

Questions

1. In vision, it sometimes happens that you see two images superimposed on each other. This can happen, for example, when you have a dirty glass surface and you see both the dirt on the glass surface as well as the scene transmitted through the glass. The visual system can enhance the perception of one of the two images by focusing and verging the eyes on one depth (say the glass).

What is the analogy to this situation in audition?

[I may add more questions later so check back.]

Solutions

1. In audition, you may have two sounds coming from different directions. These sound signals will be superimposed. To enhance one of the sounds, one can reorient the head. (When I am at a very loud event such as a poster session at a conference, I sometimes rotate my head to turn one ear directly at the poster presenter and plug the ear facing away from him/her. Another trick is to face the presenter and cup my hands behind my ears to attenuate sounds coming from different directions.)

The more common technique is to “pay attention” to the particular speaker’s voice. Attention is an important topic in perception, with a huge literature. In audition, the problem I just described and the attention solution is called the *cocktail party effect*. It has been studied in perception for decades (although less work has been done on computational aspects).