œdematous polyps appeared at, and were removed from, the site of the pedicle.

Microscopical examination revealed dilated meshes of connective tissue filled with coagulated fibrin with no glands, and for bloodvessels only a very few capillaries, and with a surface of columnar epithelium. Irregular cyst cavities were formed by breaking down of the stroma.

The following peculiarities are noted: The site is not usual for œdematous polyps; the age (shortly after puberty); the rapid recurrence after removal; the scantiness of fibrous tissue leading to the formation of cysts.

Woakes' theory, that inflammation of the spongy bones leads to the formation of œdematous polypi, is discussed. Obstructed venous circulation, due to inflammatory deposits, does not fully account for polyp formation.

Often in hay fever the nasal obstruction due to polypi has begun several seasons after the other symptoms, but the author believes that the hay fever and polypi do not cause one another, but that both are due to a common cause in the vaso-motor nerves. Vascular dilatation is a stage of inflammation, and transudation of serum accompanies this process. Moreover, dilating arteries will compress less resistant veins, and hence obstruct venous return.

The author concludes that œdematous infiltration of the nasal mucosa, either sessile or polypoid, may result from (1) mechanical obstruction to venous return by the products of inflammation in the mucosa or in the underlying bone; or (2) the vaso-motor phenomena accompanying chronic inflammation; or (3) the vaso-motor phenomena present in neuroses, which may give rise to hay-fever and bronchial asthma.

He believes that the polyp described was due to a sharply-localized vaso-motor disturbance, which led to rapid effusion of serum.

R. M. Fenn.

LARYNX.

Baker, A. F.—*Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles of the Larynx, with Report of a Case.* "The Laryngoscope," November, 1898.

Patient, aged forty-two, suffering from well-marked locomotor ataxy (but with no specific history), for one year had been troubled with repeated attacks of dyspnœa, usually sudden in onset after sneezing, coughing, laughing, hiccough, and shouting. Attacks, at first occasional and slight, had become frequent and severe, the dyspnœa being always inspiratory and the eyes becoming fixed, the lips and face purple. Attempts made by fellow-workmen to restore him to consciousness by artificial respiration succeeded, and within half an hour he could resume work. Speaking and singing voice not affected. Vocal cords found to be only slightly separated on inspiration.

Tracheotomy under cocaine anæsthesia was followed by rapid recovery and return to work. He keeps a cork in the tube, and removes it when a suffocative attack begins, and replaces it when over. This he can do at night without awaking. Metal tubes proving unsatisfactory, he uses a soft rubber tube.

The author believes that the opening of the glottis is presided over by an independent ganglionic centre in the upper part of the medulla.

R. M. Fenn.

Giannettasio (Sienna). — *Intubation of the Larynx in (? Diphtheritic) Croup.* "Bolletino," Florence, April and May, 1899.

The author contributes a historical and statistical résumé of the advantages of intubation of considerable interest, and gives copious details of nine cases in which intubation was practised by him. Of these, five patients recovered, in two of whom intubation was followed by tracheotomy, owing to blocking of the tube by false membrane. Of the others, one recovered from the local affection, but at the time of writing remained in a critical state from infective pneumonia. One died of cardiac paralysis almost at the end of convalescence, and three of adynamia in the course of treatment. Sero-therapy was employed in all the cases.

James Donelan.

Prota, G.—*Primary Sarcoma of the Trachea.* "Archivii Italiani di Laringologia." Naples, April, 1899.

Primary sarcomata of the trachea are rather rare, though secondary forms, which arise in sequel to sarcomata of the thyroid or mediastinal glands or to similar tumours in the larynx, are of frequent occurrence.

Primary sarcomata of the trachea occurring in connection with those of the larynx are very rare. Bergeat states that of 99 cases of this disease in the larynx there were only 12 in which the trachea was similarly affected; while P. von Bruns notes that of 14 cases of primary sarcoma of the trachea, the larynx was affected at the same time only in 3.

Case I.—A married woman of forty, suffering from severe dyspnœa. For two years her throat had troubled her, and she had some shortness of breath on prolonged exertion. Laryngoscopy showed the larynx normal. Vocal cords white, normal in movement, with marked power of abduction disclosing a neoplasm almost filling the trachea at the level of the fourth ring, of about the size of a hazel-nut, reddish in colour, with smooth surface, on which were some varicose veins, and divided into two or three rounded lobes. The outline was well marked anteriorly and on the left, while on the right it united with the trachea in such a manner that it seemed to grow from its right and posterior wall. There was merely a linear breathing-space between the free side of the tumour and the trachea. Stethoscopy revealed nothing pathological; nothing but the propagated sound of the obstructed respiration could be heard. Nothing of importance in the history; no enlarged glands; no history of syphilis. She consented to an operation, but went into the country to arrange her affairs, and nothing further was heard of her.

Case II.—A countrywoman, single, aged fifty, suffering from dyspnœa and aphonia. For the previous six months she had suffered from hoarseness with attacks of shortness of breath, especially when at work. All remedies failed to relieve the dyspnœa, and she went into hospital last November, where she improved somewhat; but she had scarcely been discharged, when the trouble returned more severely, and the dyspnœa allowed her no repose even at night.

She was examined laryngoscopically on January 20. Below the left vocal cord there was a vegetating mass resembling a tonsil. The neoplasm extended from beneath the commissure anteriorly along the

left and posterior walls of the trachea below the interarytenoid space, and for a very short distance also below the right vocal cord near its posterior attachment. Nothing pathological was found in any other organ. No syphilis. Tracheotomy was advised, with subsequent removal of the tumour through the glottis, but this patient also put off the operation, and did not return. She would not allow the removal of even a small portion for microscopic examination.

These cases show the importance of laryngoscopy, as without it the diagnosis could not have been made from the general symptoms. As a matter of fact, in the first case the grave dyspnœa was the only symptom, while the voice was good, as the cords were not involved. The appearance, history, and seat of the tumours, with the absence of syphilis, led to the diagnosis of primary sarcoma of the trachea in both cases.

These tumours have various forms; they may be round with a large base, or present a papillary aspect, or may attain a considerable size so as to fill the lumen of the trachea, as in Case I. The course is slow and insidious, and as long as the respiration is unimpeded the patient for a number of years may be unaware of the presence of such a tumour. This is explicable to a great extent if the mode in which these growths develop is considered. As connective-tissue tumours they may originate from any stratum of the submucosa or from the cartilage or perichondrium, and they may be looked on as having a predilection for the subglottic region, since it is there that the strain of respiration and phonation is most concentrated. The mucous membrane is loosely adherent in this region, which is, moreover, subject to catarrhal and inflammatory processes. The author considers that these processes have an important influence in the development of these tumours. They are, for the most part, fibro-sarcomata—that is to say, originally of neoplastic fibrous tissue, which, favoured by the abundant vascular supply, becomes changed by an enormous hyperplasia of its elements into true sarcomatous tissue, and the metamorphosis is caused, or at least greatly favoured, by the increased irritation resulting from efforts at respiration through a constantly-narrowing air-space. This hypothesis is in accord with the clinical experience that, when these tumours are removed before they have become very large, they rarely present decided sarcomatous characters; on the other hand, sarcomatous metamorphosis is always to be feared, and early operation is recommended.

Schroetter had a patient under observation for twenty years. He was a man aged thirty-four, who in 1867 had a lobed, pedunculate tumour at the level of the fourth tracheal ring. Schroetter removed a piece which proved to be a fibro-sarcoma, and then extirpated the rest of the growth. It recurred in 1871, and again in 1873. In the winter of 1878-79 the tumour increased until it filled the lumen of the trachea, and the patient died in 1887, twenty years after the first operation. The autopsy disclosed an angio-sarcoma of the trachea with stenosis, accompanied by bronchiectasis, broncho-blennorrhœa, and catarrhal pneumonia. It is to be remembered that this tumour was a fibro-sarcoma, which became in the course of its recurrences an angio-sarcoma.

Tracheal primary sarcomata may occur as fibroids, spindle-celled, round-celled, and angio-sarcomata. These tumours do not tend to ulcerate, to pass beyond the limits of the trachea, or to invade the lymphatic glands. Their site is almost constantly the upper part of

the trachea. Only in one case, that of Meyer-Hüni, the tumour arose from the bifurcation. In another, of Betz, it grew from the left side of the septum at the bifurcation, and had a lobe which hung into the bronchus. These tumours occur with equal frequency in the sexes, and most often in youth and old age. They give no sign of their presence until from their size they impede respiration. Removal *per vias naturales* has been attempted five times, but in only three cases has a cure been mentioned, and in these it was affirmed after too brief an interval. In six other cases the tumour was removed after opening the trachea, and the final result is known in only three instances; in two a cure was affirmed after three months and one year respectively, while in the third case there was recurrence in two years. In two other cases simple tracheotomy was followed by death from collapse and hæmorrhage, as in Koch's case, in which the surgeon performing urgent tracheotomy cut through the tumour, and with the help only of the long flexible cannula of Koenig succeeded in passing the obstacle and tamponing the trachea. Some days later, after changing the cannula, the patient died from hæmorrhage.

Dr. Prota draws the following conclusions from his study of these tumours:

1. Tumours of the trachea attain a large size without giving any sign of their presence, and their early occurrence can be discovered only by the laryngoscope.

2. Dyspnœa and loud tracheal breathing (*cornage*) merely show that the tumour has become large.

3. Tracheotomy should be done at once, without waiting for urgent symptoms, and the low operation is preferable, having in reserve long cannulas, and those with tampons.

4. Extirpation through the glottis may be attempted only in rare and favourable cases, in which one surprises the tumour in its early stage and when dyspnœa is but little marked. *James Donelan.*

Wolff, Bernard.—*Intubation of the Larynx for Membranous Stenosis.* "The Laryngoscope," November, 1898.

The author believes that intubation should be practised instead of tracheotomy in all cases where laryngeal obstruction causes dyspnœa, except where a foreign body in the larynx makes the introduction of the tube impossible. Tracheotomy is now generally agreed to be the handmaid of intubation.

The author then gives a descriptive account of the process of intubation, with some of its difficulties. He believes that the prognosis of intubation has been much improved by the use of antitoxin, and quotes on this point from the "American Year-Book of Treatment for 1897" figures which show that the necessity for intubation has been much diminished since the introduction of antitoxin, and that in those cases where intubation is used there is a mortality of only 27 per cent., in former times the number of cases of recovery being only 27 per cent.

R. M. Fenn.