


The structure of a syllable

Marcelo Andrade

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- The syllable is a basic unit of speech studied on both the phonetic and phonological levels of analysis.
 - No matter how easy it can be for people and even for children to count the number of syllables in a sequence in their native language, still there are no universally agreed upon phonetic definitions of what a syllable is.

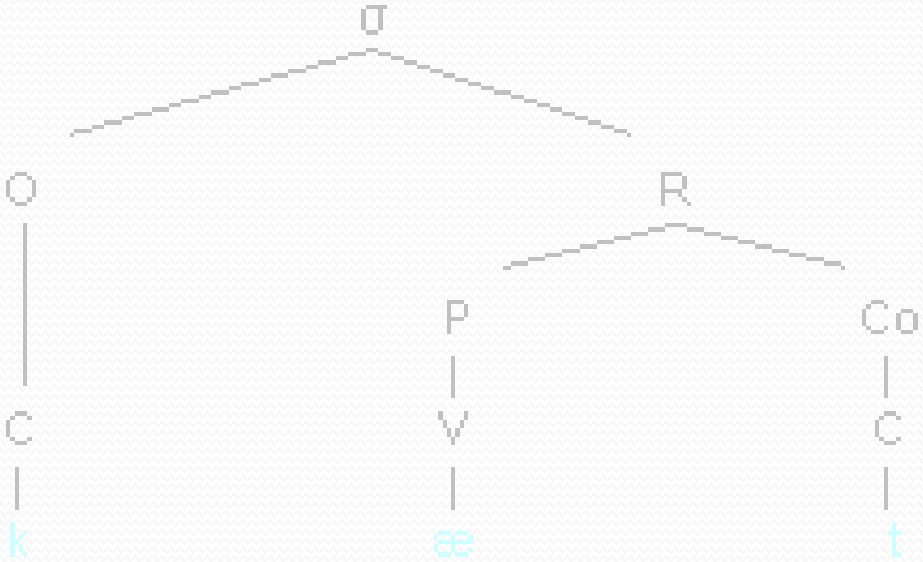
- **Phonetically** syllables “are usually described as consisting of a centre which has little or no obstruction to airflow and which sounds comparatively loud; before and after that centre (...) there will be greater obstruction to airflow and/or less loud sound” (Roach, 2000: 70). In the monosyllable (one-syllable word) *cat* /kæt/, the vowel /æ/ is the “centre” at which little obstruction takes place, whereas we have complete obstruction to the airflow for the surrounding plosives /k/ and /t/.

- Laver (1994: 114) defines the **phonological** syllable as “a complex unit made up of nuclear and marginal elements”. Nuclear elements are the vowels or syllabic segments; marginal elements are the consonants or non-syllabic segments. In the syllable *paint* /peɪnt/, the diphthong /eɪ/ is the nuclear element, while initial consonant /p/ and the final cluster /nt/ are marginal elements.

Syllable structure

- The bulk of present-day phonological theory agrees that the syllable has constituent or hierarchical, rather than linear, structure.
- The syllable (conventionally marked as small Greek sigma: σ) has two immediate constituents (it “branches” into two elements, to put it in another way) – the Onset (O), which includes any consonants that precede the nuclear element (the vowel), and the Rhyme (R), which subsumes the nuclear element (the vowel) as well as any marginal elements (consonants) that might follow it. The Rhyme, in turn, further branches into Peak (P), also known as Nucleus (N), and Coda (Co). The Peak (Nucleus), as the designation suggests, represents the “nuclear” or most sonorous element in a syllable. The Coda includes all consonants that follow the Peak in a syllable. Syllable structure may be represented graphically by means of a “tree diagram”.

The first example we shall take is *cat* /kæt/.



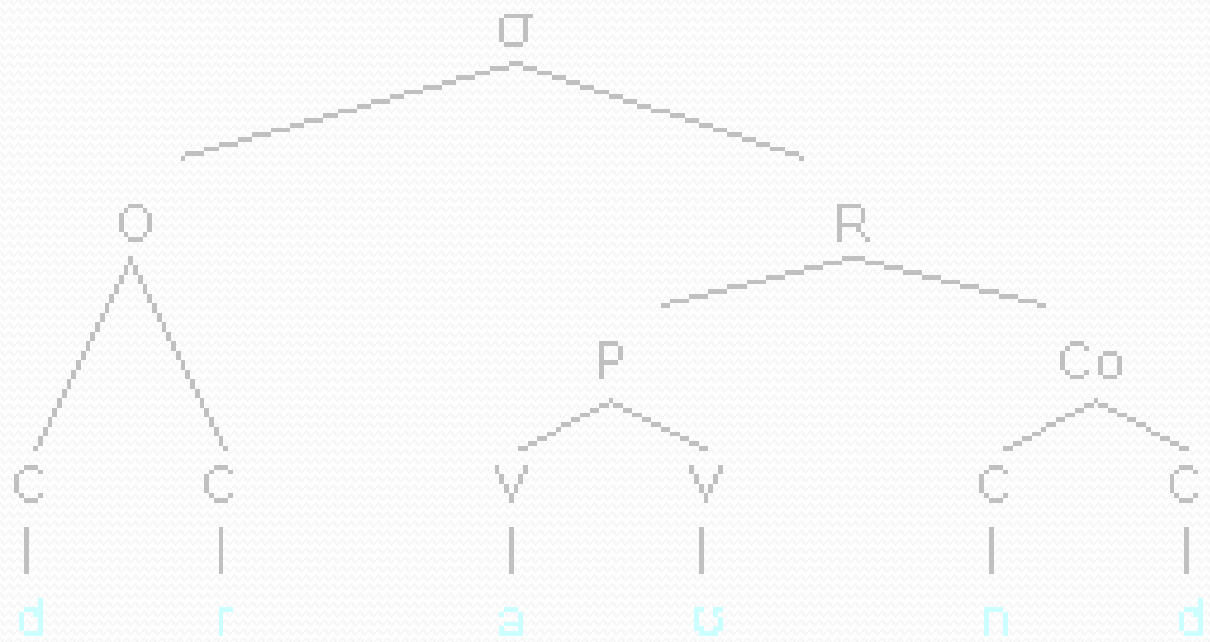
- In the case of *cat* /kæt/, the Onset, Peak and Coda each consist of one segment: the consonant (C) /k/ occupies the Onset, the vowel (V) /æ/ – the Peak, and the consonant /t/ is the Coda of this syllable. However, there are syllables in English where either or both marginal elements (i.e. O and/or Co) are absent – only the Peak is an **obligatory** element in all languages, and in English both the Onset and the Coda are **optional**. (There are languages, though, where the Onset is obligatory, as well as such that allow no Codas.)

- Consider the following examples.



	• Onset	Peak	Coda
• <i>sea</i> /si:/	/s/	/i:/	∅ (none)
• <i>on</i> /ɒn/	∅	/ɒ/	/n/

- **On the other hand, the Onset, Peak and Coda may each further branch into two C- or V-constituents respectively. Then we speak about branching or complex Onsets etc. The English syllable *drowned* /draʊnd/ is an example in which all three elements branch:**



- Syllables ending in a consonant, e.g. *cat* /kæt/, *it* /ɪt/, *eat* /i:t/, are traditionally known as **closed** syllables, whereas those ending in a vowel, as in *sea* /si:/ or *eye* /aɪ/, are called **open**. In terms of syllable structure, in closed syllables the Coda is present, i.e. we have a branching Rhyme, while open ones have non-branching Rhymes – the Coda element is absent. Syllable Onset is irrelevant to this distinction.

Division of syllables

- **So far we have been using monosyllabic words as examples. But when a string of syllables is concerned, how do we decide what is the Coda of one and the Onset of the next? The question of syllabification, the division of a word into syllables, is quite controversial and there are several approaches to it.**

- A dot . is used to divide syllables, in accordance with the current recommendations of the International Phonetic Association. (...) However, this is not used where a stress mark ˈ or ˌ occurs, as these are effectively also syllable division markers. (...)
- (a) As far as possible, syllables should not be divided in a way that violates what is known of English syllable structure. The ‘Maximal Onsets Principle’, which is widely recognised in contemporary phonology, is followed as far as possible.

- when this would result in a syllable ending with a stressed /ɪ/, /e/, /æ/, /ʌ/, /ɒ/ or /ʊ/, it is considered that this would constitute a violation of English phonotactics, and the first (or only) intervocalic consonant is assigned to the preceding syllable; thus the word ‘better’ is divided /ˈbɛt.ə/, whereas ‘beater’ is divided /ˈbi:təʳ/. In the case of unstressed short vowels, /e/, /æ/, /ʌ/ and /ɒ/ are also prevented from appearing in syllable-final position;

- however, unstressed /ɪ/ and /ʊ/ are allowed the same “privilege of occurrence” as /ə/ when a consonant begins a following syllable, and may therefore occur in final position in unstressed syllables except pre-pausally. Thus in a word such as ‘develop’, the syllable division is /dɪˌvɛləp/.

- **Notwithstanding the above, words in compounds should not be re-divided syllabically in a way that does not agree with perceived word boundaries. For example ‘hardware’ could in theory be divided /ʔhɑ:.dweə/, but most readers would find this counter-intuitive and would prefer /ʔhɑ:d.weə/. This principle applies to open, closed and hyphenated compounds.**
- (Jones, 1997: xiii)

- It is generally agreed that phonetic syllable divisions must as far as possible avoid creating consonant clusters which are not found at the edges of words. This is the phonotactic constraint. Thus windy might be [wɪn di] or [wɪnd i], but it could not be wɪ ndi (because English words cannot begin with nd). LPD takes the view that the syllabification of this word actually parallels its morphology: wind+y, [wɪnd i]. For the same reason, language must be [læŋ gwɪdʒ], not [læŋg wɪdʒ] or [læ ŋgwɪdʒ].

- **Bibliography**

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- a) Make **tree diagrams** for the following syllables.
- *big, done, peak, shame, car, do, ease, own, air, oh, tree, new, old, trunk, field, trained, cleaned.*
- Divide the following words into syllables according to all three approaches outlined in the **tutorial**:
- *rabbit, better, greater, pager, stranger, finger, mattress, insist, fury, prosper, prosperity*