Today's objectives:

- **Model the relationship between morphology and phonology**
- **Analyze alternating morphemes**

Background preparation:

- Data set: Lamba (provided in class)

0. Today's key points

- Checking in with features
- Segmenting words into morphemes in a data set
- Morphology and phonology in the mental grammar
- A phonological approach to alternating morphemes

1. Checking in — Our feature model

Data set: Italian nasals (prep questions)

- How can we **apply our model** (features) to **describe** the distribution of the nasals?
  - "Predictable" vs. "can be stated as a single feature specification"
  - How do we notate a multi-feature specification?

1. Checking in — Our feature model

- Some questions about our developing model
  - Does the mental grammar "notice" **word edges**?
    - So far, these are just part of "elsewhere"
  - Does the mental grammar need a way to **specify** the "**elsewhere**" environment?
    - Is the concept of "elsewhere" part of our model, or just something that human observers talk about?
- Keep these questions in mind as we consider new data sets and develop more analyses!

1. Checking in — Our feature model

- Other questions about using features to **identify** (describe) and **distinguish** sound classes?
  - Feature chart handout

2. Morphology and phonology

Data set: Lamba

Group discussion #1

- Break the words in this data set into **morphemes**
  - How many distinct morphemes are there?
  - What meaning can we determine for each morpheme?

2. Morphology and phonology

Data set: Lamba | **Debriefing #1**

- Some key points to understand about working with **morphologically complex words**

  Handout - "Morphology and phonology" (101 review)

  - What is a **morpheme**?
  - How are morphemes stored in the **lexicon**?
  - How do we **identify** morphemes in a data set?
  - What part of the grammar **adds** a morpheme to a base to create a new word?
    - See this useful graphic from Henry S. Thompson

2. Morphology and phonology

Data set: Lamba

Group discussion #2

- Which suffixes have multiple surface forms?
  - A morpheme with multiple surface forms (determined by environment) is said to **alternate**
- What **determines** which form appears?

2. Morphology and phonology

Data set: Lamba

Debriefing #2

- Which suffixes **alternate**?
- What **determines** which form appears?

2. Morphology and phonology

Data set: Lamba

- How do we **model** the grammar of a language with an alternating morpheme?
  - Do speakers memorize which form of the morpheme appears with which base?
  - What's the alternative?
  - What kinds of evidence might support one of these approaches over the other?

2. Morphology and phonology

Data set: Lamba

- How do we **model** the grammar of a language with an alternating morpheme? Our proposal:
  - *Phonological process:* There is a **single underlying representation (UR)** for the morpheme, and the grammar **changes its features** in some context
- Evidence for this analysis: **productivity**
  - Does the phonological process apply in "new" situations? (wug tests, loanwords, etc.)

2. Morphology and phonology

Data set: Lamba

- Since two different suffixes show the same pattern of alternation, this is a good case for proposing a **phonological process** that affects both suffixes
- What **determines** which form appears?
  - *Hypothesis 1:* Suffix UR contains /-e…/, and then…
  - *Hypothesis 2:* Suffix UR contains /-i…/, and then…

How can we decide between these hypotheses?

2. Morphology and phonology

Data set: Lamba

- What **determines** which form appears?
  - *Hypothesis 1:* Suffix UR contains /-e.../, and then...
  - *Hypothesis 2:* Suffix UR contains /-i.../, and then...

- How can we decide between these hypotheses?
  - Take each hypothesis in turn and consider what phonological process(es) would be needed **under that hypothesis**
  - Compare: Is one of the options for the phonological process(es) **preferable**?

2. Morphology and phonology

Data set: Lamba

- Which hypothesis is preferable?
  - *Hypothesis 1:* Suffix UR contains /-e.../, and then...
    - What would the phonological process be?
  - *Hypothesis 2:* Suffix UR contains /-i.../, and then...
    - What would the phonological process be?
- Things to consider when comparing two hypotheses
  - Can the environment needed for a process be stated **insightfully** in our model?
  - *[Another very important criterion — next class]*

3. Modeling a morpheme alternation

- In a case of morpheme alternation, we propose that the grammar goes through the following steps:
  - *Morphology:* Select the **UR** of each morpheme in the word and **assemble** them
  - *Phonology:* Any **phonological process** whose conditions are met will apply

- Next time: We will look some more at how to **represent** a phonological process in our model of the grammar