

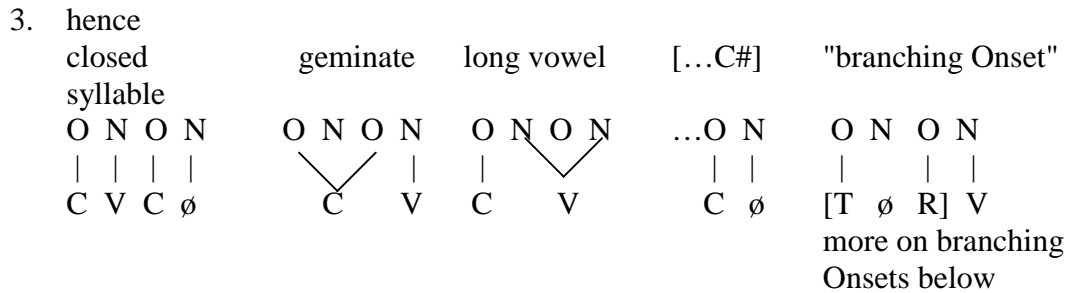
Tobias Scheer, University of Nice ([scheer@unice.fr](mailto:scheer@unice.fr))

Péter Szigevári, Eötvös Loránd University, Budapest ([szigetva@nytud.hu](mailto:szigetva@nytud.hu))

## Unified representations for the syllable and stress

handout and paper available at <http://budling.nytud.hu/~szigetva/papers.html>

- (1) received attitude towards syllables and stress
  - a. consensus since Liberman & Prince (1977):  
syllables and stress are represented on separate levels because within a given language, a single syllable (in fact, Rhyme) sometimes counts single, but at other times double for the purpose of stress-assignment.  
Cross-linguistic pattern regarding the contribution of Rhymes to stress:  
V = light (=counts single) in all languages  
VV = heavy (=counts double) in all languages  
VC = sometimes light (e.g. Khalkha Mongolian), sometimes heavy (e.g. Latin)
  - b. two concurrent approaches
    1. moraic theory, e.g. Hayes (1980,1989,1995), Hyman (1985)  
minimal timing unit: the mora. No Onsets, no Rhymes, no Codas
    2. metrical grids, e.g. Liberman & Prince (1977), McCarthy & Prince (1986, 1990), Halle & Vergnaud (1987), Isardi (1992), Halle (1998)  
minimal timing unit: the skeletal slot, classical syllabic constituency
- (2) our purpose
  - a. unify representations for syllable-driven phenomena and stress-assignment.
    1. moraic theory: syllable-related phenomena are due to sub-syllabic constituency, stress is calculated at the moraic level.
    2. metrical grids: syllable-related phenomena are due to sub-syllabic constituency, stress is calculated at the level of metrical grids.
    3. here: both syllable-related phenomena and stress are a function of the linear sequence of Onsets and Nuclei and the lateral relations they contract.
  - b. set a parameter for the empirical variation VC-Rhymes = light vs. heavy.
  - c. show that stress is an exclusively vocalic property: no consonant ever counts.
  - d. explain rather than observe the major cross-linguistic generalization according to which Onsets never count for the purpose of stress-assignment.
- (3) presuppositions
  - a. strict CV  
"syllable structure" consists of strictly alternating consonantal and vocalic positions (Lowenstamm 1996), the skeleton is strictly CVCV. That is,
    1. superficially adjacent consonants are *always* separated by an unpronounced V position (=empty Nucleus).
    2. two vowels are separated by an unpronounced C position (empty Onset) not only in hiatus, but also in diphthongs and long vowels.



b. the strict CV model is able to analyse classical syllable related processes such as Closed Syllable Shortening, Compensatory Lengthening, lenition & fortition etc., cf. Scheer (1998,1999), Szigetvári (1999, 2001), Ségéral & Scheer (2001).

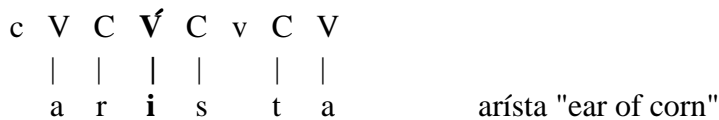
(4) syllable weight in strict CV

light syllable = 1 Nucleus O N     t a [CV]	heavy syllable = two Nuclei O N O N    /    C  V [CVV]	O N O N         C V C ∅ [CVC]
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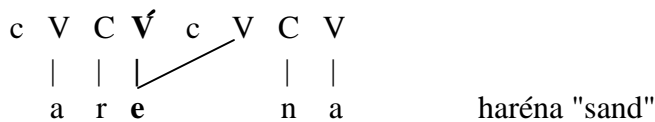
(5) Latin stress assignment: both CVV and CVC are heavy

- a. "if penult heavy it is stressed, else antepenult is stressed"
- b. unified interpretation in strict CV: "stress the antepenultimate Nucleus"  
(C/V=pronounced position, c/v=unpronounced position)

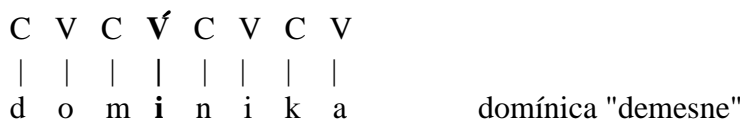
1. penult heavy [CVC]



2. penult heavy [CVV]



3. penult light [CV]



(6) parameter [CVC] heavy (Latin) vs. light (Khalkha Mongolian)

- a. unpronounced Nuclei do (Latin) or do not (KM) count.
- b. comparison  
 moraic theory: Codas are (Latin) or are not (KM) moraic ("Weight-by-Position").  
 metrical grids: syllable marking rules do (Latin) or do not (KM) transmit the internal structure of Rhymes to higher levels.

- (7) two observations, two questions:
- a. observations
    1. Codas may or may not count
    2. Onsets count in no language and under no circumstances
  - b. questions
    1. like tone and other suprasegmental properties, stress is a fundamentally vocalic property. How come that sometimes, consonants interfere in this vocalic area? [this question is never asked in conventional approaches]
    2. how come that consonants are divided as they are?  
That is, why do Codas sometimes count, but Onsets never, rather than the reverse?

- (8) answers
- a. consonants NEVER count. Stress is a purely vocalic property. Latin is a Coda-counting language. But in fact, only Nuclei are counted: "stress the third but last Nucleus", cf. (5).  
the belief that Codas are counted stems from an optical illusion: the real identity of a "Coda" is "a consonant that occurs before an empty Nucleus", cf. (3). [on branching Onsets in a while]
  - b. Onsets (as opposed to "Codas") never count because
    1. simplex: they occur before a filled Nucleus, which counts anyway
    2. complex = branching: cf. below  
"Codas" count because the empty Nucleus they precede is visible for stress-assignment. Hence, the invisibility of Onsets is an automatic consequence of strict CV.
  - c. Comparison: moraic theory and metrical grids have got nothing to say about why Onsets never count. The invisibility of Onsets does not follow from any property of moraic or grid-theory. It does follow from strict CV.
    1. moraic theory: "because Onsets are non-moraic". Why are they non-moraic? Because moraic theory has decided that there is no mora attached to them. Why did moraic theory decide so? Only answer: because we observe that Onsets never count for stress.  
==> overt circularity
    2. metrical grids: "because there is no syllable-marking rule that projects a '\*' onto the next level in presence of an Onset [while there IS a syllable-marking rule that projects a '\*' onto the next level in presence of a Coda]. Why is there a syllable-marking rule for Codas, but not for Onsets? Only answer: because we observe that Onsets never count for stress.  
==> overt circularity

- (9) branching Onsets vs. Codas in strict CV (T=any obstruent, R=any sonorant)

Coda-Onset cluster                      branching Onset



- a. in both cases, there is an empty Nucleus enclosed within the cluster, i.e. "v".

- b. this empty Nucleus is unpronounced for two different reasons
  - 1. Coda-Onset: it is governed by the following vowel  
= management above the skeleton.
  - 2. branching Onset: it is satisfied by the sonorant R, which may spread to its left.  
[no such possibility for Coda-Onset clusters because the R precedes the empty Nucleus]  
= management below the skeleton.
- c. consequence: the empty Nucleus enclosed within a branching Onset is invisible for all processes that take place above the skeleton.  
These are:
  - 1. all syllable-related processes, which are expressed by Government and Licensing in strict CV, i.e. lenition, fortition.
  - 2. all supra-syllabic processes, among which stress.

- (10) the empty Nucleus enclosed within branching Onsets is
- 1. unpronounced
  - 2. invisible for the world above the skeleton
- but it exists.

Evidence for its existence comes from the evolution of Latin:

from classical to vulgar Latin, proparoxytons become paroxytons iff the ultimate syllable bears a branching Onset (e.g. Fouché 1966-73 I:151s, Pope 1934:100).

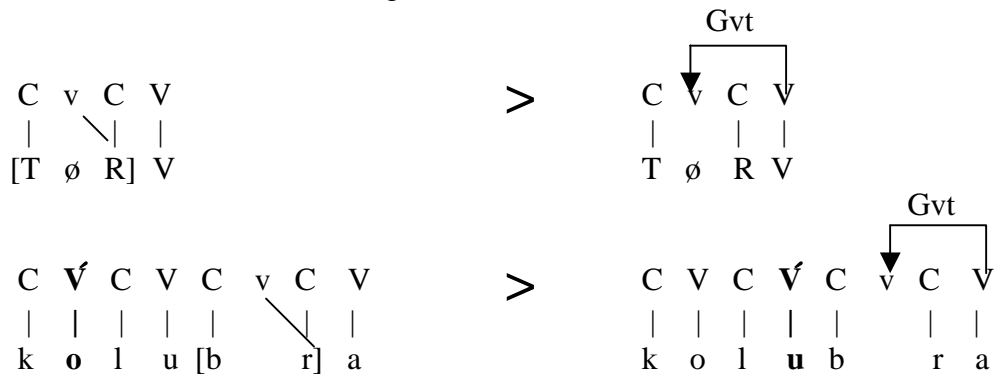
class. C<sup>́</sup>V<sup>́</sup>CVTRV > vulg. CVC<sup>́</sup>TRV

classical Latin	vulgar Latin	French	French spelling
cólubra	colúbra	kulœvʁə	couleuvre
íntegru(m)	intégru	ɛ̃tʃe	entier
ténebras	tenébras		esp. tinieblas
tónitru(m)	toníttru	tɔ̃nɛʁ	tonnerre

this is evidenced by various properties of the modern descendants. For instance, the survival of post-tonic vowels as in French *couleuvre*, *tonnerre* is impossible. Their existence supposes that they were stressed.

(11) interpretation

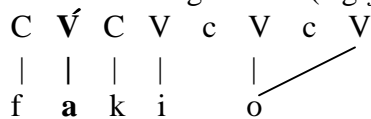
- a. classical: only observation. "Stress shifts to the right if the last syllable bore a branching Onset." The stress algorithm of classical and vulgar Latin is not the same.
- b. strict CV: the stress algorithm of classical and vulgar Latin is exactly identical. The only thing that has changed is the status of branching Onsets: both members have become heterosyllabic.<sup>1</sup>  
 This means that the empty Nucleus they enclose has been "liberated" and hence become visible for stress-assignment:



- c. conventional analysis: resyllabification. a branching Onset has "broken up", i.e. its first member has been resyllabified as the Coda of the preceding syllable.

(12) problems that remain (for everybody)

- a. word-final long vowels (e.g. *fāciō* "make") do not count as two CVs.



- b. in some languages (e.g. Latin), word-final consonants are "extrametrical", e.g. *dóminus* "lord". The analysis of these cases depends on the approach to "extrametricality".



<sup>1</sup> This movement was general in Gallo-Romance, cf. Scheer & Ségéral (2001).

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