

process in the region of the middle ear. Without careful functional tests, even with a striking otoscopic picture in the middle ear, the affection of the inner ear and nerve may be overlooked. The past history should not be neglected nor the Wassermann test and where warranted a careful examination of the spinal fluid from every point. Chief reliance is however upon well recognized and acceptable tests of the two functions of the inner ear, hearing and equilibration. These and their application the author then describes in considerable detail. The following findings speak strongly for syphilis: Bilateral diminution or complete loss of hearing due to a lesion of the perceiving apparatus detected by careful functional fork tests; bilateral diminution or loss of the vestibular function detected by turning, caloric and galvanic tests. Combination of the bilateral diminution or complete loss of both of these functions may be considered syphilitic as well as pronounced loss of function on only one side with but moderate diminution on the other. The hearing function as a rule suffers more than the vestibular function. The author then gives in detail the report of several such examinations. The first was a case of pronounced right inner ear and eighth nerve syphilitic involvement, in the late secondary or early tertiary stage of syphilis. The second showed a multiple neuritis involving the seventh nerve on the right side and both divisions of the eighth on both sides. There was here marked improvement through anti-syphilitic treatment. In the third case the eighth nerve did not become involved until the patient was past thirty, though the evidences were of congenital syphilis. The next case presented evidences of hereditary lues, but did not manifest itself in the ears until the forty-fourth year. Here as elsewhere the vestibular function was less involved than the hearing and responded more to treatment. Moreover there was marked improvement in both functions under KI treatment, though this was begun three and one half years after the onset of the inner ear difficulty. In this and the former case the Wassermann was negative. Middle ear catarrh had apparently been a predisposing factor here to the syphilitic process.

**Lemere, H. R.** LABYRINTH STIMULATION. [J. A. M. A., Sept. 14, 1918.]

The author suggests that in the study of the application of the physiology and function of the semicircular canals, in the present interest aroused by the aviation tests, there is one method of approach that has not been used, and yet offers a promising field for investigation. That is a more careful study of the actual anatomic position of these canals and their relations to the movements of the head on the body, together with the conjugate movements of the eye. To simplify matters, he says, this subject should be considered mainly in the erect position of the body. He goes over the anatomy of the canals and the mechanics of the motions of the eyes in their relation to each other, and finds that there is a direct relationship between stimulation of the following canals

and the action of the following muscles; the superior canals and the superior and inferior recti; the horizontal canals and the internal and external recti, and the inferior canals and the obliques. Also, the horizontal canals are stimulated by the movements of the head nearly in a horizontal plane, the superior in a longitudinal plane, and the inferior in a transverse plane. The erroneous conception of the positions of those canals should be corrected and they should be called horizontal, longitudinal and transverse, respectively.

**Carpenter, E. R.** NEURO-OTOLOGIC TESTS. [J. A. M. A., Sept. 14, 1918.]

While much has been written about the Bárány tests in the examination of aviators, very little has been said about their value in other departments of army medical work. Carpenter calls attention to their application in cases subject to dizziness. He describes the anatomic relations of the vestibular organ to that of hearing in the labyrinth, and says that the soldier who complains of dizzy spells is entitled to as much consideration as one who has poor vision or deafness. Many unrecognized cases of vestibular disease have occurred and have been diagnosed as gastric disease, etc., or sometimes as hysteria. The majority of such defectives are useless as soldiers. Not all men troubled with dizziness necessarily have vestibular disease, but the significance of the assumption is so great that vestibular disturbance should be sought for. Carpenter, therefore, advises a more general use of the Bárány tests when dizziness is encountered, and closer coöperation between the otologists and neurologists in the examination of recruits.

**Callaghan, J. F.** HEARING TEST TO DETECT MALINGERING. [Bost. Med. and Surg. Rec. Jour., August 15, 1918.]

The following technique is here described to determine whether there is actual deafness in cases suspected of malingering. The basis of his test is the fact that tuning forks vibrating with the same pitch and loudness one inch from each ear are heard in each ear, but if one fork is removed to a point three inches from, let us say, the left ear this sound is lost and only the fork remaining one inch from the other ear is heard. If the latter fork is now removed six inches from the right ear, it will no longer be heard, but the left one will again become audible. Callaghan found that similar results were obtained if a tuning fork were placed against a rubber tubing and his experiments were first conducted with a stethoscope as tube. He now uses a seven-foot length of rubber tubing, hole  $\frac{3}{16}$  inch, wall of tubing  $\frac{3}{32}$  inch, to either end of which is attached an aluminium funnel. The funnels are held to the ears, and about one inch away from them, by a simple attachment on the head-rest of the examining chair which permits of adjusting them to cover the ears without touching the patient. As the test is one of air conduction, it is important that no part of the apparatus comes into contact with the patient's person at any point. Callaghan found that tuning