# Prince & Smolensky 1993[1] excerpt study questions
Due Tuesday, Oct. 15

- Read pp. 4-6, 11-21, 107-126; consult tableaux in 127-135 for any forms whose analysis you want to see in detail. I have some old notes on other pages that I'm leaving in, in case you end up reading more.

Notes

p. 2: By '**analysis**' here, P&S mean something like 'potential surface form (output) of the underlying form (input) in question'.

p. 3: Requiring the grammar to impose a stratified ordering on candidate analyses (for any pair, either they have the same harmony[2] or you know which is more harmonic) is not a logical necessity. Consider the following non-stratified Hasse diagram of candidate harmony according to some hypothetical constraint set:
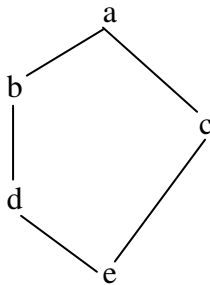
p. 4: (2) illustrates two functions. In words: 'The function Gen applied to an input In_k [the underlying form] produces the set of candidate outputs $\{Out_1, Out_2, …\}$, where each output contains information telling you what the input was. The function H-eval applied to that set of candidates produces a single output, Out_{real} [the actual surface form—though more generally, this could be a set of tied winners].'
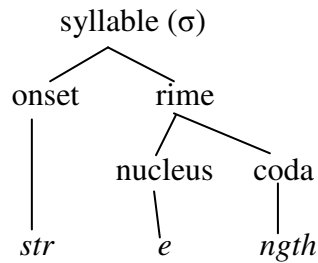
You may worry about how H-eval can possibly deal with an infinite set of candidates. Most computational proposals for dealing with infinite candidate sets manipulate regular expressions (like *ab*a*, the set of all strings consisting of an *a* followed by zero or more *b*s followed by an *a*), which are themselves finite but can represent infinite sets.

Don't worry too much for now about the idea, known retrospectively as *containment*, that all the structure of the input is retained (even if not pronounced) in each output—it was abandoned soon after by most OT phonologists in favor of a different way of encoding the input-output relationship (McCarthy & Prince's correspondence theory, which we'll go over in class).

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[1] Prince, Alan & Paul Smolensky (1993 [2002]). Optimality Theory: constraint interaction in generative grammar. RuCCS-TR-2 and CU-CS-696-93 [ROA 537-0802]. Published 2004 by Blackwell.
[2] By "*i* and *j* have the same harmony" I nean that anything more harmonic than *i* is also more harmonic than *j*, and anything less harmonic than *i* is also less harmonic than *j*.

p. 12: '**Margin**' here means a syllable onset or coda—i.e., whatever is not the nucleus. Assume a syllable structure like this:

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                    syllable (σ)
                   /          \
              onset            rime
                |             /      \
                |         nucleus    coda
                |            |          \
               str          e          ngth
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p. 24: Containment theory again: the idea that an epenthetic segment is just an empty segment slot, and it's up to a post-phonology component to decide how to pronounce it, has also largely been abandoned. Most OT phonologists now assume that the candidate set for /al-qalam+u/ includes also *[**t**alqalamu], *[**p**alqalamu], etc., and that it is up to the grammar to select [**ʔ**alqalamu] as optimal.

p. 25: For those of you who already know OT, **FILL** is roughly today's DEP ("don't insert"). And PARSE (appears later in the paper) is roughly today's MAX ("don't delete").

p. 30: By '**coalescence**', I think P&S mean putting a long vowel in a single syllable.

p. 34: The claim about Austronesian infixes always being VC (and the implication that in a language with a VC infix there could be no VC prefixes) has been challenged by Blevins, Yu, Kaufman, and probably others.

p. 36: [g-um-radwet] is actually possible (try a Google search for "gumraduate"!). Various people, including me, have reanalyzed Tagalog infixation since then.

p. 107: '**prosodic**' means something like "related to the grouping of phonological material into constituents, such as segments, syllables, feet, phonological words, phonological phrases, etc.".

p. 108: '**underparsing**' = failing to attach a segment to the syllable structure, so that it can't be pronounced, like the <i> of (147).

p. 108: $\Sigma^{CV(C)}_{del}$ = languages in which syllables require onsets (enforced by <u>de</u>letion of vowels), and allow codas.

p. 108: **Faithfulness** constraints: e.g. **FILL** (don't insert) and **PARSE** (don't delete).

p. 111: An **extrametrical** segment is one that is not included in any syllable. Usually, we're talking about a segment that *is* pronounced—it could be a direct daughter of, say, the phonological word. But here, the final, unparsed vowel is not pronounced, so presumably it's not attached to any higher structure.

p. 111: **LX ≈ PR** is collapsing a few requirements into one constraint: a lexical word [noun, verb, adjective] must be a prosodic word (=phonological word); a prosodic word must dominate at least one foot; a foot must dominate (in this language) at least two moras. [Or, as suggested on p. 114, *the beginning of a lexical word must also begin a prosodic word*, etc.]

p. 112: So, unlike Estonian, Lardil does allow morphemes to consist underlyingly of a light syllable.

p. 112: '**Null Parse output**' = silence—just not saying the word. This candidate satisfies the faithfulness constraints, but violates a special constraint MPARSE.

p. 114: '**prothetic vowel**' = vowel inserted at the beginning of the word

p. 122: [] surround the prosodic word; ( ) surround each foot [grouping of syllables, usually one or two), and periods . . surround each syllable. So the second candidate in (170) has a syllable but no feet and no p-word node in its prosodic tree.

p. 126: '**hiatus**' = a configuration like V.V, where one syllable ends with a vowel and the next starts with a vowel.

Questions
1. Find an example of a <u>constraint triggering a rule</u> that we've seen in the course, and think of it in terms of an interaction between two constraints. Give a mini-tableau illustrating the ranking of those two constraints—also say what the language is and where the example comes from in case I'm confused (e.g., which reading, class handout, or assignment). N.B.: **triggering ≠ feeding**.

2. Do the same for a case of a <u>constraint blocking a rule</u>. Here you'll probably need three constraints. N.B.: **blocking ≠ bleeding**.