people aged seventeen who had had polypi removed on several occasions.

In the case of the patient with osteitis, on whom he had operated that morning, the bone was rough, oozed on the surface, and was very tender to even slight pressure. That bone was not removed, but the covering granulations were taken off. It was saturated with picric acid acetone. He had seen, at a *post mortem* examination on another patient, the stain on the dura after it had been applied on the sphenoid.

He did not think any operator was justified in entering the sphenoid without being able to see its walls; it was a dangerous area. Operators had been taught to leave the sphenoid membrane alone, but that was not compatible with the advice to remove the membrane in the antrum. If the sphenoid was chronically diseased, the lining must be removed under proper vision. After his experience nothing could now deter him from the approach which he had described in the type of case under discussion.

ABSTRACTS

EAR

Sound Reflexes in the Rabbit. PIETRO TULLIO and GIORGIO ROSSI. (*L'Otorinolaringologia Italiana*, January, 1935.)

The authors have conducted a series of experiments in which sound has been led directly to a single opened semicircular canal in a rabbit and the resulting phenomenon studied. Rossi describes very carefully the technique of exposing and opening the various canals. In the rabbit there is a space known as the mastoid fossa, with four triangular walls. One of these—the floor—contains part of the external canal. The posterior wall contains the upper part of the posterior canal, and the antero-median wall contains the anterior part of the superior canal. Having exposed this fossa it is a simple matter to open the required canal. To expose the superior canal satisfactorily a small portion of the cerebellum has to be removed, but this does not appear to alter the equilibration of the animal.

In different animals different canals are opened, only one side being used, a technical point being that the left side is much easier to work on than the right.

Sound is led to the ear from a Galton-Edelmann whistle. When sound stimulates a canal there is a deviation of the head and a nystagmus. Sound applied to the open horizontal canal produces

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a movement of the head to the opposite side, with a corresponding nystagmus and some movement of the superior extremities.

Stimulation of the superior canals produces a movement of the head upwards in the plane of the canal with rotatory nystagmus and extension of the corresponding forelimb. Stimulation of the posterior canal produces a depression of the head in the plane of the canal, a corresponding movement of the upper limbs and a rotatory nystagmus.

F. C. ORMEROD.

Sound Reflexes in the Pigeon. Prof. P. TULLIO and Dr. S. CANOVA. (*L'Otorinolaringologia Italiana*, March, 1935.)

A similar series of experiments to those described on the rabbit was performed on the pigeon.

With an opening into the horizontal canal, stimulation by a whistle causes deviation of the head to the opposite side in the horizontal plane, the horizontal wing is lowered and abducted from the body. The contralateral wing is raised and abducted to the body. If the bird is held by the wings the head is deviated as before, but the tail is also deviated to the contralateral side, the contralateral margin being held somewhat higher than the homolateral.

If both superior canals are stimulated by sound the head is raised, the wings are spread out as if for flight. If one superior canal only is stimulated the homolateral wing is lowered, the contralateral is raised. When both posterior canals are stimulated the head is lowered and the wings are held in the position of diving. Stimulation of one posterior canal gives an asymmetrical result of the same nature and is more marked on the homolateral side.

The results obtained by sound stimulation both in the rabbit and in the pigeon are exactly comparable to those obtained by electrical stimulation of the corresponding ampullae.

F. C. ORMEROD.

Abscess of the Brain. ABRAHAM KAPLAN. (*Archives of Otolaryngology*, xxi., No. 4, April, 1935.)

Two major problems confront the surgeon in the treatment of brain abscess, namely when to operate and how to ensure drainage. The best time for operation is after encapsulation has taken place, and this is seldom less than six weeks from the onset of cerebral symptoms. Of nineteen patients who underwent operation before the end of six weeks, not one survived. Emergency operation is very seldom required. It is far better to delay until a firm capsule has formed around the abscess. A cell count of the cerebrospinal fluid which shows a predominance of lymphocytes over polymorphonuclear cells may be taken to indicate that infection is

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subsiding and encapsulation proceeding. Opinions differ widely as to the most satisfactory method of drainage. In the writer's series of five successful cases the Mosher drain (wire gauze) was employed. After a generous exposure of dura, the subarachnoid space was sealed off at the bone margin by electric coagulation. A needle was then introduced into the abscess and a cone of dura and underlying brain and abscess wall was removed by the diathermy knife. The conical Mosher drain was then inserted. Complications may arise after the initial localization and drainage of a cerebral abscess; and constant personal attention which will determine when a revision of method may be desirable is of paramount importance.

Full details are given of the five cases in which this technique was employed.

Three of the patients had an abscess of the temporal lobe complicating otitis media; one had an abscess of the frontal lobe secondary to osteomyelitis of the skull and suppurative frontal sinusitis. The abscess of the temporal lobe in the fifth patient was probably of metastatic origin.

Four of the patients have returned to their previous calling and are free from symptoms; one has been left with hemiparesis but is able to get about unassisted.

The paper is illustrated by fifteen figures, including seven radiograms.

DOUGLAS GUTHRIE.

Acute Cerebellar Abscess. G. E. SHAMBAUGH. (*Archives of Oto-laryngology*, xxi., No. 4, April, 1935.)

The high mortality from abscess of the brain is in part due to failure to make a timely diagnosis. The initial symptoms, fever, headache and vomiting, may be so slight as to pass unnoticed, and signs of cerebral compression may not appear until shortly before death. In the early stages delay is advantageous, but in the later stages a delay of even a day may be fatal. In many cases the patient dies as a result of the treatment rather than from the abscess itself, and the difficulty of operative technique may explain why cerebellar abscess is more fatal (90%) than cerebral abscess (70%). Trauma should be reduced to a minimum. Dandy relies on simple evacuation through a needle, repeated if necessary.

The cerebral invasion may be embolic (in bronchiectasis), by direct contiguity (chronic otitis media) or by thrombo-phlebitis of pial veins from the tympanum through the dura (acute otitis media). A capsule takes several weeks to form and operation should be delayed until it is present. The writer has had the unusual opportunity of observing the complete course of a cerebellar abscess in a boy aged six years from the onset of the otitis

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to recovery following drainage; he reports the case in detail. He describes the first stage of invasion characterized by fever from the advancing thrombo-phlebitis, the symptoms of local cerebral involvement being minimal. The second stage of encephalitis, with increasing pressure (vomiting, headache, lethargy, slow pulse, choked discs, coma and convulsions), with localizing neurological signs beginning to appear, and the third stage, that of encapsulation, the neurological signs predominating (irregular, spontaneous nystagmus, at times vertical; conjugate deviation of the eyes; adiadokokinesis and ataxia of the arm and leg on the same side; the assumption of the so-called cerebellar posture; weakness and partial atrophy of the muscles of the arm and leg on the same side, and rapid, general emaciation).

Encapsulation was definitely developed three and one-half weeks after the initial cerebral invasion.

Repeated aspirations were not sufficient. Constant drainage was necessary.

The encephalitis surrounding the abscess was more threatening to life than the abscess itself. Had a larger drain been inserted or any attempt been made to suck out, inspect or pack the abscess cavity, the added encephalitis would probably have been fatal. In cases of acute abscess of the brain, drainage must be established with a minimum of damage to the tissue. A rubber catheter makes a satisfactory drain, but it must actually penetrate the capsule.

A preliminary decompression will relieve the acute symptoms in the early stages and allow delay in exploring until encapsulation and walling off have occurred.

By limiting the dural opening to a simple ½ inch (1·27 cm.) incision, massive herniation is prevented.

The neurological signs of abscess of the brain are due more to the associated encephalitis than to the actual necrosis of brain tissue, as is shown by the complete restoration of cerebellar function in this patient.

DOUGLAS GUTHRIE.

Pseudo-Abscess of the Brain. J. M. NIELSEN and CYRIL B. COURVILLE. (*Annals of O.R.L.*, 1934, xliii., 972.)

In 1899, Oppenheim first showed five cases in which a localized encephalitis, following otitis media, simulated an abscess of the brain. Since this time, many cases of similar type have been recorded, and Voss expressed the belief that the pathology of these cases was an hæmorrhagic encephalitis, merging in some cases into abscess formation.

The authors of this article classify cases of simulated brain abscess into five main groups:

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(1) Cases of disease of the brain without suppuration and without lateral sinus thrombosis: (*a*) in adults, intracranial pressure a prominent symptom; (*b*) in children, with symptoms, frequently transient, of convulsions or paralysis.

(2) Cases associated with lateral sinus thrombosis.

(3) With lesions of the posterior fossa, e.g. tumour, basal meningitis.

(4) Cases of otitic leptomeningitis.

(5) Miscellaneous, including emboli, cerebellar artery thrombosis, syphilis, etc., coincident with otitis media.

Cases illustrative of each of these groups are given in full. The authors conclude with a plea for care in the diagnosis of brain abscess, and advocate repeated examination with, if necessary, operative procedures to exclude sinus thrombosis or extradural abscess. There is ample time for this, and ordinarily a week or more may be allowed between the first symptoms and the operative treatment of intracranial abscess.

E. J. GILROY GLASS.

Intracranial complications of otitis media and mastoiditis Statistical Study with Survey of 10,000 Necropsies. CYRIL B. COURVILLE and J. M. NIELSEN (Los Angeles). (*Acta Oto-Laryngologica*, xxi., 1.)

This study is based on the intracranial complications of otitis media which were found in 167 cases in a series of 10,000 autopsies. The available and applicable literature dealing with the incidence of the intracranial complications in general, and in particular, has been reviewed and, wherever possible, correlated with the data from the authors' series. By accumulating a large number of cases it was hoped to avoid the errors in conclusion which are so likely in a smaller number of cases.

In European clinics where autopsies are performed in all cases, the death rate of otitis media is found to be about 0·25 per cent., while the autopsy incidence of intracranial complications varies from 0·25 to 1·0 per cent. In the authors' series, in which consent for autopsy was necessary, the autopsy incidence proved to be 1·67 per cent. Leptomeningitis, while varying considerably in incidence in the various series, is found most frequently and occurs in about one-half of the cases. Thrombosis of the venous channels is the next most frequent, occurring in about one-fourth of the cases, while abscess of the brain occurs in about one-fifth of the cases. Subdural abscess is rather variable in its incidence, but probably occurs in about 5 to 10 per cent. of deaths due to intracranial complications. In the authors' series the greatest numbers of intracranial complications were found in the first ten years of life,

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while the death rate of the intracranial complications was greatest in the second, third and fourth decades.

Thrombosis of the venous channels and abscess of the brain are uncommon in the first decade of life, but are common during adolescence and in adult life. Cerebellar abscess, contrary to general opinion, is not more rare than cerebral abscess in the first decade.

Because of the less favourable factors of environment, males are more often affected by intracranial complications than females. Because of the relative incidence of extradural abscess and leptomeningitis, which so frequently result from acute otitis media, intracranial complications occur more commonly from acute than from chronic infections of the ear. Thrombosis of the venous channels seems to occur in about equal numbers from acute and chronic otitis media. Brain abscess is much more apt to develop after chronic middle-ear disease. While extradural abscess is the most benign of the intracranial complications, it may operate in the production of other complications which are lethal—most commonly leptomeningitis, but at times abscess of the brain.

Of the solitary lesions found at autopsy, leptomeningitis occurs in 40 to 60 per cent. of the cases, thrombosis of the venous channels in from 30 to 40 per cent., and abscess of the brain in from 20 to 30 per cent. Thrombosis of the venous channels is most frequently accompanied by leptomeningitis when other intracranial complications are present, although brain abscess is not an uncommon finding.

Of the lesions associated with leptomeningitis, thrombosis of the venous channels is again of most frequent occurrence and abscess of the brain is the next most frequent. Leptomeningitis is the most frequent complication also of abscess of the brain, due to the occurrence of so many instances of intraventricular rupture. Thrombosis of the venous channels is the next most common lesion. The ratio of cerebral to cerebellar abscesses as found in a large number of cases is about two to one.

[Translation of Authors' Abstract.]

H. V. FORSTER.

Cavernous Sinus Thrombosis, with recovery, proved by Necropsy. EUGENE R. LEWIS. (*Annals of O.R.L.*, 1934, xliii., 1084.)

The author, in 1931, published a case of cavernous sinus thrombosis, with recovery (*Annals of O.R.L.*, xl., 341). Reviewed briefly, this patient developed symptoms of cavernous sinus thrombosis one month after the incision of a boil on the left cheek. Coincident with these signs there were affections of the first, second, third, fourth, fifth, sixth, seventh and eighth cranial nerves, due to the associated meningitis. Repeated lumbar puncture was

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carried out, and gradually during the following four months, the patient recovered, although there was some residual impairment of the cranial nerves.

For the following two years, his health was good, but in July, 1933, he developed acute fulminating mastoiditis on the right side, with intracranial complications from which he died.

At the autopsy, there was found an abscess which had ruptured into the third ventricle, and a recent infection of the cavernous sinus on both sides. Histological examination, however, proved that there had been a previous thrombosis of the left cavernous sinus, thus justifying the claim made on clinical grounds in 1930, " Cavernous sinus thrombosis with recovery."

E. J. GILROY GLASS.

NOSE AND ACCESSORY SINUSES

Intestinal Bacterial Flora in Chronic Sinus Disease. SIDNEY N. PARKINSON. (*Laryngoscope*, February, 1935.)

The sinuses are discussed from the standpoint of focal infection. The failure of general acceptance of this *rôle* is believed to be due in part to the lack of a satisfactory explanation of the mechanism of absorption of toxins from the diseased sinuses. In other foci, such as the teeth and tonsils, there is probably direct absorption of toxins into the blood or lymph streams. In the case of the sinuses there is little evidence that either of these routes is important. The defence mechanism of the ciliated mucosa of the upper respiratory tract differs from that of other tissues in that it is largely physical, due to the function of the cilia as cleansing agents. Cellular concentration and the development of antibodies, while important here, are relatively less so than in other tissues. It is probably this difference in defence mechanism that has made it difficult for some to attach great importance to the sinuses as foci of infection.

The possibility of intestinal mucosal infection secondary to sinus disease and dependent upon it is discussed. It is believed that the frequent swallowing of masses of muco-purulent material laden with pathogenic organisms could conceivably lead to implantation of these bacteria in the mucosa of the lower bowel.

A report is given of the bacterial flora of twenty-four cases of chronic upper respiratory infection with complaints indicating focal infection. Concomitant nasal and rectal cultures were taken in each case. In every case at least one organism was found to be common to both cultures, and in some many of the organisms were apparently identical.

The author offers this finding as an interesting observation only. It appears however to suggest that the intestinal tract

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might play a significant *rôle* as the site of absorption of toxins produced secondary to and dependent upon infection in the sinuses.

[Author's Abstract.]

The Morphology of the Lamina Cribrosa of the Ethmoid. LUCA CIURLO. (*Archivio Italiano di Otologia*, June, 1934.)

The author has made an extensive survey of the cribriform plate in the human subject from the earliest stages of intra-uterine life to the mature adult condition.

In a 61 mm. fœtus the plate is trapezoid in shape, the anterior margin being narrower than the posterior. At 78 mm. the plate has become rectangular, at 130 mm. the anterior border has become rounded, and at 185 mm. the posterior margin is also rounded. At 360 mm. the lateral border becomes convex to the lateral aspect in its posterior half, but straight in its anterior half.

At birth the whole length of the lateral margin is somewhat convex.

The author has investigated 300 male and 200 female skulls in the anatomical museum at Genoa. He found the most extreme diversity of shape and proportion in the cribriform plates and has at the same time made a craniometric survey of the same skulls. The plates may be wedge-shaped, triangular, trapezoid, rectangular, ellipsoid or oval. The least frequent shape is that as described at birth, persistence of the infantile type being rare.

It is considered that the main factors that control the configuration of the area, are the development of the frontal lobe of the brain and of the ethmoidal cells and the frontal sinuses.

Extensive tabulation shows that such factors as the cephalic facial and nasal indices are, in the majority of cases, a guide to the proportions of the cribriform plate, in other words, that their structure in its morphology follows the general and detailed architecture of the skull.

F. C. ORMEROD.

Importance of Allergy in Ætiology and Treatment of Nasal Mucous Polyps. RICHARD A. KERN and HARRY P. SCHENCK (Philadelphia.) (*Journ. A.M.A.*, October 27th, 1934.)

The writers present further clinical data in support of their opinion (expressed in a previous article in September, 1933) that allergy is a constant factor in the ætiology of so-called mucous polyps. Nasal polyps, other than malignant forms, are classified as (1) mucous polyps "myxoid fibroma", (2) mixed polypoid hyperplasia and (3) papillary hypertrophy or mulberry polyps. The first group may be single or multiple and are smooth, pale and translucent. Hypertrophy and œdema of the tissue from which

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the polyp has arisen and the absence of mucous glands are striking features. This group is the subject of the present discussion. The second group are red or grayish-red and are essentially similar in structure to the mucosa but are more markedly cellular. The third group appearing on the posterior end of the inferior turbinate consist of hyperplasia of the turbinal mucous membrane in which cystic degeneration of the glands and dilatation of the vessels have occurred.

The writers agree with Runge that polyposis demands a pre-existence of a general pathological alteration of the mucosa, " the hyperplastic mucosal constitution ".

The incidence of polyps is strikingly high in allergic diseases of the respiratory tract. The incidence is highest in those allergic states which continue throughout the year, notably asthma, and is lowest in pollenosis, the allergic disease which is present for only a few weeks each year. It is very doubtful if infection plays an important factor in the ætiology of mucous polyps.

The presence of many eosinophils in a polyp indicates recent exposure to the exciting allergen and, conversely, a paucity of eosinophils suggests that there has not been a recent exposure to the allergen.

All patients with mucous polyps have been found to have either a personal history of allergy, a family history of allergy or positive skin tests, and no case of mucous polyps has as yet been encountered in the absence of these three. It is now a routine procedure to study microscopically the material from all polyp cases.

The article is illustrated, has three tables and a bibliography.

ANGUS A. CAMPBELL.

TONSIL AND PHARYNX

A Case of Secondary Agranulocytosis. BORGE LARSEN (Copenhagen). (*Acta Oto-Laryngologica*, xxi., 1.)

Doubt exists as to the ætiology and pathology of agranulocytosis. Some regard it as a special affliction provoked by an unknown agent. Others believe that there is a general infection breaking down the leucopoietic system, whereas others consider that the fault originates in the bone marrow and that the other symptoms and signs follow upon a state of low general resistance. The case described is, in the opinion of the author, one of agranulocytosis of secondary development.

The patient was a woman, 49 years old, with a history of repeated attacks of tonsillitis complicated two years before by abscess formation. Ten days before admission she was attacked by pain in the throat, with rigors, an exudate spread over the fauces and there was much cervical gland swelling. Repeated examinations

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for diphtheria bacilli were negative. After admission to hospital a small peritonsillar abscess was opened. The patient became worse and jaundiced, and a phlegmonous infiltration of the neck came on which, when incised, yielded serous pus. The tonsils were next removed under local anæsthesia and the throat appeared to settle down, the temperature fell and the patient improved. The neutrophile leucocytosis fell to normal but then gradually failed and so X-ray treatment was given to the long bones. The condition became worse and the throat broke out afresh with faucial exudate, and death eventually took place.

The case is believed to be one of agranulocytosis caused by infection with toxic effect upon the bone marrow. The question as to whether the removal of the tonsils was a factor in the cause of the malady is discussed, and Seiffert's case in which septicæmic agranulocytosis ending in death followed tonsillectomy is mentioned.

H. V. FORSTER.

A Case of Retropharyngeal Lipoma. BORGE LARSEN (Copenhagen). (*Acta Oto-Laryngologica*, xxi., 1.)

Primitive tumours in the retropharyngeal region are rare. The case described is one of a male patient, aged 71 years, who was admitted to hospital with the diagnosis of retropharyngeal abscess. The swelling was approached at operation from outside through an incision along the anterior border of the sternomastoid and proved to be a soft tumour, which was completely removed. The patient left hospital in three weeks' time in good health.

Histological examination of the tumour which measured 9 by 7 by 2½ cm. proved that it was lipoma. In searching for published cases of retropharyngeal lipoma the author has been able to trace only six cases, the first published by Taylor in 1877, the other cases being by Roe 1879, Réthi 1917, Woods 1924, Jefferson Faulder 1924, and Norman Patterson 1933.

H. V. FORSTER.

A Wood Tongue Depressor in the Trachea for thirteen years: Chronic Laryngeal Stenosis. GABRIEL TUCKER. (*Annals of O.R.L.*, 1934, xliii., 1124.)

Following tonsillectomy thirteen years ago, the patient, now aged 30, choked and during the manipulations to relieve this, a wooden tongue depressor broke and a part disappeared. She was warned that this might have entered her trachea, but refused any treatment. During the thirteen years she had been unable to lie on her left side because of dyspnœa, which was immediately relieved on changing her position. Some two weeks before coming under observation, she choked while playing baseball, and dyspnœa had continued since that time.

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The broken end of the tongue depressor could be seen by indirect laryngoscopy and was removed without difficulty by the direct method. There was very marked sub-glottic swelling, which subsided sufficiently to permit of the patient returning home in three days. The improvement continued for three weeks when dyspnoea again became marked, and on direct examination a fungating mass was seen in the sub-glottic area. A low tracheotomy was performed and the granulation tissue removed. Since this time, the tracheotomy has been allowed to heal and the patient treated by laryngoscopic dilatation. She has now a good airway through the larynx.

The author believes this case to be unique.

E. J. GILROY GLASS.

Peritonsillar Abscess following an interesting course. Dr. SHINJI SUGAYA (Taihoku). (*Oto-Rhino-Laryngologia*, viii., 5, 437.)

The patient was an infant aged 14 months, with a high temperature and difficulty in swallowing. The right tonsil and epipharynx showed redness and swelling. On digital palpation a profuse thick collection of pus ran out of the right external auditory meatus. After this manipulation had been repeated several times the local swelling gradually subsided and recovery took place in two weeks.

JAMES DUNDAS-GRANT.

Severe Vincent's Angina. Dr. YÛICHI SAITÔ (Tokyo). (*Oto-Rhino-Laryngologia*, viii., 5, 449.)

A male, aged 24, complained chiefly of pain in the left side of the throat; ulceration started in the upper pole of the left tonsil and this extended to the right tonsil, then to the faucial pillars, the uvula and soft palate. There was high fever, leukopenia and monocytosis. Intravenous and local administrations of salvarsan were of no avail, but anti-diphtheritic serum checked the extension of the ulcer. Recovery took place, but an extensive loss of substance and rhinolalia aperta remained.

JAMES DUNDAS-GRANT.

ŒSOPHAGUS AND ENDOSCOPY

THE SCIENTIFIC PAPERS OF THE AMERICAN BRONCHOSCOPIC SOCIETY (Annual Meeting, Cleveland, June, 1934.) (Abstracted from the *Annals of O.R.L.*, 1934, xliii., 868-905 and 1133-1210.)

Presidential Address by WAITMAN F. ZINN.

In a survey of the historical mileposts in the development of bronchoscopy the President mentioned four cases of aspirated

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vegetable foreign body before this technique was even thought of. The earliest, in 1662, was of a student who aspirated an ear of barley. A lung abscess resulted and this, when opened, contained the unchanged ear of barley. The last, in 1817, is described in some detail. The foreign body was similar, but this time unfortunately the result was fatal.

From these cases the President continued to review the history of endoscopy from the earliest attempts to the present day.

Minute Perforation of the Cervical Œsophagus ; Fulminating descending Infection ; Mediastinitis ; External operation ; Recovery ; Case report. CLYDE A. HEATLY (Rochester, N.Y.).

F.C., female, aged 21, entered hospital eight hours after swallowing a foreign body. There was pain and tenderness on the right side of the neck at the cricoid level ; nausea was present, associated with scanty but blood-stained expectoration.

Œsophagoscopy showed a fragment of tooth-pick embedded in the right posterior wall of the cervical œsophagus, this was removed without difficulty. The following morning there was severe pain in the chest and neck. An external operation was performed, and an abscess was found behind the œsophagus. For seven days there was high fever and it was found that fluids given by mouth appeared on the dressing. Gastrostomy was therefore performed, and the patient's condition then steadily improved to complete recovery.

(A series of X-rays are given to show the progress of the mediastinitis.)

Foul-smelling Mediastinal Abscess with Spirochætal Infection: Report of a case. ETHAN F. BUTLER (Elmira, N.Y.).

Trauma during œsophagoscopy was followed by a neck abscess and mediastinitis, in spite of an external operation to expose the perforation. The exudate was the typical foul greyish-black pus characteristic of an anaërobic infection and contained large spirochætes. Neo-arsphenamine given intravenously was without effect. X-rays showed the focus to be definitely localized in the right posterior mediastinum. As the patient's condition was deteriorating a soft catheter was passed into the pocket under direct vision and the cavity was washed out with dilute neo-arsphenamine followed by saline. The result was dramatic. Within twelve hours the character of the discharge had changed to thick yellow odourless pus, three days later a slough separated, and recovery ensued.

No conclusion can be drawn from one case, but the method is recorded as a possible line of treatment in such cases.

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Œsophagus and Endoscopy

Multiple Fibrolipomata of the Hypopharynx and Œsophagus. RUDOLPH KRAMER (New York).

A male, aged 57, reported a sensation of " something in the throat " in 1931. Examination revealed a spherical swelling about 1 cm. in diameter in the right pyriform fossa. This was removed under direct (suspension) laryngoscopy.

In April, 1933, two years later, he was still complaining of the same sensation in his throat and, in addition, had for several weeks been bringing what he described as an " oyster " into his mouth on gagging. This proved to be a soft pinkish tumour which had an origin behind the left cricoid. It was removed with the cold snare. On removal it was found to be four and a half inches long and about two inches in width. The pathological report was fibrolipoma.

Thirty-six such cases are reported in the literature. Of these, twenty-six were hypopharyngeal and six œsophageal, in the remaining four the site of origin was doubtful.

Congenital Cyst of the Œsophagus: Report of a case. ELLEN J. PATTERSON (Pittsburg).

N.W., aged 7 weeks, came under observation with inspiratory stridor and malnutrition. Direct laryngoscopy revealed nothing beyond a flabby and under-developed glottis. Two days after this examination the child developed broncho-pneumonia with dyspnœa and cyanosis and died the same day.

At autopsy a cyst, measuring 2 cm. by 2·5 mm., was found between the trachea and the œsophagus, but communicating with neither. Microscopically the cyst was lined with squamous epithelium, and had striated muscle and mucous glands in the wall. Morphologically it was probably a diverticulum of the œsophagus which had become shut off in the process of development.

Melanoma of Bronchus; Metastasis simulating Bronchogenic Neoplasm. LOUIS H. CLERF (Philadelphia).

A female, aged 31, was admitted to hospital with atelectasis of the entire left lung. Bronchoscopy showed a tumour completely obstructing the left main bronchus at a point 5 mm. beyond the carina. This was removed and was reported as melanoma. Following removal the lung again expanded. The nature of the growth suggested that it was probably a metastasis, and further investigation revealed a history of a pigmented mole removed from the arm two years previously.

Two months later a second bronchoscopy was performed and a small mass was found at the same site. This was destroyed by electro-coagulation. In all, eight bronchoscopic removals of recurrences were performed, but the patient developed a left-sided

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hemiplegia fifteen months after the first treatment, and the lung became involved again. At autopsy metastases were widespread over the whole body.

Fibro-sarcoma of the Trachea. LYMAN G. RICHARDS and HARRY F. DIETRICH (Boston).

A negro infant of eight months was under observation for six months, during which time it had three attacks of dyspnœa with pyrexia which necessitated tracheotomy. Bronchoscopy was negative in the intervals and no definite cause could be found. During the last month of life there was considerable blood stained sputum.

At autopsy a mass was found attached to the trachea and ulcerating into it, with glandular metastasia surrounding the trachea. The microscopic diagnosis was fibro-sarcoma.

Primary Colloid Adeno-carcinoma of the lower third of the Trachea. W. LIKELY SIMPSON and ROBERT M. MOORE (Memphis).

The authors report a case in a female, aged 35, who was admitted to hospital on the third of three attacks of dyspnœa occurring in a period of two years. The present attack had lasted one week. The patient succumbed before a diagnosis could be made and at *post mortem* a sessile tumour was found in the lower third of the trachea. Histologically this proved to be a colloid adeno-carcinoma. Twenty-six similar cases are reported.

Bronchoscopy in Tuberculosis. MERVIN C. MYERSON (New York).

Bronchoscopy has been carried out in sixty cases of pulmonary tuberculosis without untoward symptoms in any case. A brief résumé of twenty cases is given to illustrate the types of lesions encountered.

E. J. GILROY GLASS.

Peptic Œsophagitis. ASHER WINKELSTEIN (New York). (*Journ. A.M.A.*, March 16th, 1935.)

The writer reports the cases of five patients, all elderly men in whom, because of certain œsophageal symptoms, carcinoma was suspected. All had a chronic disease characterized by exacerbations and remissions resembling peptic ulcer. The association with duodenal ulcer in three cases, with a pre-existing peptic ulcer of the œsophagus in one case, and a subsequent ulcer on the lesser curvature of the stomach in another, is rather striking. The type of substernal pain, heartburn, sour regurgitations and the hyperchlorhydria in all recall the clinical features of peptic ulcer of the œsophagus which have been described by others. X-ray showed an irregular spasm

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of the lower end of the œsophagus with little or no dilatation above. The features were obviously not those of the so-called " Cardiospasm ". Œsophagoscopy revealed diffuse inflammation without definite ulcer and biopsy reports were variously " acute " and " chronic inflammation ".

The writer believes that the œsophagitis results from the irritant action on the mucosa of free hydrochloric acid and pepsin, although the mechanism is not very clear.

The disease is relieved by treating the ulcer but must be diagnosed from carcinoma. ANGUS A. CAMPBELL.

Sharp Dissection through an Œsophagoscope. MURDOCK EQUEN (Atlanta, Ga.) (*Journ. A.M.A.*, December 15th, 1934.)

The writer reports the case of a girl, aged eight, who was referred to the clinic on account of difficulty in swallowing. Two years previously she had swallowed a textile machine bobbin, but her parents paid no attention to the story until she had lost a great deal of weight and swallowing was almost impossible. X-rays showed the bobbin in the upper half of the œsophagus, but to prevent starvation and dehydration a gastrostomy was performed. At the first endoscopic examination the upper part of the œsophagus was found to be markedly dilated and then completely obstructed by a dense scar. An X-ray plate revealed that the scar tissue separating the œsophagoscope from the bobbin was 1 cm. thick. In order to remove the bobbin and restore the lumen it was decided to take the risk of cutting through the scar tissue. Laryngoscopic knives were too short, so a small Bard-Parker handle was cut down and fused on a metal rod; a suitable blade completed a satisfactory knife. Under the guidance of a biplane fluoroscope the scar tissue was incised until the bobbin was reached. It was so firmly embedded that considerable dissection was necessary to dislodge it. On account of the proximal scar it was considered safer to push the bobbin through into the stomach where it was grasped with forceps and removed through the gastrostomy wound. A string of heavy silk was drawn back up through the œsophagus and left in place for later retrograde dilation.

Convalescence was slow but uneventful, and apart from some difficulty with solid food the child is in a very good state of health.

ANGUS A. CAMPBELL.

Peroral Gastroscopy, including Examination of the Supradiaphragmatic Stomach. CHEVALIER JACKSON and CHEVALIER L. JACKSON (Philadelphia). (*Journ. A.M.A.*, January 26th, 1934.)

Peroral gastroscopy should neither replace nor lessen the necessity for other methods of diagnosis. Three methods are used: (1)

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the open tube, (2) a lens system and (3) open tube and lens systems combined. The open tube method is useful for biopsy and the removal of foreign bodies; the lens-system gastroscope gives a larger field of vision but is more dangerous to introduce. It is advisable first to examine the œsophagus with the open tube. There are no absolute contraindications to open-tube gastroscopy except possibly aneurysm and cardiovascular disease. It is indicated in hæmatemesis, chronic gastritis, hysterical gastric neurosis, foreign bodies, new growths, and where symptoms persist after a gastro-enterostomy. The degree of illumination should always be the same. The colour of the gastric mucosa is a deep pink when seen in the open tube gastroscope, a pale red-orange as seen in the lens-system gastroscope, and a somewhat deeper red as seen in the flexible gastroscope. The stomach is in constant movement and folds of membrane appear to crowd in on the mouth of the open tube. The images give the impression of prominence, recession and even disappearance of folds. It is difficult to see the pylorus because of the mounding forward of the vertebral column. All anatomical forms seen through the open tube are actual size; through a rigid lens-system they are magnified; with a flexible lens-system they are diminished. Purulent or muco-purulent secretions when due to gastritis are firmly adherent, while swallowed discharges from the throat are not. Hiatal hernia of the stomach is readily diagnosed by open tube gastroscopy. The prime factor is not a congenitally short œsophagus but a congenitally large *hiatus œsophageus*. Chronic inflammation of the mucosa is commonly present in the herniated part of the stomach. Gastroscopy demonstrated in a number of cases a small, malignant, ulcerative growth after Röntgen examination was negative and also demonstrated the benign character of a condition previously supposed to be malignant.

The article is freely illustrated and has a bibliography.

ANGUS A. CAMPBELL.

MISCELLANEOUS

Clinical Spectroscopy: Seventy cases of Generalized Argyrosis following Organic and Colloidal Silver Medication, including a Bio-Spectrometric Analysis of Ten Cases. L. EDWARD GAUL, and A. H. STAUD (New York). (*Journ. A.M.A.*, April 20th, 1935.)

During the past twenty years an increasing number of cases of generalized argyria have been reported following peroral, pharyngeal and intranasal treatment with colloidal and silver nitrate compounds. The introduction of silver arsphenamine in

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the treatment of syphilis may produce similar results. The discolouration in argyria appears first on the exposed areas, face, neck, hands, as a result of the clinical action of light on the retained silver. A bio-spectrometric analysis offers a new diagnostic test for the identification of argyrosis. An analysis of twenty biopsy specimens obtained from children varying in age from six months to two years established the normal density of the silver line. A bio-spectrometric analysis of ten cases presenting objective signs of argyria led to the formulation of the following theorem: the degree of discolouration is directly dependent on the duration and the intensity of the solar or artificial radiation and the quantity of silver present. Clinical spectroscopy has not only been successful in establishing the quantity of silver necessary to produce an argyrosis, but has been equally successful in demonstrating the presence of gold, lead and nickel in biopsy specimens.

At the present time there is no treatment for argyria.

The article is illustrated, has three tables and a bibliography.

ANGUS A. CAMPBELL.

Primary Malignant Tumours of the Trachea. F. CARNEVALE RICCI. (*Archivio Italiano di Otologia,* February, 1934.)

The author describes three fatal cases of malignant growth of the trachea, two of squamous epithelioma in men of 47 and 60 years of age and one of fibro-myxo-chondro-endothelioma in a man of 43.

The first had a history of seven years' periodic discomfort behind the sternum, which had become continuous and marked in the last year. He had also had symptoms of dysphagia and, towards the end, dyspnœa. Periodic examination by X-rays during the seven years had revealed nothing until after the final and more severe symptoms had occurred, when there was an obvious shadow in the lumen of the trachea and an obstruction of the œsophagus. Tracheoscopy revealed a large mass of growth practically filling the lumen of the trachea. The patient died of an attack of dyspnœa.

The second case had a similar history but was of much shorter duration. Tracheotomy was performed and prolonged the life of the patient; but infection, necrosis and hæmorrhage occurred in the tumour, and the patient died of a septic broncho-pneumonia. Dysphagia was a marked symptom in the latter stages.

The third (endotheliomatous) case had developed slowly, had dyspnœic symptoms for six months and the characteristic feeling of compression in the neck. Laryngoscopy revealed a tumour just below the vocal cords. A portion was removed for microscopic examination and treatment was applied by applications of radium to the skin at the level of the tumour. The tumour disappeared

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for six months and then recurred, death taking place four months later.

The author discusses these cases along with those described in the literature.

The cases occur very largely in males as opposed to females and are found in late middle life. The earliest symptom is the feeling of retrosternal or tracheal pressure, followed by difficulty in respiration, with purulent and often blood-stained sputum. In many cases dysphagia due to implication of the œsophagus was added. The tumours occur either in the upper or the lower third of the trachea. The voice is not affected unless the vocal cords were affected either by direct pressure of a growth in the upper third or by implication of the recurrent nerve.

Cachexia occurs only at a late stage of the disease. Cough depends on the amount of infection and secretion. Treatment may take the form of endoscopic removal (very rarely possible), by surgery from without, which necessitates very extensive excision, or radiotherapy which causes disappearance of the tumour, but usually with an early recurrence.

Tracheotomy as a palliative measure is practicable for growths in the upper third, but for those in the lower third some form of intubation in addition is necessary.

F. C. ORMEROD.

REVIEW OF BOOK

Réactions Labyrinthiques et Équilibre. L'ataxie Labyrinthique. By G. G. J. RADEMAKER, Professor of the University of Leyden.

In textbooks of neurology, otology and physiology, the labyrinths are regarded and studied as the organs of equilibration. These books teach us that the main function of the labyrinths is concerned with the maintenance of body balance. Hitherto, however, we have not been told the mechanism by which this function is carried out and this is what this somewhat technical book sets out to explain. Professor Rademaker's work on the red nucleus, the labyrinth and body balance is well known and in this volume he is embodying the result of his experiments on the problem of equilibration. This work has necessitated a great many experiments on animals and the results obtained have been cinematographically recorded and sections of films help to elucidate the text. The author attaches great importance in the problem of equilibration to the reactions of the limbs since it is through their agency that body balance is maintained. He has almost neglected the labyrinthine

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