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barium bolus shows considerable dilatation of the œsophagus, which is slightly tortuous to the right, and apparently complete arrest of the bolus immediately above the diaphragm; the outline of the obstruction is irregular.

Direct œsophagoscopy.—The entrance of the œsophagus is normal; the lumen is about twice as wide as normal. The mucosa is whitish and macerated; no ulceration. No obstruction until 46 cm. is reached from the teeth (i.e. further down than the normal depth of the cardia). Here the lumen is abruptly terminated by a collection of four or five round, smooth, bright red masses, not friable, not ulcerated, not bleeding on contact. No lumen could be discovered; bougie dilatation not attempted.

Biopsy.—Report by Dr. A. D. Fraser: "Portion of dermal tissue covered by hypertrophic (œsophageal) epithelium. There are numerous small spaces giving the appearance of lymph channels and a few muscle cells. The condition is lymphangioma. No evidence of malignant change."

April 12th, 1934.—Ten radon seeds (2 mc. each) inserted (0.5 mm. platinum screen).

POSTSCRIPT.—*June 20th, 1934.*—Numerous nodules felt in the abdomen suggested that the growth is a lymphosarcoma with peritoneal secondary deposits. Swallowing of all foods is good but the patient is losing weight.

ABSTRACTS

EAR

On the question of the Fistula sign. L. TRÜBSBACH. (*Zeitschrift für Laryng.*, 1934, xxv., 94-103.)

The various theories which claim to explain the fistula sign are briefly reviewed in this article (Mygind, Herzog, Wittmaack, Ruttin). The most satisfactory explanation, according to the author, is that of Professor Uffenorde (Marburg), whose views are supported by certain experiments described as follows:

After completing the radical mastoid operation and obtaining a free exposure of the external semi-circular canal, a tiny pledget of cotton wool soaked in ether is applied to the bony labyrinth behind the external canal. The result is a nystagmus to the

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opposite side. The cooling posteriorly has caused an endolymph movement *away* from the ampulla. If the ether is applied in front a nystagmus to the *same* side results. If the cotton wool pledgets with ether are applied both in front and behind *there is no nystagmus*.

In Wittmaack's tonus-theory the nystagmus in the fistula sign depends on a state of swelling and deflation of the ampullary end-organ. This theory seems to be disposed of by Uffenorde's experiments, in which the ether pledgets are placed both in front and behind. Owing to the increased cooling effect the nystagmus should be all the more marked, instead of which there is no nystagmus. Movements of the endolymph are an essential factor in the production of nystagmus.

Uffenorde's experiments can be amplified in the following manner : If the head is turned in such a way that the external canal is vertical with the ampulla above, the nystagmus caused by the cooling of ether is always to the opposite side. It has been found that the endolymph fluid can never move against gravity. If the etherized cotton wool has been placed in front of the semi-circular canal and the head is slowly moved until the external canal is in a horizontal position, the direction of the nystagmus changes at once to the same side.

It is very important to realize that a positive fistula sign does not necessarily demonstrate the presence of an intact membranous labyrinth. The fistula sign can be present even when the labyrinth is practically destroyed and the patient already has a cerebellar abscess. In such cases the stimulus has been transmitted to the ampullary nerve-endings through the granulations.

J. A. KEEN.

What is the quickest and simplest way of determining the causative organism in acute infections of the ear and upper air-passages ?
E. WIRTH. (*Zeitschrift für Laryng.*, 1934, xxv., 104-117.)

In the early stages of acute otitis and of acute throat infections the causative organism is often found in pure culture in nasal swabs, while swabs from the tonsils and sputum examination give very little useful information and the same applies to the middle-ear secretions obtained in the early stages. The reason is that, in health, the nasal mucosa is practically always sterile. Pharyngeal swabs, on the other hand, always show numerous strains of organisms, many of them pathogenic. Therefore the presence of pathogenic organisms in nasal swabs has a definite significance.

In sixty-three patients with acute otitis the organisms cultured from nasal swabs were compared with those obtained from tonsil swabs. The different types of organisms which the author obtained

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are shown in tabular form. The main findings of this research were as follows :

Nasal swabs taken in the first few days of an acute otitis nearly always contain a pure culture of the organisms which, later on, were recognized as the cause of the acute middle-ear infection (forty-seven cases among sixty-three). Compared with this, tonsil swabbing showed the organisms in pure culture in only twelve cases among sixty-three. The great value of nasal swabbing applies chiefly in the case of mucosus-otitis in the pneumococcus group, and with the influenza bacillus. The difference is less marked in the case of hæmolytic streptococci on account of their tendency to cause tonsillitis.

The organisms disappear from the nose after eight to fourteen days. This is sometimes connected with a rapid subsidence of the ear symptoms. If the cultures from the nasal swabs show several pathogenic types one must be very cautious before deciding which organism is the cause of the acute otitis.

The author also discusses the mode of infection in the air-passages and the way in which the organisms reach the middle ear. Some experiments were made in order to determine whether the organisms were to be found mainly on the surface of the epithelium or in the secretions from the sinuses.

Dr. Wirth finds that in acute infections the organisms are localized on the *surface of the nasal mucous membrane*, and he explains that the spread of the infection takes place in much the same way as the spread of an erysipelas infection in the skin.

J. A. KEEN.

The Differential Diagnosis of Traumatic Deafness. H. BRUNNER.
(*Acta Oto-Laryngologica*, xx., fasc. 1-2.)

The case is reported of a woman, 51 years of age, who, since a motor accident ten years before, suffered from stationary loss of hearing in both ears and intermittent discharge from the right. The hearing is said to have been not quite normal before the accident. About twelve days after her first attendance acute symptoms in her discharging right ear suddenly developed. Operation disclosed a subdural abscess with extensive necrosis of the dura mater. This condition must have been progressing slowly for some time, until it was suddenly lit up by an acute exacerbation of the chronic otitis media. Diffuse purulent meningitis, to which the patient succumbed, followed.

When the patient was first seen the bilateral deafness with diminished bone conduction and caloric reaction were attributed to concussion of both labyrinths resulting from the motor accident. That this diagnosis was incorrect was shown by microscopical examination of the temporal bones, which disclosed extensive

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otosclerosis with secondary atrophy of inner-ear structures in both ears. As the patient had never complained of tinnitus and there was no family history of deafness, a correct diagnosis could not have been established during life.

In these obscure cases of post-traumatic deafness without evidence of extensive damage to the labyrinth as a whole, four possibilities must be considered: (1) a pre-existing otosclerosis aggravated by the trauma (as in the author's case); (2) an isolated fracture of the cochlea; (3) concussion of the inner ear; (4) rupture of the cochlear nerve. Although it may not always be possible to make a differential diagnosis between these four alternatives, otosclerosis may be suspected from the previous history of the case and the fact that the deafness is bilateral; positive X-ray findings and unilateral deafness may indicate isolated fracture of the cochlea; while unilateral deafness without X-ray evidence of fracture will point to inner-ear concussion.

THOMAS GUTHRIE.

NOSE AND ACCESSORY SINUSES

Carbuncle of the Nose; Ophthalmic Vein Phlebitis; Operation for Cavernous Sinus Thrombosis; Recovery. Report of a case.
E. JEFFERSON BROWDER. (*Laryngoscope*, 1933, xliii., 829.)

Five days before admission the patient noticed a small "pimple" on the right side of the nose, which grew and spread into the malar region. This was treated with X-ray therapy on the fifth day. After radiation the upper right lid swelled. On the seventh day there was headache and proptosis. The movements of the right eye were limited and there was œdema of the right disc. The left eye was unaffected. Staphylococcus (not further described.—F. W. W-T.) was grown from the carbuncle and from blood cultures. The cerebrospinal fluid had twenty cells per c.mm. and a trace of globulin.

As it seemed probable that the cavernous sinus was infected, it was decided to occlude it by electro-coagulation. The cavernous sinus was exposed by a "right cranial opening" and the right temporal lobe was elevated. The sinus was then obliterated up to the orbital fissure with the Bovie electro-coagulation unit and the cranial wound closed without drainage. The angular vein was then exposed and opened, and pus was found tracking into the orbit.

There was extreme proptosis for five days, and three localized collections of pus were drained. The patient recovered, with complete blindness of the right eye. The left eye was unaffected.

F. W. WATKYN-THOMAS.

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LARYNX

Paralysis of the Dilators of the Glottis. J. RAMADIER. (*Les Annales d'Oto-Laryngologie*, April, 1934.)

The condition described in this article is usually referred to in this country as "bilateral abductor paralysis". Although we may find some degree of asymmetry in the degree of the paresis on the two sides, the cardinal point of the subject under discussion is its occurrence on both sides. In order to emphasize the points of difference between a cord paralysis due to a recurrent nerve lesion and that due to a paralysis of the dilators of the glottis, the author describes the symptomatology and the clinical points of both varieties and contrasts the one with the other. Summing up his remarks, one may say that "a recurrent paralysis is a phonatory paralysis with an open glottis; whereas paralysis of the dilators is a respiratory paralysis with a closed glottis". In recurrent paralysis there is dysphonia and free breathing; in bilateral abductor paresis there is a strong voice but breathing is impeded. The ætiology of the condition is next discussed. Syphilitic infection is undoubtedly the commonest cause. The author recalls that Lermoyez used to delight in calling the condition the "Argyll of the Larynx", and cases are seen in which bilateral laryngeal palsy is the first sign of tabes. The prognosis of this condition is always serious. Death can occur suddenly during a glottic spasm, and spontaneous recovery is very rare. In view of the fact that most of the cases are caused by a syphilitic infection, antisyphilitic treatment should always be instituted, even in cases in which there is no evidence of a syphilitic infection. Although other forms of treatment are briefly discussed, in most cases tracheotomy is the only form of treatment to be adopted.

M. VLASTO.

Semon and Rosenbach's Law. E. HALPHEN. (*Les Annales d'Oto-Laryngologie*, April, 1934.)

The author first gives us a brief description of the anatomy of the musculature of the larynx and of the nerves which control it. There is a short account of some of the experimental evidence on which Semon's law is based. The recurrent nerve contains fibres from the spinal accessory as well as from the vagus, and destruction of the former by physiologists resulted in a paralysis of the constrictors, whereas destruction of the vagus fibres resulted in a paralysis of the dilators. Semon's law is reiterated and, as a corollary of this law, one can say that in cases of recovery of the recurrent palsy, the cord departs from its cadaveric position of complete paralysis and assumes the median position of a purely abductor paresis. The article concludes by calling attention to the

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difficulty in establishing accurately the position of a paralysed cord. There are not just the two positions—cadaveric and median, but a number of intermediate positions which are not easy to define.

M. VLASTO.

The Function of the Epiglottis in Swallowing. C. E. BENJAMINS.
(*Acta Oto-Laryngologica*, xx., fasc 1-2.)

In a patient, one half of whose larynx had been removed by Glück's method for carcinoma, it was possible, before closure of the pharynx by a plastic operation, to observe and take films showing the movement of the epiglottis during the act of swallowing.

The films seemed to show that a folding backward of the epiglottis was sometimes the principal factor in closing the upper aperture of the larynx, while at others the epiglottis served only to fill up a triangular opening still remaining after closure by the sphincter muscles.

It is, of course, well known that the free portion of the epiglottis can be removed, or destroyed by disease, without interference with swallowing. Probably in such cases the movement of the epiglottis has become gradually restricted, so that the patient has been able to adapt his swallowing mechanism by degrees to the changed conditions.

[The reading of this paper and demonstration of the films was followed by a discussion in which Mr. Negus took part and stated that he still believed that the observations of Anderson Stuart were correct, and that closure was due, not to any action of the epiglottis, but to sphincteric contraction of the muscles surrounding the aperture of the larynx. Although the epiglottis might, as shown in the film, come to lie over the aperture, he regarded this as a "passive movement and not a purposive mechanism of closure".]

THOMAS GUTHRIE.

Exclusion of the Hearing by the use of Noise-producing Apparatus, in the Treatment of Diseases of the Voice and Speech.
H. IMHOFER. (*Acta Oto-Laryngologica*, xx., fasc. 1-2.)

Lombard's test, introduced in 1911, has proved of much value in detecting simulation of deafness in one or both ears. The use in like manner of temporary deafening (by the noise machine of Bárány or the drum massage apparatus of Breitung) as a method of treating speech defects originated with Ullrich-Kuroki in 1918, and has since then been employed by Denes, Kern and others.

The author has used this method with success in many cases of speech defect. In a group of twenty-eight cases of functional weakness of the singing voice (Flatau's "Drysdie"), the method succeeded in twenty-two and failed in six. In most of the latter the condition was not purely functional, but some organic defect was

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also present. In functional aphonia the method succeeded in three cases out of four, and in the fourth case a gynæcological affection was present. Among fifteen cases of stammering ("stottern") six were cured, five improved and four were uninfluenced. In rhinolalia aperta it was successful only in purely functional cases.

THOMAS GUTHRIE.

ŒSOPHAGUS AND ENDOSCOPY

Bronchial and Tracheal Catheterization. PAUL FRENCKNER. (*Acta Oto-Laryngologica*, Supplementum xx., 1934.)

In introducing his work the writer explains his aim to develop, further than has already been done with the bronchoscope, the examination of the bronchial tree and, if possible, to insert an instrument into a specific bronchus, to close off the space between this instrument and the bronchial wall, and then to introduce a gaseous or fluid substance into this bronchus or to collect the respiratory air passing through the bronchus and examine it in different respects.

When the work had advanced to the extent of the development of an instrument of practical use he was invited by Professor Jacobaeus and Dr. Stig Björkman to take part in some spirometric experiments in which the aim was to examine the respiratory air of each lung separately.

The anatomy and physiology of the bronchial tree is discussed. There is an illustration of a cast made by the author using Wood's fusible metal alloy which melts at about 60° C., and further to demonstrate variations in branching of the main subdivisions illustrations from J. Dwight Davis are shown. In an historical survey of the development of bronchoscopy and bronchoscopic instruments it is mentioned that an attempt to look down the œsophagus was made in 1800 and the most thorough early work was carried out by Desormeaux in the fifties, but similar experiments in the air passages were not attempted until the close of the century.

The experiments of Horace Green of New York in 1828 were by no means favourably received, and it was not until the well-known work of O'Dwyer in 1880 that the tolerance of the mucosa of the larynx and trachea to foreign bodies was accepted. As far as is known, Voltolini, in 1875, was the first to carry out direct tracheo-bronchoscopy through a tracheotomy opening. Work by L. von Schroetter and Pieniasek followed, but Kirstein, in 1895, was the pioneer in deliberate laryngo-bronchoscopy, and in 1896 Killian took up the idea enthusiastically. Some early endoscopic instruments are illustrated as well as the later developments of Brünings, Kahler, Hasslinger and Jackson. In the fourth chapter of his work, dealing with bronchial and tracheal catheterization, an

Œsophagus and Endoscopy

historical review of this particular subject is also to be found with the following definition :

“ By bronchial catheterization, I mean the procedure of passing a flexible or a rigid tubular instrument down into a certain pre-determined bronchus and of obtaining an air-tight closure between the bronchial wall and the instrument by means of a special fixture on its distal end so that it is possible to transmit to or from the area of distribution of the air-way in question, a gaseous or fluid substance for diagnostic or therapeutic purposes. I thus consider that this term bronchial catheterization should be reserved for the procedure which involves an air-tight closure between the wall of the passageway and the instrument and that it should not be used, as I have done in the past, to include the introduction of ureteral catheters or other fine instruments into the smaller bronchi for lipiodol injections, irrigation of abscesses, etc.”

The principle of trying to close off a certain pulmonary segment in the living animal in order to collect gas for analysis was first reported by Pflüger, and in 1871 his assistant, Wolffberg, described a pulmonary catheter constructed from a Ternier abortion cannula, and this was used through a tracheotomy opening to attempt to isolate the whole left lung in a dog.

The experiments of H. Head are mentioned and also those of Werigo who, by means of a manometer, took a reading of the air pressure required to distend the rubber obturator to shut off the bronchus. The reading, however, was taken before the experiment by a trial in a glass tube of the diameter of the bronchus.

Similar arrangements were used later by A. Loewy and H. von Schrötter in experiments on human beings, but the apparatus had many disadvantages. The cannulas of Hess, Tørning, Green and others are described, and tribute is paid to the intratracheal pressure bulb tube of Dorrance because of the reliable arrangement for obtaining close fitting of the tracheal obturator.

In describing the development of his own apparatus the writer concludes, from the experiences of these earlier workers, that a practical obturator is the essential requisite in the development of a clinically useful method of bronchial catheterization and he eventually succeeded by developing an obturator in which the rubber to be inflated is fixed by metal against metal. Very specially prepared segments of seamless rubber tubing are used and are stored in sealed ampoules containing carbon dioxide to prevent deterioration.

The author's double bronchoscope was eventually produced. This is an instrument which should allow a simultaneous flow of all the respiratory air of both lungs through separate tubes under conditions as physiological as possible. This instrument “ is constructed of slender brass tubes with distal illumination according

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to the same principles as those which Chevalier Jackson uses. It consists of the following parts: two tubes for the respiratory ear, two tubes for illumination, one tube for inflation of the rubber caps two light carriers with lamps, an obturator at the distal end, and another almost one decimetre away, two proximal outlets for the respiratory air, and two window plugs."

Down one bronchoscope one can see into the left main bronchus and down the other observe the carina and entrance to the right main bronchus. After discussing the physics of the behaviour of currents of fluid and gaseous substances through tubes, a further instrument, the flexible double bronchoscope, is described, but in this two optical systems as used in cystoscopes are employed, and these are removed when the apparatus has been introduced.

Bronchial and tracheal catheters with obturators to be introduced through a bronchoscope or laryngoscope have been developed by the author, and also a tracheal cannula with obturator. A catheter bronchoscope with optical systems is another development and through this can be passed catheters of the bronchial or of the ureteral type, the latter being directed by an arrangement similar to that in cystoscopes.

Finally, there is a self-illuminating laryngoscope with removable slide. This instrument is not unlike, in external appearances, the anterior commissure laryngoscope of Jackson. An instrument table with sterilizer has been designed for the armamentarium and is illustrated.

THE APPLICABILITY OF BRONCHIAL AND TRACHEAL CATHETERIZATION

(I) *Bronchospirometry.*

In this department the author has taken the suggestions of Professor Jacobaeus as a guide and was joined in the work by Dr. S. Björkman.

"In collaboration with Dr. S. Björkman, who has for some time been carrying out spirometric investigations in various diseases of the lungs, the suggestions of Jacobaeus were developed, and since then the procedure has been advanced to such a point that we are able to present a rather well worked-out method of examination. The technical problem of obtaining the respiratory air from each lung separately has been my task, while Dr. Björkman has done all the analyses.

"The term 'bronchospirometry', which is an abbreviation of the more adequate expression bronchoscopic spirometry, means the volumetric determination and gaseous analysis of the respiratory air of each lung, separately, made possible by the isolation of the air of each lung by means of a bronchoscope or a catheter-like instrument (Jacobaeus, Frenckner, Björkman)."

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In this part of the work the author explains how the flexible bronchoscope came to be used less often and the rigid double bronchoscope more frequently, as no doubt it will be in the future. The method of local anæsthesia using Pantocain is described in detail. An illustration of Dr. S. Björkman's double spirometer is shown and a few examples of the readings from the instrument are given, the reader being referred to a special article in the *Acta Medica Scandinavica* for details of results obtained from investigation in different diseases of the lungs.

(2) *The Measurement of Intra-Bronchial Pressure in both lungs separately.*

To carry out such an investigation accurately a sensitive recording instrument had to be developed to replace the ordinary type of mercury manometer, and Mr. H. Swedenborg was consulted in the production of a machine for transmitting pressure variations in the form of electrical energy.

(3) *The Therapeutic Administration of Gaseous Substances.*

Animal experiments are described in which ozone is used as an irritant gas, in conjunction with blood stream injections of septicemine, a drug said to have a bactericidal effect in the lung and which, on oxidization, is believed to release pure iodine in the tissues.

(4) *Intratracheal Positive Pressure Narcosis and Artificial Breathing.*

The author recalls the experiment of Sauerbruch in 1904 and how this observer ascertained that if a dog were placed with the head in atmospheric air and the body in a chamber with a negative pressure of 7 mm. Hg. one could open the pleura without respiratory complications. The further experiments of the German or Sauerbruch school allowed the use of boxes and chambers to be replaced by a mask apparatus, but in 1909 Meltzer and Auer published their experiments with intratracheal insufflation which led to such wide interest and use of their method.

The writer discusses the disadvantages of positive pressure narcosis and explains how the effort of breathing, even against the slight positive pressure of intratracheal insufflation, may be fatiguing.

In discussing apparatus to achieve rhythmical respiration and avoid these disadvantages, the use of the pulmotor as an aid to artificial respiration is mentioned, but the author describes the development of a more delicate and suitable apparatus for positive pressure narcosis and artificial respiration which he calls the spiropulsator. With this, and using the closely fitting intratracheal catheter, satisfactory results were obtained. The apparatus is illustrated and, as an example of the investigations, one of the experiments with artificial respiration and positive pressure narcosis

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in a dog is described in detail. He believes that breathing could also be arranged for one lung alone by using the close fitting bronchial catheter.

Finally he refers to the use of his close fitting tracheal cannula—a modification of Trendelenburg's in laryngeal and tracheal operations. The work is well illustrated and an extensive bibliography is supplied which contains no less than seventy-five references.

H. V. FORSTER.

MISCELLANEOUS

The Treatment of Tumours of the Hypophysis.

CLAUDE DE MONTMOLLIN. (*Revue de Laryngologie*, etc., April, 1933.)

It is admitted that radiology has made great advances in recent years in the treatment of cerebral tumours and, in consequence of this improvement in results, some authorities have advocated the application of radiation to pituitary tumours, either as a preliminary to, or a substitute for, operative removal. It is true that a large number of these tumours are, in some respects, peculiarly favourable for treatment by X-rays, viz. the adenomata, which constitute something like 50 to 70 per cent. of the whole number of such cases. The cells of which they are composed are markedly radio-sensitive, they are circumscribed within the sella, do not infiltrate and do not give rise to metastases. On the other hand, degeneration of the tissue of which the tumour is composed after irradiation does not always cause diminution of the bulk of the swelling and, consequently, cannot be relied upon to reduce the pressure on the optic chiasma, or arrest the progressive destruction of vision. In the important group of cysts of the pituitary, X-rays make little impression, whilst the surgeon is deprived of the opportunity of dealing with a class of case which is highly favourable to operative treatment. It is rarely possible to make an exact diagnosis of the nature of the tumour without a histological examination, which can be made only after operative removal. Radiology cannot be relied upon in differentiating the various kinds of growth. The author condemns radiation as a preliminary to surgical attack, on the ground that it greatly lowers the vitality of the tissues and adds to the risks of operation. Should the case prove to be one of adenoma, X-ray treatment after the operation is indispensable and should be started as soon after the operation as the patient is fit to be taken to the radiological department. With regard to the choice of operation, Chiari's paranasal route offers the best approach to the floor of the sella. The incision is the same as that for the external ethmoid operation. Infiltration anæsthesia alone should be employed. The orbital tissues are retracted outwards, and the

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sphenoid sinus is reached by exenterating the ethmoid labyrinth. The anterior wall is removed, and also the inter-sphenoid septum. The opening is enlarged downwards. Usually the removal of the postero-superior wall of the sphenoid sinus presents no difficulty. When the sella is opened, a medium sized exploring needle attached to a syringe is thrust through the dura into the tumour. If normal cerebrospinal fluid is withdrawn, the condition is probably one of internal hydrocephalus. Straw coloured fluid containing cholesterin crystals indicates a cyst, gelatinous fluid indicates a degenerated neoplasm, and no fluid at all an adenoma. In the case of a cyst, after incising the dura mater, the case is dealt with by partial excision of the walls, with subsequent drainage. When an adenoma is present it is sometimes extruded spontaneously by cerebral pressure when the dura is opened, and it can then be removed with little difficulty. In some cases the tissue is extremely friable, and has to be curetted away, whilst in others the tumour is largely replaced by gelatinous fluid, and this requires the use of a suction pipette. The author cautions against too great zeal in the eradication of tumours. This may easily lead to disaster. Partial removal of a cyst wall, with subsequent drainage is sufficient, in most cases, to bring about permanent shrinkage, with relief of pressure on the optic nerves. In the case of adenomata, subsequent treatment by radiation offers the best chance of prolonged, or even permanent immunity from recurrence of symptoms.

G. WILKINSON.

Infantile Diarrhœa with special reference to Dehydration and Otitis Media. Drs. MAIZELS and SMITH. (*Lancet*, 1934, i., 1329.)

In 60 per cent. of autopsies of infantile diarrhœa pus was found in the middle ears or mastoids, and in one in five in the nasal sinuses. Aural examination was made in 72 cases, of which 37 recovered. In 29 cases the drums were red and in 9 of these bulging. The posterior superior meatal wall was red and swollen in 15. The following statistics are given in reference to treatment: 17 untreated, 3 recovered (2 having drained and 1 having resolved spontaneously), mortality 80 per cent. 20 treated, 10 recovered (paracentesis in all, antral drainage in 5.—1 bilateral), mortality 50 per cent. In 35 cases of infantile diarrhœa without otitis, the mortality was 31 per cent. References are given to previous works on the subject.

MACLEOD YEARSLEY.

Successful Removal of an Entire Lung for Carcinoma of the Bronchus.

EWART A. GRAHAM and J. J. SINGER. (*Jour. A.M.A.*, Oct. 28th, 1933, ci., No. 18.)

The case reported is that of a man, aged 48, a physician, admitted to hospital on February 27th, 1933, complaining of cough, loss of

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weight and lassitude. An X-ray examination revealed a fan-shaped shadow in the left lung. The introduction of iodized oil confirmed the diagnosis of obstruction of the left upper lobe bronchus. A bronchoscopic examination was performed but the tissue removed proved to be granulation tissue. Specimens removed at the second and third bronchoscopic examinations, performed two and three weeks later, revealed a squamous-celled carcinoma. Under intratracheal anaesthesia an attempt was made to remove the growth. At operation, it was found that the carcinoma extended so close to the bronchus of the lower lobe that it was decided to remove the entire lung. After a prolonged convalescence the patient made a good recovery and left the hospital three months after operation. It is claimed that this is the first case in which an entire lung has been successfully removed in one stage.

The article is freely illustrated and has a bibliography.

ANGUS A. CAMPBELL.

Complicating Pollen Factors encountered in Ragweed Hay Fever. An atmospheric study. O. C. DURHAM. (*Jour. A.M.A.*, June 10th, 1933, c., No. 23.)

A large part of the poor results in pollen therapy is due to basic botanic cause and it is being found that atmospheric studies tend to simplify rather than complicate the issue. This is the first attempt to evaluate on a nation-wide scale the pollens of secondary importance in the ragweed area during the ragweed season. Most of the statistics were obtained by making definite counts on all pollen slides exposed during 1932 at stations of the United States Weather Bureau, the Canadian Meteorological Service, and the Mexican Meteorological Service. Exposure began on August 10th and continued as long as appreciable amounts of pollen were found in the air. The pollen content of the upper air, even above a large city, is determined more by the hinterland than by the city areas themselves. The hay fever plants of sufficient distribution to be considered complicating factors in ragweed hay fever are hemp, Palmer's amaranth, Russian thistle, Kochia and the various species of sage. They are largely confined to the area between the Mississippi River and the Rocky Mountains. Fall-pollinating grasses are of some importance in the Gulf region and of possible importance farther north. During favourable seasons in central Texas, elm pollen is of clinical importance. Hemp is an interesting local hay fever plant at Omaha.

The article contains a table showing a distribution of the complicating pollen factors throughout the various large cities on the American Continent.

ANGUS A. CAMPBELL.