Today's topics:

- **Morpheme alternations in our phonological model**

Background preparation:

- *PP: Turkish*
- *All past handouts and readings from the "representing morphemes" unit*

0. Today's objectives

After today's class, you should be able to:

- Identify, and work with, the pieces of our phonological model of alternating morphemes
- Comfortably use aspects of our model in this broader context
  - Describe segments, segment classes using features
  - Generalize over multiple processes using features
  - Identify UR hypotheses for an alternating morpheme
  - Determine what processes the grammar has to enforce, given a UR hypothesis for an alternating morpheme

1. Morpheme alternations and our model

- The process of scientific inquiry includes:
  - **Generating** and **testing hypotheses** or **theories** pertaining to the **natural world**

- One goal of this course: Make progress toward a **model** of human **phonological knowledge** that can
  - **describe** phonological data that we observe
  - **predict** what else should / should not occur
  - **explain** why languages are the way they are

1. Morpheme alternations and our model

- One kind of phonological data: Morphemes that change their sound shape in context

- What are some hypotheses we have tested about this phenomenon…
  - specific to particular languages?
  - in general?

1. Morpheme alternations and our model

- What is the general outline of our model of morpheme alternations?

  Some keywords to consider:

  - mental lexicon
  - morpheme
  - underlying representation
  - morphologically complex word
  - surface form
  - phonological process
  - phonological features

1. Morpheme alternations and our model

General outline of our model:

- The **underlying representations (URs)** of **morphemes** are stored in the **mental lexicon**
  - An **alternating morpheme** has a **single UR**
  - For a **morphologically complex word**, its UR is assembled in the morphological component
- Cases where the **surface form** of a word is different from its UR are caused by the phonological grammar applying a **phonological process**
- Phonological processes operate over **features**

2. Review: UR hypotheses

- Suppose we observe an **alternating morpheme** that has two surface forms:
  - ▬, which occurs in the environment ◯
  - ▰, which occurs in the environment ◯
- In our model, this morpheme has **one consistent UR**, and the other surface form is caused by a phonological process
- We have to consider two hypotheses:
  - Hypothesis 1: the UR is /▬/
  - Hypothesis 2: the UR is /▰/

2. Review: UR hypotheses

Hypothesis 1: UR is /■/	Hypothesis 2: UR is /▰/
/■/	/▰/
∧	∧
(no change) [■] [▰] **CHANGE**	**CHANGE** [■] [▰] *(no change)*
in ○ in ○	in ○ in ○

- If Hypothesis 1 is correct:
  - The grammar changes /■/ to [▰] in ○
- If Hypothesis 2 is correct:
  - The grammar changes /▰/ to [■] in ○

2. Review: UR hypotheses

- If Hypothesis 1 is correct:
  - The grammar changes /▬/ to [▰] in ◯
- If Hypothesis 2 is correct:
  - The grammar changes /▰/ to [▬] in ◯
- Next we need to check:
  - Does either option make better **predictions**?
  - Does either option get expressed more **insightfully** in the model?

3. Practice: URs, features, generalizations

Discussion | Data set – Turkish locatives

- What are the **surface forms** of the locative morpheme?
- What **UR hypotheses** do we have to consider?
- What **phonological process(es)** would the grammar have to enforce, given each UR hypothesis?
  - How insightfully can we make **generalizations** for these patterns? What else is related to these patterns?

3. Practice: URs, features, generalizations

- For more practice…
  - What phonological process(es) apply in Māori? Dutch? Lamba? Turkish (pl., gen.)?
- How can we use the tools of our formal model to characterize these phonological processes?
  - What is the **environment** for the process?
  - What sounds does the process **apply to**?
  - What **change** does the process make?
- Next time: **Phonological rules** in our model