Sample presentation handout: Kahn (1976)

What are you supposed to do when you give an article presentation? Basically, the idea is to present the main ideas of the paper, evaluate the proposals, and, where relevant, compare proposals, data, etc. to other things we have read or discussed. The following is a sample handout that someone might have prepared if they were going to do an article presentation for Kahn (1976) (first half of reading).

Overview: Kahn wants to develop a formal theory of the syllable, consisting of a set of rules associating segments (consonants and vowels) with syllable nodes (S), that he can use to explain various phenomena in the phonology of English (with the potential for extension to other languages).

1. Justifying syllabic phonology

- There are many phonological rules in English that apply in an environment that makes reference to the complex environment {C,#} — this is not a natural class.

- Two approaches to this problem that don't work:

  (a) Assign features to # so that {C, #} *is* a natural class (Lass 1971, Lightner 1972)
    - Problems: • # is not "articulated" or "perceived", at least not in most cases (exception: beginning/end of whole utterance...). So how can it have phonetically plausible values for the features?
      - Can't assign a consistent set of feature values to #. In English, some rules apply / __ {C,#} (r-deletion) and some apply / __ {V,#} (vowel tensing) — so how can # be a natural class with both C and V?
      - If # has features, why does it never *undergo* rules?

  (b) A previous syllable-based approach (Hoard 1971) — the problem here was that the analysis assigned "syllable" boundaries in places that were too abstract; the "syllables" thus assigned were not phonetically plausible. See exx on p 27.

    - **Comment:** Kahn critiques Hoard's syllabification, which seems justified. But presumably Hoard's theory was set up that way for a reason — it would be nice to see Kahn explain what that reason was (and confirm that his own theory works as well).

2. Phonetic descriptions and the syllable

- Phonological elements don't always have specific, unambiguous counterparts in the acoustic signal or in the articulatory pattern. Example: [b] before vs. after vowels.

- Nevertheless, we accept the segment as an element that is relevant at the level of the phonology.

- So, even though there are no precise articulatory or acoustic correlates of the syllable, this does not mean that the syllable is not relevant at a more abstract (i.e., phonological) level. Especially since there is evidence from phonological patterns (rules, phonotactics,...) and native-speaker intuitions that supports the syllable.

3. Ambisyllabicity

- Kahn proposes that the [m] in *hammer* is ambisyllabic, that is, belongs to both the preceding and following syllable. He points out that just because the division between two syllable is unclear doesn't mean that there aren't two syllables (compare "mountain and valley" analogy). [Ambisyllabicity is dealt with further later as a consequence of syllabification rules III, IV, and V.]

  ‣ **Comment:** The best way to support the claim that certain consonants are ambisyllabic is not just through native-speaker intuitions, but by showing that ambisyllabic consonants behave a particular way in the phonology. [Kahn actually does some of this in other chapters of his dissertation.]

4. Formalizing syllabification

- According to Kahn, a theory of syllable structure has to account for the following facts:

  (a) The number of syllables is equivalent to the number of [+syllabic] segments in a string of segments. Vowels are always [+syllabic], and English allows [+syllabic] sonorants as well (as in the second syllables of *button, bottle* in many dialects).

  ‣ **Comment:** This is a potential point of cross-linguistic difference: what kinds of segments can and can not be [+syllabic] in a given language?

  (b) One consonant can be ambisyllabic, but a whole cluster can't (**Bost.ston*). This can be accounted for if we use "autosegmental" notation for syllables. The No Line Crossing constraint will make it impossible for multiple (adjacent) segments to be ambisyllabic.

$$\text{S} \qquad \text{S}$$

b ɔ s t ə n
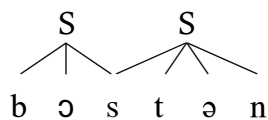
- In (8) (p 38), Kahn outlines a characterization of universally possible syllable structure.

  (a) Each [+syll] segment is associated with exactly one syllable
  (b) Each [-syll] segment is associated with at least one syllable
  (c) Association lines do not cross (general in phonology; not specific to syllables)

  Kahn states that universal and language-specific syllabification rules must be consistent with (8a-c). (Consonants may never be extrasyllabic/unsyllabified.)

  ‣ **Comment:** (8a-c) says nothing about how intervocalic consonants must be syllabified. This leaves open the possibility that some language allows a syllabification like [bɔst.ən], with no onset in σ2, but this seems never to happen.

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5. Syllable-structure assignment rules for English

<u>"Slow-speech" or initial/basic syllabification rules</u> (further rules are in the next day's reading)

- *Rule I* ((10), p 39)

  With each [+syll] segment of the input string, associate one syllable.

  - ▸ **Comment:** This rule assumes that information about [±syllabic] is known/determined before syllabification begins. Are there ever cases where a consonant becomes syllabic because there isn't anything else to syllabify it with? In other words, can the vaule for [±syllabic] ever be determined by the syllabification of other segments in a word?

- Ambisyllabicity again: Kahn decides to divide the English syllabification rules into two sets: a set of rules that determine the "basic" syllabification of each consonant, and a set of rules that cause certain consonants to link to an additional syllable and thus become ambisyllabic. He relates these two sets of rules to "slow, over-precise speech" and "faster, normal speech".

  - ▸ **Comment:** Having two "layers" of syllabification rules, and explicitly associating them with different speech rates, are not necessarily connected.

- *Rule II* ((12), pp 42-3)

  (a)
  $$\begin{array}{c} S \\ | \\ C_1....C_n\, V \end{array} \quad \rightarrow \quad \begin{array}{c} S \\ \diagup\!\!\diagdown \\ C_1...C_i\, C_{i+1}...C_n\, V \end{array} \qquad \text{(a rule that creates onsets)}$$

  where $C_{i+1}...C_n$ is a permissible initial cluster but $C_i...C_n$ is not.

  (b)
  $$\begin{array}{c} S \; x \; x \\ | \; | \; | \\ V\, C_1....C_n \end{array} \quad \rightarrow \quad \begin{array}{c} S \\ \diagup\!\!\diagdown \\ V\, C_1...C_j\, C_{j+1}...C_n \end{array} \qquad \text{(a rule that creates codas)}$$

  where $C_j...C_n$ is a permissible initial cluster but $C_{j+1}...C_n$ is not.

  - The two parts of Rule II must be crucially ordered for English, because a sequence of consonants between two vowels will be syllabified as an onset if possible, not as a coda.

    - ▸ **Comment:** Kahn makes no statement about the relative ordering of rules like this cross-linguistically, however.

  - About "possible clusters":

    - Kahn states that information about what is a possible initial/final cluster is part of Rule II (a)/(b), and is not stated anywhere else in the grammar of English. His reasoning: No other rules of English need to refer to this information;

they only refer to the syllable structure that Rule II uses this information to create. Therefore, this information should be confined to Rule II itself.

▸ **Comment:** Kahn has a point, but another consideration is the role of universal vs. langauge-specific factors in syllabification. If it can be shown that all languages have the same basic onset and coda rules, and differ only in terms of what clusters are permitted, then it might be better to propose (a version of) Rule II (a)/(b) as universal syllabification rules and let language-particular factors decide what clusters are and are not permissible.

• Kahn makes no attempt to propose a theory of what the possible vs. impossible clusters in English are; he just assumes they are <u>listed</u> in Rule II.

▸ **Comment:** We've seen in class that there are certain generalizations to be made about English clusters — it would be good to have a theory of these as well. Also, beyond English, how do languages differ in terms of possible initial and final clusters?

Concluding remarks: Kahn succeeds to a large degree in providing an explicit theory of syllable structure and syllabification rules. Some remaining questions are:

▸ Can syllable structure ever help determine what segments are [±syllabic]?
▸ Does Kahn's theory make the right predictions about possible syllable structures across languages?
▸ Is there a way to have a more explicit theory of onset and coda clusters?