When the left ear was again inflated by catheter the dizziness was much more marked, and accompanied by strong forced movements of the head and nystagmus. The giddiness subsided, but before removing the catheter the inflator was compressed a second time and this again provoked intense vertigo, forced movements and nystagmus, while the patient exclaimed—"I'm giddy again, but I'm going the opposite way"—in fact the direction of the forced movements of the head and eyes, like the subjective sensations of movement, were all *reversed*. In the first instance the head was forced to the right, and the nystagmus was to the left; in the second instance the head was forced to the left, and the nystagmus was to the right. In each case the head movement was a combination of lateral flexion and axial rotation. The nystagmus, which was extremely violent, was horizontal, with a terminal rotary excursion of the upper meridian outwards and downwards.

Previous to treatment the drum and ossicular chain were compressed inwards; the compression on the outer surface of the drum, being sufficient to produce invagination, would be transmitted to the labyrinth principally by the inward displacement of the stapes, though possibly by some increased tension on membrana secundaria too. By the first inflation only sufficient air entered the tympanum to permit the drum to return to the normal state, and the pressure on the labyrinth was suddenly relaxed, *i. e.* the labyrinth passed from a state of positive to one of neutral tension: the movements of the head were to the right and the nystagmus was to the left.

In the second stage of inflation the tympanum was hyperdistended, by reason of the catheter having to be passed unusually far up the tube to obtain inflation at all. Hyperdistension within the tympanic cavity probably acts both on the stapes and membrana secundaria, momentarily raising the labyrinthine pressure from a neutral to a positive tension; the resulting forced movements of the head were to the left, and the nystagmus was to the right. Simultaneous hyperdistension of the right and left tympana instantly arrested the vertigo, produced by unilateral inflation of the left ear alone.

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

June 1, 1917.

President: Mr. T. Mark Hovell.

(*Continued from p.* 29.)

Hyper-adduction of the Left Arytænoid Cartilage.—L. H. Pegler.—Patient, a male, aged thirty, has always been hoarse; voice weak and easily fatigued. The cords approximate imperfectly, owing to the left arytænoid overlapping its fellow on vocalisation. The case, which appears to be congenital, is shown on account of its simulating in one respect the behaviour of an arytænoid when the opposite cord is paralysed.

Dr. Jobson Horne: I should like to hear the idea of others as to

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whether there is movement in the right cord. It did not seem to me to approximate at all. If the right cord is fixed, what is the cause? Perhaps there is some long-standing condition which accounts for an over-action of the healthy cord.

Dr. H. J. BANKS-DAVIS: I did not think the right cord moved. The left cord seemed to be at a higher level, and swung across the arytænoids.

Capt. SMURTHWAITE: I agree with what Dr. Banks-Davis said, and I therefore ask if he has had chest symptoms or anything involving the nerve. There is hyperaction of the left cord, so that it comes behind the right cord, nearly touching it. The right cord seems almost fixed in the cadaveric position.

Dr. W. HILL: The right cord shows post-paralytic contracture.

Dr. BROWN KELLY: At first glance it looked to me like "crossing of the arytænoids," which occurs physiologically, as exemplified in Case 2, shown by Sir StClair Thomson. In the case under discussion, however, the cords do not quite meet; it is difficult to say which is at fault, but as the left arytænoid is inclined forward, as in recurrent paralysis, probably the lesion is situated on this side of the larynx.

Dr. DONELAN: Sir Morell Mackenzie showed me a case in which the arytænoids overlapped in this manner, and he said it was very rare to see it in a normal larynx.

Dr. PEGLER (in reply): In spite of adverse criticism to my stated opinion I am disinclined to change it, so long as I realise that members who differ from me have not had the opportunity to watch the movements in this patient's larynx as leisurely and carefully as myself. I feel further strengthened owing to the independent corroboration of a competent laryngologist to whom I referred the case. We both believed that we have seen this peculiar overlapping by one arytænoid cartilage over another before. I am glad, however, that at least one member who has spoken (Dr. Donelan) agrees with this view, quoting Sir Morell Mackenzie as having described such a condition, though rarely seen in a normal larynx. I hope to show the case again in the autumn session if any clearer evidence of palsy becomes manifest to me.

Epithelioma of the Larynx Ten Months after Laryngo-fissure.—Sir StClair Thomson.—Patient, a lady, aged forty-six, had been hoarse for no less than one year and four months when she presented herself in August, 1916, with a rough, pale red, cauliflower-like infiltration of the right vocal cord, involving the posterior two-thirds, and most marked over the vocal process. The movement of the cord was sluggish. As the growth projected well above the surface, a portion was removed by the indirect method with Mackenzie's forceps, and reported on as follows: "This tiny fragment shows the histological structure of an undoubted epithelioma."

Laryngo-fissure on August 9, 1916. The growth was found to extend right back to the arytænoid, and the naked-eye examination showed that it must have extended close to the arytænoid cut. A further portion was therefore removed from the arytænoid. Tracheotomy tube was removed at the end of operation. The report of the microscopic examination was as follows:

"The specimen comprised four pieces of tissue:

"(1) Marked 'main growth.' This piece has been cut in three pieces —anterior edge, posterior edge, and through the centre. In the centre is

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a typical epithelioma, the columns of cancer-cells penetrating into the tissues as far as the small muscles. The removal is wide of the growth above and below, and towards the perichondrium and anteriorly, but not posteriorly, where the growth extends to the arytænoid region.

"(2) Marked 'round the arytænoid.' This piece in all probability completes the removal of the growth, for although the cancer is to be seen along one edge of it there is none on the other edge.

"(3) Marked 'deep perichondrium.' This piece consists of small muscle, blood-vessels, and areolar tissue. There is no sign of the growth in it.

"(4) Marked 'aryepiglottic fold.' This piece consists largely of mucous glands. It is free from growth."

Ten months have passed. The patient has a good voice.

The following are interesting points in this case:

(*a*) The patient is a female and comparatively young. I have only performed laryngo-fissure for epithelioma in two female patients in comparison with over thirty males.

(*b*) The invasion of the arytænoid region involved extensive removal, and this has been followed by some cicatricial contraction and slight glottic stenosis.

(*c*) The voice is as good as before the operation, and there is only slight dyspnœa on exertion.

N.B.—The patient has not been inspected from March 5 until to-day (June 1).

Dr. Jobson Horne: It is difficult to discuss this case, as we have so little to go upon. We have seen the patient, who is cured, but we have not seen the growth. I have been a histologist in my time, and I have got into hot water for not seeing carcinoma of the vocal cords when it ought to have been there. And I think I can say, without hesitation, that there is no disease more frequently diagnosed where it does not exist than cancer. We should like to have an opportunity of seeing the growth which was removed from this patient, so that we may be able to revise our stereotyped notions on epithelioma of the vocal cords.

Sir StClair Thomson (in reply): I welcome Dr. Horne's suggestion; in fact, I shall be glad to submit the specimen to a morbid growths committee, or to a subsequent meeting of the Section, because I think something can be learned from these cases—I have had thirty-two cases, and have the sections of all of them. Some were so slow of growth that there was as much as a seven years' history of hoarseness before I saw the patient. Others I have myself watched for a whole year. I recently operated upon a case which I watched for a year, and yet when it came to laryngo-fissure I was astonished to see how small was the nodule of growth. This very slow growth of epithelioma of the vocal cords must be a subject of pathological interest to morbid histologists, and some light might be thrown on the whole subject of cancer by the study of these sections. Perhaps they might all be submitted to a committee, who might give us a report upon them. I am rather disappointed over to-day's case; it is only the second in which the patient complained of some stenosis, and there is no doubt that she does not get enough air through her larynx. This growth was close to the arytænoid, and when I removed it I examined it with the naked eye and with the touch, and felt that the growth went so near the posterior extremity of the cord that I must remove some more, so as to be sure of having gone wide of the growth. One of the reports shows it was fortunate that I did so. Then

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I got nervous about recurrence and removed a little more still, which proved to have been unnecessary. I fear she will have to have a tracheotomy tube inserted and wear it permanently, as it is not worth while to put her to the trouble of wearing an intubation tube. The case shows the liability to stenosis when the arytænoid end of the cord is extensively removed, but it is a condition in which one may be excused causing stenosis if the patient's life is saved.

Tuberculosis of the Larynx under Treatment with the Galvano-cautery.—Sir StClair Thomson.—This gentleman, aged sixty-three, was admitted to a sanatorium with tubercle bacilli in his sputum and mischief in both apices, so that he was included in Group II. There was a deposit with deep ulceration in both vocal processes, more marked on the left and extending along two-thirds of the corresponding cord. After two months in a sanatorium he had his first treatment with a galvano-cautery in November, and this was repeated in January, March and April. When last inspected two weeks ago the right side had completely healed, and it was doubtful whether the slight catarrh still remaining over the left vocal process was due to tubercular deposit or to the scar of the cautery.

Patient still has tubercle bacilli in his sputum, but the advantage of arresting mischief in the larynx is important, as he is by profession a tutor.

Extensive Tuberculosis of the Larynx, completely cicatrised under Sanatorium Silence and Galvano-cautery Treatment.—Sir StClair Thomson.—A schoolmaster, aged twenty-nine, had suffered from general symptoms for fifteen months and hoarseness for three months, when he was admitted to a sanatorium on April 29, 1915. He then had a temperature, tubercle bacilli in his sputum, and lesions of two lobes in each lung. He had tubercular deposit in the epiglottis, both arytænoids, and both ventricular bands, with ulcerating infiltration along the edge and inner surface of both vocal cords. The left vocal cord was nearly fixed. The patient was put on strict silence.

Progress at first was slow, and it was not until March 24, 1916 (*i. e.* after twelve months' sanatorium treatment) that the left cord became mobile, and not until June, 1916 (*i. e.* until fourteen months' watching) that the infiltration of the epiglottis and arytænoids had subsided.

The galvano-cautery was applied in July, August and September of 1916.

It will be seen that the larynx now appears completely healed and free from deposit or abrasion. There is much scarring of the larynx, and the rough voice is chiefly produced by the vocal bands.

When the patient came under observation first in April, 1915, he had an otorrhœa on the right side which had come on painlessly. The drum is now closed, but recently he has developed a similar condition on the left side. It is likely these lesions are also tubercular.

It will be noted that the case has required much time and patience. The patient is still living up to sanatorium principles and supporting himself by rearing chickens. He has been at his "cure" for two years. It took fourteen months before his larynx was ready for the cautery. It has now been cicatrised for seven months, but he still has tubercle bacilli in his sputum.

Dr. Brown Kelly: I should like to ask Sir StClair Thomson whether we are to gather from this case that he is an advocate of the use

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of the galvano-cautery in the treatment of laryngeal phthisis in patients whose general condition is fairly good. Shortly after I began practice the surgical treatment of laryngeal phthisis was boomed. I went to Warsaw, and saw Heryng remove large pieces of infiltrated arytænoid, ventricular band, and epiglottis. You will remember that he came to London, and, in his forceful manner, told us of the value of his method. Papers were also translated and published in the JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY giving his statistics of cures and improvements. I mention these facts to show that although my present attitude is one of very restricted interference, I was brought up otherwise. Heryng's treatment is now limited almost entirely to the removal of the diseased epiglottis for the relief of dysphagia. Is the galvano-cautery going to fare better? In Scotland we see many cases of tuberculosis of the nose, and in my experience, in spite of thorough treatment by curetting and applying the cautery and various medicaments, it is very difficult to effect a cure. Now, if we have difficulty in the nose, where the disease is so accessible, and in patients whose general condition is favourable, what can we expect in the larynx? I shall be glad if Sir StClair Thomson's great experience in this matter allows of his contradicting what I have said.

Dr. BARDSWELL: It should be stated that in these two cases the treatment by galvano-cautery followed an extended course of sanatorium treatment. Both these patients were treated in the King Edward VII Sanatorium. Case 2 was one of acute pulmonary tuberculosis involving the upper and lower lobes of both lungs; in the larynx there was also advanced tuberculous disease. On admission, the patient had marked fever, and was in poor general health. It was not until twelve months later that Sir StClair Thomson operated upon him. During this period the patient's condition had improved most materially. He had gained $1\frac{1}{2}$ st., which more than restored him to his normal weight; he had lost his fever, and was doing heavy work as manager of the sanatorium poultry farm. At this date he was a case of apparent arrest of pulmonary tuberculosis, although tubercle bacilli were still in the sputum. The laryngeal disease had improved extraordinarily, as the result of general treatment and prolonged vocal rest, but still showed evidence of active disease. The time had now arrived for the use of the cautery. The result you have all seen. After following Sir StClair's work at the sanatorium for some six years, I have come to look on the galvano-cautery, in most cases, as a means of completing the work of the sanatorium. Invariably, in a seemingly suitable case, Sir StClair Thomson, before deciding to operate, asks me—"What is this patient's condition and prospect from your point of view?" If I can say that the patient has lost all symptoms of active disease, and can take considerable exercise without producing fever—in other words, that he is on the rising tide of convalescence, local and general—Sir StClair Thomson goes forward; otherwise he does not interfere. I have had cases of active consumption sent to me from London and elsewhere in which the cautery had been applied with deplorable results. So far as I can judge, the galvano-cautery is likely to benefit only when the patient is able to live under good hygienic conditions, and when what we may term natural cure has commenced both in the lungs and in the larynx. This case also illustrates one of the difficulties of a consumptive. It is rarely that a patient can afford anything like two years of sanatorium treatment such as this patient has enjoyed. He owes his long residence to his having been

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appointed to the charge of the sanatorium poultry farm. But for this prolonged sanatorium treatment I am convinced that Sir StClair Thomson would never have had the occasion, probably not even the opportunity, to operate on his larynx. Briefly to summarise my experience: I would say that to apply the cautery to an advancing lesion in the larynx results usually in an aggravation of the condition. For success, the cautery should be used in association with the best possible general conditions, preferably in a sanatorium, and only in cases in which natural cure is in progress.

Dr. JOBSON HORNE: I would go a stage further than the last speaker has gone, and say that if a patient has proper sanatorium treatment the cautery is not required at all—that is to say, the disease of the larynx invariably goes *pari passu* with the disease in the lungs. Given an ulcer in the larynx, you may be sure the man has at least one cavity in the lungs, and if you can heal that, the larynx will heal. It is best to leave the larynx alone once it has commenced to heal. It is a pity to bring into the discussion cases of tuberculosis of the nose, because those form a different category.

Dr. KELSON: While agreeing as to the importance of sanatorium treatment, I cannot agree with these two gentlemen, because I have seen cases cured by galvano-cautery, other treatment having failed, and I have a case attending the hospital who was at Ventnor, and his lungs were cured there, but they could not get his larynx right. At the hospital, with cautery treatment, his larynx quite healed. It is true he has had recurrences at intervals of six or seven months, but the cautery cures these recurrences. Seven or eight years ago I showed a case at this Society apparently cured, the patient being a postman. He had not had sanatorium treatment, but the galvano-cautery brought about what appeared to be a complete cure. [Dr. JOBSON HORNE: Was there a history of syphilis? It does not sound like pure tubercle.]

Mr. CLAYTON FOX: I have seen for some time at the Brompton Hospital cases of tubercular infiltration of the larynx treated by galvano-puncture, and I can say, without hesitation, the results on all occasions have been good. The cases were not acute ones. In a case I had in private practice lately, the patient had pain in his ear from an infiltration of one arytænoid and ventricular band. He had undergone all kinds of treatment—insufflations of carbamide powders, and alcoholic infiltration of the superior laryngeal nerve—but even this only gave relief for a time. I applied the puncture cautery at intervals of ten days fairly deeply, making four punctures at a time. In a short time the arytænoid resumed its normal size and appearance. I have seen a good deal of treatment of tuberculosis of the larynx by the galvano-puncture, and I can say it appears to be excellent treatment, provided the patient has not a continued high temperature—in other words, provided the tuberculosis is not exceptionally active. There must, of course, also be as much hygienic treatment as can be brought to bear on the case, and this should come first; but galvano-puncture, as far as I have seen, has been absolutely successful.

Sir STCLAIR THOMSON (in reply): This is such a wide subject that one cannot, in a short reply, express oneself with all the saving clauses which are necessary, especially as there is nothing more kaleidoscopic than tubercle. The galvano-cautery should only be brought in when the case promises to, at least, become arrested; it is of no use putting patients to the trouble and annoyance of it if they are likely to die of their tubercle

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in two or three years, because death in these cases comes from the disease in the lungs. The two patients I have shown to-day still have bacilli in their lungs, and very likely they will die before their due time; but, in the meantime, they can use their voices—an important matter, as one is a schoolmaster and the other a tutor. The indications for which I have been asked were given in Dr. Bardswell's remarks. I cannot agree with Dr. Jobson Horne when he says disease of the larynx goes *pari passu* with the disease of the lungs. In some cases that may happen, but the lungs may improve and yet the larynx may be going downhill. On the other hand, the larynx may so improve under the hygienic conditions that, with silence, Dr. Bardswell is able to tell me I can go ahead with the cautery; or he may say the patient is still erratic, that he has little bouts of temperature, that he cannot stand work, that he is not putting on weight, that he is discontented—an important matter—and then I do not use the cautery, although the larynx seems to require it. And I do not agree with Dr. Horne that these cases get well without the cautery, for I have watched cases for years after they have left the sanatorium. I have shown here a clergyman who was in the sanatorium where I was a patient fourteen years ago. He tried eighteen months' silence, and could not get arrest in his larynx. At last I applied the cautery, and within a year he was again preaching and enjoying it. I have not looked through my records, but I do not think I have had, in private, thirty cases of lasting cure of laryngeal tubercle, whereas I have had over thirty cases of malignant disease, and I would sooner have a malignant growth on the vocal cord than I would have tubercle of my larynx, because the cases of the latter which are suitable for the galvano-cautery and cure are few and far between. As for doing it on patients in an average clinic who have not gone through sanatorium treatment, I would not embark on it at all. I agree with Dr. Bardswell that the chief necessity is to get the patient's resistance raised. I do all my applications by the indirect method.

Saddle-back Nose, consequent on a Resection of the Septum.—Sir StClair Thomson.—Patient presented himself because of his nasal deformity and unrelieved nasal stenosis. For the latter complaint he reports that he had an operation on his septum elsewhere under chloroform; gauze plugs were kept in for forty-eight hours, and at the end of that time he left hospital. On his return home the same day his friends noticed the falling-in of his nose, and this increased during the week, at the end of which time he states it was as marked as it is now. Unfortunately, he never returned to his hospital to report himself or secure treatment.

He has a marked saddle-backed nose, apparently from collapse of the septal cartilage. The septum is intact and plumb in middle line. There is a puckered scar on each side, suggesting that the deformity may have resulted from a septal abscess which was not evacuated in good time. No cartilage is to be felt anteriorly in the septum. There is free space on each side. The patient had a large pad of adenoids and very follicular tonsils. These were removed on April 1. It is now proposed to try to remedy the external deformity by a subcutaneous injection of paraffin. The patient is shown before this is done to elicit opinions on the cause and prevention of the collapse of the bridge of the nose. I have never had a case of collapse, although I have practised this operation since the year 1903.

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Mr. HARMER: I am interested in the question of the treatment of depressions of the bridge of the nose. At St. Bartholomew's Hospital we had a large number of cases of paraffin injections in the nose, performed many years ago by Mr. Walsham, and at the time they looked good results; but later some of them returned in a bad state. One man, for instance, had so much fibrosis resulting from his injection of paraffin that the nose was thickened to more than twice its original size, and he no longer had binocular vision when looking straight ahead. I should like to ask whether other members have seen bad results from injections of paraffin. Of recent years we have abandoned paraffin injections at the hospital in favour of transplantation of bone or cartilage, which can be obtained from the seventh or eighth rib, and can be accurately shaped, so as to make an almost perfect nose. If necessary, more than one piece can be placed in the nose—a central fragment and two lateral ones. If suitable care is observed in transplanting the cartilage there is no reaction, either at the time or at a remote date, and no scarring, because only a puncture incision is necessary. If the nasal cavity is aseptic, cartilage can even be implanted from inside.

Mr. NORMAN PATTERSON: I have seen very good results follow taking the septal cartilage for the purpose. It is removed by submucous resection.

Dr. H. J. BANKS-DAVIS: What is the cause of the falling-in of the bridge of the nose? I never operate upon any lady who is at all good-looking without telling her or the husband that there is a chance the shape of the nose may be altered, and often that statement deters them from having it done. In this case the cartilage seems to have been removed too high up. If that is done, I think that it is due to wrenching away of the cartilage, instead of using sharp cutting forceps, which is liable to displace the lateral cartilage. It is not possible to alter this by paraffin; all you may do is to make the nose broader and flatter.

Dr. W. HILL: Submucous resection should not be accompanied by any deformity; I do not expect it in my cases, and so I do not do paraffin injections.

Mr. DAWSON: Sinking-in of the nose is not very rare. In the last five or six years I have seen five cases after the Killian operation which was done by men of repute, cases in which the end of the cartilage has sloughed or been removed. The patients complained of dropping-in of the end of the nose, and on putting the finger on the end of the nose it sank in easily. With regard to the operation for repair I have a case now, into whose nose I introduced a piece of cartilage from another patient's septum. It did not do at all well.

Dr. DONELAN: Leaving the packing in for forty-eight hours appears to have had much to do with the unfortunate result in this case. I have notes and drawings of over 5000 septums upon which I have operated since 1889, my first case having been done without adrenalin. I have never had a septal abscess or seen such a result as this. I do not think operation on the cartilage alone remedies the nasal obstruction, as the most important deformity occurs at the chondro-vomeral suture, and in this instance the removal has been carried too far upward and not far enough back. I have used paraffin with good results, mostly in syphilitic cases, but also in some four others in which the sinking-in of the nose was the result of injury, as from foreign bodies, during childhood. The paraffin injections were followed sometimes by fibrosis in the syphilitic cases but not in the others. If paraffin is injected in this case I should

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recommend supporting the sides of the septum by means of Adams' forceps or by a small screw clamp during injection, which might be done from within or without.

Dr. JOBSON HORNE: This is a very big subject, and I think we ought to have a stocktaking and a review of this subject of submucous resection. The question is whether this treatment should be continued at all.

Capt. SMURTHWAITE: During the last year I have examined many noses on which the submucous resection operation had been performed. In most of the cases too little cartilage had been removed. In the present case too much has been taken away. Most men, when doing the operation for the first time, do not remove sufficient, so the obstruction is as before the operation. I have not previously seen a falling-in of the nose following the resection operation.

Sir STCLAIR THOMSON (in reply): As to the cause of this falling-in, several explanations have been suggested. I consider that it is not a question of too much or too little removal, but that the danger in these cases is the formation of a septal abscess which has not been recognised promptly. In early days I was surprised to find what could be kept up by a narrow strip of cartilage. I have had some cases of hæmatoma which have suppurated, and I have been afraid on discovering an abscess of the septum. But by free drainage, in good time, I have never seen collapse occur in any case. It is what may have happened in this case. We should tell our patients, both private and hospital, to be sure to report, because in such an event we can open the abscess and stave off collapse. I am interested in hearing Mr. Harmer's remarks, because Mr. Walsham was one of the pioneers in paraffin injections, and it is highly interesting to know that the ultimate results are not always good. I will have a photograph of this boy taken, and show him again in a few months.

Result of Treatment by Diathermy of Extensive Epithelioma, affecting the Soft and Hard Palate, Tonsils, and Faucial Pillars.—Norman Patterson.—The growth would have been quite inoperable by any other means. It was removed entire. A portion of the hard palate is evidently in a state of necrosis, and will ultimately separate. This shows that destruction of tissues has taken place well beyond the actual parts removed. The patient has indulged freely in tobacco and alcohol, and has been in the habit of drinking very hot tea.

Dr. W. HILL: Mr. Patterson dissected this out with the diathermy point. I was not surprised to learn the time the operation took, because it is a slow process.

Mr. FRANK ROSE: I noticed a somewhat large area of bare bone exposed. In doing diathermy in these cases of inoperable malignant disease, I have noticed that if the disease has already penetrated into the substance of the bone, the result is disappointing, even if one applies the heat so as to cause a fairly deep necrosis of bone. I wonder if Mr. Patterson has had similar experience.

Mr. NORMAN PATTERSON (in reply): The first case in which I removed a growth entire was one of malignant disease of the tongue and floor of the mouth. The growth, together with a good margin of healthy tissue, was cut out by using the diathermy needle instead of a knife. The removal was facilitated by the employment of scissors to cut through the tissues as soon as they were thoroughly "cooked." If the area does not contain any large vessels a blade with a fairly sharp edge may be used

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(*e.g.* in dividing the tongue down the centre). After removal of the mass of tissue containing the growth I always go over the whole surface of the wound with a button-shaped instrument; this increases the chances of the growth being completely destroyed. With regard to cases in which bone is involved, I agree with what Mr. Rose has said, and I can recall grave disappointment in a case of malignant disease affecting the upper jaw. In the patient shown I am quite certain that the disease did not involve the bony palate, but was confined to the mucous membrane. Notwithstanding this fact, I am glad to see necrosis occurring, as it shows that destruction has taken place well beyond the diseased area.

Case for Diagnosis.—George Badgerow.—Male patient, aged about thirty-eight. Web extending from the soft palate to the pharyngeal wall; probably due to diphtheria in early life. It did not cause any inconvenience, and it was discovered by chance.

The PRESIDENT: I looked upon it as cicatrisation following ulceration. The patient was very ill with scarlet fever when he was aged four.

Abstracts.

PHARYNX.

Retro-pharyngeal Abscess.—Calvin C. Rush. "Journ. Amer. Med. Assoc.," July 20, 1918.

The body of an unknown two-year-old negro child was brought to the Jefferson Medical College, Philadelphia, for anatomical purposes. The body was not in a good enough state of preservation for dissection, so a sagittal section was made after fixation in formalin. A retro-pharyngeal abscess was disclosed, completely obstructing the pharynx and larynx. The abscess cavity was 3 cm. in length, and projected forwards 2 cm. The writer here gives the anatomical relations with reference to this condition.

Immediately behind the mucous membrane of the pharynx is the pharyngeal aponeurosis. Behind this are the pharyngeal constrictors, which in turn are covered by the thin buccopharyngeal fascia. Next is the strong layer of prevertebral fascia covering the prevertebral muscles.

The sources of infection causing retro-pharyngeal abscess may be as follows: (1) Caries of the cervical vertebræ, usually tuberculous. This burrows laterally as a rule, and appears behind the sterno-mastoid. If unopened it may follow the brachial plexus into the axilla. (2) Otitis media. The pus probably burrows downwards in the upper part of the Eustachian tube along the tensor tympani muscle to terminate behind the prevertebral fascia. (3) Extension inwards of a carotid abscess. (4) Infection of the lymph-nodes of the retro-pharyngeal space. These receive lymphatics from the nasopharynx, Eustachian tubes, nasal fossæ and accessory sinuses. *J. K. Milne Dickie.*

Epidemic of Sore Throat at Fort Ethan Allen.—Maj. Brewer. "New York Med. Journ.," May, 1918.

An outbreak of sore throat took place in a troop of U.S.A. cavalry. Forty-four cases occurred within a few days. There was slight ulceration

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