

Contributions to the Strict CV phonology analysis of connected speech phenomena

Katalin Balogné Bérces

bbkati@yahoo.com

0 Overview

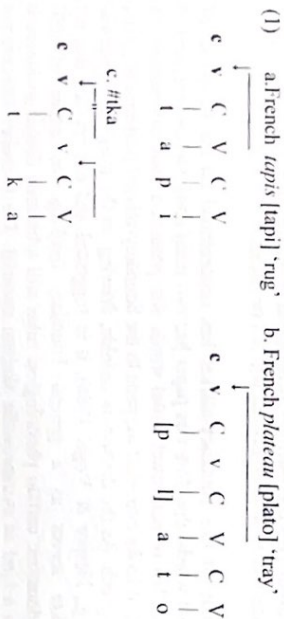
The fact that the left edge of (phonological) words is a strong position counts as a phonological commonplace. This basically means that the beginning of the word favours fortition processes and disfavours lenition both synchronically and diachronically. Theories have usually attempted to account for this with reference to the word boundary (#) or to foot-initial position. As an alternative, most practitioners of Strict CV Phonology (launched by Lowenstamm 1996), which, being a subbranch of Government Phonology, describes fortition and lenition phenomena as the result of the interaction of government and licensing relations (cf. Ségéral & Scheer 1999), assume that each word of a major category starts with a melodically empty CV unit on the skeletal tier, marking the word boundary (after Lowenstamm 1999). One of the functions of the boundary-marker in a cvCV... word (that is, a word starting with a single consonant followed by a vowel, where lower-case letters denote empty skeletal positions) is to absorb the (destructive) government emanating from the first vowel of the word, thus the word-initial consonant will not be negatively affected.

So far, the study of this boundary-marker has concentrated on the behaviour of consonant-initial words, therefore this paper has two main aims. On the one hand, it investigates whether or not vowel-initial words also possess a boundary-marker; on the other hand, it looks into what happens to the boundary-marker post-lexically, i.e., in connected speech. As the discussion unfolds, drawing on the insights of Prosodic Phonology (e.g., Nespors & Vogel 1986), it is suggested and exemplified that the boundary-marker serves as a general boundary marking the edges of (all) phonological domains: certain phonological rules will arbitrarily decide to ignore it and treat it as a kind of extraprosodic skeletal material. The boundary-markers not ignored by a given rule will delimit its domain by blocking its application. Also, a typology of the effects of the extraprosodic (i.e., ignored) boundary-marker is provided, which highlights the special status of the situation when a consonant-final word meets a vowel-initial one. Several examples are given, mostly from English, and further questions are asked.

0.1 Introduction

Strict CV Phonology or CVCV Phonology (henceforth CV Phonology) is a radical sub-branch of Government Phonology (GP – KLV 1985, KLV 1990, etc.). It accepts certain basic tenets of GP, including the essentially non-derivational nature of grammar, the theory of analytic vs. synthetic domains, and the claim that phonotactic and procedural facts are (largely) due to asymmetrical relationships like government and licensing contracted by phonological units. However, CV phonology (Lowenstamm 1996 and subsequent work) represents pioneering work representation-wise; it hypothesises that prosodic structure is universally composed of strictly alternating CV units, and clusters of adjacent consonants or vowels arise when a language licenses domain-internal empty skeletal positions via (proper) government (familiar from GP). Domain-finally, the empty nucleus is parametrically licensed in languages which allow for consonant-final words.

A further innovation introduced by Lowenstamm (1999) and under close scrutiny in the present paper is the empty CV unit posited to the left edge of each major category, marking the beginning of the word and serving as the phonological embodiment of traditional # (henceforth the boundary-marker). As argued in Lowenstamm 1999 and Seeral and Scher 1999 (in the theory of the Coda Mirror), this boundary-marker can be used to explain certain phonotactic and lenition facts characteristic of the left edge. This is illustrated in (1): Proper Government (PG) emanating from non-empty V positions (indicated by capital Vs) licenses/silences the empty vocalic position (lower-case v) of the boundary-marker of words starting with a single consonant (1a) or a cluster which forms a closed domain (cf. Scher 1996) (1b), as opposed to words starting with consonants unable to enter into this special relationship (dubbed Infrasegmental Government by Scher) (1c) where the empty v straddled by the consonants consumes the PG coming from the first pronounced V, and thus the boundary-marker is left unlicensed. (Such consonant clusters are sometimes called bogus clusters.) As a consequence, its v cannot remain empty, and therefore no word starting with such a cluster will surface in languages like French. (In the following discussion, lower-case c's and v's symbolise empty positions while capital letters indicate non-empty positions.)



If government is generally considered as a destructive force silencing vowels and causing the lenition of consonants (as suggested in the Coda Mirror and further elaborated on in Dienes and Szigetvari 1999, Szigetvari 1999), the configurations in (1) also account for the fact that the beginning of the word systematically resists lenition: the v position of the boundary-marker distracts this destructive force and the word-initial C escapes weakening.

According to the workings of the boundary-marker, two basic language types are predicted. On the one hand, Moroccan Arabic, Berber, Greek and others have been shown to allow for any combination of consonants as well as lenition word-initially. Such languages will henceforth be referred to as 'permissive'. Other languages like French or English, however, display a strong preference for rising sonority clusters word-initially (#TR), as illustrated in (1), and no lenition is expected at that location. We can call these languages 'strict'.

The proper way to distinguish these two language types is one of the main concerns of the present paper. So far, two options have been provided. Lowenstamm (1999) represents the original stance claiming that the boundary-marker is always licensed (i.e. always requires PG) in 'strict' languages (that is why bogus clusters are

prohibited word-initially) whereas it is not always licensed in 'permissive' languages (depending on the cluster in question). In contrast, according to Scher (2001), the distinction lies in the presence vs. absence of the boundary-marker: in 'strict' languages it is present and needs licensing while in 'permissive' languages it is absent, and thus it never needs PG.

Later, the issue of the typology created by the boundary-marker will be taken up again; but first, let us examine some other aspects of cross-word phenomena, with examples from 'strict' languages.

1 Prosodic domains

It has been well-known for decades that all phonological rules apply within certain sub-strings of the phonological utterance (including the utterance itself) called the domain of the rule. As the theory of domains, Prosodic Phonology (PP) claims, there exists a hierarchy of prosodic constituents which serves as the inventory from which the rules choose their domains of application. Although authors slightly differ as to what these constituents are, the common core of all models includes the syllable, the foot, the phonological word, the phonological phrase, the intonational phrase and the utterance. The most convincing piece of evidence for the inevitability of PP comes from cases when the application of a given phonological rule depends on non-phonological (mainly syntactic) information: under the same segmental conditions, for example, French liaison applies in phrases of a certain type but fails to do so in phrases of a different type, cf. (2a) and (b).

- (2) a. un [savant]₁ [anglais]₂ 'a learned Englishman': liaison
 b. un [savant]₁ [anglais]₁ 'an English scientist': final consonant deletion

It is also evident that rules select their domains of application arbitrarily. Rules with similar structural descriptions and changes may apply within different domains, as is the case of final consonant liaison in French (within the phonological phrase) opposed to r-liaison in English (within the utterance). Even the same phonological rule may choose different domains in the dialects of the same language: in English, l-darkening applies within the utterance in RP whereas it applies within the word in several American dialects.

In CV phonology, the left word boundary is marked by the empty CV unit. If it is the boundary-marker that makes the beginning of the word a strong phonological position, it means it blocks the application of lenition rules (where 'rule' of course means something like the interplay of forces like government and licensing). It follows, then, that this empty skeletal unit can be conceived of as a general boundary-marker which circumscribes a given rule's domain of application, at least in the case of segmental alternations, and rules taking constituents larger than the foot as their domain.

2 How does the boundary-marker work?

Connected speech has not been given much attention in CV phonology. Tobias Scher (2001 and p.c.) has suggested that the boundary-marker is not present in the lexicon but is inserted by the morpho-syntax. The insertion is governed by a simple parameter: in certain languages it applies on the edge of the utterance only, and at all word boundaries in others. Recall the findings of PP and notice that the picture is not

as simple: constituents between the word and the utterance may also be designated as domains. In addition, in the same utterance boundaries of the same type may block the application of one rule but let go another. Thus we are forced to hypothesise, against Scherer, that the boundary-marker is part of the representation throughout its career, its fate being determined post-syntactically only: certain phonological rules will arbitrarily decide to ignore it and treat it as a kind of extraprosodic skeletal material. The boundary-markers not ignored by a given rule will delimit its domain by blocking its application. Besides accounting for a wider set of empirical observations (including phonotactic facts, which are difficult to explain if the boundary-marker is only inserted late by the morpho-syntax), this no-insertion analysis represents a mechanism with less brute force. The chart in (3) compares the insertion (3a) and the extraprosodicity (3b) analyses of two connected speech phenomena in an American English dialect (described in, e.g., Nespor and Vogel 1986). In this dialect, all word-final /r's are dark irrespective of the following segment. Word-final /r's, on the other hand, although glottalised in isolation, change to a flap when followed by a vowel-initial word.

(3) American English /r-darkening	and /r-flapping
<i>call</i> = <i>call Anita</i>	<i>hit</i> vs. <i>hit Anita</i>
blocking effect of boundary-marker	no (or different) – see Section 3.2) blocking effect
(a) insertion => inserted in identical syntactic positions, absent depending on the quality of the final segment of the preceding word	=> not inserted
(b) 'extra-prosodicity' effect, since /r-darkening cannot ignore it	=> present but flapping ignores it

To illustrate the extraprosodicity and the blocking effect of the boundary-marker, let me present you with a possible analysis of French liaison, whereby the floating melody of certain word-final consonants attaches to the onset of the following vowel-initial word. Apparently, this consonant can only land in a C position where it is governed (and licensed), otherwise it remains floating and therefore unpronounced.¹ The partial representation of *un [savant]_λ [anglais]* in (4a) shows how the floating melody of the final consonant of the adjective, symbolised by /λ/, docks onto the first c position of the following word when the boundary-marker is extraprosodic, i.e., invisible for the rule of liaison. However, when the boundary-marker serves as the boundary of the domain of application for liaison, as in (4b), it prevents the floating melody from finding a suitable landing site by absorbing the government emanating from the word-initial vowel. Thus the /λ/ will remain phonetically uninterpreted, that is, 'final consonant elision' takes place. (For the suggestion that V-to-C government operates on the melodic tier, see Balogné 2001.)

¹ As noted in Szegedvari (1999, 62, fn. 68), it is being governed, rather than being licensed, which triggers the interpretation of the lexically floating melody, although this analysis is slightly different since he works with a VC skeleton, and ignores the variation due to prosodic structure.

(4) a. liaison: <i>un [savant]_λ [anglais]</i>	b. no liaison: <i>un [savant]</i>
<i>[anglais]_λ</i>	
... C V <e v> c ⇨ V C V e v c ⇨ V ...
g g w g ...	g g g ...
v a t a ...	v a t a ...

In (5) the situation when the following word begins with a consonant is exemplified. Notice that in that case the presence or absence of the boundary-marker makes no difference: no governed empty c position is accessible for the floating melody in either way.

(5) no liaison: <i>un [savant]_λ [francais]</i>
... C V e v C v C V ...
g g
... v a t [f a ...
f]

It is worth mentioning at this point that the boundary-marker, and in fact empty c and v positions in general, will not block superficial, phonetic resyllabification. As an illustrative example, consider the case of s-aspiration in Spanish, whereby /s/ lends to /h/ in 'syllable codas' (i.e., when dominated by an unlicensed C position). Although in connected speech word-final consonants resyllabify into the following vowel-initial word phonetically, they do not usually do so phonologically (but see more on this issue in Section 3.2), i.e., lentil consonants do not strengthen back across words: *tiens espacia* 'do you have room?' is pronounced *tiens [h] e[h] pacio*². The point here is that even though word boundaries may become faded away phonetically, there is some evidence for the existence of empty skeletal material.

3 A typology of the effects of the extraprosodic boundary-marker

In this section we take all the combinatorial possibilities of consonant/vowel-final and consonant/vowel-initial words in connected speech, and make a comparison of cross-word and word-internal configurations.

3.1 Consonant-initial words

In the table in (6), the four possible combinations of words followed by a consonant-initial word are sketched out, showing the patterning of empty and nonempty positions on the CV-tier in each case, assuming that the segment occupying the underlined position is affected by some phonological rule ignoring the boundary-marker. At the bottom, for ease of comparison, the corresponding word-internal structures are provided. The fact that CV phonology predicts all these situations to be identical is borne out by the data.

² Cf. Kenstowicz (1994: 281)

(6) Consonant-initial words:

- a. V#C
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...
 b. V#C
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...
 c. C#C
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...
 d. C#C
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...

For example, (6b), an intervocalic consonant affected by the phonology in the same way in both cross-word word-initial and word-internal positions is illustrated by Italian intervocalic spirantisation (Nespor and Vogel 1986: 209), whereby all the underlined /f/'s (spelt <v>) in the following example sentence turn into /f/, irrespective of whether at the beginning or in the middle of a word: *Il mio criketo cerca il suo cibo negli angoli della gabbia* 'My hamster looks for its food in the corners of the cage'.³

Hungarian regressive voicing assimilation exemplifies the configuration in (6c): it exists as a static phonotactic constraint (*ʔk morpheme-internally), and it applies across morpheme (*izkor* 'at ten' with /sk/) as well as word boundaries (*iz kor* 'ten circles' with /sk/).

In sum, in all the situations in (6), it is correctly predicted that the cross-linguistic tendency is for the extraprosodicity of the boundary-marker to create the same picture as there is word-internally.⁴

In addition, however, a parameter reveals itself. In certain languages, e.g. English, the word-initial consonant (of lexical words) will always be in a strong phonological position (i.e. licensed but ungoverned), as opposed to other languages, e.g. Italian (cf. the rule of intervocalic spirantisation, described above), with word-initial consonants changing shape post-lexically, which suggests that in languages of the English type the boundary-marker resists extraprosodicity in the case of consonant-initial words – an observation whose true nature is still unclear, but obviously this distinction is independent of the strict/permissive dichotomy mentioned above, both English and Italian belonging to the strict type.

3.2 Vowel-initial words

Consider the table in (7), the vowel-initial equivalent of (6). (7a) and (b) show the two subtypes of cross-word hiatus: it is clear that again, CV Phonology predicts total identity, which is supported by plenty of data, at least for (7a); in cases of hiatus resolution via vowel deletion, for example, it has been shown that there is a general tendency for deleting the first vowel in all morphosyntactic environments (Casali 1997).

(7) Vowel-initial words:

- a. V#V
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...
 b. V#V
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...
 c. C#V
 ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ... CV <cv> CV ...
 d. C#V
 ... CV ... CV ... CV ... CV ...

³ The voiced affricate /dʒ/ undergoes spirantisation alike (<ʒ/).

⁴ A related issue posing problems for the theory is examples of processes (other than lengthening rules) which apply across word boundaries but not within words, e.g. word-final voicing in Sanskrit (which is problematic for most phonological theories since it is triggered by vowels and sonorant consonants, too – cf. Nespor and Vogel 1986: 230), or cross-word voicing in Slovak (Blaho 2003).

In (7c) and (d), however, even if the boundary-marker is extraprosodic, there remain some empty skeletal material between the full positions, and as a result, the cross-word configuration is not identical to the simple word-medial CV string. Unfortunately, I have only come across few examples of vowels undergoing a process as in (7d), one of them being vowel centralisation in Nawuri and related languages (Casali 1997: 502). Here high vowels become central in interconsonantal position, in both 'closed' and 'open' syllables (in Strict CV Phonology: CV<V> and CV<V>, respectively, which suggests that the trigger is the two nonempty consonants sandwiching the vowel). What is of interest here is what happens to vowels at word edges. As Casali reports (unfortunately, without any examples), word-final vowels in the CV#C environment may be affected by the change in the same way as word-medial vowels (as predicted in (6a)) as opposed to word-initial vowels, i.e., CV#C, which never get centralised. This difference between (6a) and (7d) is quite unexpected in any framework except CV (and Classical Government) Phonology. In fact, Casali uses the Nawuri example to argue for an asymmetry existing between word-initial and noninitial positions – an observation which naturally follows from strict CV representations.

If we turn our attention to (7c), we discover a number of cases illustrating it, a close inspection of which leads to a three-way classification. First, the underlined C in (7c) may resyllabify completely into a licensed position and behave as any other 'onset', Recall that this is the situation which is straight against CV Phonology's predictions, which turns out to be a strength rather than a weakness of the theory since, as argued in Kenstowicz (1994: 281), there are very few examples of this kind: in fact, phonological resyllabification counts rather as an exception. One example described by Kenstowicz comes from Spanish: a 'coda' /r/ is trilled in emphatic speech in both word-internal and word-final position (in CV Phonological terms, when followed by an empty v, which cannot license it), may be trilled when followed by a consonant-initial word, but cannot be trilled before a vowel-initial one (cf. (8)). What is particularly intriguing here is that all those many other phonological rules of Spanish particularly affecting 'coda' consonants (e.g., s-aspiration, already referred to above, or n-velarisation) apply differently, so this pattern seems to be the odd one out even within the system of Spanish.

- (8)
- | | |
|---|--|
| <i>martes</i> 'Tuesday', <i>mar</i> 'sea' | trilled |
| <i>mar verde</i> 'green sea' | free variation |
| <i>mar azul</i> 'blue sea' | no alternation possible: never trilled |

Another example is l-darkening in certain dialects of English, e.g. RP, whereby 'coda' /s/ become velarised, as in (9a-b), with the exclusion of word-final /s/ followed by a vowel-initial word (or suffix), which are pronounced as 'clear' as their word-internal onset peers (9c).

- (9) Clear and dark /s/ in RP
- | |
|---|
| a. Clear /s/: <i>leap, sleep, fellow, mylord</i> |
| b. Dark /s/: <i>spell, spell, shelter</i> |
| c. Clear /s/: <i>spell it, call Ann, spelling</i> |

It will be argued below that no convincing evidence has been found that these consonants do in fact resyllabify completely rather than taking an intermediate position (traditionally referred to as ambisyllabicity).

The *second* strategy that a word-final C may follow is remain a phonological coda, e.g., in the case of Spanish s-aspiration already referred to above, or l-darkening in certain American English dialects exemplified in (3). In these cases we claim that the word-boundary represented by the boundary-marker functions as a blockage for these rules (the prosodic) word being the domain of rule application – an arbitrary feature of the rules themselves.

Thirdly, the C may behave as neither an onset nor a coda but take a third form: it is 'ambisyllabic'. English readily illustrates this pattern, containing at least two rules where the cross-word realisation of a consonant differs from both the coda and the word-medial onset. One is the distribution of Standard American t-allophones, whose well-documented characteristics are the following (cf. Balogne 2001). Within words, an onset /t/ is flapped if followed by an unstressed vowel, but aspirated if followed by a stressed one ((10a), also in (3)). Word-final t's are (pre-)glottalised pre-pausally and pre-consonantly (10b), but flapped if the next word starts with a vowel, irrespective of whether or not that vowel is stressed (10c). The point is that the cross-word allophone in C#V is different from the word-medial one (in being stress-insensitive), correctly predicted by CV Phonology (for an analysis, see Balogne 2001).

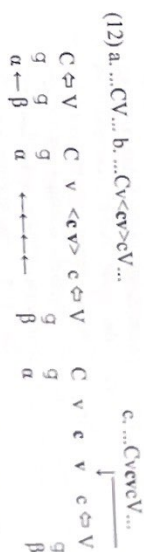
- (10) General American t-allophones
 a. $\text{a}[\text{t}^h]\text{fom atom}$, $\text{a}[\text{t}^h]\text{fomic atomic}$
 b. $\text{hi}[\text{t}] \text{me hit me}$
 c. $\text{hi}[\text{f}] \text{Am hit Am}$, $\text{hi}[\text{f}] \text{Anita hit Anita}$

Exactly the same happens in (conservative) RP r-allophony. /r/ undergoes tapping/flapping, with an output identical to that of t-flapping, intervocally, whenever followed by an unstressed vowel word-internally (compare (11a) and (b)), or any vowel across words (11c).

- (11) RP r-allophony
 a. $[\text{r}]$: *courage, very, sorry, baron, laurel*
 b. $[\text{r}^h]$: *courageous, reduce, red, bright, Henry, walrus*
 c. $[\text{r}^h]$: *for example, for instance, the other end*

These examples illustrate the fact that the situation C#V is special and calls for a theoretical equivalent of cross-word ambisyllabicity. For a possible analysis in Strict CV Phonology, see Balogne (2001), further elaborated on in Balogne (2002). The basic idea behind it is the difference in adjacency between the prosody and the melody in a theory operating with a host of empty skeletal positions. A word-medial consonant (12a) is adjacent to the following vowel both melodically (indicated by the simple arrow) and on the CV-tier (where the V licenses the C, indicated by the white arrow). Across words (12b-c), the two will only be adjacent on the melodic tier, where I claim, is government, which is not consumed by the boundary-marker when it is extraprosodic. The same word-final consonant, however, will remain uninfluenced by

the following word when the boundary-marker is not extraprosodic, and the government emanating from the full vowel is needed to license and silence its vocalic position (12c).



Thus, three possible combinations of skeletal and melodic adjacency are possible, and the English cases (t-flapping (10), r-tapping (11)) are distinguished from the other examples by the rules applying in three different ways accordingly. The question is whether the 'resyllabifying' rules described above (RP l-darkening (9), Spanish trilled /r/ (8)) are essentially any different. It may simply be the case that, quite unexpectedly and exceptionally, there is no phonetic difference between the realisations of these consonants in situations (12a) and (12b), and that is why the superficial impressions of that they have become onsets. The exact definition of the structural descriptions of phonological rules may be of key importance; sometimes it is not the interaction of government *and* licensing which produces a given allophone, but reference to only one of the two antagonistic forces may prove to be enough for a change. A governed /r/ will be flapped in General American, a governed /r/ will be tapped and a governed /r/ will be clear in RP, a governed /r/ will be plain (rather than trilled) in Spanish, irrespective of the rest of the structure. Recall the discussion of French liaison above: it has been shown that the appearance of the word-final floating consonantal material is sensitive to government and ignorant of licensing relations.

4 Further issues

In sum, the boundary-marker is assumed to be present to the left of each (lexical) category, at least in so-called 'strict' languages, and the phonological rules spelling out the realisation of sound segments contain information about which prosodic constituents serve as their domains of application. Boundary-markers delimiting those constituents will block the rules, others will be skipped being 'extraprosodic' in some sense. Formulating the syntax-phonology mapping algorithm, i.e., the formation of the constituents of the prosodic hierarchy, is beyond the scope of the present paper, so we simply accept the PP view (e.g., that of Nespor and Vogel 1986).

Neither is the issue of so-called 'permissive' languages addressed in this paper. These are the languages which freely tolerate all types of consonant clusters word-initially and which allow for word-initial lenition (Greek and many Slavic languages such as Moroccan Arabic Polish, as well as modern occidental Afro-Asiatic languages such as Moroccan Arabic or Berber have been claimed to belong to this type). In these languages, or Lowenstamm's theory poses the boundary-marker at the beginning of words in the same way as in 'strict' languages, the only difference being that the permissive boundary-marker need not be always licensed (Lowenstamm 1999). In contrast, Scherer's modification claims that the boundary-marker is not present at all in such languages (Scherer 2001, and Seigneur-Froli 2004 for Greek). Considering cross-word phenomena, it must be remarked that even in 'permissive' languages there are rules bounded by the prosodic constituents, e.g., Nespor and Vogel (1986: 213) analyses Greek s-voicing as applying within the intonational phrase. If the suggestions made in

this paper are accepted, and it is the boundary-marker that blocks rule application, certain occurrences of the boundary-marker are justified in permissive languages, too.

A related issue is the additional factor influencing the conditions on lenition: stress. English and Germanic languages in general are well-known for being stress-sensitive systems, i.e., making a distinction between the onsets of stressed and unstressed vowels in their propensity to lenite, the stressed position being as strong as the word-initial one. Other languages, like Romance (e.g. French), are stress-insensitive. It is clear that the stress-sensitive vs. insensitive distinction divides 'strict' languages into two well-defined classes, but its relation to the strict vs. permissive dichotomy is a subject for further study.

References

- Balogné Bérces, Katalin (2001) 'Ambisyllabicity' across word boundaries: A Strict CV Phonology approach. In: DOXIMP 6, Selected Papers. Budapest: Elméleti Nyelvtudományi Program (ELTE), MTA Nyelvtudományi Intézet: 1-8. (Also appeared in: SOAS Working Papers in Linguistics 11: 47-55)
- Balogné Bérces, Katalin (2002) The beginning of the word revisited. In: Varga, Laszló (ed.) *The Even Yearbook 5* (2002). ELTE SEAS Working Papers in Linguistics, Dept. of English Linguistics, School of English and American Studies, Eötvös Loránd University (ELTE), Budapest: 1-16.
- http://www.btk.elte.hu/detc/publications/even/2002.html. Also appeared in SOAS Working Papers in Linguistics 12 (2002): 55-66.
- Blaho, Sylvia (2003) Derived environment effects in Optimality Theory: The case of pre-sonorant voicing in Slovak. Paper presented at the 11th Annual Workshop on Formal Approaches to Slavic Linguistics, University of Massachusetts, Amherst.
- Casali, Rod (1997) Vowel elision in hiatus contexts: which vowel goes? *Language* 73.3: 493-533.
- Dienes, Péter and Péter Szigetvári (1999) Repartitioning the skeleton: VC Phonology. Ms., ELTE.
- Kaye, Jonathan, Jean Lowenstamm and Jean-Roger Vergnaud (1985) The internal structure of phonological representations: a theory of charm and government. *Phonology Yearbook 2*: 305-328.
- (1990) Constituent structure and government in phonology. *Phonology 7*: 193-231.
- Kenstowicz, Michael (1994) *Phonology in Generative Grammar*. Cambridge MA & Oxford UK: Blackwell.
- Lowenstamm, Jean (1996) CV as the only syllable type. In Jacques Durand & Bernard Laks (eds.) *Current Trends in Phonology: Models and Methods*. European Studies Research Institute, University of Salford Publications, 419-442.
- Lowenstamm, Jean (1999) The beginning of the word. In John Remison & Klaus Kihlhammer (eds.) *Phonologica 1996*. Syllables? The Hague: Holland Academic Graphics.
- Nespor, Marina & Irene Vogel (1986) *Prosodic Phonology*. Dordrecht: Foris.
- Scheer, Tobias (1996) Une théorie de l'interaction directe entre consonnes. Doctoral dissertation, Université Paris 7.
- Scheer, Tobias (2001) A representational theory of morphological information in phonology. Paper presented at *Generative Linguistics in Poland 3*, Warsaw, 7-8 April 2001.
- Seigneur-Froli, Delphine (2004) Diachronic consonant lenition and exotic word-initial clusters in Greek: a unified account. Ms.
- Ségeral, Philippe & Tobias Scheer (1999) *The Coda Mirror*. Ms., Université de Paris 7 & Université de Nice.
- Szigetvári, Péter (1999) *VC Phonology: a theory of consonant lenition and phonotactics*. Doctoral dissertation, MTA/ELTE, Budapest.