

Today's objectives:

- **Motivating syllables in our phonological grammar model**
- **Diagnosing syllable structure**

Background preparation:

- *continuing from discussion last time*

0. Today's plan

- Check in on key points from last time
 - Why should our phonological model include syllables?
 - How can we make arguments about the role of syllable structure in a pattern?
- Pharyngealization spread in Cairene Arabic
 - How to analyze it
 - Implications for syllable structure
- Preview: Incorporating syllables in our model

1. Review and context

Check-in discussion

- Why is English voiceless-stop aspiration a good argument in favor of the **phonological relevance** of syllable structure?
 - That is: Why does it support the **inclusion** of syllable structure in our **model** of the phonological grammar?

1. Review and context

Check-in discussion

- Why is English voiceless-stop aspiration a good argument in favor of the **phonological relevance** of syllable structure?
 - That is: Why does it support the **inclusion** of syllable structure in our **model** of the phonological grammar?
 - Without syllables, our model is **unable** to characterize the environments where aspiration does or does not occur in a unified way

1. Review and context

- To **explain** the distribution of aspiration in English in terms of **position in the syllable**, we had to make some **decisions** about the syllable structure

Example: compare vs. aspire
[k^h ə m p^h ε ɹ] [ə s p a j ɹ]

- Which decisions about English syllable structure were fairly **safe assumptions**?
- Which aspects did we have to make **proposals** about?

1. Review and context

- Example: **compare** vs. **aspire**
[k^h ə m p^h ɛ ɹ] [ə s p a j ɹ]
 - Which decisions were fairly **safe assumptions**?
 - Word edge corresponds to syllable edge
 - Number of vowels (actually, [+syll] segments!) corresponds to number of syllables
 - Which aspects did we have to make **proposals** about?
 - Where the **syllable divisions** are inside the word (which consonants belong to which syllables)

1. Review and context

- What source of **converging evidence** did we find for our proposals about syllable structure in English?

1. Review and context

- What source of **converging evidence** did we find for our proposals about syllable structure in English?
 - **Aspiration** facts and facts about **word-initial consonant sequences** led to the **same conclusions** about which consonant clusters can start a syllable

1. Review and context

- Our English aspiration analysis illustrates general **strategies** for syllable-structure-based analysis:
 - 1 *Make an initial hypothesis:* Use “straightforward” examples to get insight into how syllable structure predicts a phonological pattern
 - 2 *Consider syllable-structure implications:* What proposal does our initial hypothesis lead us to make about syllable divisions inside words?
 - 3 *Look for converging evidence:* Can we show that multiple phonological patterns lead us to propose the same syllable structure?

2. Pharyngealization in Cairene Arabic

Group discussion | Data set: [Cairene Arabic](#) (part I)

- Potential hypotheses about how “emphasis” (pharyngealization) spreads — Are they supported?
 - It spreads to every segment in the word
 - It spreads to exactly one segment and stops
 - It spreads only from right to left
 - It spreads only from left to right
 - A vowel that gets pharyngealized always propagates pharyngealization onward to its next neighboring consonant

2. Pharyngealization in Cairene Arabic

Debriefing | Data set: [Cairene Arabic](#) (part I)

- **All** of these hypotheses have **counterexamples**
 - Pharyngealization *can* spread more than once, but *doesn't always*
 - It spreads to the *left* in some words, to the *right* in others, and sometimes even *both ways*
 - It *can* spread from a vowel onto the next consonant, but *doesn't always*
- Can we propose a **more successful hypothesis** for pharyngealization spread in this data set?

2. Pharyngealization in Cairene Arabic

Group discussion | Data set: [Cairene Arabic](#) (part I)

- Hypothesis: “Pharyngealization spreads to all segments **in the same syllable**”
 - Which words show this pattern **unambiguously**? (Which words need only “safe assumptions”?)
 - Which examples force us to make **proposals** about how syllables are structured, if our hypothesis is correct?
 - Are those proposals **plausible** and **consistent**? (What generalizations can we draw about possible syllable structures in Cairene Arabic?)

3. Syllable structure in Cairene Arabic

Data set: [Cairene Arabic](#) (part I)

- Is anything about Cairene syllable structure different from what happens in English?

3. Syllable structure in Cairene Arabic

Data set: [Cairene Arabic](#) (part I)

- Is anything about Cairene syllable structure different from what happens in English?
 - What happens when there are **two consonants** between vowels...
 - in Cairene? [**R A:** g i l] vs. [**R A G** l e: n]
 - in English? [k^h ə **m p**^h ε ɹ] vs. [ə **s p** a j ɹ]
 - What is the **maximum** number of consonants we seem to see in syllable-initial and syllable-final position in Cairene?

3. Syllable structure in Cairene Arabic

Group discussion | Data set: [Cairene Arabic](#) (part II)

- Now look at the epenthesis (insertion) data in Part II
 - How can we use the epenthesis facts as **converging evidence** for our approach to the pattern of pharyngealization spread?

4. Syllables and our phonological model

- Syllable structure is **phonological**, not phonetic
 - What does this mean?

4. Syllables and our phonological model

- Syllable structure is primarily about how the **mental grammar** organizes the segments in a language
 - We can't look at a data set (audio file) and "see" how the segments are combined into syllables
 - Instead, we have to **find evidence** and **make arguments** for how syllables are constructed **in each language**
 - **Which hypotheses** about how segments are syllabified provide the **best explanations** for phonological patterns?

4. Syllables and our phonological model

We have seen:

- Syllable structure is phonological (not phonetic)
- Two languages may differ in how they assign segments to syllables

But phonologists have also found:

- The way a **particular language** assigns segments to syllables is fully consistent (= **predictable**)
 - Should syllable structure be stored in URs, or assigned by the phonological grammar? Why?

4. Syllables and our phonological model

- Next time:

We will begin to add to our **model** of the phonological grammar so that it can...

- Refer to **syllables**
- Refer to aspects of the **structure** inside syllables
- Allow for **different** syllable-structure options in different languages
- Capture the fact that some aspects of syllable structure are **common** across languages