be marked. On 16th May another anæsthetic was given; the zygoma was found to be completely bare of soft tissues and its surface was roughened. The arch was removed up to and including part of the malar bone.

The original mastoid incision was prolonged upward and forward, and a search was made through the posterior wound for cells in the zygomatic region. A few small cells were found just above the temporo-mandibular joint.

Healing proceeded steadily, except that an enlarged cervical gland suppurated and required incision. The tympanic membrane is now intact.

The case is shown because the limitation of the swelling to the parotid region is regarded as unusual.

AUSTRIAN OTOLOGICAL SOCIETY.

Proceedings of Meeting of June 1, 1931.

(*From the Monatsschrift für Ohrenheilkunde*, August 1931.)

Abstract of Proceedings by A. R. TWEEDIE, F.R.C.S.

***Streptococcus viridans* as Causative Organism of Suppurative Otitis Media** — E. GRABSCHEID. — A man, aged 30, previously healthy, was admitted on the 18th of May with the history that three months ago, following attack of influenza, he had suffered from an acute inflammation of the right ear, which had never before been the seat of disease. Spontaneous discharge had occurred and, four weeks later, continually increasing swelling had been noted behind the ear, accompanied by headache localised around this region. Five days before admission the swelling had suddenly subsided.

Examination.—Ears: *Right*—Profuse purulent secretion—infiltration of the postero-superior meatal wall—antero-inferior perforation, mastoiditis. *Left*—Membrane was intact, indrawn, and opaque. Conversation: right, a.c.; left, 10 metres. Bone conduction normal. Rinne: right, negative; left, positive. Caloric reaction normal.

At the *operation*, undertaken forthwith, the mastoid was found to be markedly cellular in structure with purulent content and profuse granulations, the apex, where pus under pressure was relieved, being principally affected. On further investigation of this area the abscess was found to communicate with the posterior cranial cavity and the digastric fossa, the sigmoid sinus being thus exposed.

Convalescence was normal.

A pure culture of *Streptococcus viridans* was obtained from the abscess and the case was shown as an instance of this very rare form of infection.

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Austrian Otological Society

Mastoiditis. Operation. Sinus Thrombosis—E. GRABSCHEID. —A woman, aged 35, was admitted to the hospital with a temperature of 40° and the history that she had suffered with an acute otitis media for the last three weeks; during which period paracentesis had been performed three times at three different hospitals. *On examination*, a moderate purulent secretion with swelling of the postero-superior meatal wall was found, with injection and swelling of the upper portion of the tympanic membrane and post-aural œdema.

At the *operation*, the whole mastoid structure was found to be involved. After the operation the raised temperature subsided; but seven days later a rigor occurred with a temperature of 40° and a further operation on the sinus and jugular vein was undertaken. The vein was found to be normal, but the sinus contained pus and granulations, though no thrombus. The case was shown to demonstrate the immediate complete convalescence following the operations, and as an instance of the relief afforded by paracentesis without otherwise influencing the progress of disease.

Chronic Suppurative Otitis Media. Cholesteatoma. Acute Exacerbation following Influenza. Labyrinth fistula. Spontaneous Facial Paralysis. Diffuse Serous Labyrinthitis with destruction of the 7th and 8th Nerve—R. LEIDLER.—A woman, aged 41, was admitted to hospital on the 20th March 1928, with a temperature of 39°, headache, vomiting, and with the history that she had suffered with recurrent right otorrhœa since childhood, for which she had been almost constantly under the treatment of specialists.

Two weeks previously she had had influenza. Six days previously she had had a severe rigor lasting half-an-hour, whilst four days ago she had suffered from severe headache and pain around the right ear.

Examination. — Ears: *Right* — Tympanic membrane markedly infiltrated—defect of outer attic wall—slight fœtid otorrhœa—slight infiltration of the posterior meatal wall. *Left*—Tympanic membrane intact. Conversation: right ear, at 30 cm. Deafness of the inner ear type. No spontaneous nystagmus, no fistula symptom, prompt response to the cold caloric test.

At the *operation*, undertaken on the same day, the bone was found to be completely sclerosed, no trace of a cell being discovered anywhere, and the sinus was placed abnormally forward and overlying the antrum. The walls of the sinus showed recent inflammatory involvement. The antrum was empty and contained neither pus, granulations, nor cholesteatoma, though this latter condition occupied the attic, and granulations were found in the tympanic cavity. Convalescence caused much anxiety owing to the development of a

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pleuro-pneumonia, from which, however, she recovered and was discharged on 11th April.

15th May 1928.—The progress of the wound had been normal, but on this date spontaneous nystagmus and a fistula symptom were noted, and the patient was therefore kept under constant supervision. By the 23rd August these symptoms had largely subsided, and examination carried out on this date revealed:—Total deafness on the right side. Weber to the left. Spontaneous rotatory horizontal nystagmus of the first grade to the right, and of the second grade to the left. Spontaneous by-pointing with both arms to the right. Tendency to fall backwards; but, with the head turned to the right, the tendency was backwards and to the left, and, with the head turned to the left, only very slight instability was noted.

Caloric reaction: 5 *c.c. water at* 13°, applied to the right ear, after 15 secs. nystagmus of the third grade lasting 40 secs. was obtained. Applied to the left ear—nystagmus of the second grade, after 30 secs., lasting 40 secs. Fistula symptom, both compression and aspiration inducing a strong rotatory nystagmus to the right. On rotation in either direction—about normal and symmetrical result.

1st October.—The fœtid otorrhœa still persisted, and appeared to come from granulations over the oval window. Touching this area with a probe induced marked giddiness towards the diseased side.

Under these conditions, the patient was again admitted to hospital, and on the 3rd of April 1929 a further operation was undertaken, when the antrum and tympanum were found to be occupied by granulations and pus, which were retained in this position by a remnant of the membrane, whilst in addition, a fistula was found in the horizontal canal. Convalescence was again so far satisfactory that she was once more discharged to the out-patient department on the 15th April 1929.

20th April 1929.—Slight facial paralysis, right, occurred. Ocular fundi normal. *Rotation* to the right—nystagmus (18 flicks), but no giddiness. *Rotation* to the left—nystagmus (50 flicks), coarse in character, with eyes directed forwards and horizontal giddiness.

Caloric reaction applied to right ear—no result with either cold or hot water. No giddiness. Severe headache commencing in the sub-occipital region and radiating to the forehead.

The patient was then apparently kept under observation, but with no symptoms of treatment of especial importance until *June* 1930, when the following note was made:—General condition good, but the otorrhœa persisted. Facial paralysis recovered. No giddiness, no headache and no abnormal temperature. No spontaneous nystagmus of importance. A polypus was removed from the right ear, after which there was a slight paresis of the buccal branch of the right facial nerve

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with headache, and exploration of the wound cavity suggested the presence of eroded bone.

Caloric reaction applied to the right ear, 50 c.c. at 13 degrees, induced a prompt reaction in 25 secs. Under these circumstances further exploration of the wound was undertaken, when the whole lateral labyrinth wall was found to be occupied by granulations, after the careful removal of which no reason was found for further exploration. Since that date the facial paralysis had again gradually recurred, but the otorrhœa had become merely mucous and inoffensive. The caloric reaction, however, remained negative, although on rotation an almost symmetrical response due to compensation was obtained.

The Exhibitor drew attention to the checkered and protracted convalescence in this case and the varying and puzzling symptoms which arose from time to time, but in spite of all this he was pleased to be able to show, even after three years, such a satisfactory local and general condition. The facial nerve had been paralysed but there was now evidence of partial restoration of its function. The function of the eighth nerve was, however, totally lost.

In the discussion which followed, Neumann remarked that he was hardly able to contribute to the satisfactory local condition as suggested, since there was an extreme stenosis of the meatus and he still found facial paralysis. These conditions were doubtless due to the long duration of the affection, and no doubt the Exhibitor had little desire to undertake the operation. Such cases of caries of the labyrinth could last for years until they ended in a definite sequestrum.

Alexander stated that there was still function in the facial nerve.

Leidler replied that he had brought this case forward as he had treated it in the classical manner; that is to say, he had not operated at the first indication of paralysis of the facial nerve, but had waited, as had been frequently urged before in the Society, until the labyrinth was completely destroyed. In the future he would not postpone the labyrinth operation until complete loss of function of the labyrinth, in cases in which a facial paralysis due to disease of the labyrinth occurred.

At the subsequent Meeting on 6th July 1931, the Neurologist reported that response to the faradic current was very considerably reduced in all three branches, and that there was complete facial paralysis.

Osteopsathyrosis with Blue Sclera (*Syn. Osteogenesis Imperfecta. A.R.T.*)—R. DINOLT.—This exhibit was a man aged 35 who, for the last ten years, had suffered from slowly increasing deafness with severe tinnitus but no giddiness.

There was also a history of a fracture of a knuckle six years ago independent of adequate trauma—and of lues ten years before.

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Ears: *Right*—Tympanic membrane intact but opaque. *Left*—Tympanic membrane indrawn and opaque.

Functional examination showed a deafness of the middle-ear type with marked lengthening of bone conduction, without any improvement on catheterisation and with a normal inner ear. The vestibular apparatus was also normal.

The report on the ocular examination was "Hypertrophia but with normal fundi."

Internal examination did not disclose any other definite signs of this ailment and there were thus only two features in the triad of symptoms ascribed to osteopsathyrosis, namely, the blue sclera and an affection of the hearing apparatus. The Exhibitor especially drew attention to the fact that no other instance of this disease could be found in the patient's history—a point which he submitted was most rare.

Melano-Sarcoma of the Outer Ear—E. RUTTIN.—An otherwise healthy woman of 29 had suffered for two years with small warts in front of the ear, which had soon enlarged and had therefore been excised. As later the condition recurred, further operation was performed, which entailed removal of the entire tragus. Later still, a further recurrence was treated by diathermy, and at the present time numerous similar deposits could still be seen in the concha. Radium therapy was now proposed. Melanin was present in the urine.

Unusually large Aural Polypus—E. RUTTIN.—This condition occurred in the right ear of a woman aged 48, and consisted of a fibrous polypus the size of a small plum which hung far out of the ear. Although the patient lived in Vienna and the condition had existed for 35 years, she had never sought expert advice thereon. Lately, however, the Exhibitor had had the opportunity of seeing her with the doctor who had attended her for pneumonia, and had persuaded her to allow the polypus to be removed.

The Vegetative Routes and Centres in the Medulla, with a special reference to the connection of the Vestibular and Olfactory Nerves — Professor OTTO MARBURG. — This communication represented an abstract of a paper already published by the Author in the 30th volume of the *Arbeiten aus dem Wiener Neurologischen Institut*, 1931.

The Author commenced by stating that the end-nuclei of the vestibular nerve are divisible into two groups, a lateral and a medial. The lateral consists of three superimposed nuclei described by Ziehen as "the area facsiculata," from which the fibres pass into the posterior longitudinal bundle. This area presides over the semicircular canal reaction (Magnus and De Kleyn); that is, the rotatory, galvanic,

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thermic and progressive reactions, the more caudal portion serving the horizontal and the portion situated more orally serving the vertical movements. The posterior longitudinal bundle of the same side constitutes the route for the eye movements of the homolateral side.

The remaining portion of the nuclei of the vestibular nerve is the large-celled Deiters' nucleus. This is definitely the nucleus for the utricle and thus controls the tonic labyrinth reflexes of the body.

As regards the saccular reflex, that is to say the vertical deviation and rolling of the eyes this, according to the opinion of the Author, is associated with various fibres of the vestibular nerve. The most important of these were fibres which entered the flocculus and thence communicated with the oculo-motor nuclei. Having remarked that opinion and acceptance of the above points had been fairly well established, the reader proceeded to discuss further anatomical and physiological details in this connection, which were partially speculative and partially represented matters yet under consideration.

In the discussion which followed, Neumann asked if he had understood the speaker to say that it was not possible for nystagmus to be elicited from the utricle, and, on Professor Marburg replying that this was indeed his view, Neumann contended that this was most interesting, as a clinical condition certainly existed in which it seemed reasonable to conclude that a nystagmus could be induced from a certain portion of the utricle.

He had a patient under observation at the present time in whom a marked nystagmus could be induced by inclining the head to the left, whilst in normal positions this and the accompanying vertigo were completely absent. Admittedly, a part of the symptoms were functional, but the nystagmus could certainly not fall into this category and must be dependent on an organic basis. Professor Marburg suggested that the causative lesion for these symptoms might be situated in the cerebellum.

Neumann replied that at any rate it was of great interest to him to hear that no nystagmus could be elicited from either the utricle or saccule, and concluded with the thanks of both himself and all members to the reader of the paper, trusting that he would favour their Society with a visit more often.

Proceedings of Meeting of July 6, 1931.

(*From the Monatsschrift für Ohrenheilkunde*, October 1931.)

Abstract of Proceedings by A. R. TWEEDIE, F.R.C.S.

Objective Tinnitus in the Right Ear. ? Intracranial Aneurism—E. RUTTIN.—A woman, aged 44, was first seen by the Exhibitor on the 26th June 1931, complaining of headache, fatigue and loss of memory. For the last year she had been hard of hearing on

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the right side, with a constant tinnitus like the noise of a steam engine and attacks of giddiness. In the winter of 1930 she was treated for rheumatism and neuritis.

Examination.—Ears: *Right*—Tympanic membrane opaque, indrawn. Whisper at 6 metres. Weber not lateralised. Rinne positive. Schwabach shortened. No spontaneous nystagmus, by-pointing or fistula symptom. With the auscultation tube one could hear a noise corresponding to the heart action, which was reduced by pressure on the carotid—not appreciably altered by alteration of the position of the body, but slightly less on catheterisation.

Left—Tympanic membrane intact; function normal.

Rotation to the Right, nystagmus lasting 7 secs.
" " Left, " " 16 secs.
" " Right, face downwards, nystagmus lasting 7 secs.
" " Left, " " " 4 secs.
" " Right, head on right shoulder, nystagmus 10 secs.
" " Right, head on left shoulder, nystagmus 7 secs.

Response to the last 4 tests was associated with considerable giddiness.

Caloric reaction, *right*, 50 c.c. at 23 degrees, induced nystagmus lasting 1 minute with typical by-pointing of both arms.

Caloric reaction, *left*, with the same stimulus, induced typical nystagmus — duration $2\frac{1}{4}$ minutes with typical by-pointing with both arms.

Wassermann reaction, negative. Ocular fundi, normal.

Physician's report suggested the probability of an aneurism of one of the small cranial vessels.

The Exhibitor drew attention to the fact that with a definite cochlear lesion on the right side, there existed a marked response to the rotation test, with an increased response to the caloric test, while the cochlear apparatus was normal on the left side.

He suggested that the symptoms were probably referable to an aneurism or to a tumour of the brain.

Gummatous and Cholesteatomatous Defect in the Floor of the External Auditory Meatus—E. RUTTIN.—A woman, aged 40, first seen 19th January 1931, who had had no important trouble in her ears previously, stated that she had noticed only eight days before that she did not hear well.

On examination, the right meatus was found to be completely occupied by polypus, after the removal of which the tympanic membrane was shown with all details easily visible, but with a small perforation in the postero-superior area. Fourteen days later the

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meatus was again completely filled with recurrence of the polypi, which was once more removed on the 29th January, when it became evident that its origin was situate in a deep groove in the floor of the meatus.

2nd February, recurrence of this growth was again removed.

Histological examination of all three specimens revealed the presence only of granulation and fibrous tissue. Wassermann reaction was negative.

Local treatment with a preparation of chromic acid resulted in an uneventful healing.

The Exhibitor submitted that, in spite of the negative result of the Wassermann reaction, the condition was probably as described in the title.

Chronic Suppurative Otitis Media. Bilateral Acute Exacerbation. Circumscribed Labyrinthitis. Extradural Abscess. Temporo-Sphenoidal Abscess—E. GRABSCHEID.—A man, aged 41, was admitted to the hospital with complete deafness and loss of labyrinth reaction on the left side. He was kept under observation for three days, at the end of which time increasing headache, rise of temperature and excessive otorrhœa occurred. For this reason the radical and labyrinth operations were undertaken together; when the attic and antrum were both found to be occupied with purulent granulations, as was also the frontal semicircular canal. After the operation the temperature gradually decreased for four days, after which a rigor occurred and the patient complained of severe frontal headache. A further exploratory operation was undertaken, when the internal jugular vein was ligatured and a large extradural abscess excavated. Three days later, pain and rise of temperature again recurred, followed two days later still by aphasia. The wound was therefore explored again and a temporo-sphenoidal abscess was found and opened. Twelve days later the patient died.

The Exhibitor enlarged on the anxious nature of the case and discussed the course of events which led to the various pathological occurrences.

Remarkable Course of a Bilateral Mastoiditis Mucosus—F. FREMEL.—A man of 51 was admitted to the hospital without any definite history except that pain had existed for some five weeks.

Examination of the ear revealed a typical otitis media due to pneumococcus mucosus. The condition on the left side demanded operation, and *extensive invasion* of pneumococcus mucosus was cultivated from the purulent content.

A normal convalescence followed till the thirty-ninth day after the operation, when a left-sided headache occurred. As the local conditions indicated a further purulent focus, a further operation was

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undertaken and the symptoms were found to be due to a further focus in large cells lying over the external auditory meatus. As, however, the headache also affected the right side, the right mastoid process was also exposed, and this was found to be similarly affected. Normal recovery followed.

The diagnosis and indication for operation had been considerably assisted in this case by X-ray examination.

Large Extradural Abscess of the Middle Cranial Fossa simulating a Lesion of the Lateral Sinus—E. SCHANDLER.—A man, aged 39, was admitted to the hospital in March 1931 with a history of bilateral otorrhœa, following scarlet fever as an infant and persisting till the age of 10. After this both ears were "dry," but since the age of 26 the otorrhœa had recurred on both sides, though unassociated with headaches or giddiness. Two days before admission the patient had pain in the right ear, which was associated with fever and vomiting and was now increasing.

Examination.—Right ear—Otorrhœa, total defect of the membrane, cholesteatomatous deposit in the middle ear, whisper at 20 cm. *Left ear*—Total defect of the tympanic membrane, slight non-offensive secretion. Whisper at 10 cm. Ocular fundi normal. Two days later, as a rigor had occurred, operation was undertaken, when the mastoid process was found to be occupied by offensive pus and a cholesteatoma in the middle ear.

During the routine exposure of the affected areas, an extradural abscess (containing discoloured fœtid pus under pressure) over the middle cranial fossa was incidentally opened.

Lumbar puncture revealed slightly turbid fluid under marked pressure. After a somewhat anxious convalescence the patient made a normal recovery and was discharged on the 10th of April.

On the question of Wilde's Incision for Periosteal Abscesses in Children—L. HOFFMANN.—In showing 4 out of 12 cases in which Wilde's incision had been employed, the Exhibitor remarked that in his opinion this treatment had fallen into disuse incorrectly, and that all the cases so treated had recovered uneventfully, with the exception of one in which a fistula still persisted. In the discussion which followed, Neumann remarked that we had yet to learn in which cases such procedure might be of use and asked if Hoffmann would show his cases again next year, when they would have an opportunity of deciding better the value of this treatment.

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