
Perceiving Sound (Part 2)

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Categorical Perception

- We have an ability to perceive sounds as categories.
 - We cannot hear the difference between two members of the same sound category.
 - We can hear the difference between members of different sound categories (phonemes)
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Sound categories differ across languages

- In English, **r** and **l** are two separate sound categories (phonemes)
 - In Japanese and Korean, **r** and **l** belong to the same sound category; in other words, they are allophones of the same phoneme.
 - In English, **aspirated p** (as in pin) and **unaspirated p** (as in spin) are members of the same sound category (but in Thai, they are two separate categories !)
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The McGurk Effect

- McGurk originally demonstrated that we use sound information and visual information to figure out what someone is saying.
 - We integrate the two types of information when we perceive speech.
 - Recall video demo from class.
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Motor Theory of Speech Perception

- Since we use visual information (watching someone's face as they speak), it must mean that we use our knowledge of how to produce sounds, in order to understand what someone is saying.
- The underlined part of the above sentence defines the motor theory of speech perception.

Using Top-Down Information

- How do you milk a ____? (coat/goat)
- It's cold. Put on your _____. (coat/goat)
- If you insert the word _oat, and put a velar stop at the beginning of the word...
- How will the word be perceived in each sentence if the velar stop has a
 - Short VOT
 - Long VOT
 - VOT in between /g/ and /k/ ?

Using Top-Down Information, contd.

- The experiment illustrated in the previous slide is very similar to the Garnes and Bond experiment described in your text, using the voiced stops /b/, /d/, and /g/.
- The differences between those consonants were not differences in VOT, but in place of articulation. What were the results? (work through reading questions for the answers)

Phoneme Restoration

- In-class Demo: Shadowing.
- Conclusion: a sound is less likely to be restored (corrected) the more different it is from the sound that replaced it.
- Possible Experiment: try replacing sounds at different positions in the word and see if some are less likely or more likely to be restored based on position.