LSci 51/CogS 56L
Fall 2025

Review Questions:
Phonological acquisition

1. **Terms/concepts to know**: IPA, voiced, voiceless, manner of articulation, place of articulation, nasal, oral, (bi)labial, labiodental, interdental, alveolar, postalveolar, palatal, velar, glottal, stop, plosive, fricative, affricate, liquid, glide, tap/flap, diphthong, High Amplitude Sucking (HAS), Head-Turn Preference Procedure, Head-Turn Technique, categorical perception, across-category perception, within-category perception, "lack of invariance" problem, cooing, vocal play, child-directed listening, phonological processes, final consonant deletion, consonant cluster deletion, unstressed syllable deletion, stopping, gliding, denasalization, fronting, assimilation, consonant harmony, vowel harmony
2. What's the reason for having the International Phonetic Alphabet? That is, explain why it's not more sensible to just use the spelling systems that already exist for the languages of the world.
3. Consider the following statement: All languages use the same set of sounds. Can you think of one way to interpret this so that it's true? (Hint: Think about what the IPA is supposed to describe.) Can you think of one way to interpret this so that it's false? (Hint: Does English use all the same sounds as German or Hebrew or Mandarin?)
4. What evidence is there that infant hearing is very sensitive to human speech?
5. What is an example of categorical perception? Explain what it means to have categorical perception, and why the example you describe is an example of it.
6. Do all languages have the same contrastive sound categories? (Hint: Think about VOT. Do all languages have the category boundary at the same place?)
7. Suppose you presented subjects ten acoustic stimuli (S1-S10) that vary continuously over a single dimension and recorded what the subjects reported they perceived. If the subjects showed categorical perception on this set of stimuli, should they report hearing each stimulus as sounding different (that is, hearing ten distinct sounds)? Why or why not?
8. What evidence do we have that non-humans have categorical perception?
9. How does categorical perception help with the lack of invariance problem for speech perception? (Hint: Think about the acoustic input for a single sound like /p/.)
10. Why might it be difficult to identify the category boundaries for a language? (Hint: Do sound categories ever overlap?)
11. What evidence do we have that infants have categorical perception?
12. What evidence is there that infants begin to tune into their native language's sound contrasts before they're a year old? Do they tune into all native contrasts (or lose sensitivity to all non-native contrasts) at the same time? How does variability (either in the child's background or in the acoustic environment) impact this acquisition trajectory?
13. How would you argue against someone who claims that babbling is how babies communicate?
14. How is the babbling of deaf infants different from the babbling of hearing infants?

15. Are there any known gender differences in babbling?

16. What evidence is there that babies' babbling is influenced by the language they hear?

17. Is social interaction helpful when children are learning the sounds of their native language? Briefly explain how you know. (Hint: Think of what happens when infants interact with a live human as opposed to a television broadcast.)

18. What are the two main types of phonological processes children use to simplify the pronunciation of words?

19. Sigmund has been playing with some young Guin children who are just learning to pronounce the words of the Guin language. Here are two words they know:

Word form	**+Stress**	**+Syllabified**	**IPA**
grinetta	grinétta	gri né tta	/gɹɪ né tə/
nebitrem	nébitrém	né bi trém	/né bə tɹém/

Circe is an 18-month-old Guin child who sometimes uses various phonological processes when she is pronouncing Guin words. For each pronunciation below, indicate which phonological process(es) is (are) responsible for the observed pronunciation, and show the derivation from original pronunciation to observed pronunciation.

Example pronunciation: /dɹɪ nɛ́ tə/ for "grinetta"

Example derivation:
/gɹɪ nɛ́ tə/ → /dɹɪ nɛ́ tə/ by assimilation, when /g/ becomes /d/ by picking up [+alveolar] from /ɹ/, /n/, or /t/.

Below are sample pronunciations from Circe for "grinetta" and "nebitrem". Show how each of them could be derived from the phonological processes discussed in the course material.

Intended	**Actual pronunciation**	**Intended**	**Actual pronunciation**
/gɹɪ nɛ́ tə/	/gɪ nɛ́ tə/	/né bə tɹém/	/né tə tɹém/
/gɹɪ nɛ́ tə/	/nɛ́/	/né bə tɹém/	/né tə tém/
/gɹɪ nɛ́ tə/	/gwɪ nɛ́ tə/	/né bə tɹém/	/nɛ́ tém/
/gɹɪ nɛ́ tə/	/gɹɪ dɛ́ tə/	/né bə tɹém/	/dɛ́ tém/
/gɹɪ nɛ́ tə/	/gwɪ dɛ́ tə/	/né bə tɹém/	/dɛ́ tém/
/gɹɪ nɛ́ tə/	/dɛ́/	/né bə tɹém/	/mɛ́ bə tɹém/
/gɹɪ nɛ́ tə/	/dɹɪ dɛ́ tə/	/né bə tɹém/	/mɛ́ mə tɹém/
/gɹɪ nɛ́ tə/	/dwɪ dɛ́ tə/	/né bə tɹém/	/mɛ́ mə tém/
/gɹɪ nɛ́ tə/	/dwɪ dɛ́ də/	/né bə tɹém/	/mɛ́ mə mém/
/gɹɪ nɛ́ tə/	/dwɪ dɛ́/	/né bə tɹém/	/mɛ́ mém/
/gɹɪ nɛ́ tə/	/dɛ́ də/	/né bə tɹém/	/dɛ́ bə tɹéb/
		/né bə tɹém/	/dɛ́ bə téb/
		/né bə tɹém/	/dɛ́ bə péb/
		/né bə tɹém/	/dɛ́ péb/
		/né bə tɹém/	/bɛ́ péb/
		/né bə tɹém/	/bɛ́ pé/

20. What are two ideas on why children use phonological processes to simplify word structure? (Hint: Think about children's production limitations and perception limitations.)

21. What evidence is there that children's ability to produce speech sounds impacts their ability to perceive speech sounds?