

doubt contributory by hindering the expulsion of the decomposed material. As to whether the disease is always due to the presence of Loeffler's bacillus, which at a later period may give place to the ordinary pyogenic microbes and saprophytes which have been discovered in the *débris*, is uncertain. Anyhow, the question is raised by this case.

H. Clayton Fox.

### E.A.R.

**Tod, Hunter F.**—*The Value of Ossiculectomy in Chronic Middle-ear Suppuration as a Means of Avoiding the Complete Mastoid Operation.* "Lancet," September 3, 1910.

This excellent paper deals with some 120 patients and puts the case for ossiculectomy in a very advantageous light. The number of cures was 52 per cent. and 30 per cent. were improved. The points in favour of ossiculectomy are given as: (1) The large number of cases which can be cured, or in which the mastoid operation may be avoided; (2) the large proportion in which a good result is obtained with regard to the hearing power; (3) the slight inconvenience of the operation to the patient and the short duration of the after-treatment.

Incidentally, the author advocates the performance of the Schwartz operation in certain chronic cases.

Macleod Yearsley.

**Ferreri, Gherardo** (Rome).—*Pathology and Situation of Otosclerosis.* "Arch. Internat. de Laryngol., d'Otol., et de Rhinol.," July, August, 1910.

Politzer holds that otosclerosis is a primary affection of the labyrinthic capsule localised principally in the neighbourhood of the oval window, the new formation taking place in the bone itself, the mucous membrane and periosteum remaining normal.

Hubermann and Katz believe that the new formation begins in the periosteum, invading the capsule of the labyrinth later.

The author agrees with Moss, Bezold, Scheibe, Politzer, Hartmann and Siebenmann that otosclerosis is a primary osseous lesion of the stapes, the oval window and the capsule of the labyrinth. Shambaugh distinguishes three distinct classes of otosclerosis:

(1) Rigidity of the stapes, osseous conduction prolonged, Rinne negative, and increased perception of deep sounds.

(2) Rigidity of the stapes accompanied by auditory symptoms, more or less marked according to the extent the labyrinthic capsule is involved. If the pathological change takes place in the neighbourhood of the vestibule there are disturbances of equilibrium.

If the cochlea is involved so are the organs of Corti. This explains how in certain typical cases of otosclerosis without rigidity of the stapes, and therefore no interference with the transmitting apparatus, the high sounds of Galton's whistle are not heard.

Bezold describes cases of otosclerosis in which the middle notes are absent. This never happens in hyperplastic or interstitial otitis.

(3) The stapes is free and the cochlea involved. These cases clinically are apt to be confused with other forms of nerve-deafness.

In the newly formed bone medullary spaces are found, in which are giant-cells with numerous nuclei.

Diabetes, arthritic tendencies, gout, neurotrophic and neuroparalytic influences, heredity, ozæna, and syphilis are mentioned as causes.

Gradenigo, Siebenmann and Habermann believe syphilis to be the chief cause, but Wassermann's reaction can decide this point.

Lucae in 37 per cent. and Bezold in 52 per cent. of cases claim a hereditary influence, and this is important from the author's point of view, as osteomalacia and rickets are hereditary maladies and much more common than syphilis; in this fact he believes there lies a prospect of successful treatment.

Where the cause of the auto-intoxication is known, treatment must be directed to the source.

During gestation parturition usually brings about a natural cure; in cases arising during lactation, however, the prognosis is not so good, owing to the neuropathic changes which take place.

The author advocates the use of Wright's diplococcic vaccine for osteomalacia, and reports favourable results from its use in otosclerosis.

*Anthony McCall.*

**Stenger** (Königsberg).—*A Contribution to our Knowledge of the Changes in the Internal Ear Consequent upon Head Injuries.* "Arch. f. Ohrenheilk.," Bd. lxxix, Heft 1 and 2, p. 43.

Stenger has been experimenting upon rats with the object of ascertaining the effect upon the structure of the labyrinth of blows upon the head, and makes this report of his results the occasion of a discussion of the whole question.

He exposed the animals to blows upon the head sufficiently severe to set up more or less concussion, but he bases his remarks only upon those individuals that recovered from the immediate effects of the injury. The others he used as controls. Twelve of the animals so treated were found to have hæmorrhage into the internal ear, whether the blows were light or severe. In those subjected to light blows the effusion of blood affected chiefly the neighbourhood of the round window and the lowest turn of the cochlea, while the vestibule and canals were free from blood. In those in whom the blows had been harder the hæmorrhage was more widespread, extending as far as the apex of the cochlea (in the scala tympani chiefly), affecting the round window markedly, and to some extent also the cochlear nerve and the canalicular ampullæ. In still severer injuries the extravasation was even more extensive; the cochlear spaces were filled with blood, the membrane of the round window was in some cases destroyed, and blood was also found among the fibres of the acoustic nerve. In several instances degenerative changes were remarked in the cells of the organ of Corti, together with certain suspicious appearances in the neurones of the spiral ganglion, but the author cautiously refrains from drawing any conclusions from these last observations, preferring to await the results of further experiment.

The chief data obtained were the hæmorrhages—(a) into the cochlear canals, beginning about the round window and extending to the apex, (b) into the ampullæ, and (c) between the fibres of the acoustic nerve, and especially of its cochlear branch and in the neighbourhood of the lamina cribrosa. In no case was there any obvious injury of the bone—that is to say, that the conditions were those of concussion of the labyrinth without actual fracture of the bony capsule.

The author then proceeds to compare his results with what has been recorded in cases of injury to the labyrinth in man. Injuries of the labyrinth may be divided into—(1) those with transverse fracture of the petrous bone involving the capsule of the labyrinth; (2) those with

longitudinal fracture of the petrous bone not involving the labyrinth ; (2) those without any evident injury of bone.

The first group, that of fracture passing through the bone of the labyrinth, is, naturally, the severest form of injury as far as the hearing is concerned. Healing, when it occurs, leaves the patient deaf, and it is a characteristic feature of this group that the hearing may get worse during the process of repair, and that persistent vertigo is not uncommon.

The other two groups have several points in common : in both the traumatism sets up hæmorrhage, most severe in the neighbourhood of the round window, because that structure is incapable of resisting sudden or violent oscillations of intra-labyrinthine fluid pressure ; in both the nerve also is the seat of more or less extravasation, and in some cases the nerve-trunk itself is actually torn across.

Fracture of the petrous bone along its longitudinal axis is usually a fatal accident, but, if recovery does take place, absolute loss of hearing is uncommon unless the nerve has been seriously damaged. Indeed, in contrast with the first group, hearing may actually improve after the absorption of the effused blood.

Turning to the third group, that of damage of the labyrinth without any obvious lesion in the bone, the author points out that in severe head-injuries in which fracture does not occur, physical violence will still be conveyed along the lines at which fracture is most prone to take place, and, as one of these fracture lines traverses the labyrinth, a violent blow upon the cranium will be transmitted to the labyrinth and may induce disruption of the finer blood-vessels, nerve-fibrils, cells, and other delicate structures of the internal ear. The effects of such physical violence are evident in the lesions he found in the rats' skulls, namely, hæmorrhages, the rupture of the membrane of the round window, and of nerve-trunks or branches, changes which lead to loss of function, transitory or permanent, according to the extent and nature of the damage.

With regard to the question of the more intimate injury of the cells of the end-organ and spiral ganglion, apart from the effects of grosser lesions like hæmorrhage, etc., the author does not deny that comparatively trivial injuries may seriously damage, and even destroy, these structures. But he holds that no definite proof of the existence of such damage has ever been adduced, and that further investigation on the point is necessary.

*Dan McKenzie.*

**Manasse, P.**—*A Contribution to our Knowledge of Typhoid Deafness.*

“Arch. f. Ohrenheilk.,” Bd. lxxix, Heft 3 and 4, p. 145.

Deafness appearing during the course of typhoid and other acute infectious diseases has been attributed to toxic neuritis, an explanation supported by the only case which has hitherto been examined *post mortem*. In the cases which the author has seen during the fever the deafness ended in recovery, but he has had an opportunity of examining the internal ears of a patient who suffered from severe deafness dating from an attack of typhoid fever thirty years before she died. Microscopic examination revealed chronic inflammatory changes in the vestibule together with atrophic changes in the organ of Corti, the ligamentum spirale, the ganglion spirale, the nerve-endings and in the nerve trunk itself, the lesions being most marked in and about the nerves and least marked in the organ of Corti. The position of Reissner's membrane was considerably altered ; in the left ear it bulged outwards so that the

ductus cochlearis was very much dilated; in the right ear it had sunk on to the organ of Corti and the ductus cochlearis was correspondingly narrowed, changes to which little importance can be attached since they are frequent accompaniments of degenerative processes in the labyrinth from whatever cause arising.

In addition to these changes, there were present in both ears the osseous appearances typical of otosclerosis affecting the region of the anterior segment of the oval window. In spite of the obvious supposition that the atrophic changes within the labyrinth may have been secondary to otosclerosis coming on during an attack of typhoid fever, the author expresses the opinion that the affection of the labyrinth was primary and consisted in a combination of labyrinthitis and neuritis. The otosclerosis he regards as accidental.

Dan McKenzie.

**Kyle, J. J.** (Indianapolis).—*Some Important Ear Symptoms in General Diseases.* "Interstate Med. Journ.," November, 1910.

Comprises notes of nervous exhaustion from deafness, a condition not sufficiently appreciated; ear symptoms in arterio-sclerosis, which are sometimes the first to call attention to this disease; vaso-motor ataxia; vertigo in general diseases; differential diagnosis of labyrinthine vertigo; metastasis in ear suppuration; and the fact that a suppurating ear may cause a spread of disease, in which a case is quoted as spreading diphtheria by means of the Klebs-Loeffler bacillus found in the discharge.

Macleod Yearsley.

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## REVIEW.

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*The Treatment of Syphilis by the Ehrlich-Hata Remedy (Dioxydiamido-Arsenobenzol).* A compilation of the published observations, by Dr. JOHANNES BRESLER. Second enlarged edition. (Translated by Dr. M. D. EDER, with an abstract of the most recent papers.) London and New York: Rebman, 1910.

The literature of the now-famous "606" has already reached very alarming proportions, and it is distributed in so many periodicals that it is scarcely possible for any individual reader to obtain a grasp of it from the original articles. Dr. Bresler has done his countrymen a good service by collating and condensing it for their benefit, and we have reason to be indebted to Dr. Eder for having translated the second edition into English. The author has scarcely ventured to comment on the various reports and opinions, and he apparently leaves the reader to draw his own conclusions. The general trend of opinion seems now to be in favour of the intra-venous method of administration, which, in spite of its inconvenience, seems to have the fewest disadvantages, if we may judge by the statements made by those who have practised it. Dr. Bresler quotes from critics as well as from adherents and his work is therefore of peculiar value. As it is quite moderate in bulk and in price everyone who proposes using the remedy on his own responsibility must see the advantage of possessing it.

D. G.