

Deafness

WHAT IS IT?

Recently, a new 'cultural construction of deafness' has emerged. According to this view, to be 'deaf' is to identify with a community in which the dominant medium of communication is sign language, and with its own history, social institutions, and cultural forms. The medical understanding of deafness as hearing loss and the cultural understanding of deafness as social and linguistic difference coexist in modern societies.

Because of differences in the degree and nature of hearing loss, the overall incidence of deafness is difficult to estimate. However, it is likely that around 15% of the population have impaired hearing, which, in many cases, is accompanied by tinnitus (ringing in the ears) and balance problems. Deafness is associated with many hereditary and non-hereditary diseases and may also result from pre- or post-natal exposure to a variety of toxins and traumas. The degree of hearing loss can vary greatly, from a very slight impairment in one ear to total deafness in both ears.

CAUSES OF DEAFNESS

Although tumors and other disorders may impair the function of the auditory nerve or of those areas of the brain that are responsible for our perception and recognition of sounds, most causes of deafness involve a defect in the ear and may be divided into two types. A *conductive hearing loss* results from conditions that interfere with the transmission of airborne sound through the external and the middle ear. These structures normally conduct sounds efficiently to the sensory apparatus within the cochlea of the inner ear. As sound waves pass through the external ear to the eardrum, their amplitude is increased as a result of the resonant

properties of the outer ear and of the ear canal. Vibrations of the eardrum are then coupled by the middle ear ossicles, the three smallest bones in the body, to the fluid-filled cochlea. Conditions that impair sound transmission to the inner ear will therefore attenuate the incoming sound. Conductive hearing loss does not involve damage to the receptor cells or any other nerve cells in the auditory pathway.

The second major type of deafness to originate from abnormalities of the ear is known as a *sensorineural hearing loss*, which is sometimes referred to, albeit usually inaccurately, as 'nerve deafness'. Sensorineural hearing loss most often arises from defects in the cochlea itself, but also describes the hearing deficit that results from damage to the auditory nerve.

Hearing sensitivity varies with sound frequency (or pitch) in a very characteristic way. Decreases in sensitivity at particular frequencies can provide valuable clues as to the nature of the hearing loss. Moreover, although sounds are most effectively conducted to the cochlea by the external and middle ear, they can also reach the cochlea by bone conduction if a vibrating object, such as a tuning fork, is applied to the skull. When airborne sounds are attenuated by disorders of the external ear or the middle ear, hearing by bone conduction should remain normal. On the other hand, sounds transmitted to the cochlea by bone conduction will be heard less well in cases of sensorineural deafness.

DEAF CULTURE

In 1960, and despite widespread skepticism, an American linguist, William Stokoe, embarked on a study of communication among deaf people. It gradually became clear that what was involved was no system of primitive gestures but true language, with all the properties of natural languages. Research on sign language paved the way for sociological investigation of the deaf community and for historical research on the social life of deaf people. The fruits of these researches were to be an important resource: gradually, deaf people began to press for the recognition of sign languages and of their own minority status. Sign language gradually re-entered the schools. In 1980 an important milestone passed. The Swedish government recognized Swedish sign language as an official minority language, with deaf children now having the right to education in their 'own' language.

WHAT DOES IT MEAN TO BE DEAF TODAY?

Few people deafened in middle age become proficient in sign language or identify strongly with deaf culture. What of the child born deaf? Ninety per cent are born to hearing parents. Do those parents try to rear their child to be as like them as possible, as indistinguishable as possible from its hearing peers? Or do they set out to master sign language as best they can, and help their child realize its identity as a culturally Deaf person? Some do one, some the other. Much depends on the advice they receive in those first months of fearsome uncertainty. There is no answer to the question of what it means to grow up deaf. All depends on the choices made by the family, on the child's own personality and attainments, on the educational, social, and cultural environment in which he or she grows up.

ARE THERE ANY WEBSITES WITH MORE INFORMATION?

- <http://www.nidcd.nih.gov/>
- <http://www.medicinenet.com/deafness/article.htm>
- <http://www.drf.org/>

