

ABSTRACTS

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Evaluation of the usefulness of the Western Electric Audiometer in solving Clinical Problems for the Practising Otologist. G. E. SHAMBAUGH (Chicago). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

(1) The audiometer is a very satisfactory means for testing the status of hearing in the higher tone ranges. It seems to be superior for these tests to the tuning-forks or the Galton whistle.

(2) For testing the low tone ranges the audiometer is not as satisfactory as the tuning-forks for the reason that it is possible to test the lower tone range with tuning-forks by air-conduction without any confusion from the other ear, whereas in testing with the audiometer with the telephonic ear-piece held to the ear bone-conduction becomes a confusing element especially for the low notes.

(3) The audiometer is the best means for determining defects in the midst of the tone scale.

(4) In diagnosing the cause of deafness whether this is the result of obstruction to sound conduction or of alterations in the sound-perceiving apparatus the audiometer is not always reliable. This diagnosis can often only be made satisfactorily by means of the tuning-fork reactions. (Rinné test.)

(5) In undertaking to establish the diagnosis of total monaural deafness the audiometer is of considerable assistance, but this diagnosis of total monaural deafness is more accurately determined through an intelligent evaluation of other functional tests.

(6) As a means for measuring the handicap from a defect in hearing the audiometer is of no particular value, for the reason that a defect as shown in the audiogram gives no clue as to the actual handicap for hearing of the voice, which is the only handicap that has practical importance to the patient.

(7) As a means for measuring progress of deafness or improvement in hearing the audiometer testing all the tone range is more valuable than other mechanical devices, such as the watch, or the acoumeter of Politzer. As a matter of fact, however, such information has very little clinical importance over that which can be determined more readily by a voice test. As a method of precision, it has a certain interest with, however, very little practical importance.

In conclusion the author would point out that the examination of the tone range by the audiometer is of more interest for the physiologist than it is for the practising otologist. It is a useful apparatus in the

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equipment of an otological department in which instruction for students is carried on, since it helps materially in visualising facts in the physiology of hearing as well as the defects that occur as the result of disease. Much that has been published regarding audiometric tests has only contributed to the confusion of otologists, for the reason that too often this has been written with little evidence of any clear conception of the clinical significance of functional hearing tests. The value of the audiometer as a practical aid to the otologist has been much exaggerated.

AUTHOR'S ABSTRACT.

Some Remarks on the Testing of the Hearing by Speech. C. E. BENJAMINS (Gröningen). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

After an introduction on the structure of the sounds of speech, the speaker gave a more detailed account of the "Index vocalis" of Gradenigo, *i.e.* the relation between the distance upon which whispered vowels can be just heard and that upon which vowels ordinarily spoken can be distinguished.

When one takes into account the theoretical introduction, it can be foretold, that the relation of the vowels with high formants must differ from those with low formants.

The female voice, too, will show different qualities than the male voice. The results which the speaker has found are in absolute agreement with this, and give other interesting details on the difference between the voices of either sex.

As regards words consisting of vowels and consonants, the matter is very complicated. In pathological cases the "Index vocalis" is still more complicated, so that up to now it has not been found of practical use.

Finally, a combination of a microphone, well-gauged, an apparatus for graduating the transmission of sound and a loud-speaker or telephone, is described, which can be used in the consulting-room, when a small silent cabin has been built there, and of which the drawings of the one in use at the clinic in Gröningen, are shown. With this arrangement of apparatus and small cabin every patient can be carefully examined by means of conversation voice, the examination then being in greater concordance with everyday life.

AUTHOR'S ABSTRACT.

The Correlations in the Sensitivity for Air and Bone Transmitted Sounds with a note on the Negative Pressure Treatment. A. G. POHLMAN (Buffalo). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

Age changes in the acuity for hearing air and bone transmitted sounds are to be found in a progressive loss especially for the higher frequencies and therefore in a contraction in the field of audition. The regularity of the curves and the bilateral symmetry found in some

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cases suggests that the age change is not entirely dependent on a mechanical disability of the sound-transmission system. It is also apparent that the bone acuity curve is the better criterion of the functional responses in the end organ and central apparatus. The negative pressure treatment, which was demonstrated, sometimes enhances the acuity for both air and bone transmitted sound without affecting the extent of the field of audition. Where a middle-ear disability is superimposed on the age change, the negative pressure treatment sometimes shows a very appreciable effect on air-transmitted sound.

Curves showing progressive age changes, the methods of the test, and the technique and results of the negative pressure treatment were demonstrated.

AUTHOR'S ABSTRACT.

Types of Fever in Otitic General Infection. R. LEIDLER (Vienna).
(*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

In examining about seventy cases treated for the greater part by himself and his colleagues, it has been possible to observe in a precise manner the cause of the fever and to conclude that one can distinguish five different types of pyrexia.

- (1) Long duration of the fever, 20 to 25 days, high temperatures at first but with a gradual decline to normal.
- (2) After a short period of high temperature there is a rapid fall.
- (3) A type of long duration and temperature maintained at a high level, often fatal.
- (4) A latent type of malady often associated with very chronic sinus thromboses and subnormal or normal temperature.
- (5) Of long duration, 30 to 70 days, but with two or three periods of high rise and fall to subnormal.

(*Author's modified Abstract from the French.*)

H. V. FORSTER.

The Bearing of the Fluids contained in the Cochlea on its Resonance. Mechanism. GEORGE WILKINSON (Sheffield, England). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

Two of the greatest difficulties in the way of the acceptance of the resonance theory of hearing have always been (1) the minuteness of the scale of the cochlea in comparison with the lowness of pitch of notes to which it is capable of responding, (2) the extensive range of tones (between 10 and 11 octaves) which act upon it.

In 1920 the present writer pointed out that the fact that the basilar membrane, which appears to be the only possible resonating structure in the cochlea, was immersed in fluid was a factor of importance in modifying the natural periods of vibration of the basilar fibres.

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From his observations with models he concludes that the immersion of the basilar membrane in fluid, as is its condition in the cochlea, causes a large reduction of the frequencies of vibration of its various sectors throughout the scale and also that this reduction is somewhat greater at the distal than at the proximal end of the scale.

H. V. FORSTER.

Apparatus for Control of Conversation Test. ALEX. R. TWEEDIE (Nottingham). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

The apparatus has been elaborated from the idea that the most important standard of hearing is the range for recognising the human voice. Into such a test three variable factors enter:—

- (1) The strength of voice used.
- (2) The conducting medium.
- (3) The environment.

The author thinks that by his method the conducting medium can be accurately controlled and that the variations of environment can be reduced to a negligible minimum. The variation of the force of the voice remains naturally unaltered. The apparatus consists of two magnetic microphones joined up by about 10 metres of wire so that a resistance of 999.9 ohms is interposed. The observer speaks into one of the microphones, regulating the intensity by varying the resistance in the circuit. The patient hears through the other microphone. By a second circuit the patient repeats to the observer what he hears. The whole apparatus is contained in a portable box weighing 14 lbs.

H. V. FORSTER.

A Contribution to the Development of Congenital Atresia of an Ear with Cholesteatoma. A. PRĚČEČTEL (Prague). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

A demonstration of microphotographs in a case of very defective development of the middle and internal ear in a new-born child, with multiple epidermal fragments in the middle and internal ear likely to be the origin of congenital cholesteatoma.

(Translated from Author's Abstract.)

H. V. FORSTER.

The Labyrinth of Petromyzon fluviatilis. C. VERSTEEGH (Utrecht). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

A communication of the anatomical and physiological results obtained from the examination of *Petromyzon planeri* and *P. fluviatilis*. Wax models of the labyrinth were shown. By the use of injections

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he had succeeded in photographing the endolymphatic currents which characterise the species of animal. A film illustrated the subject.

(*Translation of the Author's Abstract.*)

H. V. FORSTER.

The Korner-Septum in the Mastoid Process. J. MÖLLER (Copenhagen).
(*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

The development of the temporal bone out of two different parts, the Pars petrosa and the Pars squamosa, demands two separate cell-systems, which afterwards, however, often partially fuse together, but in most cases are distinctly separated from each other. This is of great importance in operations on the mastoid bone, especially while the apical and the perisinus cells belong to the deeper and frontal cell-system, developed out of the antrum squamosum.

AUTHOR'S ABSTRACT.

Non-Experimental Labyrinthitis in Animals. J. S. FRASER
(Edinburgh). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

The writer's attention was first called to this subject by the condition produced in a guinea-pig after the injection of a culture of leptothrix into its left tympanic cavity in the year 1908 by the late Professor James Ritchie.

The posture and gait of the animal six months after the injection is described. It was killed with chloroform and an examination of the diseased condition of the external and middle ear made; subsequently the inner ear was examined microscopically. Other animals, e.g., rabbits, guinea-pigs, rats, etc., which showed this attitude and gait were examined. A number of microphotographs are shown of the sections made.

H. V. FORSTER.

Mastoid Disease without Otorrhœa. E. WATSON-WILLIAMS.
(*Brit. Med. Journ.*, 14th Dec. 1929.)

The material on which this paper is based consists of 15 cases of definite mastoid disease in 14 patients, without the occurrence of otorrhœa, in a series of 300 mastoid operations.

The points to which attention is drawn are the following:—

- (1) There is often no preceding illness.
- (2) There is no otorrhœa on examination, nor any history of otorrhœa.
- (3) Pain may be slight or may have ceased.
- (4) There may be little or no tenderness.
- (5) Fever may be mild or absent.
- (6) No œdema may be discoverable.
- (7) The tympanic membrane may appear quite normal.

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Despite the absence of some or all of these signs and symptoms, there may be serious mischief in the mastoid requiring operation.

The case-histories and the findings at operation of the cases are given in detail.

R. R. SIMPSON.

Contribution to the Clinical Aspect and Histo-Pathology of the Auditory Organ in Acute Leucæmia. ANT. PRĚČECHTEL (Prague). (*Oto-larngologia Slavica*, Vol. ii., Fasc. I, March 1930.)

A case is described of a girl, aged 6, suffering from acute myeloid leucæmia and cholesteatoma of her R. ear, who died of the leucæmia after operation. Her hearing was: R. conversation at 0.75 m., L. whisper at 10 m. Both cochleæ were sectioned, and showed opposite types of degeneration, R. hypertonic, L. hypotonic, thus supporting Wittmaack, who holds that in hypertonic degeneration the hearing is markedly depreciated because of the pressure on the nerves of the cochlea, whereas in hypotonic degeneration the hearing is little affected although the microscopic changes may be apparently greater.

E. J. GILROY GLASS.

Some Effects in Later Life of Otitis Media in Infancy. C. C. BUNCH and R. C. GROVE (Baltimore). (*Annals of Otology, Rhinology and Laryngology*, March 1930.)

The author's summary of the paper is as follows:—"A group of children ranging in age from 7 to 16 years who, according to their hospital histories, had otitis media in infancy, were returned to the Johns Hopkins Hospital for otologic examination during the period from October 1928 to June 1929. X-ray plates were made showing the development of the mastoids in fifty-two cases. The cases were selected for examination on the basis of the fact that during their hospitalisation they had had repeated myringotomies. Thirty cases, or 19 per cent., had appreciable hearing loss when examined. Ten of the thirty were discharging. Dry perforations were present in five. The tympanic membranes do not necessarily, after a period of years, present evidence of repeated myringotomies, since in twelve ears of this group the tympanic membranes were normal. The otoscopic examination, except in cases where discharge was present, gave the examiner little idea as to the relative hearing power. Cases are presented which show that factors other than otorrhœa alone must play an important part in the pneumatisation of the mastoid and in the loss of acuity where deafness exists. A severe otitis media in infancy does not necessarily result in the arrest of the process of pneumatisation of the mastoid."

Audiograms, X-ray pictures, otoscopic notes and details of the histories of twenty selected cases are given.

N. RANKIN.

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A Critical Study of the Actual State of Knowledge of the Physiology of Hearing. P. JACQUES and R. GRIMAUD. (*Annales des maladies de l'oreille, etc.*, Feb. 1930.)

This article, consisting of sixty pages of detailed information and critical discussion and supported by a bibliography of more than 200 references, is a most exhaustive inquiry into the present state of our knowledge concerning the function of hearing.

It is divided into seven chapters. The first deals with the introduction of the subject. In this the authors emphasise the necessity, if further progress is to be made in our knowledge of this function, of a more methodical consideration of all known facts, physical, anatomical, and physiological, upon which our theories of hearing are based.

The second chapter discusses all the known physical facts connected with the nature of sound, such as plain or spherical waves, transverse and longitudinal vibrations, the properties of reflection, diffraction and refraction, and the characters of resonance and quality.

In the third chapter the anatomical data are likewise described, and analysed, the organ of hearing being divided into the external, middle and internal ear for their purpose. Herein a wealth of important detail is set down before us.

The fourth, fifth, and sixth chapters deal consecutively with the physiology of the external, middle, and internal ear respectively. The various theories on the mechanisms of these parts is fully discussed, and from these the authors draw their own conclusions, which are as follows:—

In the external ear the pinna collects the sound waves; the auditory canal conducts them to the tympanic membrane. The sound is thus conducted chiefly by the aerial path. The combined action of the two ears determines the direction of sound.

The middle ear does not transmit the sound waves to the labyrinth solely by the chain of ossicles. From the discussion of the different theories and from the study of the tympanic cavity considered as a physical apparatus, it seems that the aerial transmission which communicates sound to the internal ear by way of the round window may be the more important, although this is contrary to the opinion for a long time expressed by older authors who have considered this path as of little or no importance. The chain of ossicles plays an important rôle in auditory accommodation, but certain details of its mechanism still escape us.

The internal ear receives the sound vibrations by the round window as well as by the oval window.

Of the numerous theories suggested since Helmholtz to the present day, none seems to give a description for the phenomena which

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occur in the cochlea which can be considered exact in all respects, since some are not in agreement with the laws of physics, whilst others are based on histological or biological views which are not yet fully established.

Finally, in a seventh chapter, the authors give a most comprehensive bibliography, arranging their references under separate headings of the physics, anatomy and physiology of the subject.

L. GRAHAM BROWN.

Experimental Otosclerosis in Fowls. K. WITTMACK (Jena). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

The author has, by blocking the venous plexus in the region of the foramen magnum and ligation of the great veins of the neck, produced venous congestion of the fowl's labyrinth. Microscopic examination of a large number of these labyrinths showed that bony changes had taken place, corresponding, in the author's estimation, to the characteristic changes found in the human labyrinth in cases of otosclerosis. While he does not in any way claim that his researches have solved the problem of otosclerosis, he believes that they do point the way for future investigation of the nature and causation of the disease.

In the discussion which followed the reading of this paper, the author's views were opposed by Dr Otto Mayer, who held that the changes shown in the labyrinth capsule of the fowls following venous congestion were quite unlike those seen in otosclerosis, and stated that in normal fowls of advanced age changes are met with very similar to those characteristic of human otosclerosis.

THOMAS GUTHRIE.

The Origin of Cholesteatoma of the Attic. OTTO MAYER. (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

Among the possible modes of formation of cholesteatoma of the attic is that suggested by Habermann and Politzer, namely, an ingrowth of epidermis associated with an acute otitis media with perforation of Shrapnell's membrane. Several objections have been raised to this explanation, such as that of Bezold, that an acute otitis media with perforation of Shrapnell's membrane does not occur, and that no one has ever seen a chronic otorrhoea with cholesteatoma follow an acute inflammation without necrosis. This may be explained by the fact that the acute otitis media with perforation of Shrapnell's membrane, which leads to formation of cholesteatoma, often runs an almost symptomless course. The author was able to show the likelihood

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of this inflammatory origin of cholesteatoma of the attic in two cases, which died, one of cerebellar abscess and the other of pneumonia, some weeks after the onset of an acute otitis media. In each of these cases microscopic examination showed cholesteatomatous masses apparently growing in from the margin of a perforation of the membrana flaccida and invading the attic and antrum.

THOMAS GUTHRIE.

Cellularity of the Mastoid and Streptococcus Mucosus Infection.
H. RICHTER (Erlangen). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxv., Part 1, p. 74.)

Thirty-eight per cent. of cases requiring mastoid operation were of the streptococcus mucosus group. It was generally accepted that this form of infection was mainly confined to mastoids of the cellular structure, but in Richter's cases the mastoid was of normal cellularity in 58.1 per cent. and almost non-cellular in 39.5 per cent. The preponderance of the cellular is, therefore, not so considerable as was previously supposed.

JAMES DUNDAS-GRANT.

On the Occurrence of Small Dry Defects (Foramina of Rivini) in the Pars Flaccida of the Tympanic Membrane. LUSCHER (Berne). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxv., Part 2, p. 129.)

By means of magnifying otoscopy it is proved that the so-called "foramina" are really indrawn portions of Shrapnell's membrane with small atrophic patches. They occur without any history of previous suppuration, and are attributed by Wittmaack to degenerative changes dating from the period of development. (The possibility of their arising sometimes as the result of prolonged considerable rarefaction of air in the tympanum is not considered—J. D.-G.)

JAMES DUNDAS-GRANT.

NOSE AND ACCESSORY SINUSES

Endoscopy of the Naso-Lacrimal Ostium. Prof. A. SERCER.
(*Oto-laryngologia Slavica*, June 1930, Vol. 2, Fasc. 2.)

A method is described whereby the inferior meatus and nasolacrimal ostium may be examined. A special forceps is used to raise the inferior turbinal and a small mirror (2.4 mm.) is introduced into the inferior meatus, when the image of the ostium may be seen. A series of diagrams illustrate normal and pathological appearances of the ostium.

Nose and Accessory Sinuses

Researches on the Reflex Influence of each Lung from its corresponding Nasal Cavity. Prof. A. SERCER (Zagreb). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

The current of air passing through the nose represents a physiological adequate stimulus on the trigeminus of the nose. The stimulus calls forth a stronger expansion of the lungs through the vagus and the phrenic nerve. Cocaine anæsthesia of the nasal mucous membrane neutralises the reflex. In normal individuals these reflexes are easily registered with the pneumographic method. A strong proof that the current of air through the nose causes a heightened expansion of the lungs by reflex action is furnished by the experiments on laryngectomised patients.

Air-insufflation in the nose of laryngectomised patients also gives an increase of the expansion of the lungs. If, at the same time, the movements of both sides of the thorax are registered separately, a one-sided influence on either side of the lungs by its corresponding nostril is easily proved. In normal persons the one-sided sensitiveness of the lungs is easily gathered from the pneumographic curves; especially convincing, however, are the curves made from laryngectomised patients.

Our curves show that the stimulus from one side of the nose first causes a heightened expansion in the corresponding side of the thorax and only after a lapse of time causes a similar though less intensive effect on the opposite side of the thorax.

In the achievement of these reflexes the phrenic nerve plays an important part, which we were able to conclude from the observation of a case in which the phrenic nerve had been injured during laryngectomy. On this side no reflex could be called forth, while it was very clear on the other side.

We may conclude from our experiments that the normal state of the nasal mucous membrane and the normal permeability of the nostrils is an essential condition for the easy progress of the nasothoracic reflexes. Damaging of the mucous membrane or an impediment in the permeability of a nostril signifies a lessened reflex-sensitiveness of the corresponding side of the nose. Decrease of sensitiveness in one side of the nose further leads by reflex action to a lagging behind in the expansion of the corresponding side of the lungs.

AUTHOR'S ABSTRACT.

Hydrogen-ion Concentration in Chronic Sinus Suppuration. R. MITTERMAIER. (*Zeitschrift f. Laryngologie, Rhinologie, etc.*, July 1930, Band 19, p. 390.)

High values of pH indicate an alkaline medium, low values an acid one. The author has tested the nasal secretions of patients who suffered from various forms of sinus suppuration. When the inflam-

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mation is of the chronic catarrhal type with mucoid, stringy secretion, the pH value is high; when purulent changes supervene the pH value becomes less, *i.e.* there is a change towards the acid side.

These observations have a certain practical value. When the nasal secretions are frankly purulent (*i.e.* acid), alkaline lotions are particularly indicated for irrigation as they relieve pain. Hajek has found that good results with silver nitrate solutions are only observed in patients whose nasal secretions are definitely mucoid in character.

J. A. KEEN.

Rhinotamponator: An Apparatus for Packing the Nose without obstructing Breathing. N. ÉRCZY. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, July 1930, Band 19, p. 430.)

When both nasal cavities have to be packed in order to control hæmorrhage the complete obstruction of the normal air-way is very trying for the patient. The apparatus overcomes this difficulty. It is a small rubber balloon which resembles the nasal cavity in shape. Inside the appliance is a tube of hard, non-collapsible rubber through which the patient breathes. When both tamponators are in position and inflated there is perfect control over any bleeding; from each nostril of the patient two tubes project:—

- (1) A thin flexible rubber tube through which the balloon has been inflated; this tube has a clamp on it or it has been tied with a silk thread, and can be fixed back to the cheek.
- (2) The short stumpy end of the breathing tube.

The illustrations of the apparatus are very clear. J. A. KEEN.

The Relief of Nasal Obstruction in Children due to Deviation of the Septum. WILLIAM WESLEY CARTER (New York). (*Annals of Otology, Rhinology and Laryngology*, March 1930.)

The author discusses the real danger of post-operative deformity, stating as his belief that those who say that the nose of a child is not injured by a submucous resection have either not removed enough of the septum to interfere with development, which is a legitimate and laudable procedure, or have expressed their opinions prematurely.

The construction of the nasal eminence and the part played in this by the elevating forces transmitted through the septum and the nasal processes of the superior maxillæ, is discussed. The clinical evidence that the septum is a prime factor in the development of the adult nose is overwhelming; what then is to be done with a child who has a pronounced nasal obstruction due to deviation of the septum? In cases due to recent traumatism, the author uses a nasal moulding forceps of his own making. He has also a bridge splint.

Nose and Accessory Sinuses

In cases of long-standing, the author has been operating for the past six years by the method described in this paper. No deformities have followed operation.

The object of the operation is to remove a very narrow strip of septal cartilage. This strip constitutes the apex of the deflection, and on its removal the upper and the lower remaining segments of the septum, having been mobilised by incisions, one above following the line of the dorsum of the nose, the other along the floor of the nose, are lined up vertically. The septum then consists of an upper and lower ribbon-like segment of cartilage (and bone, if vomer and ethmoid are involved). Between these two segments is a slight interval corresponding to the apex of the deflection which has been removed as described. Both segments remain attached to the perichondrium of the concave side, which has not been perforated, the mucoperichondrium on the convex side only having been elevated. The septum is lined up in its vertical position and gold wire splints inserted.

N. RANKIN.

The Nature of Nasal Polypi. VON S. PODVINEC. (*Oto-laryngologia Slavica*, 1930, Vol. ii., F. 1.)

Nasal polypi are pathological overgrowths of the nasal mucosa arising from preformed reduplications found in certain typical situations around the ostia of the accessory sinuses. The so-called antro-choanal polypi vary only in size and form from ordinary polypi. All stages of transition to ordinary polypi may be found. They do not outgrow the sinuses.

Nasal polypi are a product of catarrhal inflammation and not necessarily of sinus disease, though extensive polypi are generally accompanied by chronic pansinusitis.

The clinical picture is determined by anatomical abnormality, without which even the most obstinate catarrh will not cause polyposis.

If the inflammation persists, polypi may relapse as long as there are any reduplications of the mucosa extant around the ostia of the accessory sinuses, but patients will remain free if these are removed along with the polypi.

E. J. GILROY GLASS.

The Treatment of Rhinoscleroma by Chemical Agents. K. SZUMOWSKI. (*Zent. f. Hals-, Nasen- und Ohrenheilkunde*, 1929, xiv., 321.)

The author describes the results obtained with different drugs in a series of 22 cases which he had under observation during the last two years in the Oto-Laryngological Clinic at the University of Lwow. Intramuscular injections of luatol, bismuth-quinine-iodate, neoarsenobenzol, quinine, and argocrome, all seemed to have some good effect,

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and, on the whole, their action was safe. The least therapeutic effect appears to have been produced by the argocrome.

Luatol injections produced considerable moistening of the mucosa with diminution of crusting and of the characteristic scleroma smell. At the same time, there was gradual diminution of the infiltration with improvement of the hoarseness and other signs of stenosis. Bismuth-quinine-iodate did not appear to effect the infiltrations, and the hoarseness and signs of stenosis were uninfluenced. A combination of luatol with bismuth-quinine-iodate acted well, and produced no general or local reaction.

During the time that the patients have been under observation, the improvement seems to have been maintained. It is essential to keep a close watch on the oral mucosa and kidneys during treatment; the appearance of albuminuria is a contraindication to further injections.

F. W. WATKYN-THOMAS.

Rhinoscleroma in Roumania. N. J. METIAMI, and V. TEMPEA.
(*Zent. f. Hals-, Nasen- und Ohrenheilkunde*, xiv., 320.)

The authors circulated a questionnaire to all Roumanian dermatological and laryngological clinics in order to ascertain exactly the extent of rhinoscleroma infection in the country. As a result of their inquiry they are able to quote some 36 cases; in most of these the clinical diagnosis had been confirmed by bacteriological and histological examination. The majority of these cases came from the northern provinces of Roumania, especially Ardeal, Maramuresch, and Bukovina; it must be recognised that scleroma is endemic in some areas in these provinces.

In their paper the authors discuss fully the clinical aspects, bacteriology, pathological anatomy, differential diagnosis, and treatment of the condition, and conclude by urging the Roumanian Government to take prophylactic measures against any further extension of the condition in the country.

F. W. WATKYN-THOMAS.

The Skin Reaction in Rhinoscleroma. L. ABRMOWICZ and ANDRZEJ BIERNACKI. (*Zent. f. Hals-, Nasen- und Ohrenheilkunde*, xiv., 320.)

As a result of their researches these authors regard the skin reaction with the toxin of Frisch's scleroma bacillus as a specific reaction for rhinoscleroma. Dilutions of the toxin within limits of one twenty-fifth—one fiftieth to the one hundredth usually give only slight skin reactions. Extension of the sclerotic infiltration and the involution following treatment by X-rays alike cause no change in either direction in the intensity of the skin reaction. They conclude that this allergic reaction proves the specificity of Frisch's bacillus in rhinoscleroma.

F. W. WATKYN-THOMAS.

Larynx and Trachea

LARYNX AND TRACHEA.

The Use of Electrically-heated Bougies in the Treatment of Post-diphtheritic Cicatricial Stenosis of the Larynx. W. H. JOHNSTON (St Louis). (*Annals of Otology, Rhinology, and Laryngology*, December 1929.)

For many years urologists have used heat to aid them in the treatment of strictures of the urethra. In 1921, L. W. Dean reported results of treatment of strictures of the œsophagus with electrically-heated bougies. In 1929, at the suggestion of Dr Dean, this treatment was tried in cases of laryngeal stenosis.

A small sized metal dilator is passed first, and then the heated bougie is inserted and left in place for fifteen minutes or more if possible. Temperature is kept at about 50° C. Successively larger metal dilators are then passed under direct inspection. Final results depend on the integrity of the cartilage framework of the larynx, especially the cricoid. Reports on two cases are given.

N. RANKIN.

The Cause and Treatment of Cicatricial Stenosis of the Larynx. M. F. ARBUCKLE (St Louis). (*Annals of Otology, Rhinology, and Laryngology*, March 1930.)

The paper gives a full list of references to papers by numerous authors on the treatment of this condition. It calls attention to the most frequent causes of stenosis, discusses the possibilities of avoiding it, and describes methods now employed in treating these cases. Arbuckle, following the method of Gillies for prevention of contraction of reconstructed noses by supplying a proper lining, set out to reconstruct and reline the larynx. He has had four cases, three of which were successful, and in the fourth the treatment failed on two occasions. The procedure is to do a laryngofissure and clear out all the scar tissue from the lumen of the larynx. A piece of sea sponge, cut to fit this trough snugly, is covered with a Thiersch graft and placed in position. A through-and-through suture is placed in position and the larynx closed. In eight days the stay suture is removed and the sponge withdrawn by direct laryngoscopy. No further treatment has been necessary. In the fourth case which did not succeed, there remained sufficient lumen to admit passage of a small bougie. Treatment was then tried by means of electrically-heated bougies (see Abstract above) with considerable increase in the lumen of the larynx. The author adds that he has no doubt that this will prove to be an important adjunct in the treatment of lesions of this nature.

N. RANKIN.

Abstracts

Primary Lupus in the Larynx. C. BRUZZONE. (*Bollettino delle Malattie dell'Orecchio della Gola e del Naso*, June 1930.)

Cases of lupus of the upper air-passages are described in which lesions were primary and solely in these regions. These cases included two cases of primary lupus in the larynx. The author suggests that primary cases in the larynx are not so rare as is often thought, and quotes Cambrelin, who related eleven such cases at the recent Belgian Congress.

The author's two cases have been under observation for eight and ten years and were only diagnosed with difficulty owing to the lack of dysphagia. Eventually there appeared some fine cicatricial areas accompanied by granulations, and these, when examined histologically, were shown to be lupoid in nature.

The author has found that for lupus of the nose and the pharynx the galvanocautery is the most useful method of treatment, but in the larynx he finds that radiotherapy gives the best results.

F. C. ORMEROD.

Tracheal Lesions in Cases of Pulmonary Tuberculosis. P. CALICETI. (*Bollettino delle Malattie dell'Orecchio, della Gola e del Naso*, June 1930.)

The author has examined the tracheas of fifteen cases of fatal pulmonary tuberculosis. In three of these cases the larynx was macroscopically infected, but in none of them was the trachea obviously involved. From each trachea three series of serial sections were made from different levels, and in eight definite tuberculous infection of the tracheal mucosa was found.

In these cases there was a simple infiltration of the subepithelial tissue and in several an early ulceration of the surface epithelium. The author suggests that this combination of subepithelial infiltration and overlying ulceration is indicative of the manner in which tuberculous ulceration in the air-passages begins.

F. C. ORMEROD.

PHARYNX.

Contribution to the Study of the Physiopathology of Deglutition—The Sign of the "Pomum Adami." DR LEDOUX (Brussels). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1-2.)

(1) The greater number of the muscles of the pharynx are from their mode of insertion elevators of the larynx. There is a posterior group of elevators and an anterior.

(2) The lifting up of the larynx he believes to constitute the most important movement of the whole mechanism of deglutition.

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(3) The muscles which take in hand this function of elevation are not directly visible. Their insufficiency is disclosed by observing the movements of the *Pomum Adami* during deglutition.

(4) The disturbances of the rhythm of raising; the failure to separate from the cervical column; the dragging to one side of the *Pomum Adami*, serve to measure and to interpret the functional insufficiencies of different parts of the elevator system.

(5) The sign of the *Pomum Adami* offers a semeiological value of great importance in nervous pathology particularly in afflictions of the medulla.

(*Translation of Author's Conclusion.*)

H. V. FORSTER.

Bacteriology of the Tonsils in Relation to Rheumatism in Children.

DAVID NABARRO and R. A. MACDONALD. (*Brit. Med. Journ.*
26th October 1929.)

The different strains of streptococci were studied from a series of tonsils of rheumatic and non-rheumatic children; the results show that the organisms obtained from the rheumatic do not differ materially from those obtained from the non-rheumatic. After discussing the various views on the bacterial cause of rheumatism, the authors conclude that this absence of difference agrees with the theory that there is no specific streptococcus which is the cause of rheumatism, but that the condition is due to a hypersensitiveness resulting from repeated small doses of the toxin. The tonsil is probably one of the foci from which these toxins may be absorbed, and it is therefore concluded that, in spite of the lack of difference mentioned between the rheumatic and the non-rheumatic, tonsillectomy in rheumatic cases is probably a valuable prophylactic and therapeutic measure. An extensive bibliography is published with the article.

R. R. SIMPSON.

Pharyngitis Lateralis. M. SUGANO. (*Zeit. f. Oto-Rhino-Laryngologie*, Band xxxiv., 1928-1929, p. 32.)

The author discusses the question of pharyngitis lateralis, and comes to the following conclusions:—

1. The thickened lateral column is found not only when the tonsils are pathologically enlarged, but also with normal tonsils and hypertrophy of Waldeyer's pharyngeal ring.

2. The principal cause of hypertrophy of the lateral column is the accumulation of lymphocytes and the formation of follicles; in addition the mucous glands play a certain part.

3. In the lateral column the mucous glands may form large groups, with loose subepithelial connective tissues and abundant vessels. On

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the other hand, in the small lymph follicles of the posterior pharyngeal wall, there are few scattered mucous glands and little subepithelial tissue.

4. The lateral column reaches its maximum development at puberty and then gradually diminishes. As a general rule, regression begins earlier in women than in men.

5. The presence of a markedly swollen lateral column is frequently associated with a hypertrophy of the opposite tonsil.

6. Symptoms of acute lateral pharyngitis closely resemble those of inflammation of the pharyngeal tonsil. Radiating pain to the ear is especially common in this condition. Acute lateral column inflammation is sometimes seen in the acute rhinopharyngitis of sucklings.

7. The swollen lateral column produces a variety of local effects, reflex neuroses, and disturbances of hearing. As a general rule, the patient refers the symptoms to the spot where the superior laryngeal nerve traverses the thyrohyoid membrane.

F. W. WATKYN-THOMAS.

Tonsillectomy at the Clinic at Zagreb. J. FURLAN. (*Oto-laryngologia Slavica*, March 1930, Vol. ii., F. 1.)

The view of the clinic at Zagreb is disclosed with a description of technic and complications. Dissection is preferred and carried out under local in adults and open ether in children. In a series of 2812 cases, the following complications arose:—

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|------------------------------|---|
| Hæmorrhage | 21 cases (20 slight, 1 severe necessitating ligature of the external carotid artery). |
| Temperature | 10 cases. |
| Scarlatina | 9 cases (the result of an epidemic). |
| Acute otitis media | 6 cases. |
| Syncope | 1 case (following injection of novocaine). |
| Death | 1 case (status thymico-lymphaticus). |

E. J. GILROY GLASS.

The Act of Swallowing. K. GRAHE. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, July 1930, Band xix., p. 405.)

In his researches on the physiology of swallowing, Dr Grahe uses an apparently original method. Fluids of semi-solid consistency are coloured with methylene blue. Immediately after the patient has swallowed a mouthful, one makes a laryngoscopic examination, and the blue coloration of the mucosa shows the pathway of the bolus of food. One sees a narrow strip of colour along the dorsum of the tongue in the anterior two-thirds, but a diffuse staining of the posterior portion. Then the stream of food goes to one or other side of the

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epiglottis, but the *upper margin* of this structure never shows any staining. The pyriform sinus shows the blue coloration, either right or left; rarely both, but always more on one side than the other. When small coloured tablets (Oblaten) are swallowed, the staining is always definitely on one or other side. The side on which a person "swallows" remains practically always the same for that individual. Of 41 patients, 17 swallowed on the left side, 21 on the right; in 2 the side varied, in one doubtful. There seemed to be no particular relation between the side of the mouth on which a person habitually chews his food and the route past the epiglottis which will be used in the act of swallowing.

J. A. KEEN.

MISCELLANEOUS.

A Method of Determining the Value of Surface Anæsthetics in the Human Subject. L. HIRSCH (Heidelberg). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxv., Part 1, p. 98.)

A thistle-prickle or a very fine steel needle-point is fastened to the point of a pig's bristle and pressed against the surface to be tested. The resistance of the bristle was measured by the weight required to bend it. Numerous bristles thus prepared were standardised as bending with pressure of $\frac{1}{2}$ a gram, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25 and 30 grams. The back of the pharynx was sprayed with the anæsthetic to be tested and the "gram value" of the bristle perceived noted from second to second. From the figures thus obtained curves could be constructed showing the rise of anæsthesia, the apex and the decline.

JAMES DUNDAS-GRANT.

A Study of the Simple Cold. Dr BOVYS (Beziers). (*Archives de Laryngologie*, March 1930.)

Too much emphasis has perhaps been laid on the organisms responsible for coryza and too little on the soil which they infect.

In the normal state there is an equilibrium between the loss of heat caused by the air passing over the nasal mucous membrane and the heat produced by internal combustion. Should exposure to cold upset this equilibrium the mucous membrane of the nose will show stasis and congestion. A vicious circle is set up, and evaporation will be still further diminished with the outpouring of mucus. Organisms hitherto saprophytic in the nose find a warm and moist habitat in which to develop, and the inflammatory stage is thus initiated.

When discussing the treatment, the author holds decided views against massive lavage of the nose with saline solutions. He also

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deprecates the use of so-called antiseptic—but really irritative—nose sprays and powders.

In recommending the following line of treatment, he states that a cold taken in its early stages will be aborted within a few hours.

The nasal mucous membrane is first lubricated with

Vaseline, 20 grams. Argyrol, 0.20 gram.

Essence of geranium, 11 drops.

Both nasal fossæ should be kept well stuffed with this ointment. At the same time, the neck should be painted with tincture of iodine, or, in the case of ladies, thermogen wool may be applied.

If there are any signs of tonsillar congestion, the throat should be painted with methylene-blue, 1 in 30.

Finally, internal medication in the form of capsules of atropin sulphate— $\frac{1}{10}$ milligram—6 to 10 capsules per diem, should complete the cure.

The Examination of the Respiratory Function. A. SERCER.

(*Oto-laryngologia Slavica*, March 1930, Vol. ii.)

In this preliminary paper, the author describes his progress towards establishing a clinical method of examining the respiratory function. He considers the rhinomanometer of Beyne and Wormes to be the most useful clinical method of measuring the nasal capacity, but the original scale is not sufficiently accurate; accordingly he has modified it so that each millimetre of the column of water is represented by 0.5 cm., thus enabling a more accurate reading to be taken.

He also found that the original method of Wormes did not give infallible results, as holding a cannula in the mouth altered the respiratory rhythm, and abandoned the method, relying entirely on measuring the pressure in each nostril separately. This method he calls “contralateral rhinomanometry,” and by trial with models of the essential elements of the respiratory apparatus he has proved that this method gives satisfactory results in practice.

By measuring the thoracic movement in a number of patients, he found a definite relation between the movement during nasal and buccal respiration; this he calls the naso-thoracic index which, in a healthy subject, is always over 1. That is to say, that nasal respiration is normally more efficient than buccal. The naso-thoracic index is below 1 when the total nasal pressure exceeds 60 mm., equal to 1 when the pressure varies between 45 and 60, and over 1 when the pressure does not exceed 45 mm.

Nasal pressure depends not only on the nasal capacity but also on respiratory intake and frequency, as these increase the nasal pressure rises. On the other hand, as the respiratory intake increases the

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frequency decreases, whilst nasal pressure rises correspondingly with increase of intake. It is therefore not necessary to know the respiratory intake in order to judge the pulmonary ventilation.

E. J. GILROY GLASS.

"Rush" Inoculation. JOHN FREEMAN. (*Lancet*, 1930, vol. i., p. 744.)

The author outlines the history of desensitisation of hay-fever patients, with special reference to the "leisurely" method introduced by him, with Noon, in 1909. The anti-anaphylaxis method of Besredka suggested the "Rush" method, in which injections are given every hour and a half to two hours throughout a fourteen-hour day, whereby a "very satisfactory course" can be done in from two to four days, the patient being in a hospital or nursing home.

The advantages claimed for the method are:—

1. Saving of time.
2. Greater convenience.
3. Patient kept continuously under observation.
4. More exact adaption of doses to the particular needs of each patient. Successful and safe results, however, need caution as with other methods.

MACLEOD YEARSLEY.

REVIEWS OF BOOKS

The Mechanism of the Larynx. V. E. NEGUS, with an Introduction by Sir Arthur Keith. Heinemann (Medical Books) Ltd. Pp. 528.

Everyone who is familiar with the remarkable research in which Mr Negus has been engaged for so many years will welcome this book. It would be difficult to over-estimate its value and importance. Of its author, Sir Arthur Keith says in his introduction that "he has laid a new foundation for all we know concerning the larynx and of the varied rôles which that organ plays in the vital functions of the living body. It is a foundation on which all subsequent inquirers will be content to build."

The book sets forth in much detail, but in an interesting and readable form, the results of researches extending over some ten years, carried out principally at the laboratories and gardens of the Zoological Society and at the Royal College of Surgeons of England.

Some idea of the magnitude of the task which the author set himself, may be gathered from the fact that he gives at the end of the book all relevant details of the habits and structure of upwards