oozing out of pus (Fig. 2). This is the route we should follow when relieving the pent up-pus.

To reach the abscess the soft palate itself must be traversed, and the "site of election" is a point which can readily be located by taking the following bearings: If an imaginary horizontal line is drawn across the base of the uvula, and another vertically along the anterior faucial pillar, they will intersect at a point overlying the supratonsillar fossa. Just external to this is the best point for opening a quinsy (Fig. 3). Another guide is that this point will be found on an imaginary line extending from the base of the uvula to the upper wisdom tooth on the same side.

To reach the abscess cavity it is sufficient to provide oneself with a pair of Lister's sinus forceps, or one similar to that figured on page 662. In most cases the patient can only open the mouth to a very limited extent, and inspection and precision are greatly facilitated by the use of a frontal mirror or searchlight. The field of operation is cleansed and sprayed

2.—Shows site of spontaneous opening of an acute peritonsillar abscess on the left side; about ten days after rupture. From a man, aged 30.

with a 5 per cent. solution of cocaine, and the patient's head steadied by an assistant. A general anaesthetic should never be given. If the surgeon is uncertain as to the presence or exact situation of the pus, it is easy to feel the region with the end of the forceps. When this encounters a resistant cartilage-like tissue he should "tap" onwards until the sensation of a boggy surface is reached—in the area above indicated. It is then sufficient to push the forceps backwards, with a slight inclination outwards, in order to reach the pus. In cases which have existed for a week or so the collection may be near the surface, but with a shorter history we may have to go to a depth of two or three centimetres. As the forceps are withdrawn the blades should be opened widely, as in Hilton's method, so as to produce a vertical opening through which the pus pours into the mouth.

There are several advantages in avoiding the use of a naked knife. The operator need have no anxiety as to a possible risk of wounding a large vessel, and the patient is much more likely to permit the proceeding. If a mistake in diagnosis should have been made, or the operator fail to open the abscess, the patient is not so apt to resent a manœuvre which, after all, he frequently regards as only a manipulation of examination.

As a matter of fact, I can only remember one instance in which I failed to open a quinsy, although I have now employed these forceps in many dozens of cases. The method has also the advantage of considerably curtailing the duration of the illness, as pus may frequently be found as early as the third day, and sometimes at the end of forty-eight hours from the commencement of the attack.

As the procedure is safe and simple, there need be no hesita-

tion in adopting it in an affection which is so painful and debilitating, with risks of pneumonia, albuminuria, haemorrhage, and even death from suffocation, if the abscess is left to open spontaneously.

There are only two other methods which appear to me to be equally safe. Thus, J. Killian reaches the abscess by introducing a curved, blunt probe through the supratonsillar fossa.¹ I have not been successful in my trials with this plan, except in cases of some duration, and I do not find that patients readily lend themselves to it. The other method is that suggested by Moure, of cutting through, at the "site of election" already described, with a galvano-cautery knife.² The principal objections to this method are that the treatment of quinsy is generally in the hands of the family physician, and the necessary armamentarium is not always at hand. Besides, patients are frequently so worn out and nervous, that the idea of treatment with "a battery" would be rejected in many cases. A great advantage of the plan I

Fig. 3.—Semi-schematic drawing to indicate the site for opening a peritonsillar abscess.

have described is that the instrument and preparations are so little alarming that the patient's consent to the exploration can generally be obtained.

REFERENCES.

- ¹ Vol. i, 1902, p. 17. ² *American Practitioner and News*, July 15th, 1902. ³ *Ibid.* ⁴ *Diseases of the Nose and Throat*, 3rd edition, 1897, p. 428. ⁵ *Munch. med. Woch.*, No. 31, August 5th, 1897, p. 866. ⁶ *Revue hebdomadaire de Laryngologie*, XXII, 11, 1901, No. 36, p. 273.

SOFT FIBROMA OF THE LARYNX AND NECK.

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IN THE BRITISH MEDICAL JOURNAL of January 7th, 1905, Sir Felix Semon relates the case of a patient suffering from the above rare condition. In his valuable comments on the case he states:

It is, in fact, the first case, so far as I know, in which a pure soft fibroma has ever been observed to have involved simultaneously the larynx and neck.

The specimen removed by Sir Felix Semon was sent to Mr. Shatcock for pathological examination. He considered it probably a neuro-fibroma, and states: "There is, as yet, no record of any similarly disposed laryngeal fibroma."

In 1893 I showed at the Liverpool Medical Institution a case pathologically similar; though being further advanced and more rapidly growing, it was not alike in clinical details. I described it then as an extrinsic spindle-celled sarcoma of the larynx, with marked fibrillation of the cells, and as "of

an almost or altogether innocent nature." The patient, a female aged 20, was sent to me by our laryngologist, Dr. Middlemass Hunt. She had suffered from gradually-increasing dyspnoea for two years. When seen the growth involved the right side of the larynx in the neck, and had spread under the mucous membrane to the neighbourhood of the epiglottis and pharynx, where it appeared as pale rounded elevations of unbroken mucous membrane, which obstructed the view of the interior of the larynx. Dr. Hunt obtained snips from the growths in this situation, which I examined with the microscope, and finding them of a probably innocent nature, resolved to explore the tumour in the neck with a view to the possibility of being able to shell it out, or at any rate to relieve the breathing. Up to this time tracheotomy had not been absolutely necessary, but it became urgent before she was fully under chloroform, and information was at once obtained which showed that the growth had spread beyond the scope of removal, for it already surrounded the top of the trachea and bulged into it between the cartilages. Through the incisions the tumour in the neck was examined, and found to consist of bunches of more or less spherical growths, which could easily be isolated and separated, both from each other and the surrounding tissues, but their distribution was too wide to encourage an effort to make a clearance of them. The microscopical appearance of the nodules removed exactly resembled the illustration in the BRITISH MEDICAL JOURNAL of January 7th, and the arrangement of the growths would support Mr. Shattock's suggestion of their neuro-fibromatous nature.

I showed the patient again at the Liverpool Medical Institution in 1894. She had not only never been able to dispense with the tracheotomy tube, but it had to be gradually increased in length, and was now 5 in. long. The tumour showed no tendency to spread upwards, but extended further down the trachea towards the chest. From this time there was an increasing difficulty in respiration. We used rubber tubing fixed in a rubber shield for a tracheotomy tube, and lengthened it until it reached the bifurcation of the trachea, when the strangulating effect of the growth got the better of our efforts, and she died on March 7th, 1895.

A *post-mortem* examination was not allowed, but a free examination of the neck showed that the entire larynx and trachea down to the bronchi was surrounded by bunches of "soft fibromatous" growths, such as those depicted by Sir Felix Semon.

I call attention to this case because of its extreme rarity, as indicated in the paper referred to, and because it was only published in a provincial journal, in which it would not be likely to attract attention. It may be, too, that a knowledge of the natural course of such a tumour when unchecked by operation might be a help and encouragement to thorough and radical surgical treatment of the disease when seen in an earlier stage.

COMMONLY OVERLOOKED FACTORS IN VOCAL MECHANISM.

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THERE is an almost universal idea that all of us *naturally* possess either a good, bad, or indifferent voice. As a matter of fact, Nature is directly responsible for one, and one only, of these conditions; the others must be attributed to man's unconscious departure from Nature's laws. The tone of the voice may be compared to the rings a smoker can make; if he does not get a ring to his satisfaction he places the parts employed in its production in another position; and, once a perfect ring is formed, if the position of the parts is not altered, all the following rings will be perfect also. Of course the size of the tone, like the size of the smoker's ring, will depend upon individual differences, but it will be none the less perfect for that.

Now, if the proper breath pressure is used and the cords are kept approximated throughout the whole compass in the position that first produced a good tone—of course they must relax and stretch to determine the pitch of a note, but the space between them must remain unchanged—and the pharynx and mouth are kept properly opened, a perfect tone is bound to be the result; the tongue and lips must, of course, be moved for the purposes of pronunciation, but this can be done without greatly diminishing the cubic capacity of these resonance chambers.

It cannot be too strongly insisted that the avoidance of needless escape of breath is the only way to attain a correct, clear, well-controlled voice. If it is borne in mind that it is the breath which is resisted in its passage outwards through the vocal cords which originates tone, and not the amount of breath which passes through, it will be readily seen that the closer the cords are approximated the acuter is the tone and the less the waste of breath, consequently less effort is required to sustain a tone. In other words, a certain degree of approximation of the cords is necessary for the scientific production of tone, and this condition must be present at the very instant that the tone is sounded and be maintained throughout phonation. Only by careful experiment can the proper degree of approximation be determined. When right it will be found that the amount of breath pressure necessary to set the cords vibrating fully is very small. If they are too wide apart, great breath pressure—speaking comparatively—is needed, even for the production of soft tones. On the other hand, if the glottic chink is too small the resulting tone is very acute, metallic, and penetrating, whatever amount of breath pressure is used.

By far the greater number of us do not possess full control of the adductor muscles of the cords, and are therefore unable to quickly place and keep the cords in the most appropriate position, and it is surprising what a number of professional voice users, as well as amateurs, fail in this respect.

Needless to say, the singer or speaker who performs with an unduly open glottic chink does not grace the professional stage for long, for unless force is used the voice is deficient in carrying power, the amount of force necessitated depending upon the space between the cords. Now unduly forced breath pressure tends to still further open the glottis, and to prevent this the adductor muscles of the cords are put on the strain; this, if long continued, leads to singing out of tune, hoarseness, and other vocal troubles, and more often than not the muscles of the pharynx and tongue are also involuntarily contracted and cause the throaty tones so often heard. Again, suppose phonation is started with duly-approximated cords, unless great care is exercised and only the proper amount of breath pressure employed, the cords will be forced apart, or the adductor muscles will contract fully and tightly close the glottis, the resulting tone being harsh, metallic, and penetrating.

The majority of voices are lost, not from overwork, but as a result of improper emission. With duly approximated cords the voice can be heard in the largest hall without obvious effort on the part of the performer, whether singing or speaking pianissimo or fortissimo. The vocal cords must be only played upon by the breath if their best tone is to be obtained. A forte tone should only be the result of gradually increased equal pressure. If the voice is properly produced the singer or speaker knows that this is so by the feeling of delightful ease that is experienced; there is such a grip upon every note that he feels he can do just as he likes with it, whether loud or soft.

The only difference between the perfect singing voice and the perfect speaking voice is that in speaking the range of notes used is limited to only a few, and full use is not made of resonance; therefore speech is less musical, more acute and defined in pronunciation than singing.

As will already have been gathered, the whole question of voice hinges on the perfect control of the adductor muscles of the cords. Now, it has long been known to physical culturists that to obtain quickly the thorough control of any muscle, or set of muscles, they should be developed by brisk movements, which fully contract them. In the case of the adductor muscles of the cords, this can only be done by using the voice in a most inartistic although physiological manner. In other words, speak or sing words quickly in acute penetrating tones ("Pat-a-wat-quack" is an excellent phrase for this purpose). As already explained, this tone is the result of the cords being approximated to their closest and fullest extent. The voice should be extended up and down, note by note, in this manner until the limits of the compass are reached. Before this has been done classification into soprano, baritone, etc., should not be attempted.

When able to obtain acute metallic ringing notes in the whole of the compass with ease, sustaining the various vowels should then be attempted, and in the first instance this can best be accomplished by prefixing "Pat-a-wat" to them, thus: "Pat-a-wat-a-way," "Pat-a-wat-a-wee," "Pat-a-wat-a-woy," "Pat-a-wat-a-woh," etc. Afterwards they must be practised by themselves, and when perfected, words, phrases, etc., should be tried in the whole of the compass. It should be