LIGN110 Section

Wednesday, 2 December 2020

Anna Mai

Section time: W. 3-3:50pm PST

OH time: F. 9-10am PST

Zoom: ucsd.zoom.us/my/acmai

Email: acmai at ucsd

Housekeeping

Questions about lecture materials, quizzes, homeworks, or the final project?

Reminders

If you are wrapping up recording your speaker and beginning to transcribe the recording and write the paper, you are on track. If not, email me for help!

Week 9 Quiz due this **Thursday, 3 December**

Final paper due next **Friday, 11 December at 5pm**

Please evaluate your professors and TAs! It makes a difference!

What does “linguistic phonetics” mean?

It’s more than just knowing the IPA and how to measure sounds & signs.

Big questions:

- How are sounds represented in a listener’s mind?
- How does an individual’s language experience influence their perception of speech sounds?
- What cues (acoustic, visual, tactile) do listeners use when perceiving sounds?
- Why are the sounds of a language the way that they are?

Development of phonetic categories

In Werker & Tees (1984), English babies, Hindi babies, and Salish babies are tested on their ability to discriminate sounds in Hindi and Salish that are not discriminated in English.

What do these figures show?

English babies' ability to discriminate non-native contrasts declines over the first year of life

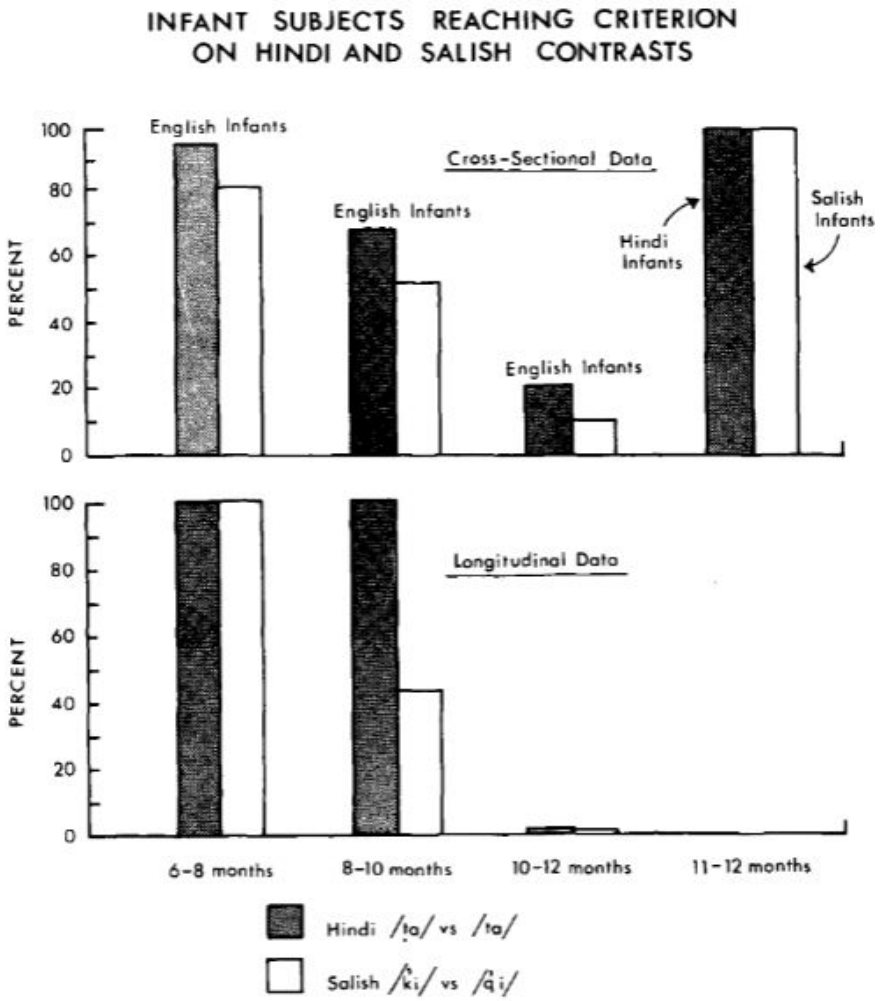


Figure 4. Proportion of infant subjects from three ages and various backgrounds

Development of phonetic categories

Werker & Tees (1984)

common takeaway:

“If you’re reading this it’s too late”:
you can’t discriminate non-native contrasts (and maybe you never will)!

better takeaway:

people become experts (at a very young age!) in discriminating the sounds that are meaningful in the languages that they use.

Influence of language experience in adulthood

Best et al. (2003)

- !Xóõ has the clicks / ʘ ǀ ǃ ǂ ǁ /
- Isizulu has the clicks / ǀ ǃ ǁ /
- Sesotho has the click / ǃ /

When asked to discriminate [ǃ] from [ǂ], how do speakers of Isizulu and Sesotho perform? How do speakers of English perform? Why?

Isizulu and Sesotho speakers tend to perceive [ǂ] as [ǃ] because they have [ǃ] in their language but not [ǂ]. English speakers perform better at this task because they have no interference from phonemic clicks in their language.

Influence of language experience in adulthood

Wubuy has a four-way coronal stop contrast / **t t̪ ʈ c** /. How would we design an experiment like Best et al. (2003) to test for the influence of language experience on coronal stop discrimination? What would we predict?

We could ask speakers of languages with fewer coronal contrasts, like Ja'a Kumiai (has / **t t̪** /), English (has / **t** /), and Northwest Mekeo (no coronal phonemes) to discriminate [**t**] from [**ʈ**].

We might predict that speakers of Northwest Mekeo would perform better at making this distinction because Northwest Mekeo has no *phonemic* coronals, but it does have *allophonic* coronals at one place of articulation, so another possibility is that Northwest Mekeo speakers would perform like English speakers.

Phonetic convergence

Ashley produces [**p**^{h}] with very long VOT for an English speaker.

Amir produces [**p**^{h}] with statistically normal VOT for an English speaker.

Ashley and Amir speak English together for an hour.

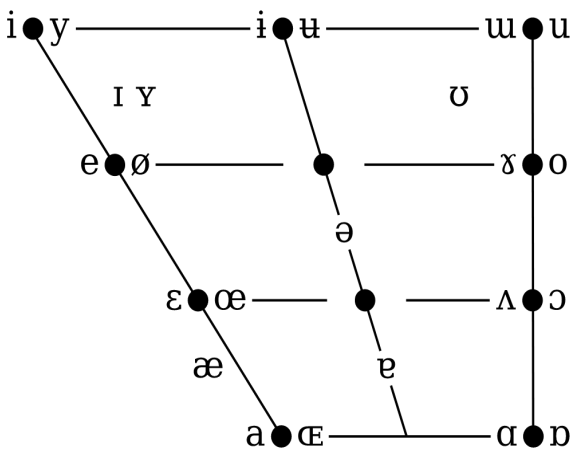
What changes do we expect to observe in Amir's speech after he talks with Ashley?

We expect Amir to produce [**p**^{h}] with longer VOT. We may also expect him to produce longer VOT for [**t**^{h}] and [**k**^{h}] as well, generalizing to all voiceless stops in English.

Dispersion Theory

What are the most common 3-, 4-, and 5-vowel systems? **3**: / **a i u** / **4**: / **a e i o** / **5**: / **a e i o u** /

Why don't we see vowel systems like / a, e̤, i̤, õ, ʊ̰/ ?
Sound inventories tend to maximize **both** efficacy of perception **and** efficiency of production



Perception: Influence of top-down knowledge

Ganong Effect

If I synthesize a sound that is acoustically intermediate to [**t**] and [**t^{h}**] (let's call it **Δ**), what will an English speaker hear if play them the sequence [**Δoʊ̯sən?**]? 'docent'

What if I play the sequence [**Δɑʊ̯wəɹ**]? more likely 'tower' because it is more common word than 'dour'

If I synthesize a sound that is acoustically intermediate to [**k**] and [**s**] (let's call it **Σ**), what will an English speaker hear if I play them the sentences below:

- "Cars and trains are quick, but planes are [**fæΣtəɹ**]." 'faster'
- "Qualifications and experience matter, but age is not a [**fæΣtəɹ**]." 'factor'
- "I like the words 'blazer' and 'wallop' but not the word '[**fæΣtəɹ**].'" either

Perception: Multisensory integration

Visual cues: McGurk Effect

If Noam watches a video of someone saying [**ba**] with a soundtrack saying [**ga**], what will he likely hear? **da** (fusion)

What if the video is [**ga**] and the soundtrack is [**ba**]? **bga** (combination)

What if the video is [**a**] and the soundtrack is [**i**]? possibly something like **e**

Haptic cues

If Aarthi feels a puff of air on her neck when she watches a video of Noam saying [**bæt**], what word might she hear? ‘pat’