

## Abstracts

in a paper many years ago. Other observers had placed the average range of the speaking voice higher than he had found it at that time, but he still thought the ordinary range of the voices heard at meetings was between 200 and 250 double vibrations per second. He did not know whether Mr. Gilbespy could explain the vowel and consonant sounds being so much higher in the series which he had shown previously.

SYDNEY SCOTT said he had once examined with the Bezold-Edelmann series of forks a patient who could hear *nothing* above 1,000 vibrations a second by air or bone, yet was able to hear certain spoken words if the conversational voice were raised.

W. M. MOLLISON : That patient must have been educated to hear without the S and the P.

## ABSTRACTS

### EAR

*Physiology of the Ear.* W. HUGHSON, S. J. CROWE and HOWARD A. HOWE. (*Acta Oto-Laryngologica*, xx., 1-2.)

Amongst the facts which have been demonstrated and previously reported from this work carried out at Johns Hopkins Medical School, in which the so-called Wever and Bray phenomenon has been used to measure the effect of the different procedures, the following are mentioned in review. Circumcision of the tympanic membrane has practically no effect on the transmission of tones. Fixation of the tensor tympani muscle produces a loss of transmission of low tones, this muscle contracts reflexly following stimulation of the pinna, the external canal or the facial nerve. Immobilization of the secondary tympanic membrane by a periosteal graft greatly increases the intensity of tones transmitted. Intra-labyrinthine pressures have been measured and the relationship between cerebrospinal fluid and intra-labyrinthine pressures reported. Decreased intra-labyrinthine pressure produces a decrease in intensity of all tones and usually a complete loss of high tones, whilst increased pressure has practically no effect. The writers have developed a method for the experimental investigation of bone conduction.

Improvements in apparatus have recently been developed ; for example a pitch range audiometer has replaced the oscillograph and the error due to bone-transmitted sounds appears to have been overcome. It has been the custom more often to rely on short experiments to eliminate the possible errors of long-drawn out procedures, and therefore a single piece of information alone has been sought in each experiment.

Several experiments are described to demonstrate:—(1) How the intensity of the transmitted tone is greater when received

## Abstracts

through the electrode placed against the cochlear wall or the round window than when placed on the nerve.

(2) That the element of fatigue when tones of great intensity are transmitted is the property of the nerve and not of the cochlea.

(3) That an intact end-organ is necessary for the proper transmission of sound.

(4) That when there is a pathological state of the middle ear interfering with the transmission of sound to the end-organ, fatigue cannot be recorded from the response picked up at the nerve.

A method of damaging various parts of the cochlea without perforating its capsule is described; a very fine drill is used and diathermy scorching employed to carry the destructive effect further, and it was found that when a destructive effect sufficient to interfere with transmission along the nerve had been produced a similar failure of transmission was found on applying the electrode to the round window or to the cochlear wall.

The article is illustrated, a bibliography is added, and there is a brief report of the discussion which followed.

H. V. FORSTER.

*The Mortality of Otitic Intracranial Complications.* M. TAMARRI.  
(*M Schr. für Ohrenheilk.*, x. and xi., 1934.)

On the assumption that both diagnosis, treatment and technique have changed so much in recent times, the author considers that it is now appropriate to review this aspect of the question. He has contributed a most exhaustive critical and statistical survey of the whole *post mortem* reports of the General Hospital in Vienna for the years 1905 to 1929 inclusive, which period he also submits would correspond with the recent development in our knowledge of aural surgery.

During these twenty-five years a total of no less than 82,044 bodies were examined *post mortem*, and the cause of death was attributed to otitic complications in 1,013 instances (1·29 per cent.).

These figures he first compares with a previous similar collection by Gruber, who found, in a total of 40,073 cases on *post mortem* examination, that death was due to aural disease in only 232 cases (·58 per cent.). He thinks, however, that too much stress should not be laid on this apparent increase in death from aural complications, since Gruber has stated that in his collection of 232 cases only 81 had previously been under the care of a specialist, whilst 151 cases were derived from the General Medical and Surgical wards. In addition, there was no doubt that during that period a considerable number of inflammatory intracranial complications were incorrectly regarded as not having an otitic origin, and also that a number of these cases were certainly not examined *post mortem*.

## Ear

The article is supported by many tables from which the following points arise :—

(1) The mortality rate increases between the end of the first year and the age of 40.

(2) At all ages and for all complications, the male has less resistance than the female.

(3) Sinus thrombosis and septicæmia constitute the greater proportion of fatal otitic complications (415 cases in 1,013).

(4) In 143 cases metastases were found ; chiefly in the lungs, but also in the joints, liver, pancreas and kidneys, but only in one case in the musculature.

(5) In 376 cases meningitis was given as the cause of death, of which in 76 cases the infection was traceable to the labyrinthine route.

(6) Cerebral abscess was found in 282 cases and cerebellar abscess in 83 cases.

(7) About one-third only of both these complications followed acute otitis.

(8) The great majority of the chronic cases leading to cerebral and cerebellar abscesses were associated with cholesteatoma.

The above summary gives only a very small indication of the detailed statistical and tabular survey of the figures in question, which also include comparative reports of many other observers. The article should represent a very reliable statement of the present position of this aspect of otology. Although the apparent rise in death rate during the twenty-five years in question yields the very disquieting information (to which reference is already given in the opening paragraph) that the mortality rate has rather more than doubled in comparison with previous similar collections, further analysis of the figures shows that this comparison is quite unreliable since, at the time corresponding to Gruber's figures, it was the exception to the rule to admit children to the General Hospital, and that in past times it was quite common to regard meningitis of unknown origin as the cause of death, without any effort to trace its original source.

Further, although it might at first be suggested that the increased death rate was due to operation, the author states this can at once be denied on the grounds that almost up to the end of the last century, sinus thrombosis and meningitis were regarded as beyond treatment and no operation was undertaken ; whilst now, thanks to better measures, a very considerable number of patients suffering from otitic complications definitely owe their life to operative procedure and more recent statistics certainly indicate that more and more desperate cases are being saved by surgical effort.

ALEX. R. TWEEDIE.

## Abstracts

*The Hearing Capacity after the Radical Mastoid Operation.*

E. ALFOLDY. (*Acta Oto-Laryngologica*, xxi., 2-3.)

In contrast with the endless discussion of the indications for and the technique of the radical mastoid operation, relatively few articles have appeared which deal with its effect upon the hearing.

Among 55 cases of the complete radical operation reported by Halvor Bjorkmann, hearing was improved in 32 per cent., worse in 28 per cent. and unaltered in 40 per cent. : while of 20 cases of the conservative radical operation 55 per cent. were improved, 15 per cent. were worse and 30 per cent. unaltered.

The author examined, in Stephen Krepuska's Clinic in Budapest, the hearing of 66 patients, all of whom had undergone the complete radical operation from one to five years previously, and found that 83·34 per cent. were improved, 10·66 per cent. were worse, and 6 per cent. were unaltered.

In most of these patients whose hearing did not improve or became worse after the operation, the disease was of old standing and extensive, with such conditions as osteomyelitis, more or less complete destruction of the tympanic membrane, caries of the ossicles and cholesteatoma ; while in some the cochlear nerve endings had already been damaged before the operation by long-continued toxic absorption.

The author concludes, therefore, that although the main object of the operation is to obtain healing of the disease, distinct improvement of the hearing may be expected in a large percentage of cases, especially when the operation is performed before long-continued suppuration has caused irreparable damage.

THOMAS GUTHRIE.

### NOSE AND ACCESSORY SINUSES

*The Usefulness of Nasal Symptoms in Hay Fever.* C. E. BENJAMINS and J. DE GRAAF. (*Acta Oto-Laryngologica*, xx., 1-2.)

In allergic conditions certain organs or tissues attract attention by their pathological reactions, but in reality it is the organism as a whole which is at fault and the hereditary factor plays an important part.

Cases of hay fever are no exception to the rule which determines the behaviour of other allergic diseases.

The authors carried out certain experiments which may be grouped under the following headings :—

- (a) Comparative examination of the sensitivity of the skin, the nasal mucosa, and the conjunctiva to the active substance of pollen.

## Nose and Accessory Sinuses

- (b) Research into the absorption of the active substance of pollen by the nasal mucosa.
- (c) Investigations concerning the quantity of pollen likely to be found in the nose during the period of flowering of grasses.

The authors epitomize the results of their experiments and believe they have shown :—

- “(1) That the skin is generally much more sensitive to the active principle of pollen than the nasal mucosa.
- (2) That absorption of the pollen substance by the nasal mucosa can take place in amounts sufficient to provoke general symptoms.
- (3) That, by using an artificial nose, the quantity of pollen arrested in the nose during the grass flowering season is sufficient to produce general reactions after absorption.

“We would then expect to find alarming symptoms from absorption in a large number of cases of hay fever, but the organism defends itself resolutely against this absorption by nasal reactions which are effective because of the special sensitiveness of the superficial layers of the nasal mucosa. These parts react in all hay fever sufferers in the presence of thirty-five grains of pollen and in more sensitive cases to a lesser number.

“The rhinorrhœa and sneezing expel the surplus of pollen and the nasal occlusion hinders the entrance of pollen. Without this means of energetic defence produced by the nasal symptoms, a great number of allergic persons with sensitivity to pollen would succumb. This statement is no exaggeration, for we know of unfortunate results from the injection of too strong a dose of pollen extract.

“We conclude that the nasal symptoms of hay fever, however inconvenient, serve a useful purpose and are indispensable.”

H. V. FORSTER.

*Malignant Growths of the Accessory Sinuses of the Nose. Primary Carcinoma of the Frontal Sinus.* A. I. GESCHELIN. (*Acta Oto-Laryngologica*, xxi., 2-3.)

Malignant neoplasms of the nose and its accessory cavities are comparatively uncommon; they represent about 1 per cent. of all malignant growths, and about one in eight hundred of all cases of nasal disease.

The place of origin of the growth cannot always be determined, but the least common situation is probably the frontal sinus: the author has found only nineteen records of primary carcinoma of this cavity.

In the case which he reports (that of a man aged 40), the operation disclosed masses of growth filling both frontal and the left

## Abstracts

ethmoidal and sphenoidal sinuses, and destruction of the posterior wall of the left frontal sinus, laying bare a large area of dura mater. The growth had apparently originated in the left frontal sinus. Complete removal was impossible, and death occurred about seven weeks after the operation.

It was noteworthy that, although a large area of the dura mater was in contact with pus and masses of growth, severe mental depression was the only symptom attributable to the central nervous system.

THOMAS GUTHRIE.

### LARYNX AND TRACHEA

*The Surgery of Cysts of the Epiglottis.* E. CHARSHAK. (*Acta Oto-Laryngologica*, xxi., 2 and 3.)

The authors of articles on cysts of the epiglottis and their treatment, of which there are about twenty-five in the literature, have usually each reported only a single case, and have recommended, as applicable to all cases, a method of treatment actually suitable only for a few, and likely in others to be followed by recurrence. These cysts, indeed, differ so much from one another in form, size and situation, that the method of removal must be adapted to each individual case.

The present paper is based on a consideration of the literature, and personal experience of four cases, from which the author concludes: (1) That puncture and aspiration may be required for large cysts of the laryngeal surface of the epiglottis, but only as a preliminary to actual removal of the cyst wall. (2) Cysts of the free margin are removed easily and completely with Fränkel's or Detlenk's forceps. (3) For cysts of the laryngeal surface and the smaller cysts of the lingual surface the epiglottome is suitable. (4) For the larger cysts of the lingual surface, which become visible on depressing the root of the tongue, Mathieu's tonsil guillotine is the best instrument.

THOMAS GUTHRIE.

*Congenital Diaphragm of the Larynx.* JOSE DA ROCHA. (*O. Hospital, Rio de Janeiro*, vi., No. 8, August, 1934.)

This unusual congenital anomaly is described in a child, age 11 months, who was admitted to hospital suffering from bronchopneumonia and with suspicious signs of diphtheria. Examination of the larynx revealed a membranous septum of the posterior part of the larynx, leaving only a small glottic aperture in the anterior part. Death took place twenty-four hours later.

## Larynx and Trachea

The writer reviews all possible causes of laryngeal stenosis in infancy and advises a more frequent resort to direct laryngoscopic examination.

The paper is illustrated by a radiogram and by a photograph of the specimen removed *post mortem*. DOUGLAS GUTHRIE.

*Large genuine Fibroma growing from the Right Arytenoid Region.*  
S. OYAMA. (*Oto-Rhino-Laryngologia*, vii., II, 933.)

A woman, aged 36, had suffered for about a year from a feeling of foreign body in the larynx, hoarseness, and difficulty in breathing and swallowing. The laryngoscope revealed a smooth, reddish tumour mass of the size of the tip of the thumb in the entrance to the larynx. It was removed with the cold snare without bleeding. It was about 2.2 by 2 by 2 cm. in size, weighed 5.1 gm. and grew from the right arytenoid region. Histologically it was found to be a true fibroma. JAMES DUNDAS-GRANT.

*Paralysis of the Larynx due to Lead Poisoning.* MERVIN C. MYERSON.  
(*Archives of Otolaryngology*, xx., No. 5, November, 1934.)

This paper deals with twenty cases of laryngeal paralysis due to lead poisoning, a very rare condition. The writer collected nineteen cases from the literature and describes one from his own practice. Of the twenty cases, seven showed paralysis of muscles other than the abductors, and this would lead one to doubt the truth of Semon's Law. The general aspects of lead poisoning are discussed in the paper, but treatment is not included.

Of the seven cases mentioned above two were of bilateral adductor paralysis, two of unilateral adductor paralysis, one of unilateral adductor paralysis with paralysis of the interarytenoid muscle, one of paralysis of the interarytenoid alone and one of both cricothyroid muscles.

DOUGLAS GUTHRIE.

*The Clinical Picture of Rupture of Tuberculous Tracheo-bronchial Glands into the Air Passages in Children.* M. PAUNZ. (*Acta Oto-Laryngologica*, xxi., 2-3.)

Thanks to X-ray examination and direct tracheo-bronchoscopy, considerable advances have been made in the diagnosis and treatment of this condition. Bronchoscopy has been employed for diagnosis and treatment by the author himself in 14 cases, and he finds in the literature reports of 19 others.

The ages of these 33 patients varied from 6 months to 9 years. The preponderance of males was remarkable—three or four boys to one girl. Rupture on the right side was over twelve times more frequent than on the left.

## Abstracts

The condition must be distinguished from bronchial asthma, non-tuberculous abscess of the bronchial glands, and enlarged thymus with status thymo-lymphaticus, in which there may be actual enlargement of the tracheo-bronchial glands and attacks of suffocation. X-ray examination and the tuberculin reaction should never be omitted.

Large portions of gland tissue are often coughed out or must be removed by means of the bronchoscope, which in these cases is best passed through a tracheotomy opening. Tracheotomy should, therefore, usually be the first step in the treatment.

In those patients who survive suffocation at the moment of rupture, the outlook is very favourable; many become perfectly well and remain so. Of 22 cases of simple gland rupture all except one (reported by Chevalier Jackson) recovered.

The prognosis is, of course, not so good in those complicated by such conditions as extensive and active lung disease or spinal caries.

THOMAS GUTHRIE.

### MISCELLANEOUS

*X-Ray Examination of the Salivary Glands with Contrast-Injection (Sialoadenography).* A. CSILLAG and W. CZUNFT. (*Acta Oto-Laryngologica*, xxi., 2-3.)

It is known that, while about 85 per cent. of salivary calculi can be demonstrated by X-ray examination, the remaining 15 per cent., owing to their small size or deficient calcium content, cannot be detected by this means. Certain cases, moreover, of intermittent swelling of the glands are due to pathological conditions of their excretory ducts, the demonstration of which by X-rays, after filling of the ducts with opaque material, may be of much assistance in diagnosis.

The authors describe in detail their method of lipiodol injection of the glands, the essential features of which are that the gland and its duct system must be completely filled, and the lipiodol retained, until after the skiagram has been taken, by applying a small Michel's clip to the papilla or caruncle.

By this means it is possible to demonstrate stenoses, dilatations and diverticulae of the ducts, and cystic enlargements of the interlobular channels. The presence of calculi or intraglandular incrustations may be shown by defective filling, and, when a tumour is present, sialoadenography may settle the question of its localization in the gland itself or in its neighbourhood. In two of four patients, in whom the symptoms suggested the presence of a calculus, the history and the completely normal X-ray findings indicated that the intermittent gland swelling was due to functional spasm. In



## Miscellaneous

the other two the X-rays showed a cystic dilatation of the intralobular channels, probably the result of previous sialodochitis with subsequent cicatricial contraction.

The method is contra-indicated in the presence of any acute inflammatory process in the glands but, apart from this, is harmless.

THOMAS GUTHRIE.

*Reflex Asthma: Its Pathology and Treatment.* H. H. MOLL.  
(*B.M.J.*, August 18th, 1934.)

Bronchospasm may be produced reflexly in many different ways, but the nose is the most important source of reflex asthma. The mechanism of the production of the bronchospasm is described and the experimental work and pathology of the condition is discussed. The author reviews the findings in 337 cases of asthma, and statistical tables are given which show the general symptomatology, the nasopharyngeal condition present, the operative results and the results of other observers.

(1) In a series of 326 cases of asthma about half the number of patients complained at one time or another of nasal symptoms. These symptoms were mostly due to vasomotor affections of the nose and were not true coryzal attacks.

(2) Vasomotor affections of the nose and throat occurred in all types of sensitivity, but were definitely more common in pollen-sensitive cases of asthma.

(3) Abnormalities of the nose and throat were found in 77·9 per cent. of cases, but these were mostly coincident and of minor importance.

(4) Hypertrophy of the turbinates and hyperplastic sinus disease were often the result rather than the cause of the asthma, and were found slightly more frequently in protein-sensitive cases.

(5) Of 135 cases which received operative treatment, 109 cases were followed up, and of these, 50·4 per cent. were improved and 2·7 per cent. (three cases) were "cured".

References to the literature are appended.

R. R. SIMPSON.

*Active Immunization against Scarlet Fever.* W. T. BENSON and A. L. K. RANKIN. (*Lancet*, 1934, ii., 1357.)

The authors discuss this important question and reach the following conclusions:—

1. The Dick test is a practically reliable index of immunity to scarlet fever.

2. Active immunization with graded doses of toxin will rapidly and effectively protect the majority of susceptible persons against scarlet fever.

## Abstracts

3. Scarlet fever and diphtheria prophylactics may be safely administered as a combined injection.

4. Nursing staffs of fever and children's hospitals should be actively immunized against scarlet fever, and there is no evidence that clinical scarlet fever has been replaced by "scarlatinal tonsillitis" in successfully immunized nurses and an immunized nursing staff does not increase the risk of conveyance of scarlet fever to non-scarlatinal patients.

5. Active immunization is the most effective method of controlling scarlet fever in residential institutions.

6. Should active immunization be offered to the public it is essential that an adequate immunizing dosage be employed, otherwise the method will get into disrepute.

7. The possibilities of this method of prophylaxis should be brought to the notice of the general practitioner. Active immunization of "home contacts" would help to solve the "return case" problem.

MACLEOD YEARSLEY.

*On the Frequency of Lupus Vulgaris affecting the Mucous Membranes of the Upper Air-Passages and its occurrence in combination with Tuberculosis of the Lungs.* CHR. EBSKOV. (*Z. Laryng.*, 1934, xxv., 281-7.)

This is an interesting study of statistics in which the author attempts to answer three main questions: 1. How many patients with lupus of the skin, either isolated or together with lupus of the mucous membranes, also suffer from tuberculosis of the lungs? 2. Is there any truth in Gvouven's theory (1903) that lupus of the mucous membranes is especially liable to be complicated by phthisis? 3. Is there any relation between the spread of mucous membrane lupus and the frequency of tuberculosis of the lungs as a complication?

The earlier statistics of the Finsen Institute in Copenhagen are compared with the present-day ones. In many respects the conditions are different, because at the present time one seldom sees the old type of very extensive and neglected skin lupus. The clinical material which is analysed covers a period of eleven years (January, 1923 to January, 1933), a total of 823 cases: of these, 462 were cases of cutaneous lupus, 280 cases of lupus of the skin as well as of the mucous membranes; lastly 81 cases in which only the mucous membranes were affected by lupus. Figures are also given showing the distribution of the mucous membrane lupus. The generally accepted rule that lupus of the buccal cavity is always secondary to, or combined with lupus of the pharynx, nose, larynx or skin, is confirmed in the present series of cases.

## Review of Book

The percentage incidence of lung tuberculosis among the different groups was as follows: 19 per cent. in the group of patients suffering from lupus of the skin and of the mucous membranes, but only 11 per cent. among those with lupus of the mucous membranes alone. Therefore Gvouven's theory is not found to be true.

On the other hand, there is a close relation between the general resistance to tuberculosis (expressed in terms of weight, appetite, Arneth's blood picture, etc.), an extending mucous membrane lesion and the liability to lung complications. Tuberculosis of the lungs which arises as a complication of lupus is nearly always of a chronic and fibrous nature and very seldom an active type.

In order to demonstrate the relation between tuberculosis of the lungs and a wide distribution of mucous membrane lupus, the cases were divided into those in whom the lupus affected four regions (nasal cavity, mouth, pharynx and larynx) and those in whom only one, two or three regions were attacked. Among those with three or four regions affected, the percentage of phthisis cases was 20-24; among those with one or two regions affected, it was only 8-15 per cent. As one may expect, the percentage of lung tuberculosis was especially high among patients with lupus of the larynx.

J. A. KEEN.

## REVIEW OF BOOK

*Abscess of the Brain: Its Pathology, Diagnosis and Treatment.* By E. MILES ATKINSON, M.B., B.S., F.R.C.S. London Medical Publications Ltd., 1934. pp. 289, 45 figures. 21s. net.

This book contains the Jacksonian Prize Essay of the Royal College of Surgeons, won by the author in 1926. The essay has been re-written, enlarged, and brought up to date. The book has been well produced in pleasant, readable type with forty-five excellent figures. It is more like a good novel with a true story than a text book—easily read, breezy, clearly expressed and of absorbing interest. The author has based this work on twenty-three of his cases which he has carefully observed; in addition he has extracted the best and most useful information from all the recent literature published on brain abscess. The book has been conveniently divided into sections as follows: (1) Pathology, including the anatomy, (2) Diagnosis, (3) Treatment, (4) Cases. It is a relief to find the case records in a section by themselves at the end, and not mixed up in the text. This section is an example of how cases should be clearly and briefly recorded so as to be made valuable and interesting.