

THE HUMAN EAR

WITH THE NAME OF ALLAH, MOST GRACIOUS, MOST MERCIFUL.

We are reminded in Sura Yunus (ch. 10): verse 31:-

"Say: 'Who is it that sustains you from the sky and from the earth? Or who is it that has power over hearing and sight? ...'"

The ears are among the most profound gifts given to us by our Rabb.

Long before the discovery of wireless, the ears knew all that was to be known about reception of sound waves.

Inside the ears, fine hairs and a sticky wax prevent harmful insects, dust, etc. from getting in.

Across the inner end of the funnel there is a tightly stretched membrane, the ear-drum, which vibrates like a tubla when sound waves strike it.

By the study of the structure of the ear and how it operates we observe many astonishing facts --- they are:-

1) For quiet sounds the auditory canal doubles the energy in the sound waves by focusing them against the ear-drum (tympanic membrane). The sound is further amplified by the three bones (hammer, anvil and stirrup) and also by the oval window. This makes it easier for us to detect low sounds. However, the same process for loud sounds will be harmful. Allah (S.W.T.) has structured the ear to handle loud sounds differently. Intense sounds are cut down by the change of the angle between the stirrup and oval window. Also, our Gracious Creator has placed another muscle to stiffen the ear-drum so that it is less responsive to loud noises.

2) Together with the brain our Rabb has made it possible that the ear is able to judge the direction and approximate distance of sound.

3) The speed at which our Rabb has made sound to be picked up by the ear, vibrating through the ear-drum, the three bones in the middle-ear, the oval window then through the thousands of hair cells attached to the cochlea, then to the auditory nerve to the brain and finally interpreted as what type of sound it is, is all part of the miracle that baffles even the worldly-wise. We cannot understand how all of this is done in a fraction of a second and, yet continuously!

4) The Eustachian tube which leads to the nose and the throat, has been placed for a definite purpose. It is there to balance air pressure on both sides of the ear-drum --- otherwise the latter will collapse.

All praise and thanks belong to Allah (S.W.T.) Who is the sole architect and creator of life!

Worksheet

1) How has our creator structured the ear to handle loud sounds?

2) What is the function of the Eustachian tube?

3) Which are the three bones which further amplify sound?

4) Be honest, could the development of the ear have been the result of accident or chance?
