In one case in which too much tissue had been removed by another surgeon, Friedrich injected paraffin into the septum and turbinals with great benefit to the patient. He agrees with Alexander that the secretion present in cases of rhinitis sicca is, in some way, due to bone disease. [Although one cannot help agreeing with the author that much harm is done by "turbinal snatching" owing to the air reaching the pharynx and larynx in an unwarmed, unmoistened, and unfiltered condition, he appears to go too far when he altogether objects to the removal of the lateral mass of the ethmoid; it would be interesting to know what treatment he suggests in cases of marked ethmoidal suppuration.—REF.]

J. S. Fraser.

EAR.

Hyslop, Theo. B.—Intra-cranial Murmurs in their Relationship to Tinnitus Aurium. "Lancet," October 14, 1911, p. 1062.

This paper deals with the possible intra-cranial origin of tinnitus capitis. He asks—"What is the nature of the protective mechanism which prevents our subjective perception of actual intra-cranial movements?" He has long sought explanations of some of the auditory phenomena in the insane, an investigation necessarily requiring many years of patient labour and observation. He believes that direct stimulation of the auditory nerve is rare except in cases where degeneration of that nerve is taking place. There are various sources of error in the subjective localisation of sounds, and a full account of the phenomena of intra-cranial murmurs requires full consideration of factors which are either exoneural, entotical, esoneural, or psychical. Briefly describing the comparative anatomy of the cerebral lymphatic system, he deals with the physiology of the intra-cranial circulation. In the brain, the venous outflow is regulated so as to prevent its becoming unduly slow or rapid. The absence of valves in the intra-cranial veins would tend to prevent the occurrence of venous murmurs, and possibly the trabeculæ not only regulate the flow of venous blood but also prevent the conduction of sound vibrations. It is assumed that the flow of blood in the venous sinuses is continuous, but, with dilated capillaries and high blood-pressure, pulse-waves may be propagated into the beginnings of the veins. Extra-vascular pressure thus causes extra-venous pressure, and a venous sound so generated may not improbably be propagated in the direction of the venous flow. "Cerebral pressure" really means either undue preponderance of one or other of the cranial contents, partial displacement of one or other constituent, acceleration of the arterial or retardation of the venous circulation, or alteration in the compensatory movements of the cerebro-spinal fluid. Perfect balance of the relative quantities of the cranial contents presupposes certain activities or movements, which are also essential to proper metabolism. The fluid contents of the lymph cisterns may serve to prevent the conduction of intra-cranial sounds to the internal table of the skull; this may fail under abnormal conditions. A point to recognise is that fluid from the subarachnoid lymph-spaces, when forced from the brain by increased intra-cranial blood-pressure, not only passes into the perilymphatic space of the labyrinth and thereby tends to modify the pressure of the endolymph, but it also serves as a more direct conducting medium for sound vibrations arising in connection with the pulsatile or other movements of the brain. These brain

movements are (1) pulsatile from the large basal cerebral vessels; (2) respiratory; (3) vascular elevations and depressions, which alternate and are due to periodic dilatation and contraction of the blood-vessels, regulated by the vaso-motor centre. The exceedingly interesting pulsatory brain movements undoubtedly give rise to intra-cranial murmurs, and during the former the cerebro-spinal fluid is subjected to doubly compensatory movement. Any excess of cerebro spinal fluid is always compensatory, and it is to be noted that excess of this fluid within the cranium is not, as a rule, attended by tinnitus. In one case of dementia under Hyslop's notice, an intra-cranial murmur described by the patient as "deep down" in his brain, the tinnitus was probably due to the to-and-fro movement of the fluid over the roughened middle cerebral fossa, and was of respiratory rhythm. In great expansion of cerebral volume, owing to arterial pressure, brain may come in contact with the rigid bone, giving rise to a pulsatile murmur. Anæmia and hyperæmia are powerful agents in modifying pressure equilibrium. Undue pressure on peri- and endo-lymph attends the high arterial pressure of Bright's disease, giving rise to tinnitus. In plethora culminating in apoplexy, in which tinnitus is an early symptom, the brain may be forced against the inner table of the skull, thereby rendering it possibly for the pulsatile waves to come into almost direct contact with it. In anæmia and chlorosis, where tinnitus is often a prominent symptom, the murmurs originate possibly from the jugular bulb. Venous murmurs may be pulsatile or respiratory in rhythm, and the blood in the brain sinuses may undergo a pulsatile movement owing to the fact that during cardiac diastole much blood flows into the veins, and this movement may be propagated into the veins of the retina and auditory organs. Hyslop finally discusses crackling noises in the region of the longitudinal and lateral sinuses and the torcular. They are of uncertain origin.

Tinnitus due to cerebral aneurysm is only referred to, the paper being designed rather to open up a distinct line of investigation.

Macleod Yearsley.

PHARYNX.

Hays, Harold.—Pneumococcus Infections of the Throat.—"Annals of Otol., Rhinol., and Laryngol.," vol. xx, p. 835.

The author describes three cases and refers to the literature. The condition usually comes on suddenly with moderate temperature, intense congestion and œdema of the throat and inflammation of the anterior cervical glands. Prostration is considerable, swallowing painful, with thick tenacious mucus. Superficial circumscribed ulceration may occur. The course is short, terminating by lysis. Diagnosis must be made from diphtheria, Vincent's angina, tuberculosis, influenza and rheumatism.

Macleod Yearsley.

Spencer, W. G., M.S.—Congenital Specific Stenosis of the Fauces and Pharynx.—"Proc. Roy. Soc." (Clinical Section), January, 1912.

Female, aged nineteen, shows persistent nodes and gummatous scar on scalp. In June severe ulceration of fauces and pharynx; tracheotomy was performed. *Salvarsan injected and ulceration rapidly healed, but stenosis resulted.* Mr. Evans performed plastic operation in August, but in October patient re-admitted with dyspnœa and dysphagia; second tracheotomy, naso-pharynx only admitted small catheter and oropharynx