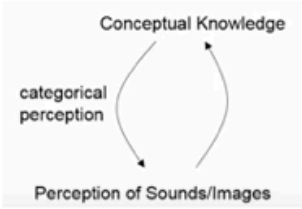


Questions/Main Ideas	Notes
<p><b>What are the levels of language?</b></p>	<p>Levels of language:  <u>Phonology</u> – studies of sound, which sounds and phonemes are in a language, which phonemes produce meaningful diff., which ones don't. Focuses on both the production and perception of language.  <u>Morphology and semantics</u> – how lang. expresses meaning (morphemes, words)  <u>Prosody</u> – how melody is used to create meaning. Also, non-verbal (ex. hand gestures) and <i>how</i> you say sthg. Helps determine emotional state.  <u>Syntax</u> – The struct. of a lang. Rules for combining words.  <u>Pragmatics</u> – How language is used in practice. We infer meaning through our background knowledge.</p>
<p><b>What is prosody?</b></p>	<p>Prosody and intonation:  <b>DEF: prosody</b> - How melody is used to create meaning</p> <ul style="list-style-type: none"> <li>- Can determine meaning of "You are going home". This statement can be a declarative (statement), interrogative (question) or imperative (exclamation) depending how it is said</li> <li>- STUDY (example)                      Determined how healthy a marriage was by what couple say and how they said it. Good indicator. "You made a big deal of it" communicates emotion.</li> </ul>
<p><b>What is a phoneme?</b></p>	<p>Phonology – study of sound patterns</p> <ul style="list-style-type: none"> <li>- <b>DEF: phoneme</b> - smallest unit of sound</li> <li>- words have diff meaning b/c the initial (first) sound is diff. (gin, kin, pin, tin, win)</li> <li>- 36 phonemes in Engl.; most lang. have 40-50</li> <li>- Phonemes → speech perception?</li> </ul>
<p><b>What are the stages of speech processing?</b></p>	<p>Speech Processing</p> <ul style="list-style-type: none"> <li>- Hierarchal. Stages of processing.                     <ol style="list-style-type: none"> <li>1. Phonemes detected (/b/, /e/, /t/ . . .)</li> <li>2. Phonemes → syllables (/bet/ /ter/)</li> <li>3. Syll. → words (better)</li> <li>4. Word meaning retrieved from memory</li> </ol> </li> </ul>
<p><b>What does it mean that speech processing is interactive?</b></p>	<ul style="list-style-type: none"> <li>- Interactive. Top-down <b>and</b> bottom-up organization.                      Ex. You can text detect indiv. phonemes, ID words AND analysis of words, gestures, etc. to understand. Highly interactive</li> </ul>
<p>Summary:                      There were five levels of language mentioned. Phonology was the focus. A phoneme is a the smallest unit of sound. Speech processing is both hierarchal and interactive.</p>	

<p><b>What are the two big problems in speech perceptions?</b></p> <p><b>What tools do we use to figure out what people are saying?</b></p>	<p>How do we detect individual words?</p> <ul style="list-style-type: none"> <li>- Discrete words do not show up in raw audio signal (spectrogram)</li> </ul> <p>2 big problems in speech perceptions:</p> <ol style="list-style-type: none"> <li>1. Words are not neatly segmented (ex. By pauses)</li> <li>2. Difficult to ID phonemes</li> </ol> <ul style="list-style-type: none"> <li>- Coarticulation = consecutive speech sounds blend into each other and making new sounds. Highly context dependent</li> <li>- Speaker differences: pitch affected by age, gender, different dialects, talking speeds.</li> <li>- ! Siri can understand human speech</li> </ul> <p>What tools do we use to understand what people are saying?</p> <ol style="list-style-type: none"> <li>1. Phonemic restoration: use of semantic and lexical content</li> <li>2. McGurk effect: Use of visual cues</li> <li>3. Categorical perception: Continuous changes in input are mapped on to discrete precepts</li> </ol>
<p><b>What is phonemic restoration?</b></p>	<p><b>Phonemic restoration:</b> we can figure out what sounds/words are because of context. People often hear what makes the most sense.</p>
<p><b>What is the McGurk Effect?</b></p>	<p><b>McGurk Effect:</b> demo shows by sounds AND visual cues, ex. Lip cues. The sound was "ba", lips were saying "ga". 98% of adults said that they heard "da".</p> <ul style="list-style-type: none"> <li>- Demonstrates parallel interactive processing. Speech perception is based on multiple courses of inform</li> <li>- Brain "fuses" information</li> </ul>
<p><b>What is categorical perception?</b></p> 	<p><b>Categorical perception:</b> categorization can influence perceptual processes</p> <ul style="list-style-type: none"> <li>- Differences among items that fall into different categories are exaggerated, and differences among items that fall into the same category are minimized</li> <li>- EXAMPLE: within-category discrimination is hard, across-category discrimination is easy</li> <li>- Ex. l and r or Hindi and Salish</li> <li>- If phonemes non-existent in a lang, it's difficult to hear diff.</li> <li>- Infants (not adults) can perceive most and perhaps all phonemes found in human language</li> <li>- Ability is lost because some sounds are not needed</li> </ul>
<p><b>Summary:</b>                  The two main problems in speech perceptions is that words are not neatly segmented and it is difficult to know where phonemes start and where they end. We use three tools to help us understand all the different language we hear: phonemic restoration, the McGurk Effect, and categorical perception.</p>	