

**Dr Szigetvari's fabulous**

**ANN-342.107.793 "The Syllable" lecture\***

*proudly presents:*

# **Syllable-based Generalisations in English Phonology**

**by  
Daniel Kahn**

**\*seminar**

Kahn, D. (1976)

Syllable-based Generalisations in  
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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
- \* the Big Deal

### 2. The foundations of the syllable

- \* the {C, #} dilemma
- \* the validity of abstractness argument
- \* fiddling with chest pulses and muscular movements

### 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 *electric-electricity, divine-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 (Lighthner, 1972), empower it with features (Lighthner: "[ -glottal]" - an earnest Generative thought) but: {V,#} environments exist.

Lass: # obs. (1971) circular & false.

1.4.

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

$\emptyset \rightarrow /./$  in env.  $VC_0 \_ <M> [V_{+stress}]$

coda maximization:  $V_{+stress} C_1 \dots C_n V_{-stress}$  V1 gets all the C-s

consider the following predictions:

*amplify, atlas, linguist*, (even better: *windscreen, candlestick*  
(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) aphasie 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 *glo[t<sup>h</sup>]al*

Cockney *glo[ʔ]al*

and: \*?V and probably \*VC<sup>asp</sup>

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

So,

[æt] [læs]

[h<sup>^</sup>[m]əɾ]

### 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]

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.

$$C_1 \dots C_n V^{\text{sy1}} \Rightarrow C_1 \dots C_i (C_{i+1} \dots C_n V^{\text{sy1}})$$

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

b.

$$V^{\text{sy1}} C_1 \dots C_n \Rightarrow (V^{\text{sy1}} C_1 \dots C_j) C_{j+1} \dots C_n$$

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

Underparsed segments die. \*YZ\_ => \*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  $S_1$

a. [æf][tər]      b. [æf[t]ər]      c. [æ[f]tər]

Rule IV

In ([C] (C<sub>0</sub>) [V<sub>-stress</sub>]) associate C and S<sub>2</sub>

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!

