much physiological importance, as it results in a very mild nystagmus to the opposite side."

It is necessary to be familiar with the above findings to understand the mechanical reflex and to explain the "sign of fistulas." If one exerts a very strong pressure, by means of a Gellé-tube, for example, in an ear, in which the bony labyrinth is intact, there results no movement of the endolymph in the semi-circular canals, and consequently no reflex; but if the bony wall of the semi-circular canal is wanting, if there exists a fistula of this canal, then we obtain a reflex nystagmus; with compression the endolymph flows towards the ampulla, and hence the nystagmus is towards the affected side; with the removal of the pressure, the flow is away from the ampulla, therefore, the nystagmus is towards the healthy side. When the lesion is situated in any other part of the vestibule, instead of in the external semi-circular canal, the sign of the fistulas always exists, but the direction of the nystagmus loses its value. The rotatory, caloric or Barany, and the galvanic methods of eliciting nystagmus are all very minutely described. In the first two methods, the determining factor in producing the nystagmus is the direction of the endolymph current, as in Ewald's experiment. Thus in the rotatory method, in turning a patient from right to left, the endolymph in the right ear is driven towards the ampulla causing a marked nystagmus to the same side, i.e. the right; while in the left ear the endolymph is forced from the ampulla towards the arc, causing a slight nystagmus to the opposite side, i.e. the right, where it joins and reinforces the important nystagmus due to the stimulation of the right labyrinth. Consequently to examine a semi-circular canal, it is necessary to turn the patient towards the opposite side and examine the eyes when rotation ceases. In Barany's test, the temperature of the water determines the direction of the endolymph and consequently the location of the nystagmus. The anterior vertical canal is the one usually affected by the caloric method, and the nystagmus is generally rotatory. Cold irrigation in the neighbourhood of the labyrinth causes the endolymph in the vertical canal to flow towards the ampulla whilst hot irrigation reverses the flow from the ampulla towards the arc. Hence both produce a nystagmus, with cold water to the opposite side, with hot water to the same side. The authors here admit that they are unable to explain the direction of the nystagmus.

In both the above methods, the other semi-circular canals can be tested by altering the position of the head, but it must be remembered that then the direction of the nystagmus varies.

As the actual mechanism of the reflex nystagmus in the galvanic