case was that the node upon the left end was probably the outcome of mechanical irritation produced by the larger node upon the right cord.

In the treatment of the above described changes in the laryngeal mucosa it appears to me that almost more is to be expected by way of preventing such conditions from arising than is to be attained by any form of local treatment. In the first instance, I am fully convinced that girls are allowed to undertake the duties of pupil teacher at far too early an age. An intelligent girl, with an aptitude for work, can pass the sixth standard by the time that she is from 13 to 14 years of age, and is then eligible for the post of pupil teacher. Having acquired such a post, she has immediately to tax the resources of her vocal apparatus to such an extent that the organ is unable to stand the strain, and consequently breaks down either in whole or in part. Much good could, I think, be done by raising the age at which girls should be allowed to assume the duties of teacher to a time when the component parts of the larynx are in a more stable condition than can possibly be the case at the age of 13 to 14. Then again the vicious system of holding three or four classes in one room, at times with no separation between them but the breadth of a form, at other times separated merely by curtains, should be entirely abolished, and each class be allowed to meet in a separate well-lighted and well-ventilated room. I would also like to suggest at this point the great advisability of having the benches for the pupils placed in tiers, one above the other, so that the teacher, when speaking, would be obliged to speak up to her audience, and so would have to hold the head erect and the neck straight, in this way giving play to the thoracic muscles, an immense advantage to anyone who has to speak for any length of time. In the majority of schools I understand that the benches are ranged one behind the other upon the flat, but in a few recently built schools (I am alluding specially to Manchester schools), a partial system of benches in tiers has been introduced. In those towns where the schools occupy prominent sites in busy and noisy thoroughfares, I think much would be gained by paving the adjoining street or streets with wood or asphalt, in order to reduce the roar of the traffic as much as possible. I feel satisfied that if these precautions were adopted there would be less giving way of teachers' voices, with resulting better general health, and as the natural outcome more spirited and more efficient teaching of the young. In addition a short course of instruction upon the best methods of voice production and voice preservation prior to the teacher undertaking her regular duties would, I feel sure, be attended by much ultimate gain.

Physiological rest to the affected organ is of course of prime importance, but unfortunately this means time and prolonged holiday, which many a teacher cannot secure, partly on account of want of funds and partly for fear of losing her situation should the period of rest require to be somewhat prolonged. In early cases, where, perhaps, the only appreciable changes are congestion and inflammatory thickening of the mucosa, a short period of vocal rest, combined with the local application of weak mineral astringents and the cautious use of steam inhalations, will often produce beneficial results. I have also seen much good attend the nightly application of Leiter's cold coil, applied over the larynx for from half an hour to an hour at a time.

In cases where paretic conditions of the laryngeal muscles exist, and where, after any superficial inflammatory condition has been got rid of, the daily application of the continuous current will be found most effectual. In those cases, however, where definite nodes have formed, be they only the size of millet seeds, I must confess to great disappointment from the use of topical applications or in fact from any form of local treatment. The local application of such astringents or caustics as nitrate of silver, chloride of zinc, or of chromic acid is praised by many. Others prefer the application of solid nitrate of silver, while still others speak favourably of the galvano-cautery. Personally I have fought shy of the use of the cautery point for fear of producing such an amount of cicatricial contraction that the last state of the patient might be worse than the first. In one case, however, in which, with certain misgivings, I did make use of it the result was, on the whole, favourable. At the same time it appears to me to be a method of treatment requiring the

greatest care and nicety. In those cases where the nodes are of such a size as to enable one to use a crush forceps or a fine snare, no better method of treatment can be adopted, but these cases are the exception rather than the rule.

It has been my experience to see a very considerable number of patients suffering from the presence of nodes upon their vocal cords and the difficulties encountered in trying to secure the return of a voice fit again to withstand the strain of teaching have been such that in several instances the patients have been obliged to give up their vocation as teacher and take to some other walk in life. This, after years of special training as a teacher, is necessarily a very serious matter, and if any preventive measures could be adopted to remove, if possible, those factors which appear to predispose to the formation of such pathological changes, great gain would necessarily accrue.

CHORDITIS TUBEROSA.¹

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WHILST most authors recognise the fact that this disease occurs in those who use the voice excessively, and that the affection is accompanied by a more or less inflamed condition of the cords, there is considerable variation even amongst leading authorities as to the essential nature of the relationship of these conditions as regards the causation of the disease. Whilst some believe that inflammation causes the node, others believe that the node gives rise to the inflammation. The object of my communication is to show that two factors—a swollen condition of the cords and excessive use of the voice—are essential to the production of "teachers' nodes;" also to show the way in which these factors produce the nodes; and shortly to discuss the treatment. The nodes occur on one or both cords at the junction of about the anterior and middle thirds. A depression may take the place of the node at the corresponding point of the other cord. When the cords are swollen they become jammed by the swelling in the anterior commissure for about one-eighth of an inch, so as to be incapable of vibration for this extent of their length. But immediately posterior to this jammed immovable portion, between the immobile part and the freely movable portion of the cords, are portions of swollen cords, which though just in contact are capable of vibrating, but in consequence of this contact friction occurs during vibration of the cord. This friction produces the node. The position may vary within certain limits, with variation in the amount of the swelling. This attrition spot, even before the formation of the node, is indicated by a pure white spot seen during phonation, a spot caused by churning up of the mucus to froth by the vibrating portions of the cords in contact. The same phenomenon, to a less marked degree, may be seen anterior to the processus vocales. This "froth spot" may be taken as an indication of the probable formation of a nodule unless the swelling of the cords disappear or the voice is rested. The reason why a node forms on one or both cords is probably due to the fact that only one or both cords are swollen respectively.

Dr. DELAVAN (New York) called attention to the dire effect on a child's voice of attempted conversation with the deaf, and urged greater care in this direction. He had found treatment of singers' nodes unsatisfactory; whilst rest and local applications would relieve the conditions for awhile, it was apt to recur upon renewed use of the voice. In some cases he had found it very difficult, if not impossible, to eradicate. Operative measures he had never been satisfied to adopt.

Dr. A. BRONNER thought girls suffered more than men, as they were less apt to yield to the necessity of stopping work early enough.

¹ Abstract of a paper read in the Section of Laryngology at the Annual Meeting of the British Medical Association, held in London, July-August, 1895.