Today's topics:

- **Weighted constraints and cumulative interaction**
- **Aspects of the morphosyntax/ phonology interface**

Background preparation:

(none)

0. Today's objectives

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

- Give a qualitative description of the results of the [s]-aspiration-deletion simulation from last time: How well did the model do? Do the constraint weights make conceptual sense?
- Compare the approach to cumulative constraint effects taken in HG (or MaxEnt) vs. OT-LCC, and discuss the importance of an asymmetric trade-off in HG gang effects
- Name some possible areas of syntax/phonology interaction

0. Squib project updates

- Modification: The Annual Meeting on Phonology (AMP) conference submission deadline is May 1! (U MD, October)
  - If you would like to write a **conference abstract** (to AMP specifications) in place of presentation slides, check with me about choosing this option
    - I will post AMP specs and links later this evening
  - The abstract would be due at 2:30pm on Th Apr 30, just as for the slides (and I would send quick feedback to allow abstract revisions on May 1!)
  - Your in-class presentation would involve showing your abstract on screen and talking through it, similar to slides

0. Squib project updates

- **Peer feedback workshop** on **M Apr 27**
  - You will have about 30 minutes to present and discuss your project (this includes extra time)
  - You will listen to, and provide feedback and questions on, one classmate's presentation
  - If you plan to write an abstract in place of creating slides, you can *either* present an abstract *or* present an outline/handout version of the project content
  - I will be posting more detailed guidelines Th

1. Follow-up from last time

- Results of the [s] variation analysis [here]
  - How well do the predicted (“expected”) and observed frequencies match?
  - Are there particular points of divergence?
  - See Cedergren’s discussion of model fit and determiners (with respect to her variable rules)

2. Cumulative constraint interaction

- (As we have seen,) a grammar model can have constraints that are **weighted** rather than ranked
  - Each constraint's number of violations is multiplied by its weight, and the weighted violations are **summed**
  - Consequence: Lower-weighted constraints can "gang up" to overcome higher-weighted constraints (known as "gang effects")

    → Predicts **constraint cumulativity**: constraints can combine their effects

2. Cumulative constraint interaction

Implementations include

- **Harmonic Grammar**
  (Legendre, Miyata, & Smolensky 1990)
  - Rejected by P&S (1993)
  - Revived later; see Pater (2016) [below]
- **Maximum Entropy**
  (Goldwater & Johnson 2003)

2. Cumulative constraint interaction

- Under what circumstances do constraints show cumulative effects in HG? | **asymmetric trade-off**
  - Pater (2016, sec 1-2) on HG [preprint online]
- Alternative using ranked constraints (OT)?
  - Łubowicz (2002) on Local Constraint Conjunction [link]
- A comparison showing different predictions of HG and LCC for one case of cumulative interaction
  - Smith (2022) on deletion saltation [UNC link]

3. Phonology/syntax interface

- A big question: To what extent is information from other modules of the grammar available to the phonological system?
- One aspect of this:
  How do **phonology** and **syntax** interact?

3. Phonology/syntax interface

How do **phonology** and **syntax** interact?

- Segmental phenomena? Not much!
  - Although, see Breiss & Hayes (2020) [link]
- Prosodic phrasing sensitive to syntax?
  - Ito & Mester (2013) [link]
  - Review: Ishihara & Kalivoda (2021) [link]
- Domains for phono. processes defined by syntax?
  - By way of prosodic phrasing? (see above)
  - Via phases? Sande, Jenks, & Inkelas (2020) [link]

References

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Legendre, Géraldine, Yoshiro Miyata, and Paul Smolensky. 1990. Can connectionism contribute to syntax?: Harmonic grammar, with an application. Report CU-CS-485-90. Computer Science Department, U. of Colorado at Boulder.

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Pater, Joe. 2016. Universal Grammar with weighted constraints. In John McCarthy and Joe Pater (eds.), *Harmonic Grammar and Harmonic Serialism*, 1-46. London: Equinox.

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