of its arising from the cavity of the vestibule; and the other by that of the tympanic tube,* because it begins from the inner side of the membrane which closes the fenestra rotunda, and forms the only separation between the interior of that tube, and the cavity of the tympanum. The trunk of the auditory nerve occupies a hollow space immediately behind the ventricle, and its branches pass through minute holes in the bony plate which forms the wall of that cavity, being finally expanded on the different parts of the membranous labyrinth.†

Great uncertainty prevails with regard to the real functions performed by the several parts of this very complex apparatus. It is most probable, however, that the sonorous vibrations of the air which reach the external ear, are directed down the meatus, and striking against the ear-drum which closes the passage, throw that membrane into vibrations of the same frequency; to which the action of its muscles, which appear intended to regulate its tension, may also contribute. The vibrations of the ear-drum, no doubt, excite corresponding motions in the air contained in the cavity of the tympanum; which, again, communicates them to the membrane of the fenestra rotunda; while, on the other hand, the membrane closing the fenestra ovalis, receives similar impressions from the stapes, conveyed through the chain of tympanic ossicula, which appear to serve as solid conductors of the same vibrations. Thus, the perilymph, or fluid contained in the labyrinth, is affected by each external sound, both through the medium of the air in the tympanum, and by means of the ossicula: the undulations thus excited pro-

* *Scala tympani.*

† In Fig. 396, the anterior trunk of the auditory nerve is seen (at G) distributing branches to the ampullæ (A, A,) the utricle (U,) and the calcareous body it contains; while the posterior trunk (N) divides into a branch, which supplies the sacculus (S) and its calcareous body (O) and a second branch (K) which is distributed over the cochlea. (n) is the nerve called the *portio dura*, which merely accompanies the auditory nerve, but has no relation to the sense of hearing. In Fig. 390, the auditory nerve (N) is seen entering at the back of the vestibule.