

## LOCATION.

The location of the ear renders its anatomical structures, and the complicated mechanism involved in the discharge of its function, vulnerable to traumatism and disease. Its position in the skull makes it liable to involvement in any lesion of the temporal bone, in its petrous and mastoid portions. The external auditory canal being patulous and exposed, animate bodies may gain access to, and inanimate ones may be forced into its deeper portions and there set up irritation. The membrana tympani may be readily injured by sharp pointed instruments.

## ANATOMY.

No discussion of these morbid processes would be either intelligible, interesting or profitable without special reference to the anatomy of the structures involved, and the relationship of these to one another. The structures and cavities included in the middle section of the auditory system are, the eustachian tube, *cavum tympanum* and its contents, the *auditus* and the mastoid antrum. The eustachian tube may be compared to a ventilating shaft. It is patulous and extends from the posterior wall of the pharynx to an opening in the upper portion of the anterior wall of the *cavum tympanum*. It is partly cartilaginous and partly osseous, and lined throughout with a mucous membrane, in continuity with that of the pharynx. The most important segment of this tract is known as the "*Cavum Tympanum*." This cavity is centrally situated. It is in direct communication with the eustachian tube in front, and with the *auditus* posteriorly. The external wall is formed by the *membrana tympani* and its osseous ring, and the internal one by the outer end of the petrous portion of the temporal bone. The latter wall is perforated by two openings, the *foramen ovale* and the *foramen rotunda*. Each of these is closed by a membrane and into that of the *foramen ovale* the foot-plate of the stapes is attached. The roof is formed by a thin plate of bone—known as the *tegmen tympani*—which separates the cavity from the middle cranial fossa. The facial nerve passes from before backwards along the inner wall of the "*cavum tympanum*," and then turns directly downward into the *styloid foramen*. The other important structures in this cavity are, the auditory ossicles, *malleus*, *incus* and *stapes*, with their muscles, and the *chorda tympani* nerve. These are placed in the upper anterior portion of the cavity, known as the *attic*. An opening