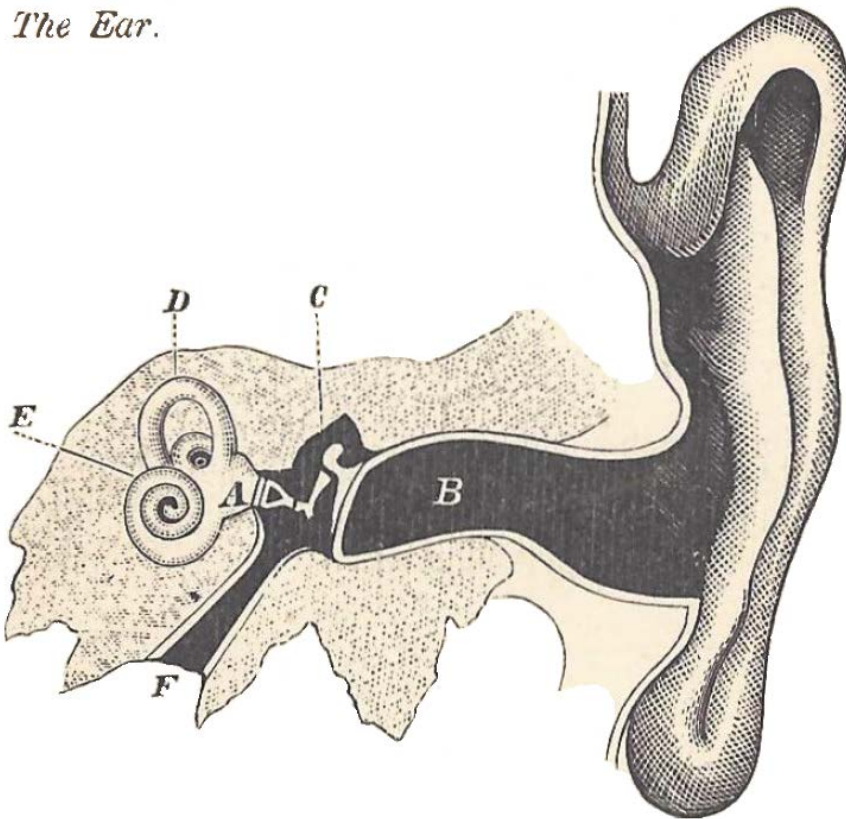


The Human Ear

Directions: Read the text. Label the ear diagram as you read.

The Ear.



The ear is divided into the outer, middle, and inner ear.

THE OUTER EAR is a sheet of cartilage curiously folded for catching sound. The auditory canal, *B*, or tube of this ear-trumpet, is about an inch long. Across the lower end is stretched the membrane of the tympanum or

drum, which is kept soft by a fluid wax.

1. Label the auditory canal on the diagram.

THE MIDDLE EAR is a cavity, at the bottom of which is the Eustachian tube, *F*, leading to the mouth. Across this chamber hangs a chain of three singular little bones, *C*, named from their shape the hammer, the anvil, and the stirrup. All together these tiny bones weigh

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only a few grains, yet they are covered by a periosteum, are supplied with blood-vessels, and they articulate with perfect joints (one a ball-and-socket, the other a hinge), having synovial membranes, cartilages, ligaments, and muscles.

2. Label the Eustachian tube on the diagram.

3. Label the hammer, anvil, and stirrup on the diagram.

THE INNER EAR, or labyrinth, as it is sometimes called from its complex character, is hollowed out of the solid bone. In front, is the vestibule or antechamber, *A*, about as large as a grain of wheat; from it open three semicircular canals, *D*, and the winding stair of the cochlea, or snail shell, *E*. Here expand the delicate fibrils of the auditory nerve.

4. Label the vestibule of the middle ear.

5. Label the semicircular canals.

6. Label the cochlea.

HOW WE HEAR: Whenever one body strikes another in the air, waves are produced, just as when we throw a stone into the water a series of concentric circles surrounds the spot where it sinks. These waves of air strike upon the membrane. This vibrates, and sends the motion along the chain of bones in the middle ear to the fluids of the labyrinth. Here bristles, sand, and stones pound away, and the wondrous harp of the cochlea, catching up the pulsations, carries them to the fibers of the auditory nerve, which conveys them to the brain, and gives the mind the idea of sound.

CARE OF THE EAR: The delicacy of the ear is such that it needs the greatest care. If wax should accumulate, never remove it with a hard instrument, because the delicate membrane could be injured.