for an immediate radical mastoid operation, not only in order to cure the paralysis, but also to put a stop to an advance of the disease-process that is fraught with danger to life.

With reference to the question of the recovery from this type of paralysis, caution should be expressed. As in traumatic paralysis, so in paralysis from suppuration, if the face has been wholly paralysed, complete recovery is frequently either delayed or never attained. Improvement, even great improvement takes place, but it stops short at complete restoration of function. The eyelids can be closed, but not so tight as on the sound side; the naso-labial fold is again manifest but it remains less deep than the other; the patient can purse his lips, but the affected side is looser than the sound side, so that he cannot whistle as he once could; and so on.

In the recovery of the individual groups of muscles considerable variation is manifested. There is a general impression, which I at one time shared, that the orbicularis palpebrarum is the first to regain its power of movement, and perhaps this is true of the majority of cases, since even when the recovery is but slight the eyelids always seem to regain the power of closure. The orbicularis oris, on the contrary, often lags behind the other muscles.

But there is no absolute rule. Sometimes the first voluntary twitch is seen in the eyelid; sometimes on the side of the nose.

It must be remembered that no improvement can be looked for until the exciting cause of the paralysis has been removed, and that even when the cause is removed recovery is not invariable, nor is it, as we have just seen, always complete.

On the other hand—and this aspect of the case we shall discuss more fully in a later section—once the cause has been removed, a certain amount, a minimum of recovery, may be almost always anticipated.

(*To be continued.*)

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE.—LARYNGOLOGICAL SECTION.

June 7, 1918.

President: Dr. A. Brown Kelly.

Abridged Report.

(*Continued from p.* 186.)

Mr. Herbert Tilley: I want to bring forward a method I have found useful, but I do not claim that it is new. I have used it for stenoses of the trachea caused by bullet wounds or other injuries. The mechanism is an ordinary tracheotomy tube with a perforation about ½ in. behind the collar, which admits a pliable and hollow lead tube. This extends upwards through the whole extent of the stenosis, and the calibre of the tube is enlarged as the stenosis becomes dilated. The

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tracheotomy opening should be made well below the stenosis, and then the constricted portion opened, granulations and connective tissue carefully dissected away, and the tracheotomy tube with the lead dilator inserted. In this way the larynx is spared functional activity, and the lead plug can not only be taken out and cleaned, but it can be bent to fit the parts. The difficulty of knowing when the upper part of the lead tube is level with the upper part of the stenosis is overcome by direct laryngo-tracheoscopy. At the end of three weeks the tube is taken out and replaced by a wider one. Complete dilatation may be a matter of two to four months, which one need not apologise for in this difficult kind of stricture. I am a great believer in doing a low tracheotomy, and well below the strictured parts. Mr. Harmer, quoting Kocher, says the higher the tracheotomy the better. My cases have done better with the lower opening: the patient is more comfortable and the after-treatment is easier. Where the larynx is involved and there is stenosis and ankylosis in the arytænoid region, I do not know any treatment which will cure. I think most of such cases will be condemned to wearing a permanent tracheotomy tube.

I have little to add concerning the neurotic cases, but I agree with Mr. O'Malley that much depends on the personality of the surgeon. If the latter shows or expresses any doubt about effecting a cure, he will probably fail with these cases. If you tell them they will be cured immediately, it is surprising in what a large number the voice is restored forthwith, and does not relapse.

Mr. C. E. Jones-Phillipson: I have treated many cases of laryngeal and gas affections in the past two and a-half years, and would like to say a word on conditions, not hitherto spoken of, which lead to functional aphonia. One is when two sides of the larynx are not acting in co-ordination. I have seen this in six cases: The right vocal cord has approximated to the mid-line in attempted phonation, while the opposite cord has been in the position of full abduction, or at any rate is tucked away beneath the false cord. When this cord makes for adduction, the opposite cord swings out to the position of full abduction, so no voice is produced. Another condition shows extreme over-adduction of the cords with full expiratory effort, so no voice results, and the patient turns red in the face in the attempt. I have examined patients within twelve hours of "gassing," and seen them many months later. The first stage is one of acute irritation of the entire respiratory tract, but long before the acute hyperæmic stage the patient takes on a whispering voice, due largely to the irritative cough, which is the first symptom. The condition of the larynx and pharynx is more marked within the first forty-eight hours. At this time it is common to see a yellowish wash-leather-like slough on the pharyngeal wall, the inflammation from which spreads to the larynx, causing swelling of the arytænoid region; a red mass in that region is frequently seen coupled with a muco-purulent secretion. I maintain that the third stage is productive of three conditions. Often as the first sequel there is a chronic laryngitis, with the ordinary paretic conditions, of which the most common is the elliptical and double arytænoids. Secondly, the vocal cords may be quite normal; the acute condition having subsided, you find pale swellings in the arytænoid region. The third sequel is true functional aphonia, of which the paretic varieties are many. The vocal cords may be of normal colour and the arytænoid swellings may have disappeared, but there is a paretic condition, which I have found easily curable in France but difficult in

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cases in England, from which I gather that the cases sent home are either the worst or the most persistent types, or too many of these cases are crowded into one hospital, where they communicate with each other in whispers and never improve. I had a case of recurrent nerve paralysis of the left vocal cord, which was examined by a physician, and no skiagraphic evidence in the chest could be found to account for it. He remained in that condition one week, then, following the advice of Mr. O'Malley, I briskly rubbed the pharyngeal wall with the mirror, and he recovered completely. I found that the man had had hoarseness some months previously, and it had suddenly disappeared.

Mr. A. E. HAYWARD PINCH: I have only had a few cases of gunshot wounds, and those have not been in my hands for radium treatment more than three months at the outside. To get away scar-tissue in these laryngeal cases you must proceed with great caution, otherwise there will be an extensive reaction and great œdema of the glottis, possibly requiring the performance of tracheotomy. In some cases nerve may be involved in scar-tissue. Heavily screened applicators have to be used, and a considerable time must elapse before beneficial results become evident. I can tell you of a case which may throw some light on the subject. In 1912, a lady singer was brought to me: she was of considerable professional eminence, aged thirty. She developed a thyro-adenoma. An eminent surgeon removed it with great skill. All went well for two months, and then hoarseness developed, and gradually became very pronounced. A laryngologist found definite adductor paresis of the left vocal cord. The idea was that there was scar implication of the recurrent laryngeal on that side from the operation. Further operation was negatived, and the surgeon brought her to me to see what radium would do. The first thing which struck me was that the scar of the operation was becoming keloidal, and I thought there might be excessive scar-tissue implicating the laryngeal nerve. Radium applicators were used screened with 1 mm. of silver. I gave her a week's treatment, and she came back in two months' time with the hoarseness much less evident, and we thought there was slight return of movement of the left cord. We gave her the treatment on three more occasions, and she recovered her voice, and is again getting a handsome income as a singer. Mr. Harmer has sent me cases of gunshot wound of the larynx to treat with radium, but the greater number are extremely severe ones, and I doubt if I can do much for them. But in one of the cases there is a mass of scar-tissue in the inter-arytænoid region, with incomplete adaptation of the cords, and as it is partly keloidal I hope to get a definite result. It is as yet too soon to make a definite pronouncement as to the effects of radium therapy in these cases.

Sir STCLAIR THOMSON: Was the cord of the lady singer seen to move again? I have heard people sing who have had permanent paralysis of one vocal cord. [Mr. PINCH: The point has not been raised before, but I do know she is again singing well.] By adaptation and benefiting by teaching, these cases with an absolutely paralysed cord can go on the concert stage again. In connection with Mr. Pinch's remarks, I suggest that the laryngologist should not be hasty in blaming surgeons for cutting the recurrent laryngeal nerve at operations for enlarged thyroid. I have seen this condition come on several weeks after operation. I think it occurs in cases which do not heal by first intention, but have suppurated, and the recurrent nerve becomes implicated in the contracted scar.

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From such a wealth of material we ought to draw some general deductions. One of these is the great tendency of scars of the larynx to contract, such as is seen in the cases of web formation in the anterior commissure. In many instances I attribute this to the perichondritis which occurs and the subsequent contraction. The next general deduction is the importance of resting the larynx. We learn it not so much from these cases as from what we learn elsewhere. There are a number of cases of lupus of the larynx which get well without any other treatment than putting in a tracheotomy tube, which rests the larynx. That brings me to the point that in these cases tracheotomy is still our stand-by. Mr. Harmer says tracheotomy "may be necessary in any form of stenosis." I might almost say it is necessary in all forms, if we are agreed as to what stenosis is, for there are various degrees. My standard is, that if a patient has laryngeal stridor when he is at rest or asleep, he has got a stenosis which requires treatment. Several of the cases in the next room now have stenosis, but are going about without a tube: they do not notice the need. I am insistent not only on the need for tracheotomy, but that the tube should be inserted low enough, and that it should not be taken out too soon. The top of the tracheotomy tube should be just above the sternum. The first reason for that is, that it is a tremendous convenience for the patient: the lower down it is, the less is it subject to the various movements of the neck, and the friction and irritation in consequence. A tracheotomy tube low down does not irritate the trachea: these cases do not get tracheitis leading on to bronchitis and death. Again, it is easier for a lady to hide it there, and for a man also. Also, it is far away from the danger region, *i. e.* the subglottic. We know the rich lymphatic area below the vocal cords, which, if wounded, leads to contraction. When tracheotomy is done for tubercle, or for malignant disease, the farther away it is from the disease the less likely is infection of the wound—if it occur at all. I would only make one exception—the lower the tracheotomy tube is in the neck, the more difficult it is to get the dilator up. Mr. Harmer and I have discussed this point, and we agree that if we know there is stenosis in the larynx which can possibly be dilated later on from below, then there is a disadvantage in low tracheotomy. If we have a discussion on the subject some day, I could refer to an old lady aged eighty who had worn a tracheotomy tube for fifty years.

I am disappointed that in the paper and the discussion we have not heard more of the results of two other methods. One is laryngo-tracheostomy. I have no experience of it, but I would like to hear, from Mr. Harmer or others, what the results are and whether it is worth adopting. The other point concerns intubation tubes. If I had known earlier in life of the work of Dr. Rogers and Dr. Delavan, of New York, I would have tried more to carry out their principle of long-continued intubation for these cases. In this country we are apt to think that you can take out your intubation or tracheotomy tube soon. Several of the patients in the next room would find out they were starved for air if they were to rush for a train after eating a hearty dinner or if they were to have a rough cross-Channel journey and were sick.

Another point concerns repair of the divided recurrent laryngeal nerve. I mention it as a warning. I have had only one case of it—namely, in a Dominion officer who had complete paralysis of one vocal cord from wound of his recurrent laryngeal nerve. I saw him in consultation and told him he would have to put up with it for the rest of

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his life. A young surgeon, who has a reputation as a nerve surgeon, said he would cut down on it and tie the ends together. Asked if it was an easy job, he replied he was used to tying nerves together! I heard the usual sequel—he never got hold of the ends of the nerve. Paralysis of the recurrent laryngeal we all look upon as due to some irremovable condition, like aneurysm or malignant disease of the œsophagus, and it is only in recent years I have learned that it can be recovered from. My experience of this is chiefly in one walk of life, and that is seeing tuberculosis patients at a sanatorium. I have seen six or eight cases of distinct paralysis of one vocal cord from a lesion of the recurrent laryngeal, no doubt due to tubercular pleurisy, in which the movement of the cord has recovered.

Dr. Smurthwaite has given us great help by the review of his cases, and I should like to know more of his method in functional aphonia. I learned from him in private that the great thing is to get the patient alone and try to succeed at the first sitting; otherwise, as in operations for cancer, one may succeed with a first try, but rarely with a second.

Mr. Mark Hovell: As so much has been said about tracheotomy, and there are present to-day so many surgeons from military hospitals, I wish again to call attention to the great comfort to the patient arising from the insertion of a piece of elastic into the tapes which hold the tube; 3 in. of elastic on each side is sufficient. This arrangement was introduced by Sir Morell Mackenzie half a century ago, but is still comparatively unknown.

Dr. Jobson Horne: The all-important question in the discussion on warfare neuroses of the larynx is, What is "functional aphonia"? The term is bad. In all these cases we must decide whether the aphonia is a neurosis due perhaps only to asthenia or not; we must exclude organic diseases of any kind, especially the aphonia due to an interstitial myositis, following upon a prolonged catarrhal condition, such as the cases which came from Flanders during the winter campaigns. And, before all, we must exclude the possibility, however remote, of tuberculosis. In the absence of organic disease, I do not think there is so much difficulty in bringing home to these people the fact that they can speak. If it is not a neurosis, then by trying to make the patient speak we are doing him definite harm.

Mr. W. Stuart-Low: The case I have shown emphasises the importance of low tracheotomy and also of leaving the tube in long enough. What I find useful, and what military men may also find so, in order to get rid of sepsis and to prevent and diminish cicatrisation, is to attend to the teeth by means of mouth-washes and to rub ammoniated mercury ointment into the neck regularly for weeks. Also, in acute cases where congestion and œdema of the larynx have occurred dry-cupping should be applied to the neck over the outside of the larynx the position of the cups being changed from side to side. This man, who came in such an acute condition, was treated by the employment of the dry-cupping method. This treatment was described in "Dry-cupping in Laryngeal Affections," in the *Lancet*, January 23, 1915. By means of the laryngeal mirror one can see the diminution of the vascularity of the vocal cord and the swelling of the ventricular band and arytænoid processes visibly diminishing while the dry-cupping is being applied.

With regard to neurasthenic cases I am sure these men smoke too much. One of my soldier patients was smoking forty cigarettes a day. These I cut down to fifteen and finally to six, and then I let him out in

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the sun on condition that he did not smoke. Fresh air and sun are most beneficial to these neurasthenic cases, and basking in the sun together with tinc. nux vom. did this man much good, and greatly hastened his recovery. Tobacco dries up the larynx and pharynx, and is a source of harm to many patients, particularly neurasthenic cases.

Mr. WHALE: With regard to Mr. Stuart-Low's conclusions, I would like to criticise the first point, the advisability of letting shrapnel rest in the tissues. Of course Mr. Stuart-Low has got a very nice result, but I do not think it is safe to generalise from that. During the last twenty-one months I have been dealing, almost exclusively, with wounds above the clavicle in France, and many of the men have been wounded in the larynx. I cannot remember a case in which I, or anyone else working in that department, regretted opening the tissues widely; but I remember cases in which patients have died without being opened up, and would not probably have done so if we had acted differently. Cases in which small bodies enter high in the head or neck and finish low down seem to do well for a day or two, but then they have a high temperature and a running pulse with extraordinary fluctuations, and asymmetry of pupils, and die of abscess round the vagus, the process involving also the sympathetic. I do not think it is safe to leave foreign bodies in the neck at all. As in civil cases you get ulceration of the carotid sheath by leaving a tube in the neck three or four days, how can it be safe to leave shrapnel in that neighbourhood? It seems to me quite wrong.

Mr. MARK HOVELL: I think it is an opportune occasion to call attention to the use of the term "functional aphonia." I do not want to carp at those who have used the term, as it is an accepted term, although obviously incorrect. The function of the voice is to produce sound, therefore want of sound cannot be functional. I suggest as an alternative the term "neurasthenic aphonia," to distinguish it from loss of voice due to obvious injury or a definite nerve-lesion. The term being incorrect, I think it is for our Section to say so, and to bring about reform. The incorrect term is copied from text-book to text-book, and thus becomes of common use.

The PRESIDENT: I wish in the first place to condemn any arrangement whereby patients suffering from neuroses of the larynx are placed under a medical man who cannot make laryngeal examination, or who, without such an examination, proceeds to carry out treatment. Dr. Jobson Horne's remarks lead me to say that many of our aphonic soldiers are not suffering from a functional neurosis but from the results of laryngitis caused by cold or gas, or from weakness, exhaustion, early tuberculosis, or organic paralysis, or they may be simulating.

During acute laryngitis some patients whisper in order to conserve their voices, and after the inflammation has subsided the aphonia persists until they are taught how to overcome it. A partial knowledge of this fact is taken advantage of by a few men who pretend to be voiceless, and it is difficult to distinguish this condition from real aphonia: they usually capitulate, however, to faradism or painting the larynx.

Aphonia may also be due to a variety of laryngitis which has not been mentioned, viz. exudative or fibrinous. This is not a neurosis, but it can be classed as a warfare injury, for I have not seen it in civilian practice, whereas last year, after the cold weather, I had about a dozen cases. The vocal cords are more or less red, and on the middle of the ligamentous portion a white patch is present.

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The action of gas on the larynx used to be of but little account, but the cases which come into hospital now suffering from the effects of mustard shells may present large areas of exudation on the posterior wall of the pharynx and smaller patches in the larynx. On Wednesday I saw ten such cases. Most of them had conjunctivitis, and were sent from the eye department.

Reverting to neuroses of the larynx, I have been surprised that so little has been written or said in this country regarding spastic aphonia, which the war shows to be fairly common. Dr. Smurthwaithe, Mr. O'Malley and another speaker have referred to this class of cases, without applying the term. [Dr. SMURTHWAITE: I called it tonic spasm.] In future, when speaking of hysterical or functional aphonia, it will be necessary to distinguish the paralytic from the spastic variety.

The laryngeal appearances in aphonia paralytica vary greatly, but too much attention should not be paid to what muscles are involved, for the same patient may, at different times, present an entirely different picture. It should also be remembered that all the appearances observed in functional aphonia may be produced by whispering: thus, in one person the glottis may assume the form of an isosceles triangle, in another it may be elliptical, and in another merely a triangular gap in the posterior third. Although the appearances are those of pareses, pareses as such do not exist, because on painting the larynx in most of these cases the cords come together, but on asking the patients afterwards to speak they are still voiceless.

In spastic aphonia the picture during phonation varies: in the slight forms the anterior portions of the false cords meet; while in the most marked forms the epiglottis is depressed, the arytænoids drawn forwards, and no view is obtainable of the interior of the larynx. A common variety is that in which the anterior two-thirds of the false cords meet, and in the gap between them posteriorly a small portion of the true cords, also slightly apart, is seen. This condition of spastic aphonia explains the cases in which the chief or only feature is a triangular gap in the cartilaginous glottis—a case of the kind was shown at our last meeting by Dr. Banks-Davis.[1] It seems to me that the small triangular gap is not due, as is generally supposed, to paralysis of the transversus, but to the excessive action of the thyro-arytænoideus. When this muscle contracts strongly it draws the epiglottis and the arytænoid together, and this action prevents the full contraction of the transversus, hence the gap. It has been suggested that the excessive action of the false cords is to overcome the opening due to the imperfect action of the transversus, but if you work at a case you can get this opening closed completely and still the patient is aphonic.

X-ray examination of the diaphragm sometimes helps one to understand the nature of the disability. The excursion may be too small during respiration, or on phonation the diaphragm may rise very quickly, showing there is no resistance to the expired air, or it may not rise at all, showing that the glottis is firmly closed.

With regard to treatment, I divide patients with functional aphonia into two classes: (1) Those easily cured; (2) those cured with difficulty, or not at all. Most laryngologists have a favourite method of treatment, which they try first, and only if that fails do they try another, but as the majority of cases are easily cured and yield to the measure first employed, while the remainder prove obstinate to all measures, each laryngologist

[1] *Proceedings*, p. 163.

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comes to regard his pet method as the best. I do not think it matters what method is used, provided it be carried out with decision and perseverance. As a preliminary to the treatment of questionable characters it is useful to confine them to bed in a room by themselves or screened off; allow no visitors, tobacco, or literature, and there is no harm in occasionally forgetting a meal. I cause patients to intone, and in most cases a cure is effected at the first sitting. Faradism has only helped me when simulation was practised. General anæsthesia and massage have failed in my hands.

With regard to the treatment of stammering, I have nothing favourable to say. I had five patients at one time, and I got a highly experienced lady to give them treatment, but at the end of three months they were no better. I think that patients with shell-shock stammering are best left to themselves.

I have treated eleven mute patients: eight were cured completely, two stammered afterwards, and one had to be discharged from the Army still mute. The last referred to wrote me later that he had recovered his speech after having been nearly run over.

Mr. CORTLANDT MACMAHON: My experience in shell-shock stammering has been largely at Palace Green and at St. Bartholomew's Hospital. I read a paper on the subject last year at the Medical Society of London, reported in vol. xxxix of the Society's *Transactions*. In a large number of these cases the prognosis is good, the patient soon regains a good speech, and it is the easiest class of case I know to treat, provided one can get past a certain stage. I have had one or two disappointments in cases which had been going on well until upset by air raids, and it became useless to try again until the patients had been sent away from London. A discharged soldier who arrived at St. Bartholomew's three months ago with stammering is back again in the Army. Shell-shock stammering seems to me to be best treated by counter-stimulation—namely, stimulating the abdominal viscera by the strong descent of the diaphragm, so that the blood-supply to these organs is increased. I agree with Dr. Smurthwaite as to the importance of securing relaxation, mental and physical; when that is acquired work on the speech is commenced. If a man has been a stammerer in early youth, the condition may be resuscitated by shell-shock. These cases take a long time to improve.

Dr. SCANES SPICER: I cannot think Mr. MacMahon's views as stated are quite consistent with each other in that he says he aims at inferior costal respiration and yet seeks descent of the diaphragm on inspiration. I believe what he really does in practice is to raise and fix the abdominal viscera by the muscles of the abdominal wall (recti, obliqui, etc.) so that these viscera form a fulcrum for the centrifugal action of the diaphragm, quadrati lumborum, etc., in expanding the lower margin of the thoracic cage—which is inferior costal inspiration. Then, on expiration, there is a conscious contraction or willed intensification of action of the abdominal walls which compresses the abdominal viscera, tends to empty the portal system, and so forces on the blood to the right ventricle and later on to the brain. Hence there is a *suction-pump* action of the expanding thorax in inspiration, and a *force-pump* action of the abdominal muscles on expiration, both acting in the same sense of promoting the general blood circulation and hence the blood-supply to the brain, including the higher co-ordinating centres which in functional aphonia and stammering are *hors de combat*.

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I further believe—a matter no one to-day has referred to—that an essential preliminary to rapid and lasting success in overcoming the neurasthenia from which these mute and stammering men suffer is the setting up of the human machine *by posture*, so that it can and does act to maximum advantage as a machine, and that all breathing and other physical exercises and training are done in and from that posture.

This is effected, *in a sitting posture*, by consciously straightening up and stretching up the spinal column to the fullest extent. The effect of this is the enlargement of the thoracic cage and its being brought into a state of easy poise and free mobility, and to replace the collapsed and sagging viscera of the thorax, abdomen, etc., into their normal position and natural relations.

Neurasthenics are practically all in a state of physical collapse as well as mental weakness. Their visceral organs are (relatively to the normal) in a condition of ptosis, they are compressed and congested with the functioning tissues, channels, vessels, ducts and nerve tracts obstructed from the abnormal positions and altered relative pressures of the organs, etc., upon each other. Hence the ideas of "Hold up your head," "Straighten and stretch up your back," and "Sursum corda" are essential preliminaries to treatment. The patient must consciously adopt these ideas and carry them out in his own body, and the breathing and other physical exercises should always be done in and from this posture, at first sitting on a stool of the appropriate height. Later he can commence any voice or speech training indicated with the usual "ah" sound both phonated and whispered, but his attention should always be kept off his larynx. The rapidity, progress and permanency of recovery were often quite remarkable following these measures, not only in voice and speech but generally in neurasthenia and shock.

I do not share Mr. Mark Hovell's objection to the term "functional aphonia," since it merely serves to contrast and define aphonia due to some derangement of function in centre or nerves, as opposed to aphonia due to structural disorders of the vocal mechanism, so I think the term may well be retained.

Mr. Harmer (in reply): Paralysis of a motor nerve may be due to division, involvement in scar-tissue, to toxæmia, to shock. The neurologist apparently recognises shock, by which I understand him to mean a condition where there is nothing demonstrable in the nerve itself afterwards. Mr. Tilley said I had referred to Kocher as having said a low tracheotomy is more dangerous than a high tracheotomy. He read more meaning into that than I had intended in my paper. Kocher was pointing out that in the accidents after tracheotomy, for whatever it was performed, there is more danger with low tracheotomy than with high, and he quoted a number of cases in which hæmorrhage had occurred from large vessels at the root of the neck. I found that this was correct when I was writing an article for Burghard's "Operative Surgery." But tracheotomies for warfare injuries are often performed when inflammation has subsided as deliberate operations, and are therefore unlikely to be attended with the same risks as in the class of case he was describing.

With regard to Sir StClair Thomson's complaint that evidence has not been brought forward as to the comparative results of laryngo-tracheotomy and intubation, I am disappointed myself that I have not been able to obtain enough evidence to be able to lay down any general rules. I think there is a tendency to perform laryngo-fissure too often and too early. It must be wrong to take a man who is suffering from

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acute laryngitis, perichondritis, etc., and perform a laryngo-fissure without giving the inflammation time to subside. There is evidence in the cases that I have quoted to show that well-known laryngologists have said, "This man will never be able to live without a tracheotomy tube unless laryngo-fissure is performed," and yet a year or two later the stenosis of the larynx had disappeared. These were cases, not of scar-tissue which had contracted, but of a general œdematous infiltration of the tissues, which later disappeared entirely. In many cases of scarring I am still doubtful whether you cannot obtain the same results by intubation, if it be carried out for long periods. There remain the very severe cases such as Moure classes as circular stenosis, which I think nothing but an external operation will cure. Sir StClair Thomson also asked me why I said that tracheotomy may be necessary in any form of stenosis. I meant stenosis in that sense to apply to recent inflammations and paralytic forms in which, by waiting a little time, it may be possible to avoid the performance of tracheotomy.

Dr. H. SMURTHWAITE: With regard to Mr. Mark Hovell's remarks in connection with the term "functional aphonia," if it is thought necessary to change it I would suggest "psychogenic aphonia" for this class of case, thus indicating that the loss of voice has a psychic origin.

In answer to Dr. Permewan I have not found it necessary to use electrical treatment. On the other hand I have restored the voice in several who have had electrical treatment previously for some weeks before coming under me.

In answer to Dr. Jobson Horne, I may say that I made special reference to the necessity of accuracy in diagnosis in these cases; that the aphonia might be due to a myopathic paresis of the cord muscles—a harbinger of early tuberculosis. In fact I have sifted out quite a number of tubercular lung patients from among the aphonia cases sent to me.

In reply to Sir StClair Thomson, I am sorry that in trying to cut my paper short while reading it I should have skipped the part where I refer to treatment. In the first place I rely to the greatest extent on the moral effect my words will have on the patient. I convince him that he really has no disease in his throat, and that without a shadow of doubt he will leave the room with his voice restored. I then tell him to breathe deeply several times, and at the end of a deep inspiration to hold his breath and cough. This will, as a rule, elicit some sort of note. Next I place the laryngoscope in the pharynx and tell him to say "ah," and in many cases I am able to get the normal vowel sound, purely by suggestion and from the fact that his mind has already been prepared and he is expectant. If this fails I make him cough forcibly, gradually getting him to sound the vowel "ah" and then "oh." Following this he must cough the numbers, "one," "two," etc., and by degrees I succeed in making him say the numbers without the cough. I also aid his expiratory effort by compression with my hands on the lower ribs. This forced expiratory effort on the patient's part is practically that carried out by Kaufmann, which he described in a paper in 1916 in the *Münchener med. Wochenschrift*.

To some of the most difficult cases I have given much time and trouble; often as much as three-quarters of an hour have I battled with a single case.

Finally, I will say that everything depends on the mental force I can put into it, and for this reason I am only really successful when I am not too tired and can bring the whole force of my will and energy to bear on the case.

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