Reading questions 6: Hayes (1989)

This assignment is based on Hayes (1989), as reprinted in Goldsmith (1999), pp. 352-369. To be turned in by Thursday, November 15 — via email as a PDF document this time, please.

(1) On p. 352, near the bottom of the page, Hayes writes:

[T]he prosodic frame that governs CL is partly language-specific. In particular, only languages that have a syllable weight distinction allow CL.

How does this claim square with what Hayes writes on p. 353, second paragraph of §2?

[A] few languages allow heavy syllables but do not permit a vowel to occupy two moras […]; and a language could in principle have long vowels but happen to lack phonological rules that diagnose a syllable weight distinction.

In other words, is the claim empirically falsifiable, given what’s said below? How (not) so?

(2) On pp. 355-356, Hayes describes how he assumes moraic consonants are syllabified.

I assume that an underlying geminate (one mora) or long syllabic consonant (two moras) has its consonant melody “flopped” onto a following vowel-initial syllable. This creates an onset (hence a preferred syllable structure) without disrupting moraic value.

ONSET would be presumably be responsible for this “flopping” in an OT implementation of this idea. But what prevents the entire segment from being flopped into the onset position of the following syllable, sacrificing the mora(s) of the consonant and satisfying both ONSET and NO-CODA? In other words, imagine a language in which there are geminate consonants but otherwise no coda consonants. What would be necessary to ensure that underlyingly moraic consonants in this language are syllabified across two syllables as geminates?

(3) On p. 356, Hayes discusses the Weight by Position (WbP) rule in (10), and notes that:

[I]n some languages only a subset of the consonants make their syllable heavy when they occur in coda position. This can be described by placing restrictions on \( \beta \) in the language-particular version of the Weight by Position rule.

For the sake of argument, let’s assume there are three basic types of languages: Type A, where all coda consonants are assigned a mora by WbP; Type B, where only [+sonorant] coda consonants are assigned a mora by WbP; and Type C, where there is no WbP.

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<tr>
<th>Language Type A</th>
<th>Language Type B</th>
<th>Language Type C</th>
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<tbody>
<tr>
<td>σ σ</td>
<td>σ σ</td>
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<tr>
<td>μ μ μ</td>
<td>μ μ μ</td>
<td>μ μ</td>
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<tr>
<td>V C [+son]</td>
<td>V C [+son]</td>
<td>V C [+son]</td>
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<td>[-son]</td>
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What kinds of OT constraints would be necessary/sufficient to capture this basic typology?
(4) Near the top of p. 358, Hayes writes:

My proposal is also to be preferred [...] to accounts that place actual syllable structure (rather than just moraic structure) in underlying forms. The reason is that there are apparently no cases in which the division of consonants into syllables is underlyingly contrastive, as for example in /a.bla/ versus /ab.la/. A theory that includes full syllable structures in underlying forms predicts that these could exist. My claim is that there is no such thing as contrastive syllabification, only contrastive mora structure.

Is this claim compatible with the Richness of the Base hypothesis of OT, that languages can only differ from each other in terms of constraint ranking and not in terms of language-specific constraints on possible input forms? How (not) so?

(5) And how exactly does the claim above “that there is no such thing as contrastive syllabification, only contrastive mora structure” predict the fact “that there are apparently no cases in which the division of consonants into syllables is underlyingly contrastive”? Couldn’t the undesired distinction between /a.bla/ and /ab.la/ be made by assigning an underlying mora to the /b/ in /ab.la/? How (not)? (Your answer to question (2) may be relevant here.)

(6) Hayes’s analysis of compensatory lengthening (CL) in §3 (pp. 358-362) appears to require an intermediate stage in which the to-be-deleted consonant first receives a mora (by WbP) which is then left stranded by deletion of the consonant’s melody (“segmental tier only”), subsequently to be compensatorily filled by the preceding vowel (perhaps by convention, as discussed in §3.3). Given that intermediate representations are not part of the repertoire of OT, how can this analysis be made to work in OT? (Keep in mind that one would like to retain the benefits of the moraic theory analysis of CL as compared with the segmental and X theory analyses — otherwise, the translation to OT is potentially a major step backwards.)

(7) On p. 361, second paragraph of §3.3, Hayes writes:

The difficulty with [universal conventions that yield CL as an automatic result] is that some languages [...] lack CL entirely, even though long vowels are possible and the relevant deletion processes exist. Further, certain other languages [...] fill an empty syllable-final position not by lengthening the vowel but by spreading the following consonant leftward to create a geminate.

How might this three-way typology (no CL, CL by vowel lengthening, CL by consonant gemination) be captured in OT? It may help to think of this problem as analogous to the problem of ONSET or NO-CODA satisfaction, which in Prince & Smolensky’s Ch. 6 also involves a three-way typology: violation toleration, satisfaction by deletion, and satisfaction by epenthesis.

(8) The same paragraph quoted just above continues:

In Tiberian Hebrew [...] the situation is more complex: empty coda positions are filled by gemination in the normal case, but by vowel lengthening when the following consonant belongs to the class of gutters, which do not permit gemination.

This should remind you of conspiracies. How might a case like this be handled in OT, then?