show the wonderful effect of hope. I kept my finger on his arm. "Come, come", said I, "I'll cure this fellow." The pulse rose with a bound. "No, will you though?" he said. "I know you can if you will." A slight flush came on his countenance; he recovered without a single bad symptom.

I now relate another case, which shows what pluck an English lad of 17 is sometimes endowed with. James Nightingale, the son of a farmer at Audley, close to Blackburn, had gone to a night-school, and was returning home, when he was attacked by a great rough blackguard two years older than himself and much stronger and heavier built. He knocked Nightingale down, jumped on him, and kicked him until he was insensible. Nightingale crept home as well as he was able and went to bed. Now, the old man was very stern, and the poor lad durst not complain. He rose early, milked the cows, delivered the milk, came home, and laid himself down on the bed and died. They called him to breakfast, but, not being answered, they went upstairs, and there he lay dead. The affair made a noise, and the coroner sent me to open the body. The intestines were matted together with incipient peritoneal inflammation, and had burst in several places. How could this poor lad survive so long, with his abdomen in such a terrible condition?

The wooden-soled clog was formerly a dangerous weapon of offence, but I have now to say a few words in its favour. I believe it to have been a most powerful element in preserving the health of the people; walking through the wet and dirty streets, and having to wait outside the warehouses often for hours, their feet were always dry, for the damp could not penetrate through the wooden sole. This is, of course, the principal value of the clog, but another recommendation is its extreme cheapness; the cost of one pair of shoes would procure three pairs of clogs.

In conclusion, I can only say you are right welcome to our town. We have little to show you in the way of fine buildings, antiquities, etc. Blackburn is a great commercial emporium, in which large fortunes have been and are made. . . . I have now said my say. Had health permitted, I should have said more.

THE GAINS DERIVED FROM THE USE OF THE LARYNGOSCOPE.

By PUGIN THORNTON, Esq.,

Assistant-Surgeon to the Hospital for Diseases of the Throat, and Surgeon to the St. Marylebone General Dispensary.

THE interesting article by Dr. G. Johnson has served to call attention to the occurrence of paralysis of the vocal cords from pressure on the pneumogastric and recurrent nerves, and has especially raised the question whether pressure on one pneumogastric nerve can cause paralysis of the muscles on the opposite side of the larynx, in addition to that well known to be produced on the side on which the actual disease exists. Although I am sure that no one, on consideration, will doubt the accuracy of the observation made by Dr. Johnson and Dr. Bämler, few will be disposed to accept Dr. Johnson's interpretation of the phenomena. The doctrine of reflex paralysis is purely hypothetical, and has never been accepted by those who have most carefully studied the subject. Dr. Johnson appears to think that, because the action of the laryngeal muscles is bilateral, the disposition to reflex paralysis under certain circumstances is very great. Analogy does not, however, furnish any support to such a theory. No muscles are more essentially bilateral than those of the two eyes and eyelids; but we do not find paralysis of the muscles of one eye or eyelid, when caused by direct injury, producing paralysis of the muscles of the other eye or eyelid by centripetal irritation. In none of the numerous experiments performed by Reid, Claude Bernard, and others, has division or irritation of the recurrent or pneumogastric nerve produced paralysis of the muscles supplied by the corresponding nerves on the other side. With regard to the illustration drawn from Dr. Johnson's case of tetanus, it appears to me that, to have any bearing on the question, the muscles on the opposite side to that on which the injury occurred ought to have been paralysed, but this was not the case.

The paralysis of the opposite vocal cord in the two cases referred to was probably due to some condition entirely independent of the aneurisms which existed. Idiopathic disease of the muscle, an affection of the crico-arytenoid articulation, or an enlarged cervical gland, perhaps no larger than a pea, might have caused the paralysis, and these are all more probable causes than the hypotheses which have been invoked.

With regard to the cause of the curve which sometimes is seen in the vocal cord on the paralysed side, Mr. Browne has fallen into an error

in endeavouring to afford an explanation. The recurrent laryngeal nerve supplying all the intrinsic muscles of the larynx, it might be expected that all the muscles would be equally affected; but this is not generally the case, for both laryngoscopic examination and *post mortem* evidence show that the abductor usually suffers more than the adductor. When the muscles are equally affected, the vocal cord is fixed in a straight line midway between abduction and adduction; but, when the crico-arytenoid lateral is greatly atrophied, the "curved" appearance is produced. The action of the crico-arytenoid lateral is to adduct the vocal cord, but it acts on the vocal cord only through the arytenoid cartilage, which, when the muscle is brought into action, is rotated inwards in a kind of circle, the articulation being the pivot, or centre of the circle, and the anterior extremity of the cartilage, or vocal process, being the extremity of the radius. In quiet inspiration, the glottis, as is well known, has a lozenge shape, the outer angles of the lozenge corresponding to the vocal processes. When the crico-arytenoid lateral is thrown into action, this angle disappears; when the muscle is paralysed, the receding angle of the lozenge remains as a constant condition. When, however, the paralysis exists, and the crico-thyroid is no longer opposed by the crico-arytenoid posticus, the angle of the lozenge is lost and a curve remains. Anyone who takes the trouble to dissect a larynx will at once see that no action of any fibres of the arytenoid proprius could possibly produce the curve. The action of this muscle, when combined with that of the crico-thyroid, must have the opposite effect, and entirely do away with the curve. The exact position of the affected vocal cord depends on the relative degree in which the various muscles are implicated, and even on the degree in which special fibres of each muscle are involved. I saw a case only a day or two ago, in which the vocal cord was not only tense, but actually rotated at its anterior extremity, so that its free edge was directed completely upwards.

THE GAINS DERIVED FROM THE USE OF THE LARYNGOSCOPE.

By ARTHUR TREHERN NORTON, F.R.C.S.,

Surgeon in Charge of the Throat Department, St. Mary's Hospital.

THE last number of the JOURNAL contains a reply from Dr. George Johnson, and another from Mr. Browne to my article of June 20th. With regard to the former I have nothing to add to what I have already said, more than to thank Dr. Johnson for bringing the cases forward, and to say that in future similar cases will be searched for and will be thoroughly investigated, not only by myself, but no doubt by all who are familiar with the use of the laryngoscope.

With regard to Mr. Browne, I shall proceed to point out the errors which he has made, and I would advise him that communications written simply to contradict without explanation, and without respect to the opinions of others, tend to retard rather than advance the subject under discussion. Mr. Browne states in one part of his communication, that being absent from town he had not read the article which called forth my remarks; in other words, that he was dealing with a matter with which he had not thoroughly acquainted himself. Without that information I should have concluded the same after reading his communication.

He refers to my attempting to prove Dr. Johnson wrong, and to my questioning his observations and diagnosis. If Mr. Browne had read the article, he would have seen that I took Dr. Johnson's observations upon the decreased mobility of the muscles of both sides of the larynx as undoubtedly correct, and as that gentleman stated that the fact could not be accounted for, I gave my opinion.

When Mr. Browne remarks that it cannot be for an instant supposed that such a careful observer can be mistaken in diagnosis, he shows his ignorance of life, for there never was, and probably never will be, a man incapable of being mistaken in diagnosis. Mr. Browne then states that anatomy shows exactly the contrary to what I have explained, and that I have not been more fortunate in my description of the laryngoscopic image, or in my explanation of the distortion.

In reply, I would say it is impossible for him to controvert my anatomical explanation, and his expression "more fortunate" I consider inapplicable.

My communication contained nothing about the *laryngoscopic image* or the *distortion* more than the statement that the tension and immobility of the cord could be detected by the laryngoscope. The curvature of the cord which occurs in paralysis, and which he has taken a good deal of unnecessary trouble to explain, was as well known to me as to him; but it was no point in the discussion, and to describe that fact, with its why and wherefore, would have materially lengthened my