To appear in S. Bendjaballah, N. Faust, M. Lahrouchi & N. Lampitelli (ed.), *The form of structure, the structure of forms: essays in honor of Jean Lowenstamm*. Amsterdam: John Benjamins, 2014.

C/V INTERACTIONS IN STRICT CV[1]

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This paper presents a revised version of the 'Strict CV' framework (SCV), where the C's and V's of the CVCV chain behave as melodies which associate with pure timing slots, and may be linked to more than one slot. Their domains of propagation may overlap, which gives rise to "C/V interactions". These interactions provide a simple and straightforward account of four important issues that both SCV and standard approaches to syllable structure fail to treat satisfactorily: consonantal and vocalic length, *schwa*/zero alternations, lax checked vowels, and unreleased consonants.

Keywords: long vowels, geminate consonants, schwa-zero alternations, lax vowels, checked vowels, unreleased stops.

1. Introduction

One of the most striking developments in modern phonological research is probably Lowenstamm's (1996) idea of "CV as the only syllable type", along with a non-hierarchical view of syllable structure. (For discussion of its importance, see Scheer (2004)). In this article, I will address an issue that should lead, in my opinion, to a welcome amendment to the strict CV framework (henceforth SCV), while preserving, and supporting, its basic idea.

It will be argued that the C and V elements of the CVCV chain are not skeletal positions; although they bear the featural content of segments, onsets and nuclei are melodies which associate with pure timing slots. Hence, they may be linked to more than one slot, and their domains of propagation may overlap. This is what I will call "C/V interactions". As will be shown, such interactions provide us with a straightforward account of several important issues, which neither SCV nor standard approaches to syllable structure are able to treat satisfactorily. Firstly (cf. §2), C/V interactions lead to a more empirically adequate representation of both consonantal and vocalic length, which sheds light on why and how geminates and long vowels differ from consonant and vowel clusters. Secondly (cf. §3.1), *schwa* / zero alternations are explained in a simpler way than within standard SCV. Finally, C/V interactions provide an original account of lax checked vowels (cf. §3.2), and unreleased consonants (cf. §3.3). Hence, issues that are commonly, and wrongly, treated as mere 'phonetic detail' can be shown to fall within the area of formal phonology.

[1] I am indebted to an anonymous reviewer for his input on a previous version of this paper.

2. The specificity of length

SCV assigns the representations in (1a,b) to geminates and long vowels. Thereby, not only (lexical) geminates, but also long vowels (unlike standard constituency-based approaches to syllable structure) can be said to be particular cases of clusters in SCV, insofar as (1a,b) share the same templates as non-homorganic sequences of consonants and vowels (hiatuses), such as those in, say, [pakta] and [paeta] respectively.[2]

(1) a. [pat:a] b. [pa:ta]

However, as is argued below, there is evidence that this analysis is in fact a drawback of SCV, and, as regards geminates, of other frameworks as well: long segments and clusters do not have the same template, and consequently, they do not behave alike on several aspects that will now be discussed.

2.1. Typology

Many languages, like Luganda, Japanese or Italian, avoid codas to a greater or lesser extent (in particular obstruent codas), but easily accept homorganic clusters such as geminates and NC sequences.[3] Conversely, a number of languages show all sorts of consonants in coda, but lack geminates. Likewise, certain languages have long vowels but forbid hiatuses, while others allow hiatuses but do not show length contrasts in vowels. Such a distribution seems somewhat odd if long segments and non-homorganic clusters only differ in melodic distribution.

2.2. Positional markedness

Many languages, like Turkish and Somali, allow non-TR clusters word-internally but not at word edges, whereas other languages permit both internal and initial and/or final clusters. Languages having only initial and/or final clusters are presumed to be impossible. The same implication holds for geminates. However, (distinctive) initial and final geminates are even more constrained than non-geminate clusters at word edges: leaving aside sandhi effects (like Italian *raddoppiamento sintattico*), only a very

[2] In what follows, the notion "cluster" refers to heterosyllabic sequences of consonants and to hiatuses; tautosyllabic sequences, like the so-called "TR clusters", as well as most diphthongs, will be left aside.

[3] Also, Finnish has coda+geminate sequences, but no other type of CCC-clusters. Luganda and Miyako Ryukyuan allow highly marked word-initial geminates while banning codas.

small number of languages have initial geminates (Berber, Cypriot Greek, Pattani Malay, Miyako Ryukyuan, Luganda) or final geminates (Berber, North Germanic, Maltese). If geminates and non-TR clusters share the same template, this asymmetry is difficult to explain: why is the structure under (2a), with a properly governed empty nucleus, less marked, *ceteris paribus*, than the one in (2b)?

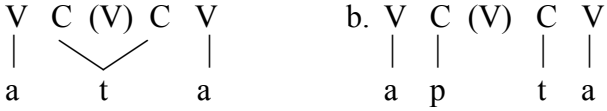
(2) a. #[pta] b. #[t:a]

Interestingly, constraints on long vowels are the symmetric counterpart of those on geminates. Word-final long vowels imply internal long vowels, but the reverse is false: the former are rarer than the latter, and word-final vowel shortening is commonly observed across languages, e.g., in Náhuatl, Mutsun (California), Cairene Arabic, Tokyo Japanese, a number of Kadai and Miao-Yao languages. In certain cases, the impossibility of long vowels in final syllables might be said to follow from their being unstressed. However, as was clearly demonstrated for Italian by Bertinetto (1981), all stressed vowels occurring in open syllables may be long except word-finally. Also, even if it is true that length contrasts are less stable in unstressed syllables, why is it that their neutralization in pre-tonic contexts implies neutralization in final post-tonic syllables, while the converse is not attested? Again, I have no knowledge of similar facts regarding the distribution of hiatuses.

2.3. Integrity

It is well-known that geminates have the particularity of never being "broken" by means of epenthesis. This phenomenon is often referred to as the "integrity of geminates" (Kenstowicz 1994, 410-416). Let us consider the usual representation of a geminate and that of a cluster under (3).

(3) a. V C (V) C V b. V C (V) C V



As can be seen, [at:a] and [apta] share the same VC(V)CV template. However, only (3b) is likely to undergo epenthesis, like in Brazilian Portuguese, where, for example, *apta* 'apt (fem.)' is realized [ˈapⁱta]. If epenthesis is a skeleton-driven phenomenon, whereby one marked closed syllable is replaced with two unmarked open syllables, then the reason why geminates cannot be broken up is not clear – nor has it been made explicit in

the literature. Arguably, a single melodic item that branches cannot be realized twice independently, with an alien element being pronounced in between; only "fake geminates", caused by the accidental meeting of two identical consonants over a morpheme boundary, can do that, precisely because they are made of two distinct melodies. However, this intuitive statement has never been formalized, nor does it follow from the No-line-crossing principle: geminates cannot be broken up neither in Semitic, where consonants and vowels are commonly assumed to be segregated, nor in languages with vowel harmony processes.

Likewise, long vowels are never broken by glide or glottal epenthesis, while hiatuses often undergo such processes. Hence, the same problem as above arises, if both share the same VCV structure, as is the case in SCV.

2.4. No compensatory lengthening

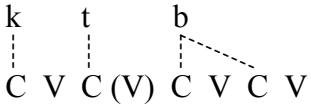
It is also well-known that geminate reduction does not trigger compensatory lengthening. Typically, coda deletion in /VsCV/ gives either [V:CV] or [VC:V], whereas degemination in /VssV/ never causes vowel lengthening. Obviously, the reason for this divergence remains obscure, if both forms are assumed to involve the same VC(V)CV skeletal basis.

2.5. Templatic behaviour

Since Vago's (1985) pioneering article, research on word games has clearly shown that length is encoded in the skeleton: a segment is long if, and only if, its features are associated with two positions; hence, operations involving melodic movement do not affect the place of long segments: for example, we shall have [ke:pi] → [pi:ke], not *[pike:], and [kep:i] → [pik:e], not *[p:ike], where the whole process consists in melody permutation, the respective CV(C)VCV and CVC(V)CV templates remaining unchanged.

However, a problem may arise in melody association when (a) the number of melodies is smaller than the number of slots available, and (b) it is an *internal* melody that spreads onto two positions. Let us take the example of the Arabic root √ktb 'write' associated with the 3rd p. of causative: [kat:aba] *vs* perfective [kataba] 'he wrote'. As shown by the behaviour of biliteral roots – cf. [madada] 'he stretched', where the last melody associates with two C-slots, consonant association is left-aligned and right-oriented in Arabic, the second [d] resulting from default spreading. Thus, if geminates were C(V)C-clusters, this mechanism should have generated *[kat(a)baba], not [kat:aba].

(4) *[kat(a)baba]

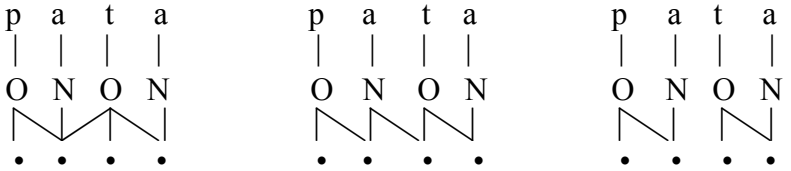


Otherwise, in order to explain [kat:aba], we should admit either that melodies encode something like an intrinsic "association power", or that the gemination of the internal consonant follows from some additional mechanism. The first possibility amounts to reviving the feature [long], which weakens the elegant and insightful definition of length provided by autosegmental phonology as a purely positional notion. As to the second solution, Guerssel and Lowenstamm (1990) have proposed a way to account for the gemination of /t/, rather than of /b/, by what they call the "derivational syllable", which enters the template after the first CV. As will be seen, however, a much simpler account of [kat:aba] is possible, where neither the feature [long] nor derivational syllables are required.

2.6. CV as melodies

The representation of length I propose is under (5). It is based on the assumption that, although associated with consonantal and vocalic material, onsets and nuclei also behave as melodies, and, as such, are generally anchored to skeletal positions which are pure timing slots (or "X-slots": cf. Vergnaud 1982, Levin 1983, Kaye & Lowenstamm 1984). Length emerges if either one O or one N is associated with two timing positions within the NO interval; O-spreading in the ON interval represents consonant syllabification with the following vowel.[4]

(5) a. [pat:a] b. [pa:ta] c. [pata]



Thus, [at:] and [a:t] involve the very same number of skeletal positions as [at], i.e., only two slots, contrary to what is commonly assumed. As can be seen in (5a,b), this is because one of these slots, the first in the case of geminates and the second in the case of long vowels, is shared by N and the following O.[5]

The representations in (5) naturally resolve the problems discussed above, while preserving (and supporting) Lowenstamm's (1996) seminal idea that CV is the only syllable type. Firstly, if length is a pure melodic contour that does not require additional positions, then long segments are radically different from clusters. Not surprisingly, therefore, their

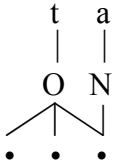
[4] N-spreading in ON will not be discussed here: cf. Carvalho (2008) on this topic.
[5] Certain (homorganic) diphthongs should be treated like long vowels (cf. §3.2).

distribution in the world's languages is largely independent from the distribution of clusters (cf. §2.1).

As to positional markedness (cf. §2.2), let us assume that metrical quantity is equal to the number of interactions between O/N-linked positions; hence, (5a,b) exhibit three "moras", while (5c) has only two. Given the "CV-only postulate", leftward O-spreading and rightward N-spreading are, then, metrically relevant insofar as they *imply* a preceding or a following ON sequence respectively. In other words, like the structures in (5), representations should satisfy the licensing constraint in (6).

(6) If an O/N element is associated with more than one timing slot, then any additional O/N-associated slot is shared with an adjacent N/O element.

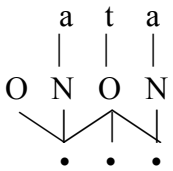
As shown in (7), however, initial geminates involve an O-associated slot which may not be linked to a preceding nucleus, while final long vowels involve a N-associated slot which may not be linked to a following onset.

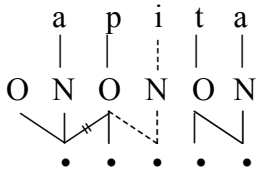
(7) a. 

b. 

Thus, (6) is violated by (7a,b). Therefore, (7a,b) are marked structures.[6]

Integrity of long segments (cf. §2.3) follows from the definition of length in (5a,b). If (3a,b) are replaced with (8a,b), geminates cannot naturally be broken, since [at:a] in (8a) involves the same number of skeletal slots as [ata], while [apta] in (8b) provides the position required by vowel insertion.

(8) a. [at:a] 

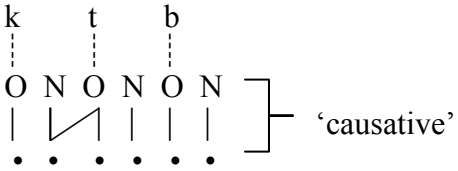
b. [apˀta] > [ap^{i}ta] 

For the same reason, geminate reduction does not trigger compensatory lengthening (cf. §2.4): O-delinking from the first slot in (8a) does not leave the empty position required.

[6] Furthermore, as there is no empty final ON sequence in (7b), there is no NO interaction, which explains the so-called "extrametricality" of many final long vowels.

Finally, length remains a strictly positional notion: as shown under (9), assuming that the length of the second O is encoded within the *binyan* of causative, *[kat(a)baba] cannot be generated instead of [kat:aba] (cf. §2.5), since there are only *three* O-slots available. (ON interactions are omitted for the sake of clarity.)

(9) [kat:aba]

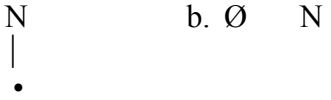


Despite their contrasting behaviour, geminates and (non-TR) clusters can also pattern together. As shown in (10), within the proposed amendment to SCV, both geminates and clusters involve three moras, as they exhibit three C/V interactions. They also imply an initial closed syllable, as the second onset is associated with the first nucleus' slot in both cases.

(10) a. [CVC:V] b. [CVCCV]

Hence, geminates and clusters can behave alike, even if this may be due to different reasons in some cases. Let us take the example of *schwa* / zero alternations. It will be assumed that, in line with its melodic status, an empty (i.e. featureless) nucleus surfaces as [ɨ/ə] or zero according to whether or not it is associated with a skeletal position, as shown in (11).

(11) a. [ɨ/ə] b. Ø



Typically, alternation sites in /C.C.CV/ sequences do not appear as zero: as the first empty nucleus is not properly governed by the governed empty nucleus at its right (cf. Scheer 1998), it associates to the skeleton. On the other hand, any empty nucleus before a geminate surfaces as [ɨ/ə], since, in accordance with the constraint in (6), leftward spreading of onsets requires association of the preceding nucleus.[7]

[7] However, this does not preclude, under certain conditions, the possibility of assigning the representations in (1) to certain "homorganic clusters" and hiatuses: for example, as opposed to the geminates of the causative form in (9), Arabic geminates yielded by biliteral roots, or the fake long vowel of such words as French *cohorte* or Spanish *rehén* 'hostage'.

3. Additional evidence

Thus, the representation of length proposed in §2 resolves the five problems met by SCV, as well as by all other theories as regards geminates; it is also able to describe both identical and contrasting behaviour of long segments and clusters. In what follows, I would like to show that the melodic nature of C and V also explains at least three other phenomena which are neither directly related with the facts treated above, nor, *prima facie*, between them: a strongly constrained case of "*schwa* / zero" alternations, "lax" checked vowels, and unreleased stops.

3.1. "schwa / zero" alternations

Let us examine the "*schwa* / zero" alternations (cf. Kaye, Echchadli and El Ayachi 1986, Taki 1990) of Moroccan Arabic (henceforth MA):

(12)	kt**ɨ**b	'he wrote'	kt**ɨ**bna	'we wrote'
	k**ɨ**tb**ɨ**t	'she wrote'	k**ɨ**tbu	'they wrote'

These alternations obey the constraints in (13a-c), which disallow *[ktb, k**ɨ**tbna, ktbu], *[k**ɨ**tb, kt**ɨ**bt] and *[k**ɨ**tb**ɨ**, kt**ɨ**b**ɨ**t, k**ɨ**tb**ɨ**na, kt**ɨ**bu] respectively.[8]

(13) a. *CCC: a consonant cluster contains two segments at most.
b. *CC#: consonant clusters cannot occur word-finally.
c. *C**ɨ**: [**ɨ**] cannot occur in open syllables.

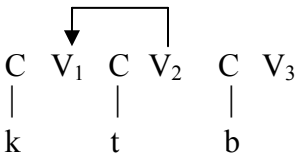
Such facts were one of the main empirical foundations of Government phonology, and, more especially, of one of its basic notions: the "proper government" (PG) of a nucleus by another one (cf. Scheer 1998). Within this framework, the three constraints in (13) follow from the principles in (14).

(14) a. A final empty nucleus is always mute (i.e. does not surface).
b. An internal empty nucleus is mute if, and only if, it is properly governed by a nucleus at its right.
c. Only a non-null nucleus can properly govern a nucleus at its left.

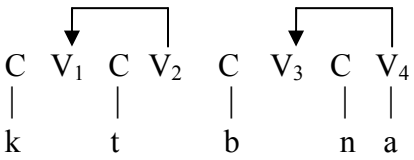
Hence, the forms under (12) are assigned the representations in (15).

[8] (14a,b) do not hold under certain melodic conditions, but this is irrelevant for our purposes.

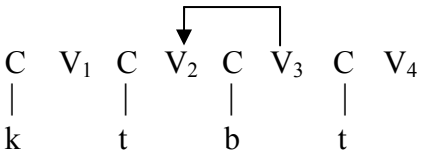
(15) a. [ktɨb]



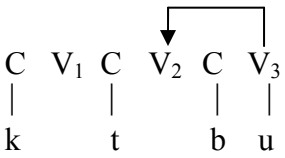
b. [ktɨbna]



c. [kɨtbɨt]



d. [kɨtbu]



However, one objection can be made against this account of MA *schwa* / zero alternations. While the impossibility of word-internal [Cɨ] syllables follows from (14b,c), only (14a) implies that there cannot be [Cɨ] word-finally either. Thereby, (14a) appears as a somewhat *ad hoc* stipulation; indeed, the special status of final empty nuclei is not motivated in SCV as it stands.[9]

I shall make the two general assumptions under (16).

(16) a. If an empty nucleus governs, it is anchored: cf. (11a).
b. If an empty nucleus is properly governed, it floats: cf. (11b).

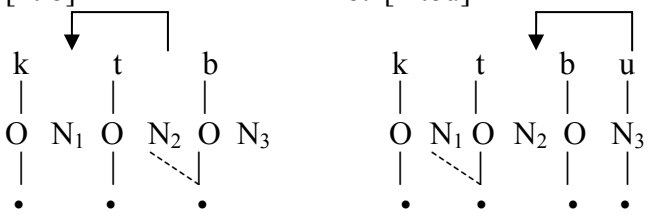
Let us also assume the language-specific property in (17).

(17) Only consonants and "full" vowels are lexically anchored in MA.

Hence, MA empty nuclei lack any position of their own. Where, then, do the slots of the *schwas* come from? From the following onset, as shown in (18).[10] The dotted lines represent the states before and after phonological computation; ON interactions are omitted for the sake of clarity.

[9] Cf. Rowicka's (1999) and Scheer and Ziková's (2010) attempts to motivate it.
[10] As regards leftward propagation of nuclei, see Carvalho (2008).

(18) a. [ktɨb] b. [kɨtbu]



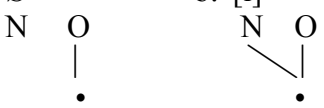
In (18a), N_3, which is not followed by an onset, remains unassociated, and, therefore, cannot properly govern N_2; hence, N_2 associates with the following onset's slot, and, therefore, can properly govern N_1. In (18b), N_2, which is properly governed by N_3, remains unassociated, and, therefore, cannot properly govern N_1, which associates with the following onset's slot.[11]

Thus, as [ɨ] implies, in MA, a following onset that is absent by definition word-finally, the behaviour of final empty nuclei has a representational motivation: they necessarily are floating melodies.

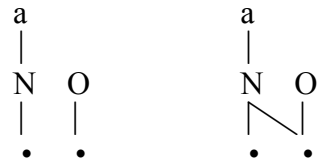
3.2. Lax checked vowels

An interesting result of this account of MA "*schwa* / zero" alternations is that it establishes a proportional relation between the representations proposed for zero and [ɨ], and those assigned in §2.6 to length contrasts, so that zero is to *schwa* what a short vowel is to a long one: the nucleus and the onset share one slot in (19b, 20b), not in (19a, 20a).

(19) a. Ø b. [ɨ]



(20) a. [a] b. [aː]



However, this proportion gives rise to the following problem: the nuclei in (19) are empty, while those in (20) are not; yet, nothing formally prevents the former from bearing melodic material as well. In other words, our model

[11] French *schwa* / zero alternations differ in that, e.g., *je me le dis* can be realized either as [ʒməldi] (= [ktɨbna]) or as [ʒəmlədi] (= *[kɨtbɨna]), with an open syllable [lə]. Thus, albeit lexically unassociated, French (internal) empty nuclei have a position of their own.

predicts that languages may show (19)-like full nuclei, whence contrasts like the one in (21).

(21) a. ?

b. [a:]

Crucially, most Germanic languages exhibit such contrasts. As shown in (22) (from Ladefoged 1975, 74), English has a class of "lax" vowels which are not only short with respect to their "tense" counterparts, but also "checked": just like MA *schwa*, lax vowels cannot occur in open (stressed) syllables (in content words), as opposed to tense vowels.

(22)

	Tense V	Lax V	CVC	CV
a.	iː		*beat*	*bee*
		ɪ	*bit*	*
b.	uː		*boot*	*boo*
		ʊ	*good*	*
c.	eɪ		*bait*	*bay*
		ɛ	*bet*	*
d.	oʊ		*boat*	*low*
		ʌ	*but*	*
e.	ɑː		*hot*	*ah*
		æ	*bat*	*

The restriction on lax vowels is comprehensible if, as shown in (23a), they *lack any position of their own*, since they share their slot with the following onset.

(23) a. *bit*

b. *beat*

c. *bee*

Now, if the vowel of *bit* has the representation in (23a), then the additional position of the long vowel of *beat* is necessarily the one associated with the sole nucleus, as shown in (23b). It follows that [V:C] involves only two positions, as was assumed in §2.6 in terms of NO-interactions.

Note that there are two independent reasons for preferring the representations proposed in (23a,b) to those that are commonly assigned in

the literature to such syllables. Firstly, (23a,c) clearly show the symmetry underlying the contrast between *bit* and *bee* in English. This opposition is not based on a sort of "compensatory lengthening" by which the long vowel of *bee* would have taken the place of the coda in *bit*, as is the case, for example, in Italian (*fato* = [fa:to] vs *fatto* = [fat:o]). This is contradicted by the possibility of (23b) *beat*, where the long vowel and the coda coexist, contrary to what happens in Italian. In fact, while two segments are associated with only one position in *bit*, two positions are associated with only one segment in *bee*.

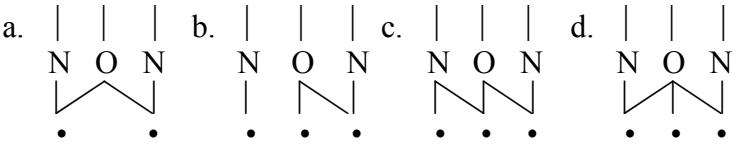
Secondly, (23a) provides a straightforward explanation of the facts that led some phonologists (e.g., Anderson and Jones 1974, 1977, Anderson and Ewen 1987, Kahn 1976) to assume that English intervocalic consonants are "ambisyllabic". Strictly speaking, there is no such thing as ambisyllabicity in SCV, insofar as syllable structure is no longer based on constituency relationships in this framework. However, if a (23a)-like structure is followed by a non null nucleus, like in *bitter*, then the intervocalic consonant necessarily involves a high degree of coarticulation with the preceding vowel: indeed, as shown in (24), the onset has no skeletal slot of its own.

(24)

3.3. Unreleased stops and the so-called "phonetic detail"

In sum, if onsets and nuclei are assumed to be melodies, whose interactions underlie length and release in the NO and ON intervals respectively, then [VCV] strings involve one of the configurations listed under (25). (Initial onsets are omitted for reasons of space.)

(25)



The structures in (25b/c) represent common vowel length contrasts. As was argued for in §3.2, English and most Germanic languages exhibit (25a/c) contrasts. Systems having distinctive geminates, like Italian, show (25b/d). Finnish has (25b/c/d). Whether languages having (25a/d) oppositions exist remains an open question.

Assuming, as in (11b), that a nucleus is mute if and only if it lacks a position of its own, [VC] strings can be assigned one of the configurations in (26), where, according to what was said in §2.6 about O-spreading in the

ON interval, the coda is released if the final ON melodies have one position in common.

(26) a. 

b. 

As was seen in §3.2, (26a) is supposed to represent a checked vowel and the following unreleased consonant. (26b) can be illustrated by the [(C)VC] syllables of many varieties of French, where the coda is normally released.

Regularly unreleased final stops, involving short nuclei (and tones, if any), are typical of Korean, Cantonese, Vietnamese, Thai, etc. English post-vocalic final stops are variably released. For this reason, they may seem unreleased compared to their French counterparts, but are often perceived as released by Korean speakers, since English loanwords tend to undergo [ɨ]-epenthesis (Kang 2003). Interestingly, the treatment of English loanwords in Korean is reported as an example of the importance of "phonetic detail" in perception of "phonetic similarity" for explaining loanword adaptation and inter-language phonology (Fleischhacker 2001, Peperkamp and Dupoux 2003), and, incidentally, as a proof of the alleged inability of formal phonology to provide an adequate account of such data. However, if Korean speakers perceive a difference between their own unreleased final stops and English final stops, this is by no means a "detail"; it is a categorical contrast that should follow from phonological representations of Korean and English syllable structure.

The systematically unreleased stops of Korean suppose a unique timing slot, like in (27a), whence the regular absence of release burst; English lax checked vowels differ in that they involve an additional position, to which the final ON sequence is optionally associated, like in (27b), whence the variable release. As was seen in §3.2, this additional position is required by the long tense vowels in (27c).

(27) a. 

b. 

c. 

d. 

Although Korean has the structure in (27a), [ɨ]-epenthesis occurring in many loanwords shows that the release of English post-vocalic final stops is often identified by Korean speakers with their own structure in (27d), which, with three slots and a final empty nucleus (the vowel [ɨ]), offers a good approximation of the English 2-slot configurations in (27b,c) with an anchored final N. Hence, speakers of languages having unreleased stops, but no empty vowel, may *not* perceive release in English final stops, as any

(25b)-like form differs from (27b,c) by the number of slots *and* melodic content. Interestingly, also, vowel epenthesis in English loanwords is much more frequent with long vowels (Kang 2003, 229-231), that is in structures like (27c), in which O is necessarily associated with one timing slot of its own, than with short vowels, that is in (27b), where O-association with the second slot is optional. Accordingly, release bursts should be more frequent in such cases in English as well.

In sum, loanword adaptation is certainly conditioned by phonetic similarity, as Fleischhacker (2001) claims, but the assessment of phonetic similarity by the speakers of the recipient language has a phonological / representational basis.

4. C/V interactions and 'lateral' phonology

The amendment to SCV proposed in this paper was shown to be particularly well-designed to provide a unified account of several otherwise unrelated issues, on condition that it gives equal importance to C's and V's as positions, and to the CV and VC intervals. As onsets and nuclei may share timing positions, such C/V interactions are likely to lead to a theory assigning phonological relevance to the well-known coarticulation facts that have received a great deal of attention in the phonetic literature, and which might represent much more than a mere automatic effect of speech production (cf. Whalen 1990).

However, this does not mean that phonological theory should become more substance-based. Indeed, C/V interactions are in line with Saussure's ([1916] 1982, 77-95) views on "the phoneme in the spoken chain", which constitute one of the first non-hierarchical theories of the syllable; his diacritic elements for "*implosion*" and "*explosion*" correspond to left- and rightward O-spreading respectively in the proposed version of SCV. Also, C/V interactions remain compatible with the basic theoretical tenets of SCV. In what was seen above, C and V certainly behave as melodies, in that they associate with one or several pure timing slots, but, as "terminal" elements directly linked to the skeleton, they function as positions with respect to the segmental material they bear. In this sense, C/V interactions, albeit melodic by nature, fall within the scope of the "lateral" relationships between positions that characterize phonological representations according to SCV.

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