Today's topics:

- **Descriptive generalizations**
- **Valid ranking arguments**
- **Informative losers**

Background preparation:

- McCarthy (2008), sec 2.1–2.2
- Data set - Māori loanwords

0. Today's objectives

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

- Use basic OT formalism concepts such as input, output, constraint (markedness/faithfulness)

- Formulate descriptive generalizations about a data set and use them to organize and inspire a formal analysis

- Given an input-output mapping, design informative losers and identify valid ranking arguments

1. Formalizing constraint-based phonology

- Some questions to address for an OT model

  - How do constraints **interact**?

  - What is a possible **output candidate**?

  - What are **inputs** like?

  - What is a possible **constraint**?

- Which of these have we started to answer?

1. Formalizing constraint-based phonology

- Constraints fall into two classes

  - *markedness* constraints

  - *faithfulness* constraints

- What are these classes? How are they different? Do they correspond to anything in a rule-based phonological model?

1. Formalizing constraint-based phonology

- **markedness constraints**

  - formalize *requirements on surface forms*

  - conceptually, they correspond to...
    - phonotactic generalizations
    - cross-linguistic implicational universals
    - the "driving forces" behind phonological phenomena (phonetic, etc.)

  - Formally, any constraint that *looks only at output forms in assigning violations* is a markedness constraint

1. Formalizing constraint-based phonology

- **faithfulness constraints**

    - penalize differences between two corresponding forms (such as an input and an output) along a specified dimension
        - M<small>AX</small> penalizes deletion from input to output
        - D<small>EP</small> penalizes epenthesis from input to output
        - I<small>DENT</small>[F] penalizes a discrepancy in the feature [F] between input and output

    - Formally, any constraint that *compares two forms and assigns violations on the basis of differences* is a faithfulness constraint

2. Descriptive generalizations

- McCarthy (2008: §2.3 oops) emphasizes the usefulness of a good **descriptive generalization**

  - How does a **descriptive generalization** relate to a **data set**?

  - How does a **descriptive generalization** relate to a **formal phonological analysis**?

  - What are some good **reasons** for including a clear, well-structured descriptive generalization in a phonology (linguistics!) paper?

2. Descriptive generalizations

- Data set - [Māori loanwords](#)

  - What are some descriptive generalizations we can make about **syllable structure** in Māori?

3. Ranking arguments and informative losers

- One of the most important OT analysis skills is the ability to make a **valid ranking argument**

  - This in turn depends on the ability to come up with **informative losing candidates**

- What kind of **evidence** do we need in order to determine which constraints outrank which?

4. The logic behind constraint rankings

A non-phonology example

- You want to find out whether your friend thinks *money* or *happiness* is more important

- So, you create imaginary job offers and ask which one they would choose

4. The logic behind constraint rankings

- Is this an **effective** test of whether your friend gives a higher priority to money or happiness? Why?

Job #1	or	Job #2
  • Pays a good salary • Work is unpleasant		 • Pays a terrible salary • Work is fun

4. The logic behind constraint rankings

- Is this an **effective** test of whether your friend gives a higher priority to money or happiness? Why?

Job #3	or	Job #4
• Pays a good salary • Work is fun		• Pays a terrible salary • Work is unpleasant

4. The logic behind constraint rankings

- Is this an **effective** test of whether your friend gives a higher priority to money or happiness? Why?

Job #5	or	Job #6
• Pays a good salary • Work is unpleasant • Makes you famous		• Pays a terrible salary • Work is fun • No fame here

4. The logic behind constraint rankings

Some points to conclude from these examples

- If we are trying to figure out which of two priorities (constraints!) is ranked higher:

  (a) We need to find a case of **constraint conflict**
    - One constraint prefers one candidate, and the other prefers the other one
  (b) We need to be sure there is not some third constraint ("fame"?) that could actually be deciding between the two candidates

4. The logic behind constraint rankings

Where OT is *not* like people making decisions

- Which job do you think your friend would pick if <u>money</u> was the top priority?

Job #7	*Job #8*
• Pays a medium salary	• $5.00 more / month
• Work is fun	• Work is unpleasant

- In OT, if Money » Happiness, the grammar picks Job #8!

5. Informative losers

- If we are trying to propose an analysis (find a constraint ranking) for one particular language...
    - What information do we start with?
    - What else do we need to find?

5. Informative losers

- What we know

  - The **output**—this is the surface form observed in the language

  - After doing phonological analysis as usual, we have a proposal for the **input** (UR)

- What we need to know

  - The constraint ranking

- What kind of tableau is good for this?

5. Informative losers

- We need to add **losing candidates** to our tableau

- Remember what we saw in the "money vs. happiness" example…

    - We have to choose **informative losers**, which set up situations of **constraint conflict**, in order to argue for valid constraint rankings

    - How can we tell at a glance if a tableau includes **constraint conflict**?

6. Developing ranking arguments

- Data set - [Māori loanwords](#)
  - Practice with **informative losers** and **ranking arguments**

7. Getting ready for next time

- Any questions or concerns at this point?

- Keep reading McCarthy (2008: §2.4–2.7) on:

  - ranking arguments

  - finding informative losers

  - deciding whether to include a particular constraint in your analysis or discussion

- Spot-check: Tableau practice