heaped itself up all round the ring so as to hide it completely, and was only found on incision.

Microscopical examination showed the growth to be of the papillomatous type with surface ulceration and, in addition, a definite condition of squamous celled carcinoma was present.

The small mass removed from the cheek also showed the characteristics of a squamous-celled carcinoma (Fig. 4).

The case is of interest on two grounds: (1) The youth of the patient; (2) the family history. It must be remembered, however, that the latter rests entirely on the statements of the patient's mother, unsupported by either clinical or pathological details. Nevertheless it would seem justifiable to surmise that the irritation produced by the nose-ring, combined with bacterial infection, and the "natural" predisposition of the family to "growths," are at least in this instance directly connected with the causation of carcinoma.

We have to thank Dr M. F. Sorour, Assistant Professor of Pathology, for kind assistance.

SOCIETIES' PROCEEDINGS

ROYAL SOCIETY OF MEDICINE—SECTION OF OTOLOGY

May 2, 1925.

President.—J. KERR LOVE, M.D.

The Mastoid Emissary Vein and its Surgical Importance.—ARTHUR H. CHEATLE, F.R.C.S.

The paper is published *in extenso* in the *Journal of Laryngology and Otology*, vol. xl., No. 10, p. 633, 1925.

DISCUSSION.

Dr DAN M'KENZIE said that unless one practised the dissection of temporal bones for oneself, he did not think it was possible to obtain the essential intimate knowledge of the anatomy of this region. The temporal bone was one of the most variable of all human structures.

On one occasion, he (the speaker), when a junior, had had to operate in the country for mastoid suppuration. He made the usual incision and found a cellular mastoid process; he made a horizontal incision further back, and in doing so, he cut into an enormous vessel which yielded a great spurt of blood. He placed his finger on it to stop it. He could not tie it, he had no antiseptic wax with him, and he thought it might be

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possible to put in an ordinary strip of gauze. So large was the foramen that the gauze went in comfortably, and the bleeding stopped. He wondered whether in such a case the orifice could be plugged safely with soap. He had found that the inside of a cake of ordinary toilet soap was sterile. Subsequently, as he had on a former occasion reported to the Section, this case developed a septic clot in contact with the packing, but the lateral sinus and emissary vein were opened up and the patient recovered.

Dr LOGAN TURNER said it was a great pleasure to see Mr Cheatle again exhibiting some of his anatomical work. Specialists in rhinology and otology seemed to have struck a region which was full of abnormalities. Dr M'Kenzie's remarks about the variations in the mastoid might be equally applied to the nasal sinuses.

Another point of interest was the possibility of cavernous sinus thrombosis arising through the mastoid emissary vein. He (the speaker) recalled the interesting case of a man with a carbuncle of the neck, who developed cavernous sinus thrombosis and meningitis. At the post-mortem examination the process of infection was found to have extended from the occipital vein, through the mastoid emissary vein to the lateral sinus, and thence through the superior petrosal to the cavernous sinus. Hence there arose a connection between the superficial occipital venous system and the cavernous sinus, in certain cases, which might make primary infection in the neck a possible source of cavernous sinus thrombosis.

Mr CHEATLE (in reply) said he had forgotten to mention one point, which had reference to what Dr Logan Turner had said about secondary infection of the vein. It was recorded that veins behind the auricle emptied into the emissary vein, hence there was always the risk of infection spreading inwards from the surface.

Bilateral Mumps Deafness—NICOL RANKIN, M.B. (introduced by Dr Dan M'Kenzie).—Female, aged 10, had, about the middle of January 1925, a pyrexial attack during which it is said she had some transient vertigo. This was followed by "ringing" and "thumping" in both ears, and on 29th January she suddenly became deaf in the left ear. Next day she was found to be deaf in the right ear also, and at the same time she was found to be suffering from mumps. No vertigo was experienced at this stage.

Tuning fork (middle C) is not heard by air-conduction on either side, and the bone-conduction is minus 30 (approximately).

Vestibular tests (rotation and caloric) produced a normal ocular response but without any vertigo, although after prolonged rotation the child vomited. No vertigo was noticed during the mumps attack. Is pilocarpin of value?

Sir JAMES DUNDAS-GRANT said he wondered whether members had had better success than he with pilocarpin in this class of case.

Dr KERR LOVE (President) said that this group of cases, and the cases of congenital deafness, had one feature in common, namely, that the

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cochlear part of the eighth nerve was involved, and, as a rule, the vestibular nerve was not. This raised the question of their pathology; were they toxic; was there a neuritis or a meningitis, or, lastly, must they be classed as "hysterical"?

Sir WILLIAM MILLIGAN said that the prognosis in these cases was bad. The deafness was not always bilateral. He agreed that pilocarpin was practically useless; the only time he had seen it do good was when injected within a few days of the onset of the deafness. It was an interesting speculation as to what caused the extreme deafness in these cases. In some there was probably a localised basal meningitis, the deafness occurring much on the same principle as the profound deafness in cerebro-spinal meningitis. He (the speaker) had not found any treatment of use in these cases.

Mr RANKIN (in reply) said that the best course to take in this case would be to instruct the child in lip-reading. He had not known of any case in which benefit was derived from pilocarpin.

Sudden Bilateral Nerve Deafness of Unknown Origin in a Child—DAN M'KENZIE, M.D.—A girl, aged 10, awoke, two years ago, almost completely deaf in both ears. There was no vertigo and the incident was not associated with any illness. She had measles when 4 years old, and mumps a year after the deafness appeared. There had never been any ear discharge. Tonsils and adenoids have been removed on two occasions. The Wassermann test is reported to be negative.

She can hear a loud shout in the left ear; not in the right.

	R. E.		L. E.
T.F. 250	8	Meatus	50
	10	Mastoid	15

Rotation to both sides induces normal nystagmus and vertigo.

A recent Wassermann test both of the blood and the cerebro-spinal fluid is negative.

Dr KERR LOVE (President) said he had had three similar cases. In one, a child aged 5, suddenly, when requested to say her prayers, had made no response. There was no giddiness. Two days later the deafness was complete, and he (the speaker) believed it had remained so. The child had been educated accordingly. The Wassermann reaction had been negative. The second case had been submitted to two or three medical men before he saw it. The deafness came on suddenly in one ear, and some months later, after an adenoid operation, deafness was equally sudden in the other ear. In this case also the Wassermann reaction had been negative. This patient had not recovered after several years. In the third case, of similar onset and nature, he had had no opportunity of having the Wassermann reaction tested.

The pathology of these conditions was still somewhat nebulous, and he inclined to the view arrived at largely by a process of exclusion, that they were due to a neuritis. But he was still puzzled as to why the neuritis

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should affect the cochlear branch of the nerve, and not always the vestibular branch. Such cases were not *very* rare.

Mr ARTHUR CHEATLE said that he supposed that Dr M'Kenzie had considered the possibility of there being a functional cause of the condition; that was his (the speaker's) own view, and he would like to know whether the child had been in contact with deaf people. With regard to treatment, he would separate the child from her present surroundings, and apply faradism. A long time ago he had made a mistake in the case of a boy who was deaf for many years and who subsequently regained his hearing; he (Mr Cheatle) thought the same would happen in the present case.

Sir JAMES DUNDAS-GRANT said he agreed that this was most probably a functional case, otherwise it presupposed a simultaneous lesion of the two cochleæ, or a small hæmorrhage which picked out the two nuclei in the medulla. The spontaneous lip-reading proved in high degree the reality of the deafness here. In testing cases at the Aural Boards it was useful to ascertain whether lip-reading had been acquired, as if so, the fact was evidence of the patient's *bona fides*. He elicited from the mother that on the previous day a chair had been pulled away and that the child fell and struck the back of her head. That might have frightened her. There was a very active knee jerk.

Dr Arthur Hurst, in November 1919,* showed the case of a man who had been deaf since early infancy, when he appeared to have been dropped by his nurse. He (Sir James) had seen the child then, and he was apparently deaf, but rotation tests had induced the normal nystagmus, and his (the speaker's) note was that the prognosis was hopeful. When he grew up to manhood he had acquired, by education and suggestion, a fair amount of hearing power. It would be interesting to learn further developments in the present case.

Sir WILLIAM MILLIGAN said he could not agree that such a case was probably neuritic in origin, as the onset was so sudden. He thought the diagnosis must rest between some vascular change and hysterical deafness. He suggested that a skiagram should be taken, as the fall might have caused some damage to the bone. He would recommend treatment by auto-suggestion.

Dr P. WATSON-WILLIAMS alluded to the mother's statement that since the anæsthetic was given five days ago, the child could not yet retain food, nor even fluids. This was a long interval for post-anæsthetic vomiting, and gave support to the suggestion that the deafness might prove to be essentially "hysterical."

Dr KERR LOVE (President) said that terms like "functional" and "hysterical" should not be used in association with such cases as the present. He had seen many of these in the schools for the deaf, and the patients never recovered. It was necessary to educate them until they became adults, and to teach them lip-reading. The diagnosis of hysteria should only be adopted after every search for an organic cause had proved negative.

Dr DAN M'KENZIE (in reply) said that the idea of the deafness being

* *Proceedings*, 1919, xiii. (Sect. Otol.), p. 8.

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functional had occurred to him, as he had been impressed by the facility with which the child seemed to lip-read her mother's speech. If deafness had been complete, however, that would have favoured the functional view still more. The child would be separated from her mother and watched. In favour of the case being functional was the point that, had there been an inflammatory lesion in the labyrinth, there would have been vestibular symptoms, with some giddiness, whereas this child's vestibular reactions were normal. He (the speaker) would report on the case later. Functional deafness was itself a serious matter, as it might persist for years.

Natural Cure similar in Result to that following a Radical Mastoid Operation. Cavity completely Dry and Epithelialised —ARCHER RYLAND, F.R.C.S.—We all see cases of chronic middle-ear suppuration in which cholesteatoma is present, and in which the advancement of the disease, or the gradual necrosis of bone, is in the direction of a natural radical mastoid operation. In these cases, all one has to do at the time of operation is to take a sharp spoon or curette and scrape away soft necrosed bone; the radical mastoid operation is then complete. The difference in the case here shown is, that nature has entirely finished the operation, and the whole cavity is dry and epithelialised. There is no history of any operation having been done.

Sir JAMES DUNDAS-GRANT said that this case supported the view which he (the speaker) had advanced many years ago as to the advisability of retaining the lining of the cholesteatoma cavity when that lining was homogeneous, shining and fairly attached, because it served the purpose of a skin-graft. When the disease was seen at that stage it was well, in the radical operation, to scoop out the debris very carefully, and leave the shining membrane, which could be kept dry for years by means of spirit drops and occasional cleansing.

ROYAL SOCIETY OF MEDICINE—SECTION OF LARYNGOLOGY

May 1, 1925.

President—Dr A. LOGAN TURNER.

Epithelioma of Right Vocal Cord—Removal by Right Lateral Thyrotomy — Recurrence on Left Vocal Cord — Removal by Left Lateral Thyrotomy—C. A. S. RIDOUT, M.S.—Male, aged 60, first seen August 1922, complaining of hoarseness of long standing. A tumour, the size of a split-pea, was seen attached to under-surface of right vocal cord near anterior commissure. Pathological examination of small portion removed showed epithelioma.

In October 1922, right lateral thyrotomy without tracheotomy; large window removed from right ala of thyroid cartilage. Right

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vocal cord and whole of mucosa lining the ala removed as far as processus vocalis of right arytænoid, also small portion of anterior third of left vocal cord.

In May 1924, small nodule, size of a pin's-head, on middle third of left vocal cord, removed with forceps, proved to be epithelioma.

In June 1924, left lateral thyrotomy performed as above, except that the greater part of left arytænoid was also removed.

Present condition.—On right side is seen a re-formed band of fibrous tissue in position of original vocal cord, movable by the action of the right arytænoid. On left side no movement owing to removal of left arytænoid, the resultant scar being crescentic in shape, concavity towards middle line. Patient can talk in a loud whisper and is in good health.

Sir ST CLAIR THOMSON said the Section was indebted to Mr Ridout for bringing this case forward; the cases in which laryngo-fissure was done were still so few that nearly every case should be reported, not only the successes, but also the failures, which were not published so frequently as they might be. Except for his own statistics, and those of Dr J. S. Fraser, he (the speaker) did not know that anyone had published full records since the time of Semon and Butlin. Successful cases were shown from time to time.

In the present case there was a curious history of recurrence, of interest to others as well as to laryngologists. The patient had a recurrence on the opposite cord eighteen months after the first growth appeared. Everyone would agree that if a growth appeared within a year after laryngo-fissure had been done, the case was not one of recurrence, but of incomplete removal, not necessarily due to a fault of the surgeon, but perhaps because the case was unsuitable. After the lapse of a year, the reappearance of disease was a fresh growth. He (the speaker) had had a case in which a re-growth took place seven years afterwards on the opposite cord. That record had, however, been beaten by a case of Mr Tilley's, in which, if he remembered correctly, the recurrence took place thirteen years after removal. He (Sir St Clair) had had a case in which he had removed the vocal cord on one side, and there was a re-growth of malignant disease in the lingual tonsil on the opposite side three years afterwards. He had also had a case of malignant disease of the right ary-epiglottic fold which was removed by lateral pharyngotomy by Mr Trotter. That case was shown to the Section as a brilliant success; but four or five years afterwards the patient had recurrence of malignant disease on the opposing side of the pharynx. These cases could not all be, as had been suggested, implantations at the time of the operation. To students of cancer it was interesting to observe that certain patients not only showed a tendency to re-growth of cancer, but seemed to possess a local predisposition to it. This point appeared to be exemplified in Mr Ridout's case.

He wished to ask Mr Ridout two questions: (1) What were his reasons for avoiding tracheotomy? (2) Why did he operate through what was known as "a window resection"? Mr Ridout might say he did so because

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he was satisfied that he was able to dispense with tracheotomy, and could operate through a window resection. But he (Sir St Clair) thought the procedure violated some of the principles of surgery, one of which was that the operator should get as complete a view as possible of the malignant growth he was about to remove, and another, that everything in surgery should be done with the utmost safety to the patient. Avoidance of a scar could not have been the reason, as this patient was elderly; besides, a scar was present. He (the speaker) held that if a tracheotomy was not done in these cases a very serious risk was run. Any surgeon who had to operate in a number of cases would realise—in some cases too late—the risk incurred through omitting tracheotomy. There was a risk at the time of operation. Whatever might be seen, by indirect or direct laryngoscopy, one could not tell the extent of an intra-laryngeal growth until it had been exposed; it usually ran much deeper than was thought. He (the speaker) and others had been surprised to find that a growth was largely subglottic. The growth in this particular case might have been found at the operation descending into the subglottic area, and even inside the lumen of the cricoid cartilage, which, in some cases, he (the speaker) had had to divide. That could not be done through a window resection.

Secondly, when tracheotomy was done, one could make certain that not a drop of blood would go down into the air passages during the operation. There were not many, except the seniors, who knew the early history of this operation. He (Sir St Clair) adopted it as it had been learned from Butlin and Semon, who at that time always did a tracheotomy because a Hahn's tube was used. They did not sew up all the neck wound, but left an opening, and those who came after followed that tradition. But while the operation had been made more safe it had subsequently been simplified. He (the speaker) used to leave out the tracheotomy tube, and tried sewing up completely, but after trying both plans in operating upon over sixty cases, he came to the conclusion that tracheotomy was not only a great safeguard at the time, but also a great protection for the first twenty-four hours. He had been called to one case in which the patient was struggling for breath, and was afraid to cough; he (Sir St Clair) quickly replaced the tracheotomy tube, whereupon the patient coughed up a large clot of blood. He (the speaker) had had about three cases of post-operative hæmorrhage, and if he had not had a tracheotomy tube in, it would have been impossible to check it.

He recommended everyone to read again Mr Wilfred Trotter's lectures before the College of Surgeons. In one passage the lecturer said: "It is extremely important that the growth" (that is, any malignant growth) "in this neighbourhood should be centrally placed in the part removed. Any excess in one direction is an unnecessary mutilation, whereas any diminution is a risk. In order that such an excision should be carried out deliberately and systematically, it is absolutely essential that the surgeon should obtain free and untroubled access. Provision of free access is, in fact, perhaps the most important part of the operation." He (Sir St Clair) did not think that Mr Ridout's method fulfilled that requirement. Mr Trotter continued: "Free exposure is the first necessity. The second is that it should be exposed on its mucous surface." Having this in mind he (Sir St Clair) thought it should be seriously considered whether tracheotomy and the

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splitting of the larynx did not constitute an absolute necessity in approaching all these cases of laryngo-fissure or partial laryngectomy.

Mr H. TILLEY said that in the case mentioned by Sir St Clair Thomson in which there was a re-growth thirteen years after the primary operation, the patient had been seen in consultation with Sir Felix Semon. He (the speaker) had removed a large growth from the right vocal cord, and thirteen years afterwards he was called to see the patient and found him in an almost dying condition from asphyxiation ; he died the same night. The specimen showed a healthy scar in the previously operated region and an isolated new growth on the opposite vocal cord. He (the speaker) had had another case, which was operated on seventeen years previously, and he saw the man twelve hours before death. A growth had appeared on the other cord after seventeen years of good health. The patient was under treatment for malignant disease of the prostate gland. He (Mr Tilley) thought these were fresh and independent growths. Were they instances in which an immunity produced by the original growth had been lost?

Sir WILLIAM MILLIGAN asked whether the term "recurrence" was justifiable under the special circumstances mentioned by Sir St Clair Thomson ; he himself doubted it. In the present case he thought there was a new growth, not a recurrence. He raised the question whether this was not a contact infection ; whether an initial stage of cancer formation was not set up on the opposite cord as a result of the contact. Cases of "contact cancer" (*cancer à deux*) in the larynx had been recorded ; such cases of contact cancer were common in the vulva. He (Sir William) congratulated Mr Ridout on his case, but called attention to what he considered to be a commencing recurrence, as there seemed to be changes going on just in front of the right vocal process.

The question of tracheotomy was a very important one, and should be thrashed out by the Section. He agreed with Sir St Clair as to the enormous advantage of doing tracheotomy beforehand, *i.e.*, some days before the actual operation, as that gave the patient time to adapt himself to the respiratory changes. One of the great dangers from anæsthesia in these cases was œdema of the lungs.

Mr RIDOUT (in reply) said that he was glad of the criticism, especially from senior members. He agreed that he had been somewhat rash in omitting to do a tracheotomy, but the patient was very placid, and his (the speaker's) desire had been to avoid wounds in the trachea if possible. With regard to hæmorrhage ; after the operation the patient was inverted, and he (Mr Ridout) had waited several hours to see if there was oozing before allowing the recumbent posture to be taken.

As to "access," if he had followed the ordinary laryngo-fissure route he would have cut into the growth, which was impinging on the anterior end of the left cord, and he thought that by doing a lateral window operation he would be able to get a good view and avoid cutting the growth. After removing a large portion to make a window by submucous resection on the right side, and injecting cocain into the larynx to prevent coughing, he opened the mucous membrane well below and behind, and so obtained a good view. He found that the growth was close up to the anterior

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commissure, and he removed some of the cartilage of that commissure, and a little piece of the cord on the opposite side, with which the growth was in contact. The pathologist had reported that in that small portion of the cord there were karyokinetic changes. After the operation the patient had not failed in his progress; he was seen once a month. In May last year a tiny nodule appeared on the middle of the cord and that might have been a direct contagion from the original growth, but he (Mr Ridout) thought it was too far back for that to be the case. It was probably a second growth. As the patient had done so well after the first operation he (the speaker) had been tempted to do a similar operation on the other side, and the patient had stood it well. He (Mr Ridout) did not think there was yet any recurrence, but would keep the patient under observation.

Two Cases illustrating the Comparative Failure of Ventriculo-cordectomy for the Relief of Double Abductor Paralysis—WALTER HOWARTH, F.R.C.S.—In both cases the paralysis followed operations on the thyroid gland. In the elder woman a tracheotomy tube had been worn for ten years; in the younger woman no tube was worn. Both cases have been operated on twice by suspension laryngoscopy. In each case the immediate result was excellent, but as the new fibrous cord formed, as it inevitably must, the airway became progressively diminished. A second operation involving a more drastic removal of tissue was followed by the same result.

The procedure is a simple one, but is singularly ineffective, and would not appear to justify the claims that have been made for it.

Mr E. D. D. DAVIS said that Sir James Berry had performed laryngo-fissure and eviscerated the larynx, dissecting away the soft tissues and vocal cords. In one case he had carried out this operation twice, but the tracheotomy tube had to be replaced a few months after each operation.

Mr E. MUSGRAVE WOODMAN said that his experience of the operation was that the immediate result was pretty and successful, but his patient had coughed regularly all the time, and a fortnight after the operation she had had increasing dyspnœa; the cord had come down again and the tube had to be reinserted.

Mr RIDOUT said he believed Mr Hobday had done a similar operation with considerable success on the horse, removing the whole mucous membrane of the left side of the larynx. If one were to do a window operation on the thyroid cartilage and remove the whole contents on that side, one would probably get a contraction outwards, which would give a permanent airway. It would be better for the patient to whisper and wear no tube, than to be condemned to a tracheotomy tube for the remainder of his life.

Mr E. D. D. DAVIS said Mr Vlasto and himself had seen Mr Hobday do this operation on the larynx of a horse; it was an easy and practical operation in that animal owing to the large larynx and the size and position of the ventricle, but it could not be applied to the human larynx.

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Dissections of the human larynx clearly showed that the operation could not be carried out successfully in man.

Mr M. VLASTO said that in performing the operation of cordopexy operators were, perhaps, forgetting the law of cicatrisation at an angle. Panas had shown that if two raw surfaces were placed in apposition, the healing of those surfaces always started from the angles. The recognition of this law found many applications in general surgery, as, for example, in the operation of separating the fingers in syndactylism. In their own specialty, he (Mr Vlasto) might instance the operation for freeing the soft palate in cases in which overcicatrisation had followed the removal of tonsils. It was useless to try to relieve tension by linear incisions or cauterisations through the soft palate, because the raw edges would surely come together again. If, however, a perforation were made on either side of the base of the uvula with the point of the cautery, and the perforation allowed to heal, incisions made into the perforation would heal without reunion of the edges, and the tension would be relieved. With this fact in mind, he (the speaker) suggested that the operation of cordectomy should be restricted to the lateral structures of the constricted area and that the anterior and posterior commissures should be left with the mucous membrane intact.

Mr HOWARTH (in reply) said that he had not removed the vocal process. He had undertaken these operations because Chevalier Jackson had published such glowing accounts of his operation in the American journals that he (the speaker) had thought it worth trying. He did not propose to discuss cordopexy, or any other modification, as in these cases he was simply concerned with Jackson's operation. He thought it must be regarded as a bad operation ; he did not think a permanently satisfactory result could be achieved by it, though the immediate result was magnificent. In spite of various devices he had failed to prevent the onset of cicatrisation. It should be remembered that each of these cases had been operated on twice, and yet each showed a fibrous cord almost indistinguishable from the real cord. It would seem that one could be misled by a glowing account of an operation which was unsupported by histories of cases which had been subsequently followed up.

A set of Modified Jackson Tubes and Instruments for Peroral Endoscopy—WALTER HOWARTH, F.R.C.S.—A description of these instruments was published in the *Journal of Laryngology and Otology*, vol. xl., No. 6, p. 419. They embody all the advantages of Jackson's models, but abolish the dirt-holding grooves and crevices, the unnecessary nuts, and other features which make these instruments so difficult to clean and keep in proper order. Various other improvements have been introduced.

Dr D. A. CROW said that Chevalier Jackson would certainly never claim finality in the design of his instruments, but, since he had given so much care to the subject, any suggested modification should be thoroughly examined before it was pronounced to be an improvement. He (the speaker) did not regard the blackened forcep-tip as an advantage. Those who had been instructed by Jackson would remember the importance

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attached by that authority to the light reflex as an indication of the depth which the forceps had reached. The interchangeability of the forcep-tips was a questionable advantage. One might require half a dozen forceps for a given case and the time occupied in making the change might be of vital moment in the operation. One could not afford to be economical in such work.

Mr E. D. D. DAVIS said that he considered it an advantage to have the barrel of the forceps sliding over the point as in Mr Howarth's modification.

Mr HERBERT TILLEY spoke highly of Mosher's œsophagoscope with ovoid lumen, because it gave an excellent field for observation, and a tube containing radium or its emanations could easily be inserted into the growth. In these respects it compared favourably with Jackson's largest-sized tube. He (the speaker) was having a full-sized circular tube made with the distal light flush with the lumen of the tube, so that there was nothing to obstruct the free removal of gauze plugs or to hinder the insertion of full-size Souttar's tubes. The latter could not be passed through a Mosher's tube.

Dr W. HILL said he agreed that one could not do work of any kind with a very small tube. Only the small bougies of Jackson would go through a Mosher tube. It was difficult to get a full-sized funnel down through any tube unless it was at least 18 mm. diameter and circular. Jackson's tube did very well for examination, but for operative procedures the patient must be put under a general anæsthetic, and large, circular tubes must be used. Dr Paterson, of Cardiff, had used a bicycle tyre—a tube 20 mm. in diameter—for the extraction of a mutton bone from the gullet. Since he (the speaker) had used large tubes, he had found the work comparatively simple. In making comparisons, however, members must remember that Chevalier Jackson was a mechanical genius.

Sir WILLIAM MILLIGAN said that this was the most beautiful set of instruments he had ever seen. The idea of the blackened ends was an excellent one; this was a distinct advance. If circular tubes were substituted for oval ones, and were made larger, that would be a further improvement. Generally speaking, he (the speaker) agreed that the larger the tubes used, the better.

Mr WALTER HOWARTH (in reply) said that it was not intended that these instruments should replace Hill's, or Brünings', or other tubes; they merely represented an attempt to secure a set of distally-lighted tubes for those who liked them, which would be useful on all occasions. He did not think the light reflex was of paramount value; a light reflex could be obtained from the point just proximal to the tip. He agreed with Sir William Milligan that a rounder œsophagoscope would be better, and some were already being made larger and rounder in section.

Osteoma of Ethmoid — WALTER HOWARTH, F.R.C.S. — The patient complains of nasal obstruction of three months' duration. A portion of the tumour presents into the nose, but the radiogram shows that the main mass is in the ethmoid. An external operation will be necessary for its removal.

Postscript.—A very large osteoma, involving practically the whole of the ethmoid, was removed by the external route.

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Royal Society of Medicine

Acute Pulmonary Infection following Operation on the Maxillary Antrum—DAN M'KENZIE, M.D.—Male, aged 33, had double nasal antrostomy, 13th February 1923. Six days later pleurisy on the right side set in, followed by general broncho-pneumonia, with, later on, several attacks of hæmoptysis. Temperature rose and continued elevated with daily remissions for about eight weeks, when patient was removed first to the Victoria Park Hospital, and afterwards to the Hospital for Consumption, Brompton. Here X-ray examination suggested an abscess in the lung, but after several exploratory operations an empyema (? encysted) was discovered and drained by Mr Roberts, with complete recovery. (The sputum was free from tubercle bacillus throughout.)

Several cases of acute pulmonary infection of various kinds, two of them fatal, have come under my observation, and in every one of them it was the maxillary antrum which had been the site of operation. The infection does not seem to attend one variety of operation more than another, as it occurs after the radical as well as after the intranasal operation. The route by which infection reaches the lungs is not quite obvious. The inspiration of septic material during general anæsthesia may perhaps be responsible, and, for that reason, it is a wise precaution to have the cavity washed out immediately before operation. If this should prove to be the most usual route, the argument in favour of operating under a local anæsthetic would be strengthened. It is difficult, however, to exclude the possibility of infection through a venous channel.

These cases are fortunately uncommon. The most usual septic *sequela* of operation on the nose is acute tonsillitis, and this can be terminated by a 25 c.c. dose of anti-streptococcus serum.

Mr G. H. WILKINSON said that on account of the danger of infecting the lungs he would suggest intratracheal intubation in these cases. Nine years ago he (the speaker) had had a similar case, which ended fatally; he had then decided that intubation should be done in every case of throat operation in his clinic, and that practice had been followed ever since. This procedure prevented the entry of fragments of bone or mucous membrane into the lungs, and the time taken in passing an intubation tube was more than saved by the ease of the anæsthesia. He (the speaker) now employed the same method even for mastoid operations.

Dr P. WATSON-WILLIAMS said he doubted whether infection did take place during the anæsthesia, and he did not think it was only then that there was danger of pulmonary complication. It was a rare complication following operation on the maxillary antrum, but was one which could not always be avoided—for instance, it might be due to infection entering through venous or lymphatic vessels in the periosteum, etc. Infection might take place through the inhalation of septic particles, but this possibility was almost as great after as during anæsthesia.

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Dr JOBSON HORNE said that in order to prevent the inspiration of septic matter into the lungs during an operation upon the maxillary antrum, or during any intranasal operation, it had been his (the speaker's) invariable practice to pack the post-nasal cavity with a marine sponge tied round with a silk ligature passing out through the mouth. This caused no inconvenience to anybody, it saved much trouble during the operation, and it minimised the possibility of inspiratory infection.

With regard to the choice of operation on the antrum, the results of nasal antrostomy that had come under his (Dr Jobson Horne's) notice had not been sufficiently satisfactory to lead him to adopt the nasal in place of the combined oral and nasal operation which had given him satisfactory results.

Dr LOGAN TURNER (President) said the possibility of embolic infection could not be excluded. All these cases were not inhalation infections. Further, the complication was not limited to those cases in which the patients had general anæsthesia, as it had arisen after local anæthesia had been given in operations on the maxillary antrum.

Dr DAN M'KENZIE (in reply) said that these accidents were disconcerting, because the post-operative illness was then out of all proportion to the pre-operative symptoms. In doing the external operation one was faced by the possibility of infecting the soft tissues; and osteomyelitis might occur as a sequel. In America tonsillectomy was done under local anæsthesia, and there had been many cases of acute pulmonary infection following that operation, in which there was no possibility of blood reaching the bronchi. The question needed to be thoroughly ventilated.

Lympho-Sarcoma of the Pharynx and Naso-Pharynx—Sir JAMES DUNDAS-GRANT, K.B.E., M.D.—(Previously shown at the meeting of 6th March 1925.) Male, aged 38, with immense infiltration of glands on both sides of the neck, which developed with considerable rapidity about five months ago. When shown at the March meeting the naso-pharynx was encroached upon by a hard, vascular, non-ulcerated growth in the soft palate, while in the naso-pharynx itself there was another smooth firm growth of about the size of a large grape, growing from the left lateral wall. Breathing through the nose was absolutely impossible. A slight diminution of the glandular swelling had taken place under exposure to X-rays, and it was proposed to introduce radium into the growth in the naso-pharynx.

On 11th March, I introduced two radium needles through the left nasal fossa into the naso-pharyngeal growth; they were left in position for twenty-four hours and breathing began to be possible through the nose; when I saw him again at the end of the week nasal breathing was quite easy. On 1st April, I introduced three radium needles into the palatal growth and the diminution in a week was most marked, while at the same time the glandular mass on the left side of the neck shrank with greatly increased rapidity.

A microscopical examination of a gland which was removed was reported as showing lympho-sarcoma.

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Sir WILLIAM MILLIGAN said he must congratulate the exhibitor on the result, but he (the speaker) did not think Sir James had proceeded far enough; the treatment was incomplete. Unless a block dissection of the glands was done, recurrence was almost certain. He asked what had been the total dose and the total exposure in this case.

Sir JAMES DUNDAS-GRANT (in reply to Sir William Milligan) said that in the first instance three tubes of 25 mg. each had been introduced, and that they were kept in for forty-eight hours; on the second occasion three tubes, each of 5 mg. were kept in for twenty-four hours.

Sir WILLIAM MILLIGAN said that this was a fair total dose for the nature of the growth. In such a case a combination of X-rays and radium was excellent; there seemed to be some physical affinity between the two. In the present case he (Sir William) thought that the nose was not quite clear, and that some intranasal treatment was needed. In such instances attention should always be given to surgery of the glands. Team work was necessary, *i.e.*, work in co-operation with a general surgeon and a radiologist who should decide by means of the iono-micrometer the most suitable dose for the given case. Hitherto dosage had been too empirical and haphazard. The tendency to-day was not to use tube emanations of radium, but the element itself, and to leave it *in situ* for much longer periods, such as a fortnight or three weeks. Tube emanation was practically useless after three days. In 3·75 days 50 per cent. of its radio-activity had vanished.

Dr ANDREW WYLIE said that he had shown at a former meeting of the Section a case in which the patient had contracted erysipelas and had been cured. It might be worth while to experiment on such cases with the germs of erysipelas.

Sir JAMES DUNDAS-GRANT (in reply) said that to deal with these glands at present would be very difficult, as they were so firmly fixed and so extensive. X-ray treatment was being continued. An extraordinarily rapid improvement had taken place after radium had been introduced. There was still some thickening at the back of the nose, and perhaps the growth in the palate had not quite disappeared. He (Sir James) thought the latest idea in treatment was to introduce a weak dose of the element and leave it *in situ* for a long time, and that this gave good results, even in epithelioma of the tongue. He would report again on the case.

Specimen and Lantern Slides illustrating an attempted Ingestion of a 10-in. Table Knife during Puerperal Insanity—E. MUSGRAVE WOODMAN, M.S.—Female, aged 34, was suffering from slight puerperal insanity. In an attempt to commit suicide she swallowed a large poultry knife. She said nothing about the condition for fourteen days, but at the end of that time she complained of her throat and was admitted to hospital.

X-rays showed a large knife apparently in the thoracic œsophagus.

Œsophagoscopy under local anæsthesia showed a slit on the posterior wall of the post-cricoid region of the pharynx. A tube was passed through this into the posterior mediastinum which was gangrenous and full of food debris.

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A lateral œsophagotomy was rapidly performed under an anæsthetic and the handle of the knife felt through the opening into the right pleural cavity; the knife was extracted between two fingers.

She died two days later from double pneumonia.

Two Cases of Anatomically Irregular Sphenoidal Sinus with Sinusitis and Defective Vision, illustrating the use of the Suction Syringe in localising Focal Infection—P. WATSON-WILLIAMS, M.D.—In these two cases there was undoubted infection of the sphenoidal sinuses and posterior ethmoidal cells, with well-marked toxic ocular defects, but, in both, the irregular development of the sphenoidal sinuses afforded technical difficulties in localising the precise source of infection.

In the first, a large over-developed left sphenoidal sinus, encroaching on the opposite side, was infected, while the small under-developed right sphenoid was not seriously involved.

In the second case the small ill-developed right sinus was infected, while the large over-developed left sphenoidal sinus was not infected. The detection and drainage of the small tucked-away right sinus gravely influenced the patient's serious visual defect as well as his general well-being.*

Mr G. L. GIMBLETT wished to discuss these cases from the ophthalmic point of view. The ophthalmic surgeon in cases of defective vision charted the fields of vision, found a contracted field, and set out to discover the reason for the defect. The first person whose assistance he sought was the rhinologist, and when the rhinologist reported that there was nothing wrong with the sinuses the ophthalmic surgeon was handicapped, and time was lost. There were two quite separate methods. One was for charting the peripheral field, by M'Hardy's method, the other for charting the central field. One could not measure the size of the blind spot accurately with M'Hardy's perimeter. For this a Bjerrum's screen or Bishop Harman's scotometer was necessary. In the case of sphenoidal sinus infection both eyes showed contraction of the nasal visual field, but on one side more than the other. When, as in these cases, the nasal side was especially reduced, the ophthalmic surgeon always thought of glaucoma as the explanation. It was very important to chart the fields for colours, for while the field for white might be full, the field for red or blue might almost show hemianopia. He (the speaker) had learned much from these two cases.

Mr E. D. D. DAVIS asked whether Mr Gimblett had seen many cases of retrobulbar neuritis arising from nasal sinus suppuration.

Mr GIMBLETT (in reply) said that he had already found an unpleasantly large number of cases in which sinus infection had been discovered when the visual fields were contracted. The infection had not been limited to

* The full account of the cases, together with visual colour field charts, will be reported in *The Lancet*.

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the sphenoid; the ethmoidal cells, both anterior and posterior, had also been infected.

Dr P. WATSON-WILLIAMS (in reply) said that Mr Gimblett's remarks directed attention to the need for great care on the part of the ophthalmic surgeon when examining the cases referred to by the rhinologist. Not being content with merely examining the fields for white, he must examine them for colour, enlarged blind spots, and scotoma. Moreover, every possible source of infection must be explored by the rhinologist, and every cavity, whether infected or not, must be investigated and the contents bacteriologically examined before one could locate infection—or exclude a nasal source of infection—in such cases.

Nævus of the Epiglottis and Tongue—HAROLD KISCH, F.R.C.S.—Female, aged 39, married, gave a history of repeated and severe hæmoptyses since the war. Nævoid condition of epiglottis and vallecula observed.

I saw the patient two months ago; a few days previously she had had a large hæmorrhage. The veins on the right side were enormously dilated in comparison with those on the left, and on that day they spread on to the epiglottis. The condition has now largely subsided, but the veins on the right are still larger than those on the left side.

Thyroglossal Cyst—A. R. TWEEDIE, F.R.C.S.—Female, aged 31, alleged to have undergone an operation on the throat seventeen years ago. There is a healed T-shaped scar in the middle line in the hyo-thyroid area, corresponding probably to the removal of a thyroglossal cyst. Apparently no normal thyroid gland is present, but in the neighbourhood of the foramen cæcum on the dorsum of the tongue there is a firm, globular swelling, diagnosed as a "misplacement" of this gland.

Patient applied for treatment, February 1925, complaining of trivial discomfort in her throat of some six weeks' duration.

The case is shown for advice as regards procedure, the suggestion being that no treatment at present is indicated.

(See article in the *British Journal of Surgery*, January 1925, by Mr Hamilton Bailey.)

Sir JAMES DUNDAS-GRANT said that the swelling did not seem to be causing the patient much discomfort, and there appeared to be no urgent need for interference. If, however, the thickness of speech was an annoyance, he (Sir James) would suggest the removal of a portion of the swelling by transfixing it with a needle from before backwards, and then applying the galvano-cautery snare. He (the speaker) had done this on one occasion, and in that case there had been no post-operative trouble whatever. If the growth were removed entirely the patient would probably suffer from myxœdema all her life.

Pharyngeal Growth in a Man aged 70—GEORGE BADGEROW, C.M.G., F.R.C.S.—When first seen by me at Golden Square, the

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patient complained of an ordinary sore throat with discomfort on the right side when swallowing. The laryngoscope showed a growth attached to the epiglottic pharyngeal fold.

Mr Wilfred Trotter confirmed the diagnosis of epithelioma. Lateral pharyngotomy was performed by Mr Trotter. The patient made a good recovery.

Nasal Tumour, probably of Tuberculous Origin—N. S. CARRUTHERS, F.R.C.S.—Female, aged 13, had always been a healthy child. About eighteen months ago it was noticed that the right side of her nose was becoming deformed. The condition gradually grew worse; no pain, no epistaxis, no nasal discharge. Wassermann reaction negative.

There is a semisolid mass on the right side of the nose, which appears to be expanding the junction of the frontal process of the maxillary bone and the nasal bone. The nostril is obstructed by a bluish mass covered with normal mucous membrane. Post-nasal space and choana are normal. Transillumination shows right antrum to be dull. X-ray shows septum pushed to opposite side, right antrum opaque, but no bony change.

When first seen by exhibitor twelve days previously, the swelling appeared universally solid. There is a large submental gland and there is some thickening of the *left* side of the lower jaw.

Postscript.—An operation was subsequently performed. The "tumour" was very vascular, the nasal process of the maxilla and the inner wall of the antrum were necrotic and were removed with a sharp spoon. There was no pus. The submental gland was removed and showed scattered foci of suppuration. Microscopically, both the primary growth and the gland suggest tubercle.

Epithelioma of Right Vocal Cord—J. ALDINGTON GIBB, M.B. —Male, aged 54, labourer, was admitted 3rd January 1925, with hoarseness for some months and lately some pain low down in throat.

Epithelioma of right vocal cord was diagnosed.

5th January 1925: thyrotomy with tracheotomy. Right vocal cord with half of right thyroid ala removed.

9th January: tube removed; breathes freely and swallows; throat well.

19th January: sudden collapse and difficulty in breathing; much pus in larynx; tube replaced; strychnine given hypodermically.

23rd January: much improved.

Present condition.—Considerable narrowing of larynx due to adhesions; he wears a tube.

Remarks.—The operation was delayed until patient had recovered from parotid abscess. It is probable that the infection of the larynx

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was due to his low immunity. He was also an alcoholic. The question is whether dilatation of the larynx is necessary. There has been some improvement in air space and this may increase still further.

Disease of Anterior Ethmoidal Cells, causing Optic Neuritis—J. ALDINGTON GIBB, M.B.—Male, aged 22, a gardener, admitted to casualty department from eye department suffering from receding optic neuritis (left), severe supraorbital headache, and occasional occipital pain; giddy and sleepy at times.

I was requested by my colleague Mr Potts to examine the patient's nasal sinuses with the object of discovering the cause of the optic neuritis.

Mucous membrane of nasal cavities dry; scanty thick pus in middle meatus descending from under cover of middle turbinal; no tenderness over frontal sinus. In post-nasal space pus was seen winding round the Eustachian cartilage; maxillary antrum shadowed; frontal sinus, no illumination.

Disease of anterior ethmoidal cells diagnosed.

Ophthalmological Report.—27th September 1924; right vision = $\frac{6}{5}$ (part); left vision = $\frac{1}{36}$; slight hyperæmia of left disc; physiological pit filled in; lamina not visible.

12th October; left vision = $\frac{6}{60}$; operation under chloroform and gas; anterior ethmoidal cells opened on right and left sides; anterior end of middle turbinal punched off; left maxillary antrum opened; pus present. Forty-eight hours after, left vision = $\frac{6}{36}$.

27th October; left vision = $\frac{6}{18}$; fundus satisfactory; very little discharge from nose.

29th November; left vision = $\frac{6}{12}$; no active optic neuritis; discharged.

I have had four of these cases of anterior ethmoid disease causing optic neuritis. I never remove the whole of the middle turbinal. In two I have completely exenterated the cells and have felt the instrument to be in contact with the soft tissues of the orbit.

Soft Fibromata of Larynx followed by Malignant Disease—W. H. JEWELL, O.B.E., M.D.—Male, aged 61, was shown at a meeting of the Section about four years ago as one of soft fibromata of the larynx, and those who examined the patient on that occasion agreed with the diagnosis. He gave a history of five months' hoarseness and shortness of breath.

On examination, soft fibromata could be seen nearly filling the larynx, obscuring the vocal cords and leaving a central airway about the size of a small quill. A few days after the meeting, during a violent fit of coughing, the growths were expelled. Some of these

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were said to be the size of a hazel-nut. Similar pieces had been coughed out on previous occasions. When I saw him a day or two later his voice was natural, the vocal cords were active and clean, his respiration free, and I did not at that time (March 1921) discover any evidence of malignant disease. He returned to his heavy work—carrying sacks of malt from the holds of barges up two ladders to the store—without the least inconvenience.

Three days ago he returned to hospital complaining of hoarseness of one year's standing and of shortness of breath.

The left vocal cord is fixed and infiltrated, and there is also a ridge of infiltration above the anterior commissure, but nowhere in the larynx can any growth be seen resembling the soft fibromata previously observed. No glands palpable. Wassermann negative, January 1921.

Postscript.—The condition now appears to be malignant, and this was confirmed by those who examined the larynx at the meeting, 1st May 1925.

Larynx and Œsophagus, from a Case of Paralysis of Left Recurrent Laryngeal Nerve and Tuberculous Ulcers of the Œsophagus, all caused by Caseous Tuberculous Glands—HERBERT TILLEY, F.R.C.S.—The specimen was removed from an adult female who was under the care of Professor T. R. Elliott, at University College Hospital. He has kindly supplied the following report and history.

The left recurrent laryngeal nerve is entangled in a caseous lymphatic gland. The larynx is not diseased.

In the œsophagus are three ulcers. The uppermost is shallow, but the middle one extends by a deep tract into a mass of breaking-down caseous glands at the bifurcation of the trachea. The tract does not actually open into the bronchus.

There is a shallow tuberculous ulcer in the stomach, also caused by inward spread from an adjacent caseous gland.

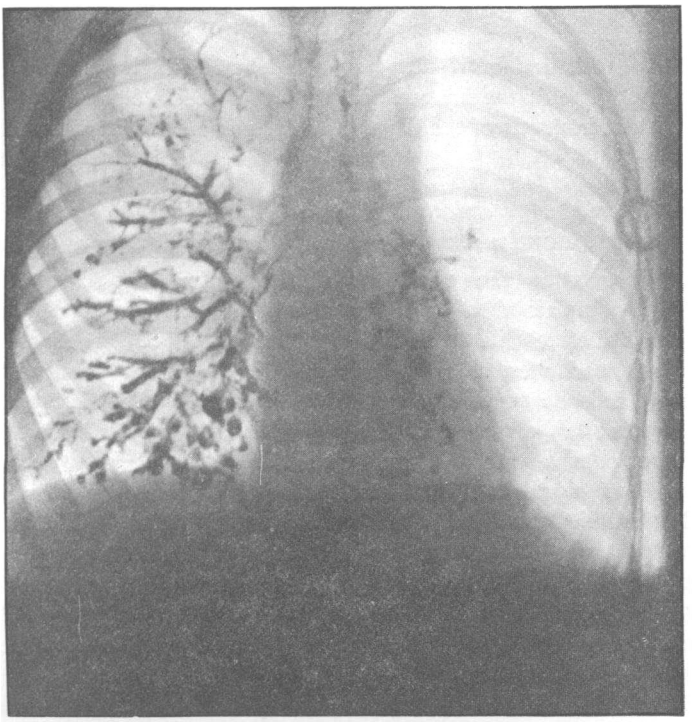
The patient, a woman, aged 68, died in a state of weakness and emaciation, with caseous mesenteric glands and extensive tuberculous ulceration of the bowels. Probably this was the starting point of infection.

The lungs showed only recent miliary tubercles. There was no sputum, but tubercle bacilli were found in the fæces.

The patient's voice became hoarse during an attack of "influenza" eighteen months before death and never recovered. Her bodily weakness dated from the same illness. The larynx was examined by Mr Herbert Tilley ten days before death, and "the left vocal cord was found to be paralysed and motionless in the middle line, owing to paralysis of the abductor muscles."

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The patient occasionally mentioned a little pain in the throat; she said that there was no difficulty in swallowing solids, but that "fluid went the wrong way and *caused coughing*" (*cf.* tract alongside trachea). No dysphagia was noticed during the fortnight that she survived in hospital, and the œsophagus was not examined.



X-ray Films illustrating Lung Mapping with Lipiodol in a Case of Bronchiectasis—WALTER HOWARTH, F.R.C.S.—In this instance the patient was anæsthetised, and 5 c.c. of lipiodol were injected into each main bronchus through a bronchoscope. This method is more certain and exact than that of intratracheal injection. In most cases an anæsthetic is not necessary.

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