It has also been held to be a vaso-motor neurosis of the vessels of the labyrinth. The condition of the labyrinth in these cases is variable. Acute disease with hæmorrhage has been described, or slow progressive degeneration of the nerves. Giddiness and vomiting may, however, be produced by irritation in other parts of the ear; thus, there are instances in which pressure on the drum or irritation of the external meatus is followed by an attack of giddiness and vomiting.

Diagnosis.—The combination of tinnitus with giddiness, with or without gastric disturbance, is sufficient to establish a diagnosis. There are other forms of vertigo from which it must be distinguished. The form known as gastric vertigo, which is associated with dyspepsia and occurs most commonly in persons of middle age, is, as a rule, readily distinguished by the absence of tinnitus or evidences of disturbance in the function of the auditory nerve. This variety of vertigo is much less common than Trousseau's description would lead us to believe.

The cardio-vascular vertigo, one of the most common forms, occurs in cases of valvular disease, particularly aortic insufficiency, and as frequently in arterio-sclerosis.

There is a remarkable form of vertigo described by Gerlier, which is characterized by attacks of paretic weakness of the extremities, falling of the eyelids, remarkable depression, but with retention of consciousness. It attacks only men, and has occurred in epidemic form among laborers in the canton of Geneva.

Aural vertigo must be carefully distinguished from attacks of *petit mal*, or, indeed, of definite epilepsy. It is rare in *petit mal* to have noises in the ear or actual giddiness, but in the aura preceding an epileptic attack the patient may feel giddy. Giddiness and transient loss of consciousness may be associated with organic disease of the brain, more particularly with tumor. Vomiting also may be present. A careful investigation of the symptoms will usually lead to a correct diagnosis.

The outlook in Menière's disease is uncertain. While many cases recover completely, in others deafness results and the attacks recur at shorter intervals. In aggravated cases the patient constantly suffers from vertigo and may even be confined to his bed.

Treatment.—Bromide of potassium, in twenty-grain doses three times a day, is sometimes beneficial. If there is a history of syphilis, the iodide should be administered. The salicylates are recommended, and Charcot advises quinine to cinchonism. In cases in which there is increase in the arterial tension nitroglycerine may be given, at first in very small doses, but increasing gradually. It is not specially valuable in Menière's disease, but in the cases of giddiness in middle-aged men and women associated with arterio-sclerosis it sometimes acts very satisfactorily.

VII. Glosso-pharyngeal Nerve.

This nerve contains both motor and sensory fibres and is also a nerve of the special sense of taste to the tongue. It supplies, by its motor branches, the stylo-pharyngeus and the middle constrictor of the pharynx. The sensory fibres are distributed to the upper part of the pharynx.

Symptoms.—Of nuclear disturbance we know very little. The pharyngeal symptoms of bulbar paralysis are probably associated with involvement of the nuclei of this nerve. Lesion of the nerve trunk itself is rare, but it may be compressed by tumors or involved in meningitis. Disturbance of the sense of taste may result from loss of function of this nerve, in which case it is chiefly in the posterior part of the tongue and soft palate. Gowers, however, states that there is no case on record in which loss of taste in these regions has been produced by disease of the roots of the glosso-pharyngeal; whereas, on the other hand, disease of the root of the fifth nerve may cause loss of taste on the back as well as the front of the tongue, as if the taste fibres of the glosso-pharyngeal came from the fifth.

The general disturbances of the sense of taste may here be briefly referred to. Loss of the sense of taste—*ageusia*—may be caused by disturbance of the peripheral end organs, as in affections of the mucosa of the tongue. This is very common in the dry tongue of fever or the furred tongue of dyspepsia, under which circumstances, as the saying is, everything tastes alike. Strong irritants too, such as pepper, tobacco, or vinegar, may dull or diminish the sense of taste. Complete loss may be due to involvement of the nerves either in their course or in the centres. Disturbance in the sense of taste is most commonly seen in involvement of the fifth nerve, and it may be that this nerve alone subserves the function. Perversion of the sense of taste—*parageusis*—is rarely found, except as an hysterical manifestation and in the insane. Increased sensitiveness is still more rare. There are occasional subjective sensations of taste, occurring as an aura in epilepsy or as part of the hallucinations in the insane.

To test the sense of taste the patient's eyes should be closed and small quantities of various substances applied. The sensation should be perceived before the tongue is withdrawn. The following are the most suitable tests: For bitter, quinine; for sweetness, a strong solution of sugar or saccharin; for acidity, vinegar; and for the saline test, common salt. One of the most important tests is the feeble galvanic current, which gives the well-known metallic taste.

VIII. Pneumogastric Nerve.

The vagus nerve has an important and extensive distribution, supplying the pharynx, larynx, lungs, heart, œsophagus, and stomach. The nerve may be involved at its nucleus with the spinal accessory and the hypoglossal, forming what is known as bulbar paralysis. It may be com-