innervation of the larynx actually accepted, which accords the sensory function to the superior laryngeal." In all these cases with one exception the facial nerve remained intact. The deviation of the angle of the mouth in the disease should perhaps be referred (Gowers) to the lesion of the hypoglossal.

(2) *Associated or symptomatic forms.*—Twenty-eight cases, 20 men and 8 women, were recorded by L. Harmer, Oltuszewski, Schlodtmann, Turner, Avellis, de Havilland-Hall, Strazza, Eisenlohr, Jobson Horne, Poli, Hoffmann, Tilley, Semon, Moebius, Hughlings Jackson, R. Lake, and Remack.

The distinctive feature of this group is the central (bulbar) site of the lesion. The question whether by means of any of these cases one might be able to refer the pharyngo-laryngeal hemiplegia to a cortical origin would seem to be implicitly negatived by the fact, now ascertained, that the literature contains no incontestible case of cortical laryngeal paralysis. On the other hand, Dr. Poli suggests that the question might be raised whether in any of these cases—*e. g.* of tabes or syphilis—the lesion was truly bulbar in view of the fact that in some cases of posticus paralysis of tabetic origin the autopsy demonstrated rather a peripheral lesion of the nerves than a nuclear. It would appear incontestible, however, that the lesion was bulbar in some of the cases, and especially in those due to syringo-myelia. It is worthy of note that in none of them did the lesion extend to the spinal root of the accessory (sterno-mastoid and trapezius).

(3) *Atypical forms.*—(*a*) Glosso-pharyngeal, 3 cases, Hirt, Leudet, and Schiffers; (*b*) glosso-palatine, 2 cases, Lermoyez, Ascoli; (*c*) glosso-laryngeal and shoulder muscles, 1 case, Tapia, due to patient being gored a little below the angle of the lower jaw; (*d*) laryngeal and muscles of shoulder, several cases by many authors due to lesion of spinal accessory in both branches and its peripheral tract.

(4) *Crossed forms.*—(1) A case of *right* glosso-pharyngeal paralysis and homolateral muscles of shoulder and *left* vocal cord (Hughlings Jackson). Notwithstanding Morell Mackenzie's opinion, that this was of bulbar origin, the author considers that from his study of the previous cases it may be ascribed to a peripheral cause. (2) Case of paralysis of *left* cord and *right* side of velum palati (M. Mackenzie). Autopsy disclosed a superficial inflammation of the medulla. (3) Case of paralysis of the *left* side of palate and *right* vocal cord (Birkett). Cause unknown. There was a painful swelling at the angle of one jaw.

Dr. Pole draws the following conclusions: The classification is not absolute, as many of the cases, better and longer observed, might perhaps be included with other forms. Although the data from autopsies are available in only nine cases, it is possible to state (1) that in those which present themselves in the *genuine form* the site of the lesion is peripheral and preferably along the extra-cranial course of the nerve-fibres, but the nearer the point of exit from the cranium the more complex are the symptoms. (2) In the cases in which the lesions are varied and complex the site of the lesion is often—but not always—central or more accurately bulbar. *James Donelan,*

ŒSOPHAGUS.

Zahn (Halle).—*A second Case of Distortion of the Œsophagus produced by Vertebral Ecchondrosis.* "Münch. med. Woch.," May 8, 1906.

The patient had been ordered feeding by the stomach-tube on account

of general wasting (chronic pulmonary tuberculosis, etc.), but the tube was found, at a distance of 40 cm. from the teeth, to strike upon a hard and apparently smooth resistant object, beyond which it could not be pushed. The following conditions were found on *post-mortem* examination :

The seventh and eighth left ribs were thickened at the junction of the cartilage and the bone, through the presence upon each of a hemispherical elevation $1\frac{1}{2}$ cm. in height, which was of bony hardness and extended to the inner surface of the sternum. The cervical spine was moderately lordotic, the thoracic in the middle third kyphotic and slightly bent to the left, especially at the level of the eighth and ninth vertebræ. About $1\frac{1}{2}$ cm. to the right of the middle line of the intervertebral disc, between the ninth and tenth thoracic vertebræ, there was a smooth, greyish-white, cylindrical growth, $1\frac{1}{2}$ cm. in height and 1 cm. in width, with rounded surface and cartilaginous consistency. A similar smaller one grew from the disc between the tenth and eleventh ; the œsophagus lay between the thoracic aorta and the growth, and was bound to these by loose connective tissue. The calibre was slightly widened above but slightly bent at the point of pressure and reduced in diameter. The scoliosis was not tuberculous, and there did not seem any probability of the growths having arisen from syphilis or injury, nor that they were part of multiple congenital ecchondrosis, the thickening of the seventh and eighth left ribs being probably ossified callus resulting from an old fracture. The former case is published in the *Münch. med. Woch.*, 1905, No. 35.

Dundas Grant.

EAR.

Bourguet, Julien.—*Surgery of the Labyrinth.* "Annales des Mal. de l'Oreille, du Larynx, du Nez, et du Pharynx," September, 1905.

In this paper the topographical relations of the aqueductus Fallopii, external semicircular canal, and other structures entering into relation with the outer wall of the vestibule are precisely stated. The methods of opening the labyrinth by Botey, Hinsberg, and Jansen are fully described and criticised, and then the author details his own, which is as follows :

(1) An évidement is performed, fully exposing the inner wall of the tympanum, attic, aditus, and antrum, and the ossicles are all extracted.

(2) The vestibule is first entered superiorly. A specially constructed guard, called a facial protector, is placed in such a manner as to shield the facial canal and so that its hollowed-out upper edge is in relation with the widened orifice of the external semicircular canal. A burr is then worked into the vestibule at this spot, and the ampullary ends of the external and superior canals, together with the upper and posterior parts of the vestibule, are opened up. Attention is then directed a little above the point of first entry into the vestibule, and the inferior extremity of the anterior branch of the vertical canal is trephined. The protector is then withdrawn, and, working from before backwards, the anterior segment of the external canal up to the point of its reflection inwards is laid bare ; finally, the posterior branch of this canal is opened up. A wire, acting as a guide, is passed along it and brought out at the vestibule, after which the bone intervening between it and the operator is broken down. Thus the vestibule is freely opened above and behind.

(3) The vestibule is then attacked inferiorly. The lower frame of