for a certain number of cases, for here also are conditions found similar to the renal. To this group may also be added those mild and fleeting types of edema seen in the zymotic diseases, as already mentioned.

Transudation of serum into the submucous tissues does not occur as readily in the larynx as in serous cavities, or in the loose cellular tissues of an extremity, and in all likelihood requires an exciting cause to induce stasis—a cause furnished by a catarrhal attack or the enervating influence of long-continued illness. These cases are indistinguishable by the laryngoscope from the more actively inflammatory type, but differ widely in the constitutional derangement.

2. As to acute catarrhal attacks, every case of acute catarrhal laryngitis is accompanied by more or less thickening of the mucosa, as is evidenced by alteration in the voice. Submucous edema, however, we must all admit is rare. The records of all clinical services will furnish a fair number of cases of edema. Swollen posterior ends of the cord with interarytenoid thickening is quite a familiar picture. These are transient cases, ceasing when the inflammatory condition to which they are due passes away. It is certainly not easy to reconcile the pathology of this mild type of edema with the grave forms to be considered later.

3. Secondary septic processes complicating these diseases are classified by some authors as zymotic. Aphonia is not an uncommon symptom in these diseases, as has already been pointed out. Many of the cases of aphonia are transient. In still others the edema, to which the aphonia is due, is so excessive as to endanger life, and in these, symptoms of constitutional disturbance are apt to be pronounced. Here again is to be noticed two very dissimilar pathologic processes, save for the one symptom—edema.

The explanation is that one—the mild transient edema—is due to vascular changes incident to long-continued illness and passes away as the strength returns. The other—the severe prolonged edema—is due to septic conditions, sometimes a local abscess and greatly endangering life. These latter are observed in those in whom general septic manifestations have occurred.

4. As to the infectious cases, it is admitted that the line can not be sharply drawn between this form and the one preceding. My object is to point out in this group those cases in which the infection takes place immediately from the pharynx and larynx. The preceding group includes those in which the larynx is secondarily involved. To this group the term "Acute Idiopathic Infectious Edema of the Larynx" could with propriety be applied. It is to this class that Sir Felix Semon has endeavored to establish a pathologic identity and suggest the possibility of one pathologic micro-organism. The prevalence of epidemic influenza within the last decade or so has furnished many examples of this grave disease.

The history of the cases stamps them at once as of an infectious septic nature. The initial influenzal attack, or perhaps merely catarrhal attack, may not be severe. The local inflammatory condition and accompanying dyspnea is rapidly followed by pulmonary and general infection and sepsis.

The large number of cases of this form of infection, in which influenza has been associated, causes a suspicion that there is something in the latter disease favorable to the development of a product which finds a fruitful soil for its propagation in the mucous membrane of the pharynx and larynx.

It is conceded that the classification of the various forms of edema of the larynx herein attempted is imperfect or more or less artificial. The object of this paper will have been attained, however, if it leads other and better investigators to study the subject, the ultimate result of which will be a classification free from confusion.

TOTAL EXTIRPATION OF THE THYROID GLAND.*

GEORGE F. COTT, M.D.

Clinical Professor of Otolaryngology, Medical Department, University of Buffalo.

BUFFALO, N. Y.

On Sunday morning, July 15, 1900, I was hurriedly summoned to attend a male, aged 16, and found him breathing heavily while sitting on the edge of a bed. His voice was clear, indicating that the obstruction was below the subglottic region. As he was quite cyanotic, he was placed in a chair with his head tilted back and a 2 per cent. eucaïn solution injected under

E. W., aged 17; 11 months after operation.

the skin. The trachea was easily opened and a silver tube introduced. There was, however, no relief. Then a soft-rubber catheter was run down into the trachea, with instantaneous relief. His heart was in very bad shape, but he was watched closely during the night and strychnin and stimulants were freely administered. I left word that if the patient rallied I would remove the gland causing the obstruction. Next morning, Dr. Bingham, who had the case in charge, telephoned that the boy was all right and could undergo the operation.

It was proposed to operate under eucaïn, and about one-third of the gland was loosened therewith. The pain, however, was so great that chloroform was finally administered, after due notice had been given the parents of the risk run in the weakened condition of the patient. During the progress of the operation, the heart became quite irregular and weak and hypodermics of nitroglycerin, digitalis and whisky were given; but very little improvement took place. Subcutaneous injections of normal salt solution, of perhaps 400 grams each side, was then resorted to, and thus the patient tided over. After the gland was displaced, an attempt

* Read in the Section on Laryngology and Otolaryngology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

was made to sever it at the isthmus, but bleeding was profuse. Tying the vessels did not seem to make much difference; the forceps were therefore left in the wound for several days. The catheter was withdrawn the day after the operation and the wound allowed to close. He made an uninterrupted recovery and is to-day, June 4, 1901, in perfect health.

He has gained 30 pounds and grown 3 inches. He traced his trouble back but eight months, and the dyspneic symptoms about a week. The gland was very firm and weighed five and one-half ounces. The boy took sick at the beginning of vacation and was ready for school, September 1.

LARYNGO-FISSURE FOR PAPILLOMA.

A girl, aged 5, became quite hoarse, which condition was not relieved by treatment; two years later she was sent to me, and, as she allowed very little manipulation, I intubated her forcibly. After a week the tube was removed and some improvement seemed to take place, but soon the dyspnea returned and tracheotomy was performed. For the next two years I tried to have the

R. W., aged 9: 3 weeks after operation.

little girl tolerate the instruments, but she would not learn. Finally I proposed to split the larynx, and this was done, on May 3, 1901. The incision extended from the cricothyroid membrane through the larynx to the hyoid bone, and as the larynx was pulled apart the growth popped out, as it were, and was removed with a snare. There was so much bleeding that nothing more could be done, and the larynx was closed with catgut and the outer wound treated in the same way. Union took place by first intention, and the little patient made an uninterrupted recovery. The tracheal tube was removed in two weeks. The growth was situated subglottic, immediately below the cords, postero-laterally, by a broad pedicle which can be plainly seen. Any recurrence will be reported to the section.

531 Mooney-Brisbane Building.

DISCUSSION.

DR. J. HOLINGER, Chicago—I would like to ask what the Doctor expects as to the possibilities of myxedema, according to the sense of Cobin, who has done several extirpations and uniformly found a condition develop which was extremely deplorable for the patient as well as for the surgeon.

DR. CORR, in closing—The first symptom in this case was noticed about eight months before the operation. I will say that Dr. Kocher is the best authority on the subject, since he

has done over a thousand extirpations and his son has done, so far, four hundred. In this case I left a little piece of the gland in the neck, perhaps a half or three-quarters of an inch, because of the bleeding. In order to control the hemorrhage I had to leave the forceps on for several days. It is supposed that when a portion is left, even if that portion be transplanted, as for example into the abdominal cavity or anywhere else, myxedema does not develop; hence, I do not expect it to develop in this case. If, however, that should occur, I shall report to the Section.

TYPES OF MEMBRANOUS PHARYNGITIS.*

W. E. CASSELBERRY, M.D.

Professor of Laryngology and Rhinology in Northwestern University Medical School; Laryngologist to St. Luke's and Wesley Hospitals, Etc.
CHICAGO.

Under the irritating action of any one of several species of infectious micro-organisms, there exudes upon the surface and into the substance of the pharyngeal mucosa a whitish-gray deposit known as a false membrane or exudate. The histologic changes consist of necrosis of the epithelium and alteration in the vessel walls with the exudation of a coagulable albuminoid substance derived from the blood serum and mixed with fibrin, desquamated epithelium and leucocytes. While the membranes differ somewhat in physical characters and composition in accordance with the intensity of the inflammation and the species of infecting germ, the distinctions are so slight as to be unreliable in diagnosis, except in connection with bacteriologic examination, supported by a close study of the symptom-complex. A familiar form of diffused exudate in the pharynx is that excited by the Klebs-Loeffler bacillus, which receives the distinctive title of true diphtheria. Most of the other diffused pharyngeal exudates have been grouped under the name simply of membranous pharyngitis, but recently there has been an attempt to classify the types of membranous pharyngitis in accordance with the kind of infecting organism, and to affix to each its characteristic chain of symptoms and physical appearances. This classification is far from complete, and good examples with bacteriologic confirmation and close clinical study are still needful. There are forms of membranous pharyngitis which commence apparently as follicular tonsillitis, in which the exudate, failing to remain punctated and limited to the lymphoid structures, spreads over the pillars to the uvula and posterior pharyngeal wall. The closest scrutiny should be given these cases in order to exclude diphtheria, but this done it is sometimes found that the only organisms discoverable are those which predominate in tonsillitis, the various staphylococci and streptococci. The systemic symptoms vary much in these cases, and the limited number of cases yet followed seems to indicate that the dominating organism is the main factor in influencing the course of the disease. Thus we speak of staphylococcus pharyngitis, streptococcus pharyngitis, pneumococcus pharyngitis, etc., although in none of these as yet has the micro-organism been made to conform to all of Koch's postulates determining the specific relation of a germ to disease. The following case will serve to exemplify what is now known as staphylococcus pharyngitis, while presenting points of unusual interest with respect to repetition of attacks, the extensive distribution and brief duration of the false membrane and the slight constitutional effect.

* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.