

cisterna was opened, the operation was justified, if for no other reason than that it permitted the father to see the child with clear mentality for nine days before death. There could be no doubt concerning the fact that the operation does relieve pressure. The two abscess cases mentioned by Dr. Beck and Dr. Emerson were probably not cases of diffuse suppurative meningitis but circumscribed. Three years ago he had reported three cases of suppurative meningitis cured by drainage of the subdural space. Two years later one of these patients returned, with re-filling of the abscess-cavity and death. Autopsy performed. Failure of methylene-blue under pressure to penetrate certain areas of the dura indicated that the former meningitis had been circumscribed, and it was hardly just to include such cases in estimating the value of the operation under discussion. There is much yet to be learned with reference to the circulation of the cerebro-spinal fluid. The amount of drainage obtained by operation does not represent the normal secretion; it represents the most that can be secreted under artificial conditions. The arterial pressure must be higher than the pressure of the cerebral fluid; likewise, the pressure in the venous circulation must be lower than that in the arterial circulation. If the arterial pressure is equal to the pressure of the fluid there will be no secretion. When the cisterna magna is opened the amount of fluid obtained represents the fluid secreted with zero pressure in the ventricles. The operation has not been successful in saving life. It carries the patient over the dangers of cerebral pressure only to die from sepsis. He believed Dr. Kopetzky to be wrong when he said that by making the diagnosis in the early stage the drainage operation will effect a cure. Even if the cases are seen early and the disease demonstrated by chemical tests, there will be points or puddles in the arachnoid spaces which cannot be drained through the cisterna magna. The infected fluid from these areas will eventually reach the undrainable area at the base and the formation of pus will follow.

(To be continued.)

Abstracts.

PHARYNX.

Freedman, L. M.—On the Function of the Tonsils. "Annals Otolaryngology," vol. xxii, p. 188.

The author concludes that the tonsil has a function, but probably only in the early years of life, and assumes that there is other tissue in the body, as, for instance, the lymph-glands, which have the same function—mainly protective. Removal of the tonsil, therefore, does not remove from the body any organ or tissue absolutely necessary to the system; but, if not diseased, its removal leaves the individual with one defence less.

MacLeod Yearsley.

Wilson, J. Gordon, M.A., M.B. (Chicago).—The Significance of Plasma-cells in the Tonsil. "Journ. Amer. Med. Assoc.," August 2, 1913.

From a review of the literature and his own investigations, the writer considers that plasma-cells are normally present in the tonsil, and that with the absorption of toxins, either from the crypt or from extra-

tonsillar areas through the lymph-streams, there is a marked increase in their number. Their localisation in the tonsil does not mean a diseased organ, but an organ that is reacting to disease and striving to protect the body. The early occurrence of plasma-cells in the tonsil is no argument for early removal, but rather for the putting right of any faulty metabolism which has caused their increase.

Dr. Gordon Wilson draws the following conclusions: (1) Plasma-cells are derived from lymphocytes and are engaged in removing and utilising cell material which has broken down. (2) If it be pathologic to destroy albuminous bodies and toxins from metabolic processes, then plasma-cells are pathologic. (3) They are not degenerated cells, but cells actively engaged in combating the toxins which pass through adenoid tissue. (4) Their presence indicates that the tonsil is functionally active. And (5) their presence in excess shows that we have some focus of disease, but not necessarily a local one.

Birkett (Rogers).

Ingalls, E. Fletcher (Chicago).—What Relation, if any, have the Fauical Tonsils to Pulmonary Tuberculosis? "Journ. Amer. Med. Assoc.," July 12, 1913.

Relying on an exhaustive study of the literature and an examination of his own records, Dr. Fletcher Ingalls states that affections of the tonsils are much more frequent among non-tuberculous than among tuberculous patients, but that cervical adenitis, while comparatively infrequent (4 per cent. only) in tuberculous patients, is much less common in non-tuberculous patients: only 1 per cent. of the cases of cervical adenitis showed even the slightest evidence of disease of the tonsils. Research during the last ten years has proved that tubercle bacilli may enter and pass through the tonsils and cause disease of the cervical lymph-nodes while the tonsils themselves may escape all injury; and that there is no direct connection between the cervical lymph-nodes and the pulmonary lymphatics, and, therefore, that involvement of the lungs associated with cervical adenitis must be a systemic infection rather than a result of the disease of the lymphatics. The writer concludes with the statement of Jonathan Wright, "To tell the truth, I do not believe there is any relation between the tonsils and pulmonary tuberculosis"—a view with which he is in hearty accord.

Birkett (Rogers).

NOSE.

Mahu, G.—Modern Treatment of Ozæna. "La Presse Médicale," January 4, 1913.

Generalities: The author defines ozæna as a specific nasal catarrh, which may extend to the pharynx and larynx, characterised by the formation of fœtid adherent crusts and attended with atrophy of the mucosa and bony elements without ulceration. Nasal respiration is not always commensurate with the calibre of the cavities; on the contrary, many ozænatous subjects are mouth-breathers. The affection, which is twice as common amongst females as males, generally appears at puberty, but it has been met with in children from two to five years of age. Baumgarten has observed it in sucklings. It rarely develops after thirty (MacKenzie, Semon). The comparative frequency of the disease amongst various classes of society and occupations is much debated. Heredity, formerly supported by Fraenkel, is still admitted. As to the question of infection and contagiousness, Loewenberg and Perez, who have isolated

bacilli believed by them peculiar to *ozæna*, with Vaquier and Lermoyez regard *ozæna* as a specific infectious malady. Cabouche and Lombard hold it to be tuberculous. Belfanti and Della Vedova have incriminated diphtheria, and Gaucher considers all *ozenatous* subjects syphilitic. The theories of Zarniko, Cholewa and Cordes, Zaufal, Grünwald, Hajek and Jaques are also cited. Diagnosis: Though other nasal affections are associated with *fœtor*, *ozæna* is easy of distinction. Syphilis is accompanied by ulceration. In the pre-tubercular coryza of Moure, or para-tubercular of Lannois, the crusts are thin and yellowish and unaccompanied by *fœtor*. Concerning treatment, until twelve years ago *ozæna* was deemed incurable, and surgeons were content with palliative measures, irrigation, etc. In 1902 Moure and Brindel conceived the idea of reconstructing the turbinated bodies by injections of liquid paraffin. In 1903 H. Smith and G. Connell improved this procedure, and rendered it practical by using cold softened paraffin below fusion point. They were followed by Broeckaert, others, and the author, who, after studying the question on over 1000 patients in Lermoyez' practice at St. Antoine's, has definitely adopted the method. Paraffin in this form cannot enter the vessels, and is therefore free from serious accidents, phlebitis, etc. Following the observations of Lermoyez (1899), Dundas Grant (1902) and Horeau (1908), on some cases of abeyance of the nasal functions, but with nasal sufficiency, Robert Foy (1910), having noticed that the majority of patients suffering from *ozæna* breathed little or not at all by the nose, endeavoured to regenerate the mucosa and restore its functions by its indispensable and normal stimulant, atmospheric air. In opposition to Zaufal's theory, which attributes desiccation of the crusts to excessive ventilation of the fossæ, he demonstrated that there was a deficiency of the air current in *ozæna*, and that on subjecting the nasal cavities to strong currents of compressed air, the mucosa regained its moisture in spite of the capaciousness of the fossæ. By supplementing this treatment with daily respiratory exercises carried out by the patient, cures result, if by that is understood the suppression of *fœtor* and crusting in the absence of lavage. The author remarks that, at first sight, this principle seems to be opposed to that of Moure and Brindel's treatment, since the latter apparently corroborates Zaufal's theory by ascribing improvement to diminishing the calibre of the nasal fossæ. With Broeckaert the author thinks this is not so. Paraffin injections not only act in this way, but perhaps by modifying the secretion and compressing the glands so as to hinder the production of purulent *fœtid* fluid. The two methods of treatment are reciprocally complementary. Friability and atrophy of the mucosa frequently precludes the employment of paraffin injections, but after forced aëration and respiratory exercises the membrane becomes so strengthened as to render the procedure possible. In the event of failure with the methods described, the author mentions a third, which consists in lavage and insufflation of powdered lactic acid ferment; this, it is stated, will lessen or even abolish *fœtor* in a large proportion of cases. The technique of the several methods of treatment and the various instruments at one's disposal for the injections, etc., are very fully described, accompanied by illustrations.

H. Clayton Fox.

Wright, Jonathan.—**Atrophic Rhinitis in its Historical, Ætiological and Histological Aspects.** "Laryngoscope," June, 1913.

A very full account of the present knowledge of this condition. The author is of the opinion from his histological researches that the most

significant change in structure is the thickening of the periosteal layer, which produces atrophy of mucous membrane and bone by strangulation of the nutrient vessels, this thickening or fibrosis being due to an antecedent intra-nasal inflammation or constitutional dyscrasia.

The changes produced are: (1) Metaplasia and cornification of the epithelium. (2) Round-cell infiltration. (3) Destruction of blood-vessels and glands. (4) Destruction of the elastic fibres. (5) Absorption of bone. (6) Destruction of the smooth muscle-fibres in the stroma. (7) An excretion or transudation to the surface of lipoproteids, derived from tissue-waste and perverted gland function, which form the discharge. This destructive metabolism ceases with old age and so brings about a cure.

A. J. Wright.

LARYNX.

Colombel.—Chronic Laryngitis of Smokers. "Arch. de Laryng., etc.," November, 1910.

Tobacco is one of the most frequent causes of acute and chronic inflammations of the laryngeal mucosa. Acute attacks of laryngitis, however brought on, show less tendency to clear up in this class of case. The chronic condition is always introduced as the summation of a series of slight subacute attacks in which the whole of the respiratory tract is affected. The condition is obviously more common in men, and will be greatly increased where any other source of irritation is present, such as dust or the use of strong alcoholic beverages or where any already existing lesion such as syphilis, cancer, tubercle is present. In syphilitic subjects tobacco is particularly harmful and indefinitely prolongs the contagious period. The characteristic symptom of the condition is alteration of the voice. Dysphonia may vary from slight hoarseness to extreme roughness of the voice but seldom goes on to aphonia. The laryngoscopic appearance is that of chronic laryngitis of the pachydermia variety. The mucosa is somewhat œdematous and this hinders the close approximation of the cords, thereby determining the alteration of the voice. The vocal cords are usually somewhat rosy coloured and occasionally present small ulcerations of a somewhat punched-out character. Histologically there is a considerable increase in the epithelial tissue, particularly of the interarytænoid region, amounting to a pachydermia laryngis. The nose and pharynx show similar hypertrophic changes. The treatment consists in the removal of the cause, and in addition, if necessary, the cauterisation of any hypertrophic areas should these still exist.

J. D. Lithgow.

Winckler, Dr. Ernst (Bremen).—Laryngeal Tuberculosis in Cases treated by Artificial Pneumothorax. "Zeitschr. f. Laryngol.," Bd. vi, Heft 2.

Forlanini's method is indicated if the patient has unilateral cavity formation which resists ordinary methods, if at the same time there are no old firm adhesions between the two layers of the pleura. Under careful observation with the manometer sufficient nitrogen is introduced into the pleural cavity to completely compress the affected lung. This proceeding is followed by great diminution in the amount of sputum and also by a fall in the temperature and a marked increase in appetite and weight. If the sputum again increase or the temperature rise the compression must be renewed. The treatment is greatly aided by a good radiogram of the chest and is only suitable for the third group of cases,

according to Turban-Gerhard's classification. Laubs has shown that only 10 per cent. of cases in the first stage of phthisis suffer from laryngeal tubercle, 17 per cent. of cases in the second stage, and 73 per cent. in the third stage. Forlanini himself states that laryngeal, abdominal and renal tuberculosis are contra-indications. From *Brauer's Festschrift* Winkler abstracts four cases, in all of which artificial pneumothorax was followed by cure or great improvement of laryngeal tuberculosis. He also notes three cases from Forlanini's clinique, in which artificial pneumothorax was combined with local treatment of the larynx; all of these gave fairly satisfactory results.

Winkler's own cases are not so satisfactory. Death resulted in three of the four cases, while in the remaining one, in which the galvanocautery was also used, the final result is not reported. In three further cases, in which the larynx was normal before artificial pneumothorax, it became diseased during this treatment.

J. S. Fraser.

E. A. R.

Raoult, A. (Nancy).—Auditory Re-education: Remote Results of Auditory Re-education. "Arch. Internat. de Laryngol., d'Otol., et de Rhinol.," July-August, September-October, 1913.

Auditory re-education is sometimes reproached with producing only passing improvement of the hearing, which rapidly becomes as bad as ever; but this is not the experience of Raoult, as in the majority of cases where the electro-phonoide of Zünd-Burguet was employed, the improvement after the cessation of the treatment was maintained, and was often even progressive.

In the present paper full clinical notes are given of thirty-five cases, seen six months after the cessation of treatment by auditory re-education. Seventeen of these are from Raoult's own practice, thirteen from that of Zünd-Burguet, and five from Helmoortel. Raoult notes that in a few of these the patients thought there was no improvement, but on actual examination in some of them distinct improvement was noted, while in others a slight diminution of the acquired hearing-capacity was present.

This is explicable on the assumption that the increase in hearing had caused the friends of the patients to adopt the ordinary instead of the raised voice which they formerly employed, thus making things more difficult even where the hearing was slightly improved.

It is therefore necessary, in order that reliable observations can be made, that the hearing should be tested under identical conditions, both before and after treatment.

Nevertheless, it is often necessary, especially in the aged, or where there is this marked diminution of hearing, that the treatment should be resumed again after a period of rest, as these cases show a distinct tendency to regress after a longer or shorter period unless put under another course of treatment. It goes without saying that one must endeavour to find and treat any persistent cause of progressive deafness in the nose or nasal pharynx which would neutralise the effect of the re-education. Such remote factors, in the stomach and intestines, intoxication, excessive fatigue, mental depression, have a similar effect. In so far as these cases resist direct treatment, there must be a proportionate increase in the number of re-educative *séances*. The clinical cases are well worth reading, as they are models of careful recording, and they fully support Raoult's thesis.

J. D. Lithgow.

Lavrand, H. (Lille).—Phonatory Massage in Progressive Deafness. "Arch. Internat. de Laryngol., d'Otol., et de Rhinol.," August, 1913, p. 140.

Under this general title Lavrand considers that the question is not scientifically prejudiced. Diminution of hearing seems to be difficult to measure exactly, for the results obtained vary considerably according to the numerous and much-disputed methods employed. Those who do not sufficiently understand the speech of ordinary conversation we consider deaf. Deafness is a term one is specially apt to attach more particularly to the anatomical conception, but the physiological and functional causes must not be forgotten. Practically, cases may be divided into two groups. (1) Cases where there exist alterations of the ear, nasopharynx and nasal fossa, which are accessible to therapeutic measures. This region should be the first care of the otologist, as very favourable results may follow the treatment. (2) Cases of progressive and intractable deafness where either no definite alterations of the ear and its annexes can be made out, or, if present, are either not benefited themselves by treatment or are followed by no improvement in the hearing when so treated.

To this second class the present study is directed. Here the aurist is powerless in the presence of a condition very discouraging both to himself and to the patient. This group constitutes the problem of otology.

Putting aside the purely anatomical idea, one has recently attempted to substitute rather a physiological and functional idea in the pathology and therapeutics. Sceptical at first, but eventually set going by the published results and for want of something better, Lavrand tried in some intractable cases auditory re-education, but only after having failed with the usual classical methods. Five such cases are described and they certainly show most encouraging results. In all of them any apparent causal condition was either intractable, or, if satisfactorily treated, was followed by no alteration in the hearing. The instrument used in these cases was the kinesiophone of Dr. Maurice. Lavrand sums up: cases of deafness which are not amenable to ordinary therapeutic methods show more or less appreciable improvement under phonatory massage. Indications for this treatment are not yet clearly defined, but its utility should not pass unnoted. For, although it cannot pretend to cure all cases of deafness, it constitutes a real progress upon the present methods of treatment for that form of progressive deafness attributed to otosclerosis. It increases the hearing power when other means of treatment have failed.

J. D. Lithgow.

REVIEWS.

Map Scheme of the Sensory Distribution of the Fifth Nerve (Trigeminus) with the Ganglia and Connections. By L. HEMINGTON PEGLER. London: Baillière, Tindall & Cox, 1913.

Should anyone entertain doubts as to the statement that we are "fearfully and wonderfully made," these would be dispelled at once by an inspection of the complex anatomy of the fifth nerve as laid out in Dr. Pegler's "Map Scheme of the Sensory Distribution of the Fifth Nerve."