Abstracts

Hydrorrhœa nasalis.—E. ERTL.

A patient was shown who had been brought before the Society two years ago and whose history could then be shortly summarised as follows:

For the last few years several attacks of bronchitis and asthma. In *March*, 1929 the patient noticed for the first time a remarkable watery flow from the right side of the nose, which lasted for two weeks and then spontaneously ceased. Since then he had had slight recurrences, but for the last four weeks there had been an uninterrupted flow. On examination at the Out-Patient Department, there was a watery discharge from the right nostril at the rate of about 20 drops a minute. A small grey polypus could be seen arising from the anterior end of the middle turbinate. Comparative examination of the cerebrospinal fluid and the fluid from the nose showed that they were almost completely alike, and some time after a second lumbar puncture the rhinorrhœa ceased spontaneously, without the intervention of any other treatment.

The patient had now had two years' freedom from this condition and five days previously had reported himself with the complaint that once more a marked flow had occurred. The offer of a lumbar puncture was now declined by the patient. Calcium was therefore given per mouth, but without result.

The day before the meeting, calcium had been injected intravenously for the first time, and the nasal secretion at once ceased, but re-commenced in two hours' time, although diminished in amount.

If the patient would agree to lumbar puncture again the result would be reported to the meeting.

ABSTRACTS

EAR

Anatomy of the Eighth Nerve. The Central Projection of the Nerve-endings of the Internal Ear. R. LORENTE DE NO. (*Laryngoscope*, 1933, xliii., 1-38.)

The author remarks that, although in the consideration of the theories of hearing much work has been done on the physics of the cochlea, little attention has been paid to the central mechanism. If any of the resonance theories are correct, each point of the cochlea must have individual fibres all along the tract. Exact knowledge of the tracts is even more important for any of the "telephone" theories, for the analysis must be central. The

problem offered is, then, whether individual fibres for different regions of the cochlea are present in the audition tracts.

Pfeiffer, using the myelinisation method, found that the acoustic radiation has a regular fibre arrangement and suggested an anatomical projection of the geniculate body. Poljak has partially confirmed this by destroying portions of the auditory cortex and has found degeneration limited to circumscribed areas of the geniculate body. The next step—projection of fibres from the acoustic nuclei on the geniculate body—has never been proved. In the first part of this paper de No describes his work on the projection of the fibres from the cochlear ganglion on the acoustic nuclei.

His conclusions may be summarised thus :

1. The cochlear ganglion is projected on the acoustic nuclei, and every part of the organ of Corti is projected on several parts of the nuclei.

2. Shortly after entering the medulla the cochlear fibres divide into ascending and descending branches ; the points of division of the fibres, if projected on a longitudinal plane, form an arc that is the caudal boundary of the ventral nucleus. This line is a projection of the uncoiled organ of Corti in such a form that the highest point of it corresponds to the apical and the lowest to the basilar part of the ganglion.

3. Owing to the existence of different kinds of endings, the cochlea is not projected " point like " in the primary acoustic nuclei, because each point of the cochlea is represented several times.

4. Since the cochlea coils itself in development, the nerve trunk becomes twisted, and each fibre shows, in relation to the axis of the nerve, as many turns as that part of the cochlea which it innervates ; " the ganglion migrates with the apex of the cochlea."

In the second part of his paper, de No deals with the vestibular fibres on the same lines. He admits the incompleteness of our data as to the central pathways to and from the vestibular nuclei, but the facts he gives are of the greatest importance.

In the first place, it has been assumed by Jones and others that fibres from each of the three canals have a different course in the medulla. On this assumption an imposing edifice of diagnostic signs has been erected ; de No finds no anatomical support for this belief. It is true that there are two tracts of fibres, but they run parallel and the two groups do not represent different canals but groups of thin and medium fibres for the one, and thick and medium fibres for the other ; all canals being represented in each group. As well as these two groups, there is a group from the saccular macule, a group from the utricular macule, and a fifth

group which may arise from the central part of the cristae or from another region of the utricular macule.

The fact that all groups have a partly common and partly different central representation in the nuclei must be taken as evidence that the labyrinth works as a whole.

Lastly, although no static changes that can be detected follow the destruction of the saccule, the saccule must be regarded as sharing in vestibular function and has no connection whatever with the acoustic tracts.

F. W. WATKYN-THOMAS.

Concerning Deep Osteitis of the Petrous Apex. H. ALOIN. (*Les Annales d'Oto-Laryngologie*, February, 1933).

Lesions of the petrous apex, though recognised for a long time, have only recently been made the subject of a complete study, both from the anatomo-clinical as well as the therapeutic point of view. However, there are still many difficulties to be overcome, especially as regards treatment, before the problem can be said to be wholly solved.

The author, in the light of these observations which he records in detail, wishes to draw our attention to certain symptoms and to several reflections which his cases have suggested. These lesions occur in the pneumatic type of petrous. The micro-organism is of secondary importance, and the torpid forms of infection show the greatest tendency to reach the peri-labyrinthine cells for the reason that, owing to the absence of clinical signs, they are as a rule operated upon late. The tympanic membrane, even after incision, may give little evidence of the underlying infection. The violent pains of a neuralgic character, most marked at night, characterised by their orbito-ocular localisation and the presence of vertigo, indicate the reaction to the neighbouring inflammation. Usually a simple antrotomy suffices to bring about alleviation of symptoms. On the other hand, a recurrence of symptoms accompanied by an abnormal discharge of pus usually signifies that the infection has travelled deeply towards the petrous apex, and then fresh and more extensive intervention is usually required, such as that described by Ramadier.

L. GRAHAM BROWN.

Cases of Aural Vertigo amenable to Treatment by Ossiculectomy. SIR JAMES DUNDAS-GRANT. (*Lancet*, 1,033, ii., 1,029.)

The writer describes twelve cases of auditory vertigo, due in eleven to suppuration, in one to ossicle fixation (cause not stated), in which the vertigo was relieved by the performance of the operation of ossiculectomy. In four cases a cholesteatomatous condition

was present. The cases range over a quarter of a century in time. Other aural surgeons have found the operation useful in selected cases and, although possibly a little "out of date" in the rush for novelties, it has really merely fallen into its proper place as an operation of selection. The abstractor has certainly found it of service in certain isolated cases.

MACLEOD YEARSLEY.

A Contribution to the Study of the Professional Factor in the Ætiology of certain Cases of Deafness. JACQUES TEMKINE. (*Acta Oto-Laryngologica*, xix., fasc. 1.)

According to the insurance law of the U.S.S.R., subjects who are invalided because of deafness as a result of their profession, are entitled to a pension.

Employees or workers expected to make such claims are those who are occupied under noisy conditions. Amongst these are rivetters, workers in nail and scythe factories, and radio-telegraphists, but the list might advisedly include workers in other noisy occupations, for instance, those in charge of aero-engines, as these suffer even more from deafness. The case discussed in this article concerns an occupation not often supposed to give rise to deafness.

The Bureau of Medical experts on a certain occasion had before them a case of deafness in the leader of an orchestra. This patient, aged 42 years, came of a musical family, grew enthusiastic about the study of music at an early age and, after becoming expert as an oboe player, rose to conduct an orchestra, a position he held for sixteen years, until one day at a performance of "Aïda" he became suddenly deaf. At the end of five years, during which many forms of treatment had been tried, his condition showed no improvement. A functional examination revealed extreme deafness with absent bone conduction for the monochord, though he perceived vibrations by air when past the 15,000 per second range. The caloric test was negative, though there had never been any symptoms of giddiness. No evidence of syphilis could be obtained.

The possible causes of the deafness in this case are fully discussed, and the opinions of the various expert members of the Medical Board are given.

There appears, however, to be a general opinion that the patient's hearing apparatus had previously become enfeebled, first of all because of a history of measles, scarlet fever, typhoid and typhus in early life, and cerebrospinal meningitis at the age of 14, and later, because of his choice of a wind instrument, the oboe. Injury to the labyrinth contents or the auditory nerve was supposed to take place from vascular congestion in wind

instrument players. The question of hysteria appears to have been discounted.

Referring again to the more common cases of deafness in workers in the noisy trades, the writer draws attention to the fact that many healthy workmen withstand deafness for a number of years but others, whose hearing fails earlier, are probably constitutionally liable to failure of the organ of hearing from infections and intoxications, or have already incipient defects in the auditory apparatus.

H. V. FORSTER.

Otosclerosis in a Seven Months' Fœtus. LOUIS K. GUGGENHEIM. (*Annals of O.R.L.*, 1933, xlii., 690.)

The earliest cases of histological otosclerosis previously reported are two at five years (Siebenmann, and Mayer) three-and-a-half years (Manassé, 1915), and one year and ten days (Guild, 1930). The present case is recorded with micro-photographs and is to be reported fully at a later date.

E. J. GILROY GLASS.

NOSE AND ACCESSORY SINUSES

A Case of Fistula of the Midline of the Nose. E. KHARCHAK. (*Acta Oto-Laryngologica*, xix., fasc. 1.)

Median nasal fistulae are rare and there is not a great deal of information to be found in the literature concerning them. They occur on the bridge of the nose and do not communicate with the nasal cavity, they give forth a mixed greasy secretion composed of cholesterin and hairs, and the hairs projecting from the orifice may be very disfiguring. After obliteration of the orifice, retention cysts may form and become inflamed, causing swelling and suppuration.

Operative treatment may be disappointing and recurrences follow. These fistulae have been described as primitive and secondary. The former take origin in an embryological branchial cleft which has failed to close. The latter result from the rupture of a dermoid cyst. Diverticula are not uncommon. Careful excision of the whole track with its surrounding connective tissue is the operation of choice. Cauterisation or curettage are not expected to be successful.

A case is described of a patient, aged 32. Two photographs illustrate well the condition of the patient immediately before and after the excision of the fistulous track. A cosmetic result which exceeded expectations was seen some months later.

H. V. FORSTER.

Abstracts

LARYNX

Contribution to the differential diagnosis of Laryngeal Syphilis. J. FISCHER. (*Acta Oto-Laryngologica*, xix., fasc. 1.)

Tertiary syphilitic lesions in the larynx are not very common. Hofer distinguishes five forms:

1. Gummatous infiltrations.
2. Gummatous nodules.
3. Gummatous ulceration.
4. Perichondritis and chondritis.
5. Cicatrices resulting from syphilis.

Klestadt's classification recognises three main varieties of lesion:

1. Inflammatory new formations.
2. Necrosis of the tissues constituting these formations.
3. Their transformation into scar tissue.

Fischer, however, offers a further sub-division of the inflammatory new formations:

(*a*) Diffuse, circumscribed or generalised infiltrations.
(*b*) Circumscribed infiltrations with small or large nodules.
(*c*) Primitive perichondrial infiltrations.

The writer has this group of new formations in view when proceeding to describe his case of a man, aged 62 years, with a history of syphilitic infection fifteen years ago, which had not been adequately treated. On admission to hospital he was found to be suffering from considerable tumefaction of the ventricular band and ary-epiglottic fold on the left side. Following an injection of salvarsan, a certain degree of respiratory stridor increased and necessitated a hurried attempt at tracheotomy, but only a cricotomy could be carried out in time, and he succumbed after a second operation to perform an adequate tracheotomy.

At the *post mortem* the pathologist described what appeared to be carcinoma of both vocal cords with laryngeal stenosis, but on microscopical examination of the overgrowth there was no sign of cancer, only an infiltration with masses of plasma cells and a hyperplasia of the epithelium. With these findings in the presence of a doubly positive blood Wassermann a probable diagnosis of laryngeal syphilis was made. The views of a number of writers concerning syphilitic new formations are discussed, but it is recognised that such clinical pictures of laryngeal syphilis are not likely to be seen so often nowadays because the disease is more energetically and thoroughly treated.

These hyperplasias resembling new formations are probably the result of prolonged irritation from attenuated spirochætal infection, the organisms acting as foreign bodies in tissues which have acquired a certain degree of immunity. An excellent coloured

picture of the *post mortem* specimen of the larynx and also a micro-photograph are shown.

H. V. FORSTER.

Fractures of the Larynx. H. O. GARDNER. (*Archives of Oto-Laryngology*, October, 1933, xviii., No. 4.)

The larynx is not easily fractured, owing to its mobility and the protection afforded by the chin. Hoffmann collected 140 cases in 1898 and the present writer has been able to collect sixteen more.

The age at which calcification appears in the cartilages of the larynx is very variable. The thyroid cartilage may begin to calcify at the age of 25 years, the cricoid cartilage five years later. In about half the reported cases, the thyroid is the cartilage affected.

Compression by throttling is one of the most common causes of fracture, and striking the neck against a hard object in falling forward is also a frequent cause.

Pain is usually the first symptom, and tenderness and swelling appear early. Dyspnœa is usually present, and hæmoptysis is common although as a rule it is not severe.

The diagnosis may be a matter of conjecture and radiography may not reveal the fracture. Prognosis must be guarded. The early observers stated the mortality to be 70 to 80 per cent. but recent statistics are more favourable. Many patients require a permanent tracheotomy, and almost all have an impairment of voice for the remainder of their lives.

While palliative treatment, such as rest of voice, sedatives, local application of ice, etc., may occasionally be warranted, tracheotomy is necessary in the majority of cases and should not be too long delayed. Dyspnœa may appear suddenly when the patient appears to be recovering and it is better to perform an unnecessary tracheotomy than to risk a fatal termination for the want of it. Emphysema, swelling and hæmorrhage may increase the difficulty of the tracheotomy.

In some cases laryngofissure permits reduction of the fractured cartilage and suture of lacerations. Laryngostomy is indicated when stenosis seems certain or has already occurred.

DOUGLAS GUTHRIE.

TONSIL AND PHARYNX

Hæmorrhage from Pharyngeal and Peritonsillar Abscesses. SAMUEL SALINGER and S. J. PEARLMAN. (*Archives of Oto-Laryngology*, October, 1933, xviii., No. 4.)

This grave complication is not so infrequent as might be supposed, as numerous isolated case reports have been published. A comprehensive review of the subject appears to be desirable and

the writers of this paper describe ten cases personally observed (six fatal) and give a detailed analysis of 231 cases recorded in literature. Abnormal tortuosity of the internal carotid artery is not uncommon. True carotid aneurysm is rare, but false aneurysm, the result of septic infection of the arterial wall, is a frequent cause of hæmorrhage from an abscess of the pharynx. An analysis of the results appears to illustrate the advantage of ligation of the carotid artery. Although ligation of the common carotid artery is frequently followed by serious cranial complications due to the sudden anæmia of the brain, this is a risk which must be faced when one is confronted with a serious case of hæmorrhage, and the possible advantages outweigh the disadvantages. A detailed account of the recorded cases is given in tabular form.

DOUGLAS GUTHRIE.

ŒSOPHAGUS AND ENDOSCOPY

Some attempts at determining the Volume and Function of each Lung separately. H. C. JACOBAEUS, P. FRENCKNER, and S. BJÖRKMAN. (*Acta Medica Scandinavica*, 1932, lxxix., 173-215.)

In this preliminary paper the authors describe a new method of physical examination of the lungs which they have named "Broncho-Spirometry". By this method, which depends on a combination of bronchoscopy and spirometry, they have estimated the volume, degree of ventilation, and gaseous exchange of each lung. Thus, for the first time, a method has been devised which supplies accurate information as to the function of each lung, just as cystoscopy and ureteral catheterisation do for each kidney.

Spirometry alone gives only the total gaseous intake and exchange of both lungs together; thus it is impossible, for example, to decide whether or not one lung is completely collapsed. In order to separate the two lungs, a special bronchoscope is necessary. At first a Jackson's tube was used, with a "window" stopper at the proximal end, an air outlet to the spirometer, and a circular rubber band-cap close to the distal end, which could be inflated from without and thus render the contact of the tube and bronchus airtight. An improved pattern is now used with a flexible inner tube which is passed into one main bronchus. This bronchus is blocked by inflation of the rubber cap, and the trachea is blocked by the cap around the outer tube. Thus both lungs can be examined simultaneously; one through the inner tube, the other through the main tube, each of which is connected with its own spirometer.

In the paper eleven cases are reported and the authors' summary is so temperate and judicious that it is worth reporting *verbatim*. "Such a method is indisputably of great theoretical interest . . . It would seem that the possibilities of probing deeper into the normal and pathological physiology of the lungs might become considerably enhanced by the aid of such a method. Pathological processes in the lungs present such great variations in respect to localisation and spread that one would expect *a priori* to be able to make practical use of a method such as the above, providing of course that the technical procedure can be developed and be made relatively simple and, at the same time, harmless to the patient."

F. W. WATKYN-THOMAS.

MISCELLANEOUS

Agranulocytosis of possible Medicinal Origin accompanied by Skin Eruption. H. VIDEBECH. (*Acta Oto-Laryngologica*, xix., fasc. 1.)

Opinions still differ considerably as to the nature of agranulocytosis. Some deny that it is an independent malady and believe that it is a reaction of the bone marrow in individuals who are constitutionally sensitive to various noxious influences. The majority, however, consider agranulocytosis in its primitive typical form to depend upon a grave septic infection. A secondary or symptomatic form might be added which may be related to malaria inoculation, typhoid vaccination, intoxications from medicaments (for example, salvarsan or bismuth), and, finally, from the influence of X-rays and radium. The benzole content of salvarsan is probably the noxious factor and industrial benzole poisoning is known to attack the hæmopoietic system. The writer discusses examples of these occurrences and he thinks that drugs in which the benzene ring forms an important part of their structure are important in this respect, and possibly contribute to the occurrence of agranulocytosis.

The case described is that of a man of 62 years of age, admitted to hospital with fever, joint pains, inflammation of the fauces with œdema of the uvula, who exhibited a prurigenous rash with icterus.

Next day the appearances of the throat had advanced and showed œdema of the right tonsil and some membranous patches. Blood culture was negative, but the blood picture showed a manifest agranulocytosis. X-ray irradiation of the long bones was followed by recovery, and the patient eventually left hospital in excellent health.

It was found on examining the case history that, because of gouty pains in the upper and lower limbs, the patient had been in the habit periodically for two years of taking one grain of aspirin three times a day, but for the last two months he had also taken three tablets of Sedatyl every day. He was a watch repairer and at his work used benzine for cleaning watches, and occasionally employed cyanide of potassium.

The writer discusses examples of disturbances in the skin and blood following the administration of certain drugs and points out the need for great care in the taking of case histories in examples of agranulocytosis, so that possible chemical influences may not be overlooked.

The drug Sedatyl which was believed to be a noxious factor in this case contains 5 centigrammes of dormine (barbiturate of ethylallyl) and 20 centigrammes of amidopyrine (dimethylamido-antipyrine) in each tablet, the latter being a benzene derivative.

H. V. FORSTER.

Diphtheria in Hull. DRS. LEETE, MCLEOD, and MORRISON. (*Lancet*, 1933, ii., 1,141.)

The authors state that diphtheria in Hull has been particularly severe during the past three years. The organism found in cultures being of the *gravis* type. The investigations of the three authors may be summarised thus:

1. Of a series of 310 cases of all grades of severity, 59 per cent. showed the *gravis* strain of diphtheria bacillus. This heavy incidence, it is suggested, explains the high diphtheria morbidity and mortality recently experienced in Hull.

2. Of forty toxic deaths in this series, thirty-five were due to *gravis* and five to intermediate strains.

3. The striking feature of these *gravis* infections in a completely non-immune subject is the extremely rapid course of the toxæmia. The short time interval between infection and toxic fixation defeats the ordinary methods of recognition and treatment, which emphasises the importance of prophylaxis.

4. In Hull the intermediate type is intermediate in clinical severity. It is found in toxic and fatal cases.

5. The *mitis* organism is at present of scanty distribution in Hull and is associated with mild and non-toxic cases.

MACLEOD YEARSLEY.

A Study of Twenty-four Cases of Neck Infection. AUGUST L. BECK. (*Annals of O.R.L.*, 1933, xlii., 741.)

Infection of the neck is most frequently secondary to an infection in or about the tonsil, and in this series pharyngeal and tonsillar inflammations account for fourteen (58 per cent.) A

further two cases followed tonsillectomy and adenoidectomy. Three cases were of dental origin and the remainder were due, one to the injection of local anæsthesia round the sphenopalatine ganglion, one to trauma of the hypopharynx from a piece of unmasticated bread crust, and one to infection of the thyroid capsule. The remaining two are of indefinite ætiology, although infection of the petrous temporal bone is regarded as the probable source of one of them.

There are three large fascial compartments in the upper part of the neck, the parotid and submaxillary, containing the respective glands, and the pharyngo-maxillary. These all communicate more or less directly with the sheath of the great vessels.

The pharyngo-maxillary space is the one most commonly infected; either directly or by extension. When this occurs, there is a displacement of the lateral wall of the pharynx and tonsil, but without inflammatory swelling, thus helping to distinguish it from a peritonsillar abscess. One of the most characteristic symptoms of this infection is trismus.

Submaxillary infection includes Ludwig's angina. The majority of these are dental in origin. The infection rarely remains confined but spreads early to the carotid or pharyngo-maxillary space.

Carotid sheath infection is generally secondary to infection in one of the other compartments. It is frequently insidious, and infection should be diagnosed rather by the degree of sepsis than by the local signs.

Retropharyngeal infection produces a swelling in the midline of the pharynx or hypopharynx, and tends to spread downwards rather than laterally.

Surgical drainage should be made early, the actual line of incision being of less importance than adequate length. The most generally useful incision is T shaped, with the cross bar of the T running parallel to the border of the jaw and close to it. All the fascial planes around the submaxillary gland and pharyngo-maxillary space should be opened up by blunt dissection. If there is any suspicion of jugular infection, the jugular vein should be ligated and resected.

Retropharyngeal abscesses may be opened through the mouth in most cases.

A series of anatomical drawings and microphotographs are appended and add greatly to the clarity of the paper.

E. J. Gilroy Glass.