

Ear

ethmoidal suppuration, but its character is much more mucoid. General health good; weight steady; patient is carrying on with his work and there are now no signs of neurasthenia.

Remarks.—Unfortunately, I did not obtain a microscopical report on the nasal sinusitis. My own belief is that this successful result was due to the following factors: (1) complete pulmonary recovery before any operation was attempted; (2) performance of the operation in two stages, so as to give the frontal sinus time to recover before closing it over; (3) removal of the dental and tonsillar lesions, especially the latter. This, to my mind, is a point of the utmost importance.

ABSTRACTS

EAR.

Our Eighteenth Century Method of Treating Suppurative Otitis Media: A Criticism and a Remedy. JOHN A. PRATT, Minneapolis. (*Journ. Amer. Med. Assoc.*, 25th October 1930, Vol. cxv., No. 17.)

In reviewing 38 books on Otology published between 1888 and 1929 the writer found that only three suggested a frequent changing of cotton wool; not one described the method of application; two spoke of irrigations; four of irrigations with drying of the canal, and nine mentioned irrigations with drying and a gauze pack for twenty-four hours.

A review of 192 papers written during the same period gave similar findings. The author's method consists in making an evenly wound swab of absorbent cotton wool $1\frac{1}{2}$ inches long. It must be small enough to pass through a medium-sized ear speculum. The swab should be placed in the canal and must touch the drum. It is changed as soon as saturated, and in acute cases it must be changed night and day for the first forty-eight hours. It is claimed that this method reduces pain, promotes rapid recovery and lessens the tendency to mastoiditis and chronic suppuration. The author has a printed card instructing patients how to carry out the treatment themselves.

ANGUS A. CAMPBELL.

Therapeutic Indications in Otogenous Infectious Labyrinthitis.
J. RAMADIER. (*Les Annales d'Oto-Laryngologie*, January 1931.)

The writer begins by defining clinically the term "otogenous infectious labyrinthitis" as every labyrinthine manifestation due to any anatomical or pathological alteration whatsoever of the region of the

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internal ear, consecutive to a non-specific infection (*i.e.*, one that is neither syphilitic nor tuberculous) of the middle-ear.

He then describes the different elements which govern the prognosis of these cases; *e.g.*, the labyrinthine symptomatology and the degree of paralysis of the labyrinth, the evolution of the symptoms, the ætiological considerations, the appearance of a neighbouring neuritis, and the meningo-encephalic signs of danger (in which is stressed the importance of repeated lumbar puncture).

From a study of these different elements he attempts to classify the various forms of labyrinthitis, to state their prognosis and to indicate their appropriate treatment.

He concludes that the indication in these cases for trephining the labyrinth in order to prevent meningo-encephalic complications is quite rare. It is indicated especially in the complete late forms of labyrinthitis in acute otitis, in the complete acute forms in chronic otitis and in the manifestly complete chronic forms.

From the numerous published statistics it is possible to draw a conclusion with regard to the usefulness of opening surgically the internal ear by a comparative study of the cases that have been operated upon with those that have not. From such a comparison it appears that the operation applied to the forms above indicated has improved in an appreciable manner the prognosis of these labyrinthites.

On the other hand the author thinks that a large and early drainage of the oto-mastoid focus will very often prevent the aggravation of the labyrinthitis when trephining of the internal ear is not justifiable. Nevertheless, the prognosis of certain forms such as the sudden complete acute labyrinthitis in the late phase of an acute otitis, or in a chronic otitis, remains extremely grave and in a large number of cases all our therapeutic efforts will be vain.

On the contrary, the opening of the labyrinth applied to the chronic oto-labyrinthitis, with the object of putting an end to the persistent vertigo, is a very satisfactory operation; inoffensive even in case of chronic suppuration of the tympanum. Perfectly and rapidly efficacious, it presents only the inconvenience of destroying the auditory remnants which may have persisted in the affected ear, prior to operation.

L. GRAHAM BROWN.

Fracture of both Petrous Bones with double-sided Facial Paralysis.

Dr. KRAUS. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhk.*, 1930, Band cxxv., pp. 113-123.)

This extremely rare case is reported in an interesting manner. The patient's head was compressed between the buffer of a railway engine and its tender. There was no loss of consciousness, only bleeding from the nose and from the right ear and complete immobility

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of the face were noticed at once. X-rays of the temporal bones, taken in two directions (Mayer's method) showed almost identical fracture lines on each side. The photographs and explanatory diagrams are reproduced in the text and are particularly clear. Both temporal bones had suffered longitudinal fractures involving the external and internal auditory meatus and both mastoid antra. The double facial paralysis cleared up completely after three months.

An old otitis had existed on the right side. After the accident there was a flare up of the middle-ear suppuration, but this did not lead to any meningeal infection. In spite of Voss's advice to do a precautionary mastoid operation in every fractured base where a middle-ear suppuration develops, the author decided on conservative treatment with a good result. X-ray photographs taken months after still demonstrated the same fissures, showing that only fibrous union takes place in these cases.

J. A. KEEN.

The Significance of Middle-ear Inflammation of Infancy. H. MARX.
(*Archiv. f. Ohren-, Nasen- und Kehlkopfheilk.*, 1930, Band cxxvi., pp. 71-78.)

The author raises many important points in the pathology of middle-ear suppuration which he is unable to reconcile with Wittmaack's views. In order to follow Prof. Marx's arguments it is necessary to refresh one's memory about these theories. According to Wittmaack the anatomical development of the pneumatic cells in the adult temporal bone and the clinical course of any otitis media in later life are entirely dependent on certain forms of infantile otitis, which may or may not have occurred. Of these there are two main forms:—

(a) The "*hyperplastic otitis*," also called by some writers a "Fremdkörperotitis," as particles of vernix caseosa, meconium, etc. which have reached the tympanum *via* the Eustachian tubes are supposed to be the cause. It is not discovered clinically, as it does not lead to perforations and discharge. The subepithelial layer is very much thickened and penetrates into the tympanic cavity in the form of polypoid outgrowths with a typical histological appearance, called "*Gewebsfröpfe*." When these are found in the adult, it is assumed as a *sine qua non* that hyperplastic otitis has existed.

(b) The *exudative* form, which is the ordinary clinical otitis in infants with perforation and discharge.

Both forms lead to an interference with pneumatisation as the epithelium is damaged. In the typical hyperplastic otitis the subepithelial layer remains active and penetrates the mastoid bone, but the epithelium is unable to complete the formation of pneumatic cells; the ultimate result is a hard sclerotic mastoid (eburnisation). The

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exudative form leads to a fibrosis and atrophy of both epithelial and subepithelial layers with the result that the mastoid bone is not penetrated and remains as ordinary cancellous bone.

The author states that this theory has never been definitely proved, not even by Wittmaack himself. One would have to section the temporal bone of an adult individual who gave a definite clinical history of an otitis in early infancy and this has not yet been possible. In Wittmaack's adult specimens which show these changes it is always assumed as a proven fact that an infancy otitis was responsible for the abnormal pneumatisation.

Prof. Marx, with many other writers, believes that one cannot separate the exudative and hyperplastic forms of otitis. According to him it is an inflammatory process in the tympanum which may occur at any age and the hyperplastic otitis is simply a later stage of the exudative one. Hyperplastic changes with typical "Gewebspfropfe" have been demonstrated in many cases of mastoiditis, in which the operation had been done at a late stage (Scheibe). One would have to assume that in all these cases a hyperplastic otitis had occurred in infancy.

A most extensive pneumatisation has been found in adults, side by side with hyperplastic changes. This should be impossible according to Wittmaack's teaching. One such case is described in detail, an adult aged 30; the temporal bone was perfectly pneumatised, the air cells extending well into the zygomatic process. J. A. KEEN.

Three Cases of Ménière's Disease in connection with Quincke's Œdema.

DIDA DEDERDING. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhlk.*, July 1930, cxxvi., pp. 121-124.)

The author describes the cases of three patients who were under treatment for Quincke's œdema. In one case the attacks affected the pharynx and glottis and a tracheotomy had been done twice as an emergency measure. In the other two various areas of skin were affected. All three patients also complained of typical attacks of Ménière's syndrome. Quincke's hypothesis was that "Ménière's disease" is due to an œdema of the labyrinth of the same nature as circumscribed œdema of the subcutaneous tissues. These clinical cases support the hypothesis. J. A. KEEN.

The Diagnosis of Paraotitis Interna Circumscripta. H. BRUNNER.

(*Archiv. f. Ohren-, Nasen- und Kehlkopfhlk.*, 1930, cxxvi., pp. 79-86.)

Paraotitis interna circumscripta is defined as a localised inflammation of the inner-ear capsule, at a stage when a fistula has not yet formed. Its diagnosis depends on a special sign described by

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Brunner, viz. "Bewegungsnystrismus," a nystagmus of short duration which is produced by a sudden movement of the head. The patient's head is held between the two hands and suddenly jerked back. When this sign is present in chronic middle-ear suppuration and the fistula sign absent, parotitis may be diagnosed, especially if a cholesteatoma is present as well. In some cases with "Bewegungsnystrismus" the external semicircular canal still appears normal to the naked eye, but in others early bony changes can be demonstrated.

Dr. Brunner believes that this special nystagmus indicates early inflammatory changes in the labyrinth capsule. This view is supported by the fact that in cases which show this special nystagmus serous labyrinthitis has been known to follow the radical mastoid operation. Two such cases are described. In the first, nystagmus was already present, but this was much *increased* by the head movements; there was no "fistula sign." In the second case there was no spontaneous nystagmus but a marked nystagmus after the head movements. Both patients developed a serous labyrinthitis after radical mastoid operation and this was interpreted as a flare-up of a pre-existing parotitis caused by the operative trauma.

The weak point about the author's arguments is the fact that his sign is not often found in conjunction with the fistula sign, *i.e.*, in cases where there are gross inflammatory changes in the bony labyrinth capsule.

J. A. KEEN.

NOSE AND ACCESSORY SINUSES.

An Investigation of the Hydrogen-ion Concentration of the Secretions and of the Mucous Membranes, especially in connection with Chronic Nasal Sinus Suppuration. R. MITTERMAIER. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhk.*, 1930, cxxvi., Part I., pp. 1-41, Part II., pp. 149-172.)

This very important paper fills about one-third of the above volume of the *Archiv*; it has three pages of references and hundreds of H-ion observations arranged in tables. A great portion of Part I. is taken up with descriptions of laboratory methods for determining pH ; the detail is highly technical matter which only the trained biochemist will be able to follow. Mucous secretions, mucopus, thin pus, greenish pus, etc., all give different pH values. The H-ion concentration of secretions from the same sinus at different times may vary enormously, especially when the healing process has set in. In chronic cases with no tendency to healing the pH values show fairly constant figures. The ultimate acid value of any particular secretion is determined by the mixture of the various components, viz., mucus, serous fluid and pus cells. When secretions become purulent there is a change towards

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the acid side; when they become mucoid, as a rule the change is towards alkaline values. When healing takes place there is a change from relatively acid values towards alkaline or more normal values. These differences are not related to bacteriological findings, but are dependent on the proportion of pus cells, mucus, etc.

Part II. deals with observations on mucous membranes and tissues. The method of determining H-ion values which the author favours all through is the "Chinhydronelektrode." It is particularly suitable for measuring pH on pieces of mucous membrane. By this method one can make rapid observations on small areas of the pathological tissue, even if they lie quite close together. Previous experiments of this kind have been made on granulating wounds. What is measured is the H-ion concentration of the intracellular fluids. Most of the observations were made on tissues removed by operation, *e.g.*, tonsils, adenoids, posterior ends, etc. As a general rule, pH figures taken from tissues do not show such great variations as in the observations from secretions. These tissues, up to the time of operative removal, were flooded with blood so that the H-ion concentration more often approaches the normal figure found in blood.

In the chapter where H-ion observations of *mucous membranes of diseased sinuses* are described, there are also histological studies in relation to pH values. The author quotes an interesting observation by Schade who studied the pH conditions in a furuncle. In the central focus containing pus pH was 6.1-5.4, in the infiltrated zone pH was 6.3-6.1, still further out in the zone of slight œdema pH was 7.3-7.5, which is a transition to normal values. Differences of this nature were found on excised pieces of mucous membrane, when one compared inflamed, infiltrated areas with areas showing œdematous and polypoid changes; the latter areas gave the more alkaline values.

J. A. KEEN.

Temperature and Moisture Conditions of the Inspired Air. Part. II.: Experiments in Cold, Dry Wintry Air and in Centrally-Heated Atmospheres. R. PERWITZSCHKY. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhk.*, 1930, Band cxxv., pp. 1-22.)

This is a lengthy article with numerous graphs and tables, showing the temperatures and the absolute and relative water contents of the air at various levels, in the upper air passages, *viz.*, nasopharynx glottis, trachea and bronchi. One set of experiments was made in the open air on a cold, wintry day, another set of experiments in centrally-heated rooms. The apparatus and the methods of measuring the temperature and the degree of moisture have been previously described in Part I. The author calls attention to the extraordinary power which the healthy nose possesses of *warming* very cold inspired air; the colder

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the atmosphere, the more efficient does this warming power become. The function which the nasal mucosa performs in *adding moisture* to the inspired air is on the whole less efficiently performed.

There is an interesting discussion on the relation between engorged turbinals and their warming effect on the air. As a general rule, the more congested the turbinals, the more efficiently is the inspired air warmed before it reaches the nasopharynx and the glottis. When a person goes from a warm into a cold, dry atmosphere the turbinals can be seen to have enlarged to their full extent. But if he remains a long time in this cold atmosphere (-20°C.), the turbinals shrink and the nose becomes free again. The cold stimulus at first causes a vasodilatation, but after a time, apparently, the vasodilators are paralysed and vasoconstriction occurs.

The explanation is not quite so simple. An enlargement of the turbinals is to some extent brought about by a strangling of the venous outflow. Such an enlarged turbinal after a while will be colder than the surrounding mucosa owing to stasis in the circulation, and its warming power is exhausted, just as a swollen limb, whose venous return is interfered with, becomes colder than the other limb with a free circulation.

After some time in the cold the vasomotor mechanism of the nose becomes exhausted. Hence the observation that persons staying for long periods in dry wintry air unconsciously practise mouth-breathing for a while, so as to give the vasomotor mechanism time to recover; then they return to nose-breathing.

Dry air should become saturated with water vapour before it reaches the lung alveoli. When the outside temperature is low the moistening mechanism also works more easily; *e.g.*, a feeling of dryness in the nose and throat is more often experienced in the dry, heated atmosphere of a room than in the open air on a cold day.

Both functions are much interfered with in patients with atrophic rhinitis, and they are absolutely insufficient in patients who breathe through a tracheotomy tube. A "cold" is often caught after long periods in a dry heated atmosphere, *e.g.*, a railway carriage. The nasal mucosa has become "dry," and is then easily infected by outside organisms.

J. A. KEEN.

Critical Review of the Literature on the Subject of Normal and Pathological Pneumatisation of the Nasal Sinuses. J. KOCH. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhlk.*, 1930, Band cxxv., pp. 174-218.)

It is claimed that all the articles dealing with the above subject since 1900 have been considered, and there are four pages of references. Writers are generally agreed that the sinuses develop

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by a penetration of buds of nasal epithelium outwards into the surrounding cartilage and bone. In *fœtal* life, when the nasal skeleton is still entirely cartilaginous, there are already indications of all the sinuses. Their order of appearance is as follows: first the antrum and ethmoid cells, then the sphenoid, and lastly the frontal sinuses. At *birth*, all the sinuses are quite recognisable; figures giving their average dimensions are quoted from Onodi's researches. In connection with the early development of the sinuses, one has to distinguish between primary and secondary pneumatisation.

In *primary pneumatisation*, the sinus is present as a very small cavity, *i.e.*, a hollow epithelial bud, but the bone has not yet commenced to be hollowed out; *e.g.*, the sphenoid and frontal sinuses at birth.

In *secondary pneumatisation*, the respective face bones are already hollowed out; *e.g.*, the antra and the greater part of the ethmoid labyrinth at birth.

Many contradictory clinical observations on sinusitis in infants and babies are explained in this way. It is quite justifiable to speak of sinusitis, even before there are any indications of bony cavities as shown by X-rays.

Childhood is the main period of secondary pneumatisation. The antrum does not attain its full dimensions and adult shape until after the second dentition. Up to that time the maxilla is largely filled with tooth germs. The measurements of all the sinuses at 1, 2, 3, 4 and 8 years of age are given as stated by Onodi. The frontal sinus attains its final adult shape between the 14th and 16th years. The earliest instance of secondary pneumatisation of the sphenoid and frontal sinuses, shown by X-rays, was that of a child aged 3½ years.

The causes which influence the varying dimensions of the sinuses are fully discussed. The size of a sinus is first of all dependent on the size of the respective skull bone which is being pneumatised. Excessive expansion of the sinus occasionally occurs by overlapping into a neighbouring bone, *e.g.*, an antrum extension into the zygomatic bone. Such an extension can only occur after *ossification of the suture lines*. It appears to be a law that pneumatisation stops short of a thin layer of compact bone whenever dura or mucous membrane are found on the other side. That is why septa persist between the two frontal and sphenoidal sinuses, between the orbital and ethmoidal cells, etc. But *dehiscences* are not infrequently found and it has not yet been decided whether this is a physiological process, *viz.*, excessive activity of the epithelium, or whether it is due to some pathological process.

There is a correlation between various racial types of skull and the extent and dimensions of the nasal sinuses.

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A *hereditary* factor exists, but this is an indirect one dependent on an inherited "weakness" of the mucous membrane. Also, the tendency to catarrhal inflammations runs in families and this interferes with pneumatisation.

The whole theory of pneumatisation and the determining rôle which is given to the mucous membrane as the active agent, is based on Wittmaack's researches on the mastoid. Many authors have attempted to transfer the whole of Wittmaack's teaching to the development of the nasal sinuses and have tried to prove, more or less successfully, that the type of nasal mucosa in early childhood determines how the sinuses develop. Thus, a "hyperplastic" mucous membrane delays pneumatisation, a "fibrous" mucous membrane, the term being used in the same sense as Wittmaack's changes of fibrosis and atrophy, means a complete arrest of pneumatisation.

There are many comparative studies of the pneumatisation of the mastoid and of the nasal sinuses, based on X-ray photographs of a large series of normal persons and of others who have chronic affections of the nose. Subjects in the "normal" group often show interferences with pneumatisation. By using tables of the normal dimensions of the sinuses at various ages, one can deduce at what time-period a rhinitis occurred which led to the arrest of pneumatisation.

Beck has established that there is a relation between the middle-ear and the nose in this respect. When the mastoid is poorly pneumatised this is also true of the nasal sinuses. One can easily understand how an inflammatory disturbance in early infancy may affect the tympanic and nasal mucous membranes to an almost equal extent, as the communication via the Eustachian tubes is comparatively free.

J. A. KEEN.

Osteomyelitis of the Cranial Bones following Inflammation of the Nasal Septum. C. E. BENJAMINS. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhk.*, 1930, cxxvi., pp. 133-139.)

Among the causes of osteomyelitis of the skull bones inflammation of the nasal septum is not generally mentioned. Three cases are described in which other primary foci could be excluded. Case 1, a girl aged 12, a few days after an ordinary cold, developed swellings over the bridge of the nose and over the right eyelid with high temperatures. On rhinoscopic examination an abscess of the septum could be seen with swellings on both sides. The swellings over the nose and forehead were thought to be due to subcutaneous inflammation and only the septal abscesses were drained; *Staphylococcus aureus* was found. A few days later it was realised that an osteomyelitis existed and extensive operations for drainage were performed, but the child died from severe sepsis. Post-mortem, all the nasal sinuses were free

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from disease, a portion of the cartilaginous septum was missing where the primary abscess had been, the diploë was extensively infected from the frontal bones to the parietal bones, and there was also much pus in the subdural space.

In Case 2, an osteomyelitis of the frontal bone followed a submucous resection; extensive operations were necessary and ultimate recovery ensued. Case 3, an adult, had an abscess of the septum following influenza, complicated by œdematous swellings over the eyelids and forehead due to osteomyelitis.

The author suggests that this sequence is a direct extension of the infection from the upper part of the septum to the frontal bone. In the new-born there is a direct vascular connection and these channels may sometimes persist into adult life.

J. A. KEEN.

LARYNX.

On Ventriloquism. EELCO HUIZINGA. (*Archiv. f. Ohren-, Nasen- und Kehlkopfhlk.*, 1930, cxxvii., pp. 77-92.)

The classical study of ventriloquism is Flatau and Gutzmann's "Die Bauchrednerkunst," published in 1894. The author has returned to the question of production of the voice in ventriloquism, having as his subject a particularly clever Dutch variety artist. In the main he confirms Flatau and Gutzmann's observations, but is able to supplement these by using more modern methods of investigation.

The "voice" is *produced in the larynx* and not in the abdomen as the name implies. But the manner of production is very different from that of normal phonation. The expiratory current is used for both, but in ventriloquism it is a small current of air which is pressed through a stenosed larynx. The position of the larynx is very different from that of normal phonation. The larynx is definitely raised, the arytenoids coming to lie opposite the middle of the 4th cervical vertebra, the position in ordinary phonation being opposite the upper margin of the 5th. The entrance to the larynx is compressed from side to side, the base of the tongue is pushed backwards and the epiglottis is pressed downwards so as to cover the entrance to the glottis. The position of the larynx during phonation by this special method may be likened to the position which it assumes during swallowing or when vomiting. For this reason the larynx cannot be inspected during phonation. Flatau and Gutzmann were able to lift up the epiglottis in a ventriloquist, and saw that the false cords also were brought close together.

The author confirms all these points by X-ray photographs, using lipidol in order to outline the dorsum of the tongue, palate and epiglottis, a method well known in phonetics. A series of X-rays are

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reproduced in the text, showing side by side the normal and the "abnormal" positions in vowel production.

Very little expiratory air is used by the ventriloquist; the thorax and diaphragm remain almost stationary in the inspiratory position, with the abdomen prominent. As regards *pitch*, the "abnormal" voice lies about one octave higher than the normal one, but its *range* is a much more limited one, as it can vary only over approximately one octave.

The position of the mouth and lips of the ventriloquist is generally that which one assumes when speaking the vowel "e" and this position, of course, is maintained the whole time. The ventriloquist finds it quite impossible to produce the explosive consonants *b* and *p*; these are replaced by *d* and *th*, but this remains unnoticed by the audience whose attention is otherwise occupied. Certain phenomena where the "voice" appears to come from elsewhere, are pure suggestions on the part of a clever artist by means of gestures or by the use of accessory objects such as boxes or dolls.

The subject of this study explained that he acquired the rudiments of his "art" quite accidentally. One day after running very fast he was completely out of breath. He took a maximal inspiration and suddenly found himself producing a peculiar tone. J. A. KEEN.

The Technique of Wittmaack's Operation for relieving Laryngeal Stenosis in Double Abductor Paralysis. H. BAHRE. (*Archiv. f. Ohren-, Nasen- und Kehlkopffhk.*, 1930, CXXVII., pp. 41-50.)

Previous operations for relieving stenosis in cases of median position of the vocal cords have aimed at the formation of a slit in the *horizontal plane*, either by resection of one cord, or by plastic operations outside the cords which cause a retraction outwards by scar tissue. Wittmaack has adopted an entirely new principle. Instead of attempting to make an opening in the horizontal plane, he *displaces one cord downwards* at the arytenoid attachment, and in this way creates an airway which lies in the *vertical plane*. In favourable cases the new airway enables the patient to discard his tracheotomy tube.

The operation is clearly described in the article, with excellent illustrations. After laryngofissure the left arytenoid cartilage is dissected out through an incision in the mucous membrane. It is freed from all its muscle attachments and the processus muscularis is then cut off and removed. As a consequence, the posterior attachment of the vocal cord sinks downwards a distance of $\frac{1}{2}$ -1 cm. The mucous membrane incision is carefully sutured and the laryngofissure is closed in the usual way. After a few weeks one sees whether the patient can breathe with the tracheotomy tube occluded, and if this is successful the cannula can be removed.

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Two successful cases have been described previously, Bahre adds one case. In a separate communication, following this article, Wittmaack himself describes a fourth case. This was a double abductor paralysis with median fixation of the cords which had followed the removal of a particularly difficult thyroid tumour. The patient required a tracheotomy soon after the operation. Two weeks later the *resection of the processus muscularis of the left arytenoid* was done. The cannula could not be finally removed until two months later. The voice became rather deeper and gruff, which is a disadvantage of the operation in women patients.

J. A. KEEN.

TONSIL AND PHARYNX.

The So-Called "Bursa Pharyngea" in Man. GEORGE M. DORRANCE. (*Archives of Oto-laryngology*, Vol. xiii., No. 2, February 1931.)

This paper is so comprehensively illustrated that the space occupied by the forty-two figures exceeds that of the letterpress, and in some respects this is an advantage, as the figures have been collected from a wide range of literature. The writer gives a survey of all the important researches on the bursa pharyngea. It has been proved that this bursa is neither identical with Rathke's pouch, nor with Sessel's pocket. It occupies the mid-line of the pharynx, just anterior to the upper border of the superior constrictor muscle. When present in the adult it represents the persistence of a structure which, during embryonic life, takes its origin from adhesions of the notochord to the pharyngeal endoderm.

In 1885 Tornwaldt reported cases of inflammation of the bursa, and there was much controversy on the subject. Cysts of the bursa have also been described.

The writer of this paper suggests that cysts of the nasopharynx should be examined microscopically, and that further investigation should be made on the embryology of the pharynx.

DOUGLAS GUTHRIE.

Two Fatal Cases of Hæmorrhage: 1. Injury to the External Carotid during Tonsillectomy; 2. Probable Rupture into the Œsophagus of an Aneurysm of the Aorta. HENRY PROBY. (*Archives Internationales de Laryngologie*, Sept., Oct., 1930.)

1. The patient was a female, aged 34, who complained of slight dysphagia and dryness of the throat. No pulsation was seen in the region of the tonsillar fossa and there was no cervical adenitis. At operation, the tonsils were found to be embedded and fibrous, and the scope of the surgical intervention had to be increased from a

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“discision” to an enucleation. The patient, who was being operated upon under local anæsthesia, started to retch, and the faucial reflexes became very violent. During the process of snipping away the postero-external attachments, there occurred a sudden and profuse hæmorrhage and life rapidly became extinct.

At autopsy, there was found a small lesion of the external carotid. Moreover, a gland was found to be situated in close proximity to the vessel, producing a condition similar to that of the bridge of a stringed instrument.

Publication of this case has been delayed for five years pending judicial proceedings. The court has now awarded the children of the deceased 80,000 francs. It was contended that a serious mistake had been made in continuing the operation in the face of the violent reflex movements. The author then proceeds to make the following statement: “. . . now we are all agreed that removal of tonsils is always attended by violent reflex movements which are impossible to control except under general anæsthesia, which is not usually employed—particularly in the case of adults—owing to the fear of blood finding its way into the respiratory tract.”

2. The second case is of medico-legal interest. It refers to a male aged 65, with an intractable cough and with no other reported physical signs. When shown into the author's consulting-room, he suddenly coughed up a large quantity of blood and fell down dead. The patient's wife and two other patients from the waiting-room were asked to witness that death had taken place before any medical examination had been carried out. Two points should be stressed: (1) The necessity for a complete examination in similar cases, because an intractable cough due to aneurysm of the aorta should have aroused the suspicion of the practitioner in attendance. (2) The usefulness of a written statement by a relative of the deceased, against an accident, or in suspicious cases—when consulted by an unknown patient—or the presence of some member of the family during the examination.

M. VLASTO.

ŒSOPHAGUS.

Studies in Emphysema as the Result of Perforating and Non-perforating Injuries of the Œsophagus. RICHARD WALDAFEL. (*Monatsschrift für Ohrenheilkunde*, February 1931.)

The author has undertaken some important investigations in connection with œsophagoscopy, which should be not only of great interest but also no small help in the guidance of those who have to undertake this form of instrumentation, and perhaps especially to those who have to give instruction in these methods.

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He commences by emphasising the fact that in this connection we have to deal with structures in a state of more or less continuous mobility, due both to the respiratory movement and to the peristaltic action of the œsophageal wall itself, and that therefore too great stress cannot be laid on the necessity of careful manipulation. His investigations are also the result of experimental research on the cadaver and animals, supplemented by the notes of two cases, of which one recovered and one ended fatally. A detailed account of the anatomy of the parts concerned with a special reference to the various layers and compartments of the fascia, supported by two diagrammatic illustrations, forms very correctly the introduction to his thesis. The conclusions at which he arrives can be summarised as follows:—

The neighbourhood of the junction of the pharynx and œsophagus varies considerably in different people and is partly unsupported by muscle; thus in this situation air has a very easy opportunity of entering the perioesophageal tissue through a lesion of the mucous membrane.

At the entrance to the œsophagus there also exists a considerable venous plexus, branches of which pass between muscle fibres; along these an easy opportunity is offered for the conduction of air into the surroundings.

Experiments on animals and on the cadaver show that the extension of emphysema after injury of the œsophageal walls follows the anatomical planes of the cervical fascia and thus the emphysema may reach to the parotid, submaxillary and supraclavicular regions in the first instance, whilst its further appearance in the axilla, shoulder and under the muscles of the chest can be similarly explained.

Emphysema may occur not only as the result of a perforation of the œsophageal walls, but following injuries which merely involve the mucous membrane.

The article can be strongly recommended for attention by sounding a timely note of warning as to the delicacy of the structures concerned in this form of instrumentation. Its contents should be especially emphasised to the onlooking tyro, who is perhaps inclined to disregard these anatomical points, when he sees the rapidity and apparent ease with which the trained skilful clinician undertakes the manipulation of various œsophageal tubes and instruments.

ALEX. R. TWEEDIE.

Resection of the Thoracic Portion of the Œsophagus for Carcinoma.

CARL EGGERS, Surgical Clinic, Lennox Hill Hospital. (*Surgery, Gynecology and Obstetrics*, March 1931, Vol. lii., No. 3.)

The present poor results in the treatment of carcinoma of the thoracic œsophagus are due to the poor general condition of the

Œsophagus

patients when they present themselves, combined with the fact that there are usually senile changes present in other organs rendering them unfit to stand any severe operative measures.

The author advocates the performance of a standardised operation, which is a modification of the operation originally devised by Torek.

Two or three weeks may usefully be spent in improving the physical and mental condition of the patient ; a gastrostomy should be performed at once.

No special apparatus is required for the anæsthetic, a slight amount of pressure being all that is required ; it is an advantage to have the lungs moderately collapsed.

Should the growth be found to be operable, the proximal end is brought to the surface, the work being carried out partly through the thoracic incision and partly through one along the anterior border of the left sterno-mastoid muscle. That portion of the œsophagus containing the growth is removed by the cautery, and the patient is fed by means of a rubber tube connecting the lower end of the cervical œsophagus to the gastrostomy opening.

S. BERNSTEIN.