the fixation of the larynx to an injury received at birth. Normal laryngeal sensation is present.

Sir J. DUNDAS-GRANT said that the case looked to him as if there had been some severe inflammatory process and a cicatricial change, producing the fixation.

Dr M'KENZIE said that the idea of cicatricial change did not appeal to him. One did not see a fixation of the larynx on one side, as in this

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case, resulting from cicatricial contraction. Why, if it was a cicatricial change, should it be unilateral?

Mr J. S. FRASER thought that there was dislocation forward of the arytenoid cartilage on the cricoid. He had seen a similar case, in Edinburgh, in which the left side of the larynx was fixed, and it was really a purely mechanical condition, probably due to perichondritis of the joint.

Mr J. F. O'MALLEY said that, judging from the appearance, it seemed to him that there must have been some trauma at birth. It had a suggestion, to some extent, of the thickened appearance seen after a healed laryngofissure. It looked to him as if there was some inflammatory thickening.

Tuberculosis of Larynx—O. POPPER, F.R.C.S. Ed.—Mrs H., aged 51. First seen May 1929. Seven months' history of huskiness of voice. No cough, sputum or night sweats. Gaining weight. Does not smoke. A daughter died from pulmonary tuberculosis two years ago.

On Examination.—A small mass on the left vocal cord, occupying the anterior two-thirds, but not encroaching on the anterior commissure; smooth and nodulated; no ulceration. Some fullness and redness over the corresponding portion of the left ventricular band. Movements normal. Cord fails to approximate its fellow owing to mass. No unusual pallor of rest of larynx. Interarytenoid space clear. Appearance highly suggestive of epithelioma. *Provisional Diagnosis.*—Epithelioma or tubercle.

Wassermann reaction negative. Sputum negative for tubercle bacillus (tested four times). X-ray report on chest (Dr Rigby): Right apex does not light up so well as left. Calcification both upper lobes, suggesting healed tuberculosis. No evidence of active disease. Diaphragm moves well. Mediastinum clear.

Report on Chest (Dr G. Wilkie Scott): No evidence of active tubercle. Right apex: Percussion note less resonant, air entry less, breathing "wavy." Suggestive of old rather than of recent trouble.

Sir St Clair Thomson agrees that the diagnosis lies between epithelioma and tubercle. Thinks epithelioma more likely on account of negative findings and general appearance. If sections confirm this opinion, this is an ideal case for laryngo-fissure.

28th May 1929: Direct laryngoscopy. Three specimens removed. Depression left in place where the tumour had been.

Pathologists' Reports.—(1) Typical giant-cell formation of tuberculous infection (Dr Kilian Clarke). (2) Typical giant-cell formation (Pathological Department, St Mary's Hospital). (3) Typical giant-cell formation plus tubercle bacilli demonstrated in section (Dr Storer).

Patient was put under silence treatment; only occasional whispering being allowed. Galvano-cautery applied to affected area on three successive occasions.

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3rd August 1929: No sign of active trouble in larynx. A course of emulsion of tubercle bacilli was given, commencing with $\frac{1}{200000}$ mgrm. and rising to $\frac{1}{5000}$ mgrm. (latter dose repeated ten times). No variation of temperature throughout.

Present Condition.—Apart from scarring, the larynx presents no unusual features.

Mr BELL TAWSE asked why Mr Popper called this a case of primary tuberculosis.

The X-ray report suggested that there had been trouble in the apices of both lungs, and Dr Wilkie Scott's opinion supported this view. He therefore regarded the case as tuberculous disease of the left vocal cord, secondary to pulmonary trouble. He was rather suspicious of the inner aspect of the left arytenoid.

Mr O. POPPER said that the features atypical of tuberculosis were that the voice was only slightly below normal, and that although such change as there was dated back for eight months, pulmonary signs were wanting and the weight was increasing. Again, the lesion was mainly anterior and there was no ulceration. The close similarity to epithelioma emphasised the importance of a biopsy in all such cases.

Dr JOBSON HORNE said he considered that the word "primary" ought to be eliminated from the title of the case. A knowledge of the pathogenesis of the disease precluded the possibility of accepting a theory of primary tuberculosis of the larynx.

Mr POPPER (in reply) said that he had definitely qualified the term "primary" in the title by adding in brackets the word "clinical," and he thought that, in the absence of any active pulmonary lesion, vouched for "clinically" by the thermometer, stethoscope, microscope (repeated sputum examinations) and X-rays, one was bound to regard the tuberculous process in the larynx, now healed, as having been primary "clinically" to that organ. An old healed lesion in the lung was, he believed, found on autopsy in over 80 per cent. of cases in which no symptoms had appeared during life. A lymphatic spread from such a lesion would affect adjacent lung tissue and produce the typical clinical picture of active pulmonary tuberculosis by the time it reached the larynx.

Mr J. F. O'MALLEY referred to a somewhat similar case of his own in which the patient, clinically, had tuberculosis of the larynx, but in which every possible investigation had failed to discover tuberculosis anywhere else. Evidence of old lesions appeared on post-mortem examination.

Atresia of Left Posterior Choana—A. L. MACLEOD, M.B.—D. W., female, aged 28. Tonsils and adenoids removed in 1913. Still complained of obstruction. Saw a specialist eight years ago; nothing found.

Present Condition.—Atresia of left posterior choana. No airway. Nasopharynx clear.

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Sir J. DUNDAS-GRANT said that the characteristic feature of this case was the starchy collection of mucus in the obstructed nostril, from which the patient must suffer much discomfort. He was sure that Dr Macleod would obtain a good result by removing the obstruction surgically if at the same time he chiselled away a portion of the posterior part of the vomer.

Dr DAN MCKENZIE said it had been lately proposed in Paris that surgical diathermy should be used for the removal of the diaphragm.

Dr P. WATSON-WILLIAMS said he would advise making a free opening and removing the obstruction as far as possible all round the margin, including the posterior part of the septum.

Case of Nasal Sinus Disease involving the Right Orbit, and accompanied by an Unusual Degree of Deformity—NORMAN PATTERSON, F.R.C.S.—Male, aged 66. Three years ago noticed "swelling of right eye and pain above it." No headaches or nasal catarrh. Saw doctor, who removed polypi from right side of nose. Later on right side of nose probed; discharge; swelling of eye subsided. Two weeks afterwards sinus developed on inner side of eye, and there was a profuse blood-stained discharge. At this time there was also a discharge from the right side of the nose and down into the throat. Operation later on by Dr Hugh Mathias at Tenby Hospital. External incision. Three stitches inserted. Discharge ceased for one week. Afterwards swelling became much greater and eye was displaced forwards, outwards and downwards. Double vision developed. Pain over supraorbital region persisted.

On Examination.—Patient is a well-developed man. No history of loss of weight. The right eye lies about an inch below and external to its normal position, and it is proptosed. There is a fluctuating swelling extending from the nose to the outer limit of the orbit. The skin can be easily moved over the swelling, but in the region of the sinus it is inflamed. The sinus is situated in the neighbourhood of what was originally the internal canthus, and from it there comes a somewhat copious foul-smelling purulent discharge, which can be increased by pressure over the swelling. There is a fullness on the right side of the nose which passes into the right cheek and lower eyelid. On examining the nose on the right side, a hard, rounded, smooth swelling is seen projecting from the lateral wall. It practically occludes the nasal passage of this side. On the left side there is some polypoid tissue. [Skiagram shown.]

The case is rather an unusual one. One remarkable feature is that the man has vision $\frac{6}{24}$ in the displaced eye.

Mr E. MUSGRAVE WOODMAN said that he had had a case of a shop assistant who had come to him with his right eye bulging out of his head. His sight was normal, his temperature was normal, and he was free from pain and any other symptom. X-ray examination had revealed nothing. After local treatment of the nose, which was also apparently

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normal, the whole condition cleared up and the patient returned home without operation, presumably well. A month later he came up again with exactly the same symptom. The right eye was bulging out a quarter of an inch in front of the left eye. Another X-ray examination was made, and showed a slight suggestion of swelling in the ethmoidal region. He (the speaker) performed an external operation, and opened up the frontal sinus, which was normal. At the back of the eye he had found ethmoidal cells full of thin, clear mucus. He drained through the nose and sutured up the outer wound. The patient had recovered perfectly. The eye became normal, its movements returned, and the sight was unimpaired. It had been a curious case and certainly an alarming one.

Mr RITCHIE RODGER said that he had had a similar case a few months previously. He had seen the patient several years earlier, when there was a slight swelling in the ethmoidal region, and he had then attempted an intranasal operation, but there had been no evacuation of pus. The patient had returned a few months ago with quite a large swelling, displacing the eye downwards. He performed an external operation, and found a much enlarged frontal sinus completely filled with a material like glue which could be lifted up with forceps in one sticky mass. This explained why no result had been obtained from the intranasal operation, the material being too glutinous to be removed by that means.

Associated Paresis of the Internal Tensors and Abductors of the Vocal Cords in a case of Combined Bulbar Paralysis and Progressive Muscular Atrophy—MICHAEL VLASTO, F.R.C.S. —About five months ago this patient noticed that her voice was getting weaker. A little later on she found that there was some difficulty in swallowing food. The dysphagia was not more marked with solid food. Until the patient's attention was drawn to the matter she did not complain of weakness of the upper arms. Indeed, the very slowness of onset of the condition had made it difficult for her to analyse her symptoms.

The laryngeal picture is interesting in that it shows, in addition to the bilateral abductor weakness, the typical bowing of the vocal cord on the right side, due to paresis of the thyroarytenoidei.

Dr Feiling, who kindly examined the patient for me, reported as follows, 30th December 1929:—

There is slight wasting and some fibrillary tremor of the tongue, with deviation of the soft palate to the left. There is definite muscular atrophy of both sternomastoids and trapezius muscles. There is wasting of the muscles of the shoulder girdles and upper arms. The feeble musculature is in striking contrast to the well-preserved muscles of the lower limbs. I have no doubt that the bulbar symptoms are due to degeneration of the hypoglossal nucleus and the nucleus ambiguus in the medulla. The atrophy of the arms is due to a similar degeneration of the cells in the anterior cornua of the cervical enlargement of the spinal cord. In other words the condition is the not uncommon combination of bulbar paralysis and progressive muscular atrophy.

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The dysphagia had been the most prominent symptom, and it was for this that the patient originally sought relief. The suggestion has been made that the condition might be due to paralysis of the constrictor muscles.

Dr DAN MCKENZIE said that he felt emboldened to make a confession, namely, that he occasionally missed a fixed cord. This was particularly the case when the affected cord was lying in the middle line—that is, in adduction. He had noticed that no mistake was ever made when examining by the direct method.

Dr JOBSON HORNE said that the difficulty mentioned by the President in deciding which vocal cord moved, or was impaired in movement, could be overcome readily by the simple device of taking the eyes off the vocal cords and fixing them upon the arytenoid cartilages. The excursion of the arytenoids being wider than that of the vocal cords, the affected one was readily detected.

Mr O. POPPER said he thought that inability to detect the fixation was due to using only one eye. If both eyes were used, the mistake, really due to an optical disability, was not likely to arise.

Mr NORMAN PATTERSON said that he had great difficulty in his early days at the hospital in Golden Square in detecting a paralysed cord, and had had a special mirror made for the purpose with a black line drawn on the surface which was vertical when the mirror was placed in position. As the line remained stationary, it was easy to observe slight movements of the cords.

Mr RITCHIE RODGER said he had had a case of dysphagia of central origin, in which œsophagoscopy had been remarkably easy. The instrument fairly "romped" down the upper part of the œsophagus without encountering any difficulty from the constrictors. The patient had had facial paresis five months previously, supposed to be due to hæmorrhage. This had passed off quickly, as also did the dysphagia.

Dr P. WATSON-WILLIAMS asked whether the paralysis of the internal tensors of the cord preceded or was coincident with that of the abductors.

Mr VLASTO (in reply) said that there was abductor weakness associated with the typical bowing of the vocal cord on the right side, but he could not say which preceded the other.

Report of Case of Non-opaque Foreign Body in Left Lower Lobe Bronchus—V. E. NEGUS, M.S.—An infant, aged 1 year and 10 months, playing with a carrot, inhaled a portion into the air passages. Slight cough supervened. Chest examined same day. No definite signs. Next day almost complete loss of air entry in left lower lobe; impaired air entry left upper lobe.

Bronchoscopy performed by Mr Hope, 19th October 1929 (Brüning's tube). One piece of carrot seen first in trachea and removed, and on second inspection another piece was found in the left lower lobe bronchus and was removed. *Dimensions:* Larger piece about 15 mm. by 5 mm., smaller piece about 10 mm. by 5 mm.

The child was perfectly well next day.

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A skiagram showed non-return valve obstruction of left lower lobe bronchus.

An Operating Reflector—O. POPPER, F.R.C.S. Ed.—The silvered mirror is immeasurably superior in reflecting efficiency to those of the all-metal sterilisable type, which alter the quality of the light, especially when they become scratched.

This reflector consists of a removable spring wire handle used in conjunction with an ordinary glass mirror. It is sterilised and inserted into a slot provided and can be adjusted to alter the direction of the beam. It occupies very little space and is inexpensive.

Swellings in Larynx attributed to Gas Poisoning—F. C. W. CAPPS, F.R.C.S.—J. W., a man, aged 54, has been hoarse intermittently for some years past and attributes the condition to his having been gassed during the war. He has been very much worse during the last two or three weeks.

No history of venereal disease or tuberculosis. Teeth all removed. Tonsils small and fibrous. Nasal septum much displaced to left.

The larynx shows redness and œdema of the false cords. The true cords cannot be seen. The glottis is filled with two pedunculated swellings, the left very much larger than the right, both apparently arising from the anterior commissure. Voice and breathing are surprisingly good considering great obstruction present.

Wassermann reaction "doubtful."

Mr T. B. LAYTON said that this was a most interesting case. His experience was that when there was a suspicion of syphilis, a doubtful Wassermann reaction distinctly supported that suspicion. In this case, in which the lesion was suspiciously syphilitic, a plus-minus Wassermann reaction certainly supported that view. He believed that 80 per cent. of tertiary syphilitic lesions did not give a positive Wassermann reaction at all. Therefore a case with a partially positive Wassermann reaction should be looked upon as positive if this fitted in with the clinical appearance.

Syphiloma of Larynx—F. C. W. CAPPS, F.R.C.S.—Patient, a man aged 29, came to hospital complaining of hoarseness for six months past and of aphonia in the morning. No cough. No past history of illness. No family history of tuberculosis. Denies venereal disease. On examination there is some dental caries. Tongue slightly furred; one or two smooth patches in the posterior third. Mucosa of fauces generally slightly reddened and œdematous. Larynx—general slight reddening. Cords move well; slight thickening and warty excrescence at the anterior end of both. In the region of the anterior commissure there is a subglottic nodular whitish swelling which prevents proper apposition of the cords, but is practically hidden on phonation.

Wassermann reaction: + + ; Sigma reaction: 56 units.

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