for the still further elucidation of morbid conditions of the nasal passages and their accessory sinuses, and for their successful treatment, provided always that enthusiasm is not allowed to run away with discretion.

W. M.

RETROSPECT OF OTOTOLOGY, 1908.¹

BY DR. DAN MCKENZIE.

AMONG the more interesting incidents of the year may be mentioned the meeting of the British Medical Association at Sheffield. A discussion on intra-cranial complications, etc., was introduced by Messrs. Ballance and Whitehead (545). The Presidential Address by Dr. Peter McBride (98) on the opening of the Otological Section of the Royal Society of Medicine contained some very valuable suggestions, and the work of the Section has kept up to the high standard maintained by the Otological Society, of which it is the successor.

AURICLE.—A case of hyperplasia, possibly of eczematous origin, was shown at the Otological Section of the Royal Society of Medicine by Dr. Furniss Potter (332), and Dr. Pasquier, at a meeting of the Parisian Society of Laryngology, Rhinology, and Otology, reported a case of what seemed to be botryomycosis of the auricle (567). The function of the appendage as a conductor of sound-waves has been discussed by Dr. Geigel (128).

EXTERNAL AUDITORY MEATUS.—An uncommon case was described by Mr. Fagge, at a meeting of the Otological Section, in his report of a branchial sinus excised by him, which led from the neck into the external auditory meatus (198). Deep ulceration of the external meatus due to secondary syphilis, combined with purulent otitis media, was reported by Dr. A. Bronner at the same meeting (197), and Dr. W. H. Kelson showed a case of stenosis of the right meatus, the causation of which was somewhat doubtful (111). Dr. Cobb has drawn attention to the well-known danger to the ear as a result of swimming (707). Dr. Gaudier, investigating the effects of the Bier treatment upon diseases of the ear, has come to the generally accepted conclusion that while benefit accrues from the use of the treatment in furunculosis, in otitis media and mastoiditis, on the other hand, it is valueless (526).

MIDDLE EAR, MEMBRANE AND OSSICLES.—Mr. Macleod Yearsley has related a case in which a small grass seed became embedded in

¹ The numbers in brackets indicate the pages in the volume for 1908.

the membrane (103), and Dr. Milligan an epithelioma of the middle ear which was attributed to an injury (199).

ACUTE OTITIS MEDIA, due to pneumococcal infection, was the subject of an article by Mr. W. H. Browne, in which he advised the careful cleansing of the mouth and throat as a prophylactic measure, and the free opening up of the cells when infection has once obtained a hold (275). At the French Congress of Laryngology, Rhinology, and Otology, Dr. Lermoyez inveighed against the method of treating acute otitis media by syringing, inflation, and antiseptic drops, and in their place advised the free opening of the membrane, followed by the insertion of a tampon of aseptic gauze, and the protection of the ear from the external air (422). An advanced position is taken up by Dr. Henry Caboche, who pleads for early antrotomy in what he terms the latent form of acute suppuration of the middle ear, which manifests neither pyrexia nor tenderness over the mastoid, but only bulging of the postero-superior quadrant of the membrane with purulent discharge (453).

OTO-SCLEROSIS has again formed the theme of several contributions to otology during the past year. At the French Congress Dr. Cornet expressed himself as of opinion that the ætiology of the disease is auto-intoxication in the great majority of cases (424); and Dr. Brühl, at a meeting of the German Otological Society, exhibited some microscopical specimens illustrating sclerotic pathological changes (433). "The Anatomical Condition of the Foot-plate of the Stapes in Oto-sclerosis" was the title of a paper read before the same Society by Professor Politzer, in which he showed that oto-sclerosis consists, not in a change of the normal bony tissue in the labyrinthine capsule, but in a real new formation which displaces the normal bone, and often proliferates over the surface of the capsule of the labyrinth. He has never found, in his histological examination of the typical form of the disease, the slightest change in the mucous membrane of the middle ear or in its periosteal layers (436). At the same meeting Dr. E. Bloch reported a case of "Hyperostosis of the Labyrinth Capsule," in the causation of which heredity seemed to have played a part (437).

CHRONIC SUPPURATION OF THE MIDDLE EAR.—An important addition to our knowledge of the clinical pathology of aural discharges was made by Dr. Wyatt Wingrave in a paper read before the Otological Section (302), in which he summarised the results of investigations carried on assiduously by him over a number of years. The reading of the paper occasioned an interesting discussion in which Drs. Jobson Horne, Milligan, and others participated, and at a

later meeting the subject was continued and extended by Mr. John M. Darling (504). In connection with the causation of chronic aural suppuration, Dr. F. P. Emerson has called attention to "Rosenmuller's Fossæ and their Importance in Relation to the Middle Ear" (399). The association of chronic suppuration of the middle ear with optic neuritis and retinal changes has been further investigated by Drs. Stoddart Barr and Rowan (174), and the first-named observer, in a paper read before the British Medical Association at Sheffield, described the production of paralysis of the sixth cranial nerve by lesions consequent upon purulent disease limited to the temporal bone (553). Dr. Luc, at a meeting of the Parisian Society of Laryngology, etc., detailed a case (similar to that which formed the text for Dr. Stoddart Barr's remarks) of acute mastoiditis with paralysis of the sixth nerve in a diabetic, in which both the suppuration and the paralysis were cured by the radical mastoid operation (51). The German Otological Society, meeting at Heidelberg, like the British Medical Association Meeting in 1907, devoted considerable time to papers (read by Dr. O. Körner and Professor Scheibe) on the "Conservative Treatment of Chronic Middle-ear Suppuration" (426). Some difference of opinion was manifested by the authors, but both agreed that mastoid operations should not be performed save when the symptoms clearly point to the necessity for operative interference. A curious case has been recorded by Dr. V. Urbantschitsch, in which disturbances of speech and writing with paresis of the upper and lower extremities disappeared after the cure of cholesteatomatous disease of the middle ear by operation. The presence of the nerve symptoms was ascribed to reflex irritation (278).

FACIAL PARALYSIS.—Dr. Ferdinand Alt, speaking on the "Operative Treatment of Otogenic Facial Paralysis," at the German Otological Society, reported the restoration of the function of the nerve after four years, by clearing the nerve-trunk of granulations and scar-tissue, in a case in which paralysis had followed the radical mastoid operation (438).

MASTOID DISEASES.—The treatment of mastoiditis in diabetics formed the topic of a discussion in the Parisian Society, in which Drs. Furet, Luc, and others took part. It was shown that while coma and death followed the operation in some cases, on the whole the results were not unfavourable. Local anæsthesia was preferred. (50). According to Dr. J. D. Richards, who raised the same subject in an article entitled "Mastoiditis Occurring in Diabetic Subjects," the prognosis depends little upon the amount of sugar

in the urine and much on the rapidity of the operator (278). Af. Forselles, writing on the early diagnosis of mastoiditis, supports the method introduced by Hammerschlag of estimating the specific gravity of the aural discharge, by adding a drop of the discharge to a mixture of chloroform and benzole (276), and adding chloroform or benzole till the drop remains stationary. The specific gravity of the mixture is then taken. [The value of this method has been disputed by Tetens Hald.—D.G.] Dr. J. E. Sheppard, in the course of a symposium on hysteria of the ear, at the American Laryngological, Rhinological, and Otological Society, devoted himself to the discussion of hysterical simulation of mastoiditis (59). At the French Congress, Dr. Luc described "A New Method of Diagnosing and Treating Periostitis of the Temporal Bone due to Aural Disease," when there is no suppuration of the mastoid (423).

MASTOID OPERATIONS.—Dr. J. Stoddart Barr, in a paper read before the Otological Section, details a modified method of grafting the mastoid wound which he has found useful. The grafts are cut under local anaesthesia and blown on to the granulating bone surface by means of a glass tube. At the same meeting Dr. Logan Turner exhibited several cases illustrative of the modified mastoid operation, and Dr. W. G. Porter related the course of events in a case in which, owing to a rapid new formation of bone after the radical mastoid, the parts became stenosed and they had to be opened up again (491). The discussion which arose out of these papers proves instructive reading, since it presents the practice of several well-known authorities upon details of the mastoid operation. Professor Hartmann has invented a method of closing mastoid fistulae by displacing the auricle upwards and backwards into what the author considers to be its normal position (440). Dr. G. A. Leland has published a method of employing a periosteal flap, cut from the mastoid process, in order to obliterate the excavation in the bone (525); and what promises to be a useful syringe has been invented by Dr. Urban Pritchard for the purpose of washing out the mastoid wound through the meatus (495).

THE LABYRINTH.—During the year 1908 the subject of suppurative labyrinthitis has come more and more into prominence as a consequence of modern work on the pathology and operative treatment of the disease, and the evidence of this activity is seen in the many important articles which have appeared in this JOURNAL. Beginning with the diagnosis, we find Dr. W. P. Eagleton discussing the value of von Stein's symptom in labyrinthine suppuration (63), and Mr. N. H. Pike, describing the clinical methods employed

by Bárány in testing the functional activity of the labyrinth by his rotation and caloric tests (596). The pathology and symptomatology of the disease were discussed at a debate in the American Laryngological, Rhinological, and Otological Society, under the leadership of Drs. Clarence J. Blake and Henry O. Reik (117). In cases where typical labyrinth symptoms are absent, the most reliable means for eliminating labyrinthine impairment consists in Körner's test of making the patient hop backwards, according to Krotoschiner (219). An interesting case from the physiological point of view is that described by Dr. A. Hautant, with a fistula over the external semi-circular canal, in which vestibular nystagmus could be induced by direct pressure on the fistula by a probe. The results confirmed the experiments of Ewald (565). The differential diagnosis between serous labyrinthitis occurring in purulent otitis, which runs a favourable course as regards life, and purulent labyrinthitis, which is a dangerous disease, was detailed by Dr. Voss in a paper read before the German Otological Society (435). Turning to the pathology of purulent labyrinthitis, macroscopic and microscopic specimens illustrative of the disease have been exhibited to the Otological Section by Dr. A. Gray (199), Mr. Sydney Scott (200), and Mr. Macleod Yearsley (331), and to the German Otological Society by Professor Siebenmann and Dr. Yoshii (433). Individual cases of the successful extirpation of the labyrinth for suppuration have been exhibited by Mr. Sydney Scott and Mr. Macleod Yearsley (199), and Messrs. West and Sydney Scott, in a paper read before the Section of Otology, published thirty cases of extirpation of the labyrinth with only one death directly due to the operation, and described their methods of operating. The discussion on the paper revealed the existence among the speakers of a healthy amount of caution regarding the indications for the operation (177 and 201).

The literature of the operative surgery of the internal ear has also been enriched by the addition of a case of "Ablation of the Vestibules for Vertigo," published by Dr. Gibson and Mr. Lake (496).

That a considerable amount of work has been done upon diseases of the labyrinth other than suppuration may be gathered from the following. "The Ear Symptoms in Arterio-sclerosis, with Special Reference to the Labyrinth," by Dr. J. J. Kyle (115). The cure of what may have been syphilitic deafness by iodoform pills has been reported by Mr. R. Lake (104). Mr. Alex. Tweedie and Mr. N. H. Pike, by the application of Bárány's tests in deaf-mutism and non-suppurative deafness respectively, have carefully

gathered together a series of facts which cannot but prove valuable (552, 587, 593, 596, and 656). To these may be added, "The Injury inflicted on the Labyrinth by the influence of Rays," by Dr. Marx (434); "Dilatation of the Ductus Cochlearis," by Dr. E. Rutten (434); and "The Origin of the Cells found in the Deeper Layer of the Stria Vascularis," by Dr. G. E. Shambaugh (278). In this connection also may be read the interesting communication by Dr. Yoshii and Professor Siebenmann upon "Experimental Injuries of the Organ of Hearing" in guinea-pigs by exposing the animals to the influence of loud sounds (433), an investigation which throws a light upon the pathogenesis of industrial deafness, and which also gives support to the Helmholtz theory. The group of symptoms which goes by the convenient name of Ménière's syndrome was made the subject of remarks by Drs. Lannois and Chavanne at the French Congress (422), and Dr. Kyle, in the article on the ear-symptoms of arterio-sclerosis, mentioned above, entered fully into the diagnosis of the disorder. Dr. H. Burger, also, has put upon record a case in which Ménière's symptoms accompanied nasal sinus suppuration and disappeared after the sinus had been operated upon (279).

EXTRA-DURAL ABSCESS.—Dr. Rafael Spira has recorded a case of extra-dural abscess from mastoiditis without suppuration of the middle ear (14). An instance of "Peri-sinusitis of Lateral Sinus" with latent extra-dural abscess in a man, aged sixty, has been published by Dr. Mahu (423).

CEREBRAL AND CEREBELLAR ABSCESS.—At the meeting of the German Otological Society Dr. Uffenorde narrated two cases of subdural abscess, one of which was combined with extra-dural and temporo-sphenoidal abscesses, and the other with meningitis which led to a fatal issue (440). Dr. E. B. Dench has published an analysis of over 200 cases of brain abscess secondary to middle-ear suppuration. In most of the cerebellar cases the route of infection lay either through the petrous portion of the temporal bone or through the lateral sinus. Recovery took place in 33 out of 102 cases. In the 100 cases of cerebral abscess, infection travelled most usually through the tegmen tympani, and 52 cases recovered after operation (275). Dr. A. Logan Turner, at the Edinburgh meeting of the Otological Section, exhibited a patient who had been successfully operated on for "Left Temporo-Sphenoidal Abscess Occurring in the Course of a Recent Middle-ear Suppuration" (486). Dr. Paul Gilbert, in remarking upon a case of temporo-sphenoidal abscess successfully operated on by him, has recom-

mended the methodical daily exploration of the cerebral wound in order to secure continuous evacuation of the contents of the abscess cavity (582). With regard to the symptomatology of the intracranial complications of middle-ear suppuration, the reader is referred to the discussion at the Sheffield meeting of the British Medical Association above mentioned, to a paper by Dr. Körner (633), in which he states that the levator palpebræ superioris and the sphincter fibres of the iris are first affected in oculo-motor paralysis, in a manner comparable with the abductor fibres in recurrent laryngeal paralysis, and to a discussion at the Parisian Society on the value of severe headache as a sign (it may be the only sign) of brain abscess (Dr. Gaudier and others, 337). Dr. Knause has detailed a case in which there was mastoiditis combined with brain symptoms, which underwent disappearance after the arachnoid had been opened for drainage, although, as the autopsy showed, there was present also a considerable temporo-sphenoidal abscess (455).

MENINGITIS.—“A Case of Meningitis subsequent to the Mastoid Operation for Chronic Discharge of the Middle Ear in a Tuberculous Subject, Relieved and Apparently Cured by Lumbar Puncture” has been put upon record by Dr. P. Jakins (34). Dr. Claoué, in the course of a description of a case of otitic meningitis in which the classical symptoms were absent, asks how far can we rely upon the results of lumbar puncture for the diagnosis of the disease, and mentions cases recorded in the literature in which purulent collections in various regions of the cerebro-spinal system had discharged themselves into the spinal subarachnoid space (398). Mr. Sydney Scott read before the Section of Otology notes on a case of “Otitic Meningitis, with Histological Specimens of the Labyrinth, Demonstrating Streptococci *in situ*,” from which he concluded that the cisternæ in meningitis should be drained through the labyrinth (522, see also 455). A suggestion on the treatment of the disease comes from Dr. Laurens, who has advised lumbar puncture and the injection of electrargol into the spinal fluid (423).

Turning to meningitis not otitic in origin, we find a case of deafness following epidemic cerebro-spinal meningitis reported by Mr. H. H. B. Cunningham (193). Purulent labyrinthitis due to epidemic cerebro-spinal meningitis supplied Dr. Ferdinand Alt with microscopic specimens exhibited to the German Otological Society. A case of serous meningo-encephalitis has been recorded by Dr. A. Blau (221).

SINUS THROMBOSIS AND AURAL PYÆMIA.—Dr. Uffenorde has published a paper on “Pathological and Bacteriological Researches in a Case of Extensive Parietal Sinus Thrombosis” (442); and Dr. A. Knapp has described a case in which the organism responsible for the disease belonged to the *proteus-aërogenes* group (276). Dr. Dabney (454) and Dr. Logan Turner with Mr. Henry Wade (486), have reported cases of lateral sinus thrombosis combined with temporo-sphenoidal abscess, and Dr. Peter McBride a case of lateral sinus thrombosis along with cerebellar abscess (483). Dr. P. D. Kerrison has put upon record a case of sinus thrombosis following acute aural suppuration consequent upon diphtheria (221). Cases illustrating the successful surgical treatment of sinus infection have been reported by Dr. Dundas Grant (335), Dr. W. S. Syme (325), Dr. Logan Turner (485), Dr. J. G. Connal (343) and Dr. W. Permewan (487). Dr. Connal’s case was complicated with septic abscess of the lung, and Dr. Permewan’s with pneumonia and pericarditis. A contribution to the question of the treatment of the jugular vein in the operation for the cure of sinus thrombosis and pyæmia has been made by Dr. Cornet (568). The case was one of a child in which recovery followed drainage of the sinus without ligature of the jugular vein, albeit only after a protracted attack of septicæmia. The possibility of the occurrence of septic sinus thrombosis without fever is called to mind by the publication of an apyrexial case by Dr. H. Schroeder (221). Cavernous sinus thrombosis is almost invariably fatal, but a case in which recovery took place after a prolonged illness has been related by Dr. H. Bourgeois (707). Dr. Henry Hanna (364) and Dr. Stucky (529) have each recorded fatal cases.

MALIGNANT DISEASE.—Mr. Hunter Todd has published two cases of aural epithelioma, one of the auricle (113), the other beginning in the tympanum and infecting secondarily the skin over the mastoid region (113 and 112). We have already made mention of Dr. Milligan’s case of epithelioma. Dr. F. R. Nager gave a detailed account to the German Society of an epithelioma of the tympanum in a youth, aged eighteen, which had supervened upon cholesteatoma, and spreading into the labyrinth at several different points had caused necrosis of the bone. The case would seem to be unique (435).

SYPHILITIC DEAFNESS.—Deafness arising from the hereditary disease formed the subject of a paper by Dr. Jules Glover, in which a case was described as one of hereditary syphilis at the second generation (398). Dealing with the same variety of the disease,

Dr. Wanner read a paper on the "Functional Examination in Cases of Congenital Syphilis" before the German Otological Society (430), and Dr. Castex, at the meeting of the French Congress, fixed the percentage of deaf-mutism due to syphilis as low as $2\frac{1}{2}$ (424). Arising out of the case of sudden deafness reported by Mr. Lake (see above), a discussion, in which considerable divergence of opinion was displayed, took place at the Otological Section on the important question, raised by Dr. A. Bronner, as to whether syphilis was a common cause of deafness (106).

MISCELLANEOUS.—We owe to Mr. Thomas Guthrie the elucidation of some points in the development of the middle ear and its contents (541). Drs. K. L. Schaeffer and H. Sessous have written "On the Importance of the Middle-ear Apparatus for the Hearing, Especially of the Lowest Notes" (429). Additional work upon the physiology of audition has been done by Dr. W. Sohler Bryant, who discusses and dismisses as without foundation Helmholtz's "piano-string" theory (455); by Dr. Hegener, upon the methods of estimating the upper tone-limit (428); and by Dr. F. Putelli (223), who, in a paper on the hearing of railway employees, has expressed the opinion that the whispered voice is the most convenient acoumeter. Dr. Robert Bárány has invented a noise-producing apparatus for annulling the sensitiveness of the sound ear while testing the other for unilateral deafness (363, 428).

Herpetic inflammations of the geniculate ganglion of the seventh cranial nerve and herpes of the ear and adjoining regions formed the basis of an article by Dr. J. R. Hunt (173), and the same author has stated his belief that some cases of otalgia should be referred to the sensory portion of the nerve (277).

We have already alluded to a discussion in the American Laryngological, etc., Society on "Hysterical Affections of the Ear and Mastoid," and a case of unilateral hysterical nerve-deafness exhibited by Dr. Dundas Grant gave rise to a similar discussion in the Section of Otology, in which Dr. Purves Stewart and others took part (329). At the same meeting Dr. Dundas Grant showed a case of unilateral nerve-deafness, where the defect was probably due to an organic lesion of the auditory nerve (329). The diagnosis of tumours of the auditory nerve was discussed in an article by Dr. W. Kustner (174), and Dr. Manasse showed to the German Society specimens of exostoses of both internal auditory meatus from a female, aged eighty-three (437).

A hitherto overlooked cause of deafness, and in young children of deaf-mutism, has received attention from Professor Siebenmann

in an important paper entitled, "On Deafness Arising in the Course of Acute Osteomyelitis and Septic Processes in General" (222).

Regarding the treatment of deafness, several points fall to be noticed. Dr. W. Solier Bryant has reported two cases of chronic catarrh of the middle ear in which improvement in the hearing followed the mastoid operation for acute mastoiditis (164); and the same author, discussing "Chronic Middle-ear Deafness" from all causes, catarrhal and suppurative, analyses the production of the defect, and details a number of cases where improvement in hearing power resulted from the careful treatment of each case upon its merits (133). Dr. Ernst Urbantschitsch has recommended galvanism in the treatment of deafness (443), and Dr. Blodgett warms the air in a politzer bag by an electrical attachment before inflating and catheterising (454). Mr. C. Cresswell Baber has described a megaphone for use in chronic deafness. We may also mention here the salpingoscope, with an arrangement for catheterisation and the passage of Eustachian bougies, invented by Dr. Voss (441).

Two out-of-the-way cases have been recorded, one by Piffi (454), in which a piece of grass obtained an entrance to the Eustachian tube and set up widespread suppuration from which the patient died; and the other by Dr. W. S. Syme, in which a Bezold abscess discharged into the pharynx (327).

In continuation of his exhibitions of temporal bones, Mr. Cheatele showed to the Section of Otology nine specimens of fracture of the skull through the temporal bone, and the discussion which followed was enriched by the remarks of Mr. L. B. Rawling, who has paid particular attention to the subject (107).

REVIEWS.—The following works on otology have been reviewed in the JOURNAL during the year 1908: "Beiträge zur Anatomie, Physiologie, Pathologie, und Therapie des Ohres, der Nase, und des Kehlkopfes," by Drs. Passow and Schaeffer (283); "Diagnosis in Disease of the Throat, Nose, and Ear," by Dr. Dan McKenzie (226); "Diseases of the Ear, Nose, and Throat," by Dr. John Johnson Kyle (528); "Maladies de la Gorge, du Larynx, des Oreilles, et du Nez," by Drs. B. J. Moure and A. Brindel (456); "The Topographical Surgical Anatomy of the Mastoid Region," by Dr. H. E. Kanasugi (640); "Handbook of Otology" (English translation), by Profs. Bezold and Siebenmann (280).