
Kahn, D. (1976)

Syllable-based Generalisations in English Phonology, Chh 0–1

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The Syllable
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"As a first step towards a determination of the actual rules which assign syllabification of intervocalic consonants in English, let us consider slow, over-precise speech, or even the type of speech one might use to imitate a science-fiction robot." (Kahn, 1976)

“(Kahn's paper) radiates a certain staunch positivism.” (Sóskuthy, 2008, p.c.)
0. Contents

1. The syllable before Kahn
   * Pre-generative
   * SPE
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2. The foundations of the syllable
   * the \{C, #\} dilemma
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3. Kahn's syllable structure assignment rules
   * Rule I
   * Rule II
   * Rule III
   * Rule IV
   * Rule V
1. Is there any syllable in the SPE?

1.1

Kahn's introduction points out that perhaps instead of fastidiously investigating correlations of limited scope (cf electricity, divinity, etc.) more attention should be given to processes that are

* low level
* productive
(what his supervisor would have called post-lexical, roughly)
* referring to the syllable structure
1.2.

A process acceptable by the above standard: \( r \) dropping in Standard Southern British English

\( r \rightarrow \emptyset / _{C,\#} \)

1.3.

\( \{C,\#\} \) in analogy with \( \{r,u,k,i\} \) of the infamous Sanskrit retroflexion rule of the similar name (though the latter could be a major class – Szeredi 2007 p.c.): could add features or a boundary (both attempted in case of \( \{C,\#\} \))

Proposed solutions to the ubiquitous \( \{C,\#\} \) environment: analyse \# as silence (Ligthner, 1972), empower it with features (Ligthner: “[-glottal]” – an earnest Generative thought) but: \( \{V,\#\} \) environments exist.
1.4.

A pre-Kahnian Generative syllabification approach: Hoard (1971)

\[ \emptyset \rightarrow /./ \text{ in env. } VC_0 \rightarrow \langle M \rangle[V_{+\text{stress}}] \]

coda maximization: \( V_{+\text{stress}} C_{1\ldots n} V_{-\text{stress}} \) V1 gets all the C-s

consider the following predictions:

\text{ampl.ify, atl.as, lingu.ist, (even better: windscr.een, candlest.ick (in fast speech))}
2.1.

the *bob*-argument

“even the most concrete of the phonological levels, that of phonetic representation, is related to the acoustic signal by an extremely complex set of context-dependent rules. (p30)”

mind the word *rule*!

2.2.

the phonetic argument

“The syllable would appear to be an intuitively recognizable unit even for primitive peoples” (Abercrombie, 1967) – yet we cannot be expected to locate its boundaries as phoneticians.

Articulatory correlates: single chest pulse & sonority peak (Pike 1947, Stetson 1928), yet Ladefoged warns us not to find “a single muscular gesture marking each syllable” (1971)
2.3.

Fudge (1969) aphasic retrieval of syllable structure

Brown and McNeill (1966) “tip of the tongue”

(rather impressionistic)

2.4

Kahn's syllable:

Never explicitly stated (or I am simply absent-minded) but for K. syllabification is part of Competence, evident as it were, only to be modelled by syl. rules (processes only further support it) :E
3.1. Ambisyllabicity

Kahn politely by-passes problems with discrete #-s:

glottalisation and aspiration in SSBE:

URP $glot^h al$
Cockney $glo[?]al$
and: *?V and probably *VC$^{asp}$

...and jumps to the logical acceptance of ~ instead.

So,

[aet][læs] [h^m]ør
3.2. Let's build syllables! :D

A few axioms (p38):

a. Each [+syllabic] segment is associated with exactly one syllable.

b. Each [-syllabic] segment is associated with at least one syllable.

c. Lines associating syllables and segments may not cross.

(Obvious effect of Goldsmith's autosegmental approach.)
3.3 Syllable-Structure Assignment Rules for English

Rule I:
With each [+syllabic] segment of the input string associate one syllable.

cf. templatic approaches to syl. structure

misisipi
    | | | |
    S S S S

or

    mi si si pi
[cv][cv][cv][cv][cv]

and an assumption: “the set of possible syllable-initial (-final) clusters in English is identical to the set of possible word-initial (-final) clusters.” (p41)
3.4.

Rule II

a.  
\[ C_1 \ldots C_n V^{\text{Syl}} \Rightarrow C_1 \ldots C_i (C_{i+1} \ldots C_n V^{\text{Syl}}) \]

where \( C_{i+1} \ldots C_n \) is a permissible initial cluster, but \( C_i \ldots C_n \) is not.

b.  
\[ V^{\text{Syl}} C_1 \ldots C_n \Rightarrow (V^{\text{Syl}} C_1 \ldots C_j) C_{j+1} \ldots C_n \]

where \( C_1 \ldots C_j \) is a permissible final cluster, \( C_1 \ldots C_j C_{j+1} \) is not, and \( C_1 \ldots C_n \) are not associated with any syllable.

Underparsed segments die. *YZ_ \Rightarrow *XYZ_ implicature

Perhaps in the spirit of the age, Kahn probably wants to model fast speech by manipulating extrinsically-ordered rule systems, dropping the bottom rules, in par with the OT performance models of today.
3.5.

Rule III

\[ V_1 [CV_2] \] associate \( C \) and \( S_1 \)
if \( V_1 \) is stressed and/or \( V_2 \) is unstressed

on the basis of appear, attack, collide vs. happy, attic, collie
(also ex'port-'export we would guess)

BUT take into account Boston and \( p[ow]ny \) (+ after):

Rule III for real!

In \([-\text{cons}])([CC_0][V_{-\text{stress}}])\) associate \( C \) and \( S_1 \)

Rule IV

In ([C](C₀)[Vₐₜₜₜ]) associate C and S₂

Sensitive to stress: 'Haf,tonium

English-specific (or global) constraints: bodkin

One exception: hanger (Not in Vietnamese though)

Domains of application:

Rule I,II,III word domain (this time, say veranda, save Iran) Rule IV as well
Rule V

Inter-word linking: RIV not sufficient, cf.

_Night rate_ versus _Nitrate_

Final consonant only linked to next syllable in connected speech if $S_2$ has no onset and $S_1$ is unstressed.

In C(V) associate C and S

See also:

_a name_ versus _an aim_ (phoneme of juncture, how charming!)
Residual issues (for Kahn, at least):

phonotactics - *atktin

Cf. difference in Hungarian verb and noun phonotactics (Törkenczy 2004), general patterns of markedness in the phonotaxis of languages (Szigetvári 2005), the problem of s (Kaye 1981)
Thanks for your attention, chaps, cheers!