from 7 to 20 days showed no such changes.

3. "Cases of pharnygeal diphtheria that died of paralysis or exhaustion rarely showed such changes."

From this we may logically conclude that broncho-pneumonic changes are intimately connected with the obstruction in the larnyx to the entrance of air to the lungs. In fact they are related as cause and effect.

This is not difficult to see when we remember (as is shown by Dr. Winters) that with the rima glottidis obstructed, and the proper quantity of air, the natural element, not supplied to the lungs, they become less and less expanded, the blood becomes vitiated by imperfect oxygenation, and devitalized and poisoned by the accumulation of carbonic acid gas. In this state of embarrassed and impeded respirations, general venous congestion occurs, the veins of the neck and head become turgid—the entire body cyanosed, and a violent constitutional disturbance is produced, making death imminent.

In this state of defective respiration and circulation, and general depression of vital forces, the vessels of the bronchial mucous membrane, and the lungs, become engorged and passively distended. As a consequence of this the parenchyma becomes infiltrated with serum, and the bronchi filled and choked with mucus, and this complication is increased and aggravated the longer the patient continues in this asphyxiated condition. This is without doubt the condition of every patient that we find in the third stage of asphyxia from diphtheritic larnygitis. Add to this the effects of carbonic acid poisoning from continued non-aerated blood and the shock to all the vital forces from being brought down so near to death, and the gravity of the case must be appalling, and yet 9 out of 10 of our tracheotomies are under such unfavorable conditions. We are advised to delay operation until the patient has the glare of death clearly marked, and if the broncho-pneumonic complications, which, at this last stage, are already of an alarming character, are not cleared up by opening the windpipe, as is sometimes the result of this procedure, the operation is charged with having excited this disease, whereas tracheotomy is as clearly indicated to relieve this state of venous congestion of the lungs, as it is to relieve the asphyxia. Now, if this pulmonary and bronchial congestion is largely due to the obstruction in the larnyx, and the consequent defective oxygenation of the blood, then it is apparent that the early introduction of the canula into the trachea, and the full and free introduction of pure air into the lungs removes at once a fruitful cause of engorgment, stasis, and consequent exudation and infiltration into the bronchi and parenchyma of the lungs, and offers the speediest and best remedy for that which may have already taken place.

"It is certain," says McKenzie, "that the early introduction of the canula offers the patient a much better chance of recovery than when there is long delay, and it is owing to the disregard of this fact that tracheotomy in diphtheria has in some quarters acquired such an evil repute."

But it is urged by some, and among those I observe Dr. Bell, in his paper before the Canada Medical Association:

1. That if patients are operated on early many would be operated on unnecessarily.

2. Extension of membrane took place more rapidly after operation.

Neither of these propositions is supported by clinical facts, as Dr. Bell seems to show in his next words, viz.: "The recoveries after early operations were 25 to 33 per cent.; after late operations, 5 to 10 per cent." Now, I understand it to be an accepted clinical fact that of these cases of diphtheritic larnygitis, only 10 per cent. recover, 90 per cent. die without operation.

If only 10 per cent. of these cases without operation recover, 5 to 10 per cent. after late operation, and after early tracheotomy, 25 to 33 per cent. recover, this certainly convinces me that early operation offers the patient a better chance of recovery than a late operation, or than no operation at all, by about 23 per cent. In the hospitals of London, Paris, and Berlin, the operations are advised early and are generally performed by the house surgeon, so as to allow no delay, after the symptoms demand it, and the result has given about 33 per cent. of recoveries.

In the Boston City Hospital during the last 20 years, about one-third of the cases operated on have recovered, and every one of those that