Today's objectives:

- **Describing syllable "options"**
- **Applying syllable-building rules**

Background preparation:

- *Handout: "…Describing syllabification options"*
- *Handout: "Syllable-building rules"*

0. Today's plan

- Review and context
  - Our approach to syllable structure
  - Check-in on prep questions: Finding examples
- Checking in on our model
  - Describing σ options (making generalizations)
  - Applying σ-building rules (tools of the model)
- Syllable-based epenthesis and deletion rules
- Applying our model: Korean loanwords

1. Review and context

- Many aspects of syllable structure are either:
  - the same in all languages
  - chosen from a very small range of possibilities
- This is unlike segmental rules, which seem to differ widely from language to language
- Therefore, our approach to modeling syllable-building rules will look a little different from our approach to modeling segmental rules:
  - **Universal** rules that **build** structure
  - **Language-specific** limits on rule **application**

1. Review and context

- Our first step in analyzing syllable structure:

  Observe and **describe** what syllable-structure patterns are possible out there in the world

  - Handout - "…Describing syllabification options"

- **In practical terms**, when working with a data set:

  a) Use the available phonological **evidence** to determine how segments are assigned to syllables in the language

  b) Make **generalizations** about **legal** **nuclei**, **onsets**, or **codas** in the language

1. Review and context

- Checking in on prep questions:

	Onsetless syllable?	Onset cluster?	Coda?	Coda cluster?
herb				
string				
match				

1. Review and context

- Checking in on prep questions:

	Onsetless syllable?	Onset cluster?	Coda?	Coda cluster?
herb	***Y***	***N***	***Y***	***N***
string	***N***	***Y***	***Y***	***(depends on variety)***
match	***N***	***N***	***Y***	***N***

- What's a good way to **avoid** being fooled by spelling?

1. Review and context

- Our next step in analyzing syllable structure:

  What kind of **syllable-building rules** can we propose to enforce both universal patterns and options in individual languages?

  - Handout - "Syllable-building rules"

- **In practical terms**, when working with a data set:

  c) **Apply** the universal syllable-building **rules**, as restricted by the **limits** on legal onsets, nuclei, and codas in the specific language in question

2. Checking in: Syllable stucture in our model

- Our model of the phonological mental grammar currently includes…
  - A set of **features**
  - The concept of a **segment**, made up of features
  - Word boundary (#)
  - Phonological rules that manipulate features (called "**segmental rules**"): A → B / C __ D
  - The concept of a **syllable (σ)**, made up of segments
  - The syllable positions **nucleus**, **onset**, **coda**
  - Universal **rules** to **build** syllable structure, subject to language-particular **limits** on **legal** nuclei/onsets/codas

2. Checking in: Syllable stucture in our model

- How does our model account for…
  - **Universal** pattern: Every syllable has a nucleus
  - **Universal** pattern: Consonants that immediately precede nuclei are *onsets*, not codas
  - **Language-particular** limits on onset clusters

2. Checking in: Syllable stucture in our model

- How do these rules account for…
  - **Universal** pattern: Every syllable has a nucleus
    - Only create σ if there is V (legal nucleus)
  - **Universal** pattern: Consonants that immediately precede nuclei are *onsets*, not codas
    - Onset Rule universally **precedes** Coda Rule
    - Universally specified rule order—surprising?
  - **Language-particular** limits on onset clusters
    - Setting for legal onsets in each language
- See handouts: "Options", "Rules"

2. Checking in: Syllable stucture in our model

- Language-particular **limits** on syllabification
  - Example for discussion:
    Coda cluster only if [+nas][–nas, –cont]
    Some URs: /ompta/   /ensta/

3. Syllable-based epenthesis and deletion

- What broad generalization can we make about epenthesis in Cairene Arabic and deletion in Tibetan?
  - CA: Epenthesis happens when…
  - T: Deletion happens when…

3. Syllable-based epenthesis and deletion

- What broad generalization can we make about epenthesis in Cairene Arabic and deletion in Tibetan?
  - CA: Epenthesis happens when…
  - T: Deletion happens when…
  - …there is a consonant that cannot be included in any syllable

- How can our model of the mental grammar account for this?

3. Syllable-based epenthesis and deletion

- Proposal: The mental grammar can **refer** to an unsyllabified segment
  - Tibetan **deletion** rule (no environment needed!)
    C' → Ø
  - Cairene Arabic **epenthesis** rule
    Ø → [–bk, +hi] / C' __

3. Syllable-based epenthesis and deletion

- Given our analysis of Cairene Arabic, what do we have to assume about the **ordering** of the syllable-building rules and the epenthesis rule?
  - Epenthesis rule: Ø → [–bk, +hi] / C' __
  - Consider this example:
    /katab-t-l-ha/ → [katabt**i**lha] 'I wrote to her'
    *[katabt**i**l**i**ha]

3. Syllable-based epenthesis and deletion

- Conclusion: Syllable-building rules are **persistent**

  It always seems to be the case that *after* epenthesis or deletion rules apply:

  - Syllable structure is deleted
  - Syllable-building rules start over again

- By comparison…
  (Most) segmental rules only apply once!

4. Applying the model: Korean loanwords

Group discussion

- Data set: Korean loanwords
  - What **settings** can we determine for the syllable-structure **options** in Korean?
    - Work this out based on data sets A, B first
    - Then consider data set C

4. Applying the model: Korean loanwords

Group discussion

- Data set: Korean loanwords
  - How do the **syllable-building rules** apply to assign syllable structure to Korean words?
  - Can our model account for the **epenthesis** facts?