

BETWEEN THE SEGMENT AND THE SYLLABLE (Part 1)

1. THE SYLLABLE

SPE: The phonological representation consists of linear strings of segments with no hierarchical organization.

But: The *syllable* needs to be recognized as a *phonological unit*.

Example: In Polish, stress falls on the penultimate syllable.

SPE formalization: [3a], [3b], [3c]

correct formalizations, but they are arbitrary : the number of consonants is *irrelevant*.

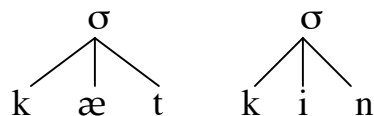
If we recognize that the syllable is a *unit*, the Polish stress rule can be formalized as in [4].

What is the relationship between the syllable (=phonological unit) and its constituents (=segments)?

Kahn (1976): *Syllable-based generalizations in English phonology*.
Indiana University Publications.

The σ node dominates immediately its constituents (daughters):

The word *catkin* may be represented as in [5].

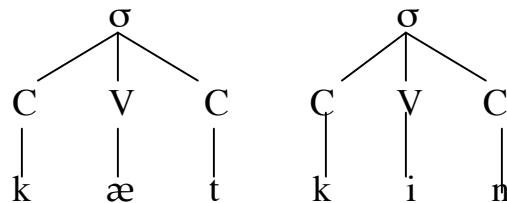


- The nodes are linked to segments (=single column feature matrices) by ASSOCIATION LINES.
- Each maximal sequence of segments dominated by a single σ node constitutes a syllable.

Clements & Keyser (1983): *CV phonology: A generative theory of the syllable*. Cambridge, MA.: MIT Press.

C & K : There is a *CV tier* between the σ and the segments [6].
The C and the V slots form a set of *timing units*.

e.g., *catkin* [6]



C and V in the CV-tier define functional positions: *peak* vs. *non-peak*:

The CV-tier can be seen as subsuming the function of the feature [syllabic].

But: The CV-tier is not only a replacement of the feature [syllabic], but defines the units of timing (see above).

e.g., a single segment corresponds to a single instance of C or V on the CV-tier;

long segments correspond to two units on the CV-tier.



long vowel



short vowel

The CV-tier thus has two roles:

- i. represents segmental duration
- ii. designates syllabicity (onset, nucleus or coda)

2. SUB-UNITS OF THE SYLLABLE

On the analogy of NP - VP division of sentences in syntax, there is a major break between the ONSET of the syllable and the rest of the syllable:

RHYME.

e.g., [t^hɹ] in *train* is the ONSET

[ɛjn]

RHYME

MAXIMUM ONSET PRINCIPLE (MOP): First make the onset as long as it legitimately can be; then form a legitimate coda

Languages differ in the *syllabification domain*.

ARGUMENTS FOR THE ONSET-RHYME SPLIT:

In Latin the stress rule can be stated as follows:

In words of more than two syllables, if the penultimate *rhyme* is heavy, it is stressed.

Heavy syllables:

- (i) contain a long vowel or a diphthong;
- (ii) short vowel followed by a consonant.

NOTE: The ONSET is irrelevant -- e.g. *ak* is just as heavy as *brak*.

In words where the penultimate *rhyme* is light, the antepenultimate is stressed.

Light syllable: An open syllable containing a short vowel.

Problem: What is common to a

long vowel, or
a diphthong, or
a short vowel + cons.

If we were to represent long vowels as [+long], the heaviness of a rhyme containing a long vowel would be *different* from that of the other types of rhyme.

Heavy syllable: A syllable whose rhyme branches.
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STUDY [7]

ONSET irrelevance vs. RHYME relevance in the realization of stress has to be considered as evidence for the ONSET- RHYME split.

Spoonerism also provides evidence for the division of the syllable:

if the fap kits for if the cap fits

It shows that substitution involves ONSETS only; the RHYME is respected (= remains unchanged).

ARGUMENTS FOR THE NUCLEUS AND CODA SPLIT:

The RHYME can be divided into two parts: NUCLEUS and CODA.

NUCLEUS: The constituent that contains the head of the whole syllable.

In English, the nucleus is made up of short vowels (*bit*), long vowels (*bead*) or diphthongs (*like*).

The NUCLEUS imposes restrictions on the CODA, e.g., in English, the NUCLEUS /aw/ cannot be followed by non-coronals [10].

Study [11]

3. THE ELIMINATION OF THE FEATURE [syllabic]

The advantage of introducing the syllable into the phonological representation is the possibility of eliminating the feature [syllabic].

Along with the features [stress] and [long] the feature [syllabic] is DIFFERENT from other features, such as [coronal], [back] etc.

DIFFERENT: Syntagmatic!

Whether or not a segment is syllabic depends on its *position within the syllable structure*, not on any inherent phonological property of its own.

e.g., *little* - the non-syllabicity of the first /l/ and the syllabicity of the second /l/ is determined by *their position*.

By contrast, /l/ inherently is [CORONAL], [+LATERAL] etc.

If the feature [syllabic] is eliminated, the contrast between high vowels and glides is *not* one of feature-value assignment, but one of *position* within the syllable.

Any /i/ /u/ which is in the nucleus is automatically [+syllabic].

e.g., [aj] in *buy* is a true diphthong: /j/ belongs to the nucleus.

buy + ing *[ba\$ĩŋ] but
 [baj\$ĩŋ] *hiatus*
 [ba:\$ĩŋ] *smoothing* } (RP)

But: in the sequence /uj/ in French, the /j/ does *not* form a nucleus with the /u/, but is part of the coda.

e.g., *mouille* [muʝ], with a suffix:

mouillons : resyllabifies rightward like any final consonant [mu\$jõ]

