What's wrong with vowel-initial syllables?

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1 Introduction
The observation that vowel-initial words (and, supposedly, vowel-initial suffixes) exhibit special behaviour has been stressed on several occasions (e.g., Balogné 2004). This is not a novel idea. Itô (1989), for instance, based on the absence of "resyllabification" in VC#CV (which is never reanalyzed as V.C#CV even if CC is an otherwise well-formed onset cluster)\(^1\), concludes that "the universal aspect of syllable parsing is not onset maximization but onset satisfaction" (ibid: 222), and proposes the Onset Principle, cited in (1).

(1) The Onset Principle (Itô 1989: 223)
Avoid \(v\)

The question arises why onsets enjoy such a privilege. The paper addresses this question from the point of view of Strict CV phonology, a framework that abounds in empty skeletal positions but whose main focus has been on the licensing of empty nuclei. Now the focus is shifted to empty onsets, and it is proposed that they are marked cross-linguistically not simply because they are empty (as is the case with empty vocalic positions) but because they are followed by nonempty nuclei which aim at exerting influence (called government) upon the melody of their preceding onsets. Therefore, a V-to-C melodic interaction is proposed. It is also shown that CV phonology correctly predicts a difference in the cross-linguistic treatment of word-initial and word-internal empty C positions.

The paper is structured as follows. Section 2 introduces CV phonology to such an extent that is relevant to the present discussion. Then Section 3 describes why empty C positions are special, and Section 4 investigates the cross-linguistic distribution of hiatus and vowel-initial words. Finally, Section 5 concludes.

2 CV phonology: the basics
Strict CV Phonology or CVCV Phonology (henceforth CV phonology) is a radical subbranch 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, probably the most exhaustive of which is Scheer 2004) represents pioneering work representation-wise; it hypothesizes 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).

\(^1\) She means surface resyllabification. She also mentions that VCC#V is never restructured as V.CC#V, which would not be too wide-spread anyway, considering the small number of overlaps between the sets of possible word-final and word-initial clusters.
Domain-finally, the empty nucleus is parametrically licensed in languages which allow for consonant-final words.

A further innovation introduced by Lowenstamm (1999) 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 Ségéral and Scheer (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 (2): 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 (2a) or a cluster which forms a closed domain (cf. Scheer 1996) (2b), as opposed to words starting with consonants unable to enter into this special relationship (dubbed Infrasegmental Government – henceforth IG – by Scheer) (2c), 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.

(2) a. French \textit{tapis} [tapi] 'rug'

\begin{center}
\begin{tikzpicture}
\node (c) at (0,0) {c}; \node (v) at (c) [below] {v}; \node (C) at (0,1) {C}; \node (V) at (C) [below] {V}; \node (C) at (V) [below] {C}; \node (V) at (V) [below] {V}; \node (t) at (C) [below] {t}; \node (a) at (C) [below] {a}; \node (p) at (C) [below] {p}; \node (i) at (C) [below] {i}; \node (PG) at (-1.5,0) {\text{PG}};
\draw[->] (PG) -- (c);
\draw[->] (PG) -- (v);
\draw[->] (PG) -- (C);
\draw[->] (PG) -- (V);
\draw[->] (PG) -- (C);
\draw[->] (PG) -- (V);
\end{tikzpicture}
\end{center}

b. French \textit{plateau} [plato] 'tray'

\begin{center}
\begin{tikzpicture}
\node (c) at (0,0) {c}; \node (v) at (c) [below] {v}; \node (C) at (0,1) {C}; \node (v) at (C) [below] {v}; \node (C) at (v) [below] {C}; \node (V) at (v) [below] {V}; \node (C) at (V) [below] {C}; \node (V) at (V) [below] {V}; \node (p) at (C) [below] {p}; \node (l) at (C) [below] {l}; \node (a) at (C) [below] {a}; \node (t) at (C) [below] {t}; \node (o) at (C) [below] {o}; \node (PG) at (-1.5,0) {\text{PG}};
\draw[->] (PG) -- (c);
\draw[->] (PG) -- (v);
\draw[->] (PG) -- (C);
\draw[->] (PG) -- (V);
\draw[->] (PG) -- (C);
\draw[->] (PG) -- (V);
\end{tikzpicture}
\end{center}

c. * \textit{#tka}

\begin{center}
\begin{tikzpicture}
\node (c) at (0,0) {c}; \node (v) at (c) [below] {v}; \node (C) at (0,1) {C}; \node (v) at (C) [below] {v}; \node (C) at (v) [below] {C}; \node (V) at (v) [below] {V}; \node (C) at (V) [below] {C}; \node (V) at (V) [below] {V}; \node (t) at (C) [below] {t}; \node (k) at (C) [below] {k}; \node (a) at (C) [below] {a}; \node (PG) at (-1.5,0) {\text{PG}};
\draw[->] (PG) -- (c);
\draw[->] (PG) -- (v);
\draw[->] (PG) -- (C);
\draw[->] (PG) -- (V);
\draw[->] (PG) -- (C);
\draw[->] (PG) -- (V);
\end{tikzpicture}
\end{center}

In the form of CV phonology in which the present paper is couched, government is generally considered as a destructive force silencing vowels and causing the lenition of consonants. This was first suggested in the Coda Mirror and further elaborated on in Dienes and Szigetvári (1999) and Szigetvári (1999). The definitions of Ségéral and Scheer (1999) are given above.

\textsuperscript{2} Single arrows link the source and target of government; arrows crossed with an X indicate the impossibility of the relation. Lower case c’s and v’s are empty positions, while the boundary-marker is boldfaced.
Scheer (1999) are given in (3a-b), Dienes and Szigetvári's slightly different definition of government is cited in (3c). If these definitions hold, the configurations in (2) also account for the fact that the beginning of the word systematically resists lenition: the v position of the boundary-marker distracts government, the destructive force, and the word-initial C escapes weakening.

(3)  
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<td>b. Licensing comforts segmental expression of its target.</td>
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<td>c. Government spoils the inherent properties of its target. (Szigetvári 1999: 66)</td>
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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 (2), and no lenition is expected at that location. We can call these languages "strict". The present paper also relies heavily on Dienes and Szigetvári's definitions of what they consider to be the inherent properties of skeletal positions, referred to in (3c). These are given in (4).

(4)  
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<td>a. Vocalicness is loud, not only acoustically but also in the sense that V slots in the phonological skeleton aim at being pronounced. (Szigetvári 1999: 62)</td>
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<tr>
<td>b. Consonantalness is mute, if nothing intervenes a C position will stay silent. (Szigetvári 1999: 62)</td>
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The definitions in (3) and (4) put together, the following predictions ensue. Empty v positions are dispreferred since their muteness is unusual and needs to be taken care of. A governed empty v is allowed to remain silent, since its inherent loudness is destroyed by the government targeting it. A licensed C, whether empty or filled, occupies a safe position, since its segmental expression is supported by the licensing: if it is filled, it is protected from lenition, i.e., segmental decomposition; if it is empty, it will serve as the ideal host of floating and/or spreading melody. A governed nonempty C will lose its inherent muteness, i.e., become more loud, more sonorous, while a governed empty c is expected to strive for the same by accepting external melody, as in Szigetvári's (1999: 105) analysis of French liaison. He claims that a floating consonantal melody is linked to an empty c position if it is governed. Since government spoils the inherent properties of its target, and C positions are inherently mute, government induces their phonetic interpretation.

3 Empty onsets
It is well-known that codas are universally highly marked, a number of languages do not even allow for syllable-final consonants, others impose serious restrictions on them. In CV phonology, codas are defined as consonants followed by an empty nucleus, and this theoretical framework accounts for coda effects with reference to the marked status of empty v positions (see (4a)) and the weakness of unlicensed C's. Onsets, however, are frequently mandatory, or at least desirable, as expressed in (1),
although this does not follow logically from the definition of consonantalness (see (4b)). If C positions are inherently mute, what explains the universal markedness of this muteness?

In the present framework, this falls out naturally from the existence of empty c positions and the inherent ability of vowels to govern: as shown elsewhere (e.g. Balogné 2004), vowels aim at exerting their governing potential even if this means intruding into a preceding word. Consonants, on the other hand, do not possess the inherent government charge; they only enter into government relations (e.g. IG) to satisfy the ECP of an enclosed empty v position.

The answer lies in the definition of onsets: they are C positions followed by an ungoverned vowel, i.e., a nucleus endowed with full governing and licensing potential. Let us assume at this point that (at least) V-to-C government proceeds on the melodic tier (for further arguments, see Balogné 2001 and 2004). Then, the ungrammaticality of empty C's followed by an able V stems from the fact that an empty C position is not associated with any melody for the vowel to govern, that is, such vowels are frustrated by not finding a way to wield their influence. Therefore, the ideal situation is the one in which the vowel is preceded by a nonempty consonantal position.

4 Hiatus versus vowel-initial words

There are two possible positions for empty c's: word-medial (in which case the situation is a hiatus)\(^3\) and word-initial (defining a vowel-initial word). This section explores what CV phonology has to say about these two locations and about the relationship between them.

Hiatuses are dispreferred in languages, and various repair strategies exist to avoid them (including vowel elision, hiatus filling, coalescence). The cross-word investigation of elision under hiatus (e.g. Casali 1997) reveals that in a V\(_1\)V\(_2\) sequence there is an overall preference for V\(_1\) elision. Although the type of juncture flanked by the vowels can be a conditioning factor (e.g., when a vowel-final root or word receives a vowel-initial suffix, either V\(_1\) or V\(_2\) can be elided, the former in the default case, the latter if base identity overrides it, the choice being either language-specific or the same language may exhibit both types), crucially there is no language on record that systematically elides V\(_2\) in all environments.

This universal asymmetry between the two members of hiatuses suggests that the force responsible for eliding one of them is a right-headed relation. Therefore, (V-to-V) government qualifies as a possible candidate: its direction is in most cases (if not universally) right-to-left, and its effect is the demolition of the target's inherent loudness\(^4\). Also, recall that in CV phonology it is exactly the V\(_1\)cV\(_2\) configuration where V\(_2\) is frustrated by not being able to govern since the melody of the consonant is missing. Thus I propose that the two vowels of a hiatus enter into a right-to-left governing relationship. This proposal is in sharp contrast with previous CV/VC analyses (e.g. Szigetvári 1999: 72-73), which claim the absence of V-to-V communication in hiatus. Notice, however, that were there not such a relation, no reason could be found for favouring the vowel to the right rather than the one to the left of an empty c.

\(^3\) Throughout the discussion, long vowels and diphthongs are ignored – they may be manifestations of V-to-V licensing, as claimed in Szigetvári (1999).

\(^4\) This is not a novel idea: Charette (1991: 24), e.g., explicitly claims that adjacent nuclear positions enter into an interconstituent government relation.
It is claimed in Balogné (2001) that government may proceed on either the nuclear projection (e.g. Proper Government) or the melodic level (e.g. V-to-C government). It may be the case that V-to-V interaction in hiatus is similarly associated with either of the two, determined by a language-specific or other choice: if V$_2$ governs V$_1$ on the nuclear projection, V$_1$’s ability to support melody is destroyed altogether, so hiatus is expected to be resolved by vowel deletion (or gliding, as in Szigetvári’s (1999: 82-83) analysis of social, medial, and French glide-formation in words like lié), since this is the usual effect PG has on its targets. If, on the other hand, it governs V$_1$ melodically, government attacks V$_1$’s melody directly, and therefore it is forced to decompose (e.g. diphthongs undergo monophthongization). One way of avoiding either of these two unpleasant situations involves letting V$_2$ govern a consonant, i.e., inserting or spreading melody into the sandwiched c position: then V$_2$ governs the hiatus-filler melodically, which is therefore required to be as vowel-like as possible (a sonorant, ideally a semivowel).

CV phonology predicts that a vowel-initial word behaves differently from a hiatus, as the beginning of the word is signalled by the boundary-marker. The left edge of the word contains a cvcV sequence, where the V has the job of governing the empty v of the boundary-marker in order to silence it. Consequently, the prediction is that empty c’s are tolerated more at the beginning of the word than medially: the boundary-marker attracts the PG of the initial filled vowel, irrespective of other parameter settings concerning vowel sequences, and no filled V$_1$ is present to induce the melodic interpretation of the c position. This prediction is born out by the data: languages with vowel-initial words but no internal hiatus are larger in number than languages with the opposite preferences (cf., e.g., the extensive survey of Smith 2002).

Another prediction concerns the so-called "permissive" languages, where the boundary-marker is either absent or simply invisible to phonotactics. From the above discussion it follows that in that case the government of initial filled vowels is not diverted from their empty onsets, which are thus more likely to lose their inherent muteness and be pronounced. That is, in permissive languages no or fewer vowel-initial words are expected. Whether this prediction is empirically supported still needs to be examined, but in Arabic, a rather uncontroversially permissive language, no word may start with a vowel (cf. e.g. Watson 2002: 65ff).

In sum, in the CV analysis vowel-initial words and medial hiatuses are treated differently, and as a consequence languages are expected to have the choice of tolerating one or the other more easily. This claim seems to be verified, as shown in (5), which is a tabular representation of language typology concerning empty onsets, i.e., syllable-initial vowels (abbreviated to [V]).

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5 Of course, in connected speech the boundary-marker may be "extraprosodic" within the limits of some prosodic constituent, and then hiatus resolution applies in the same way across words as internally, that is, hiatus resolution can be bounded within some domain. Cf. Balogné (2004).

6 The chart draws heavily on Smith (2002) as well as on responses I received to a LinguistList query; special thanks to Joaquim Brandao de Carvalho, Rod Casali, Daniel L. Everett, Jennifer L. Smith, and Jan-Olof Svantesson.
The chart in (5) demonstrates that all the four logical possibilities (viz., allowing for initial empty c's only, word-internal hiatus only, both, or neither) are attested, although the type in which vowel-initial words are allowed but no medial onsetless syllables are tolerated seems to be more common.

### 5 Conclusion

Strict CV phonology has largely concentrated on the licensing/silencing of empty nuclei: how their inherent loudness is damaged. This paper has attempted to switch the attention to C positions, which are inherently mute, but are nevertheless dispreferred in languages when empty. It is proposed that empty onsets are not problematic in their own right, but because all these C's are followed by filled V's, endowed by governing and licensing capacities. The melodic emptiness of a C position, however, prevents the V from fully exploiting its governing charge. Therefore, the cross-linguistic markedness of onsetless syllables provides additional support for the claim that there exists some kind of communication between the melodies of adjacent phonological objects.

### References


