At first sight the initial and internal clusters of Acadian French appear to be similar to those of many (if not most) other French dialects.¹ On the surface words have internal coda-onset (RT) and branching onset (TR) consonant sequences. A closer look however, reveals that while AF has a schwa-like vowel on the surface, this vowel never follows a branching onset cluster. Words that are pronounced with a schwa following a TR cluster in most dialects of French, are realised as TəR in AF (e.g. brebis [brəbi], AF: [bərbi] ‘sheep’). In this article I look at AF words with initial and internal TR clusters and concentrate on the vowels which follow those clusters, viz. schwa v other vowels. I propose that if schwa is not a lexical vowel, but the interpretation of an empty nucleus failing to be p-licensed, its distribution reveals that AF does not have branching onsets.

The article is organised as follows: in § 1 I present the principles of Government Phonology (henceforth GP) that are relevant to the analysis. This is followed in § 2 by the presentation of the facts and then in § 3 by their analysis. I conclude the paper hoping to have showed that the acoustic presence of schwa in the signal is a cue that reveals how consonants are syllabified in the phonological representation of Acadian words.

1. Some principles of GP

In this section I present the principles of GP that are relevant to the discussion to follow. I refer the reader to the references therein and simply present the main lines of the principles involved in my analysis.

1.1 Constituents

A constituent is a domain where the positions it dominates are in a governing relation.² This relation is subject to formal and substantive conditions.

Formal: The head is initial and governs its complement under strict adjacency.

¹ There are different varieties of Acadian French. Here I concentrate on the variety spoken in the South-East of New-Brunswick (near Moncton).
² In CV phonology (e.g. Lowenstamm 1996, 1999, Scheer 1996, 1998, 2004 among many others) a branching onset is viewed as a closed domain where A governs B and where the empty position occurring between A and B is buried within the domain. See also Scheer (1998b) who claims that governing domains are head-final.
Substantive: The governor must dominate a headed expression and the governee must be headless (KLV 1990) or, according to Harris (1994), the governor may not be less complex than its governee.

Ternary branching as in the structures given in (1d, e) is excluded by the formal conditions on strict directionality and strict adjacency. Moreover, both the Syllable and the Coda are rejected as syllabic constituents given that they do not satisfy the formal and substantive conditions stated above (unlike the O, the N and the R). If the Syllable were a constituent it would have the Onset as its head (head-initial relation) and it would dominate more than two positions when the onset, the nucleus or the rhyme branches. As for the Coda, if it were a constituent and could branch, it would dominate both RT or TR clusters as the French words carte [kart] ‘card’, quatre [katr] four’ show. The absence of restrictions on what can be a governor and a governee within a branching coda lead to the conclusion that while the Rhyme might branch, there is no evidence of an independent constituent Coda. In GP, when the rhyme branches it dominates a skeletal position called a rhymal complement.

1.2 Trans-constituent government:

While positions within a constituent are in a head-initial governing relation, positions that belong to distinct constituents (rhyme-onset clusters) are in a head-final governing relation. The governor in the onset is a headed/complex expression which trans-constitutently governs the preceding headless/no more complex rhymal complement.
1.3 Bogus clusters

Bogus clusters are consonant sequences where the consonants are adjacent on the surface, but are not adjacent in the lexical representation of the word. A bogus cluster is made-up of two consonants each belonging to an onset and an empty nuclear position intervenes between them. This nuclear position may either be lexically empty, as in the word atlas, or it may have lost its vowel through a process of lenition (e.g. choc’lat).³

1.4 Empty nuclei

Empty nuclei play an important role in GP.⁴ Even if un-interpreted, they are lexically present and intervene i) between the consonants of a bogus cluster and ii) at the end of words ending phonetically in a consonant. Under certain conditions they are forced to receive a phonetic interpretation and in most languages they are interpreted as a schwa-like vowel. Empty nuclei can be phonetically un-interpreted when they are p-licensed and they must receive a phonetic realisation when their p-licensing fails. They are p-licensed when: i) they are properly governed, ii) they are parametrically p-licensed word-finally and iii) they are magically p-licensed.⁵

In this paper, since I am only concerned with internal clusters, I will not consider the p-licensing of empty nuclei by the final parameter (i.e. word-finally) or by Magic (i.e. before sC initial clusters).⁶ I will concentrate on their p-licensing when they occur word-internally and are p-licensed by a relation called Proper Government.

(3) Proper Government

A properly governs B iff:

i) A is adjacent to B on the nuclear projection

ii) A is not itself p-licensed

iii) A is not a government-licenser (i.e. no governing domain intervenes between A and B)

³ See Harris (1994) for a discussion of bogus clusters in English. As we will see later, an empty nucleus may only remain un-interpreted if it is p-licensed.
⁵ In both GP and CV phonology, an empty nucleus may also be p-licensed by virtue of being buried within an onset-to-onset governing domain. See Heo (1994), Lowenstamm (1996), Scheer (1996, 2004) among others.
Let us consider the (Québec French) pronunciation of the words *semeler* [səmle] ‘to put a sole’ and *semelle* [sml] ‘sole’.\(^7\)

\[\begin{array}{cccc}
|-------/-------| |--------<--------| \\
O & N^1 & O & N^2 & O & N^3 \\
| & | | | | \\
x & x & x & x & x & x \\
| | | | | \\
s & [ə] & m & l & e \\
\end{array}\]

Proper government operates from right-to-left starting from the end of a word-domain. In (4a) the final nucleus dominates a lexical vowel which acts as a proper governor for the empty nucleus occurring on its left. \(N^2\) being properly governed by \(N^3\) is p-licensed and un-interpreted and cannot therefore act as a proper governor for \(N^1\). Failing to be p-licensed, \(N^1\) receives a phonetic interpretation which in French results in a schwa.

\[\begin{array}{cccc}
|--------<--------| |-------/-------| \\
O & N^1 & O & N^2 & O & N^3 \\
| | | | | \\
x & x & x & x & x & x \\
| | | | \\
s & m & [ɛ] & l \\
\end{array}\]

In (4b) the final nucleus is lexically empty and cannot properly govern \(N^2\) which receives an interpretation.\(^8\) Failing to be p-licensed, \(N^2\) can act as a proper governor for \(N^1\) which therefore remains silent.

Also relevant to my analysis of AF is the notion of Government Licensing.

1.5 Government Licensing

In Charette (1990, 1991) I looked at QF words where an empty nucleus is preceded by a consonant cluster which forms a governing domain. More precisely, I looked at words of the type of *marguerite* [margarit] ‘daisy’, *infirmerie* [ɛfirmri] ‘infirmary’ and of the type of *vendredi* [vădradi] ‘Friday’, *crever* [kræve] ‘to blow up’. In all those words a schwa is present following the clusters despite the fact that the empty nucleus is followed by a lexical vowel which properly governs it (i.e. [margarit], *[margrit]).

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\(^7\) P-licensed empty nuclei are underlined.

\(^8\) A vowel [ɛ] is realised instead of a schwa because the position bears stress and (in most dialects) schwa cannot be stressed.
I have proposed that when an onset-head has a complement to govern, it does not simply need to be (onset)-licensed by its nucleus, it must be licensed to govern by this nucleus. In QF, only unlicensed nuclei can be government-licensors for their onset word-internally which explains why p-licensing fails when an empty nucleus follows an onset which has a complement to govern (i.e. follows an RT or a TR internal cluster). In order for the cluster to be licensed and interpreted, the nucleus following the onset-governor fails to be p-licensed to act as a government-licenser for its onset.

(5)

a)  

|---<---|  
O R O R O R O R  
| | \ | | | | |  
| N \ | N | N | N  
| | | | | | |  
| x x x x x x x x x  
| | | | | | |  
| m a r g [ə] r i t  

b)  

|---<---|  
O N O N  
| \ | | |  
| x x x x x  
| | | | |  
| k r [ə] v e

We have looked at all the principles of GP needed to understand my analysis of internal clusters in AF which I now turn to.

2. Internal TR clusters of AF

2.1 The facts

As illustrated in (6) below, AF has words with initial and internal TR clusters and with internal and final RT clusters.

(6)
a) -TRV-  
patrie [patri] ‘nation’  
brasser [brose] ‘to shake’  

--- See also Cyran (2010) for a discussion of government-licensing.  
--- Many of the facts are taken from Lucci (1973) and from the newspaper Le Moniteur Acadrien which publishes articles written in AF. The other data come from recordings of AF speakers. ---
Concentrating on TR clusters, it is important to notice that all the clusters in the words in (6a) above are followed by a vowel which is not schwa. Like in most if not all French dialects, TR surfaces as a cluster in AF when it is followed by a vowel other than schwa.

Let us now look at words where initial and internal TR clusters are followed by a schwa in ‘Standard’ French. As the examples below illustrate, the TRə sequences of ‘Standard’ French are realised as ToR in AF.

<table>
<thead>
<tr>
<th>Standard Fr</th>
<th>Acadian Fr</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>grenouille</td>
<td>[granuj]</td>
<td>[garnuj]</td>
</tr>
<tr>
<td>brebis</td>
<td>[brab]</td>
<td>[barbi]</td>
</tr>
<tr>
<td>grelot</td>
<td>[gralo]</td>
<td>[garlo]</td>
</tr>
<tr>
<td>vendredi</td>
<td>[vadjadi]</td>
<td>[vadjadi]</td>
</tr>
<tr>
<td>mercredi</td>
<td>[merkрадi]</td>
<td>[merkardi]</td>
</tr>
<tr>
<td>crever</td>
<td>[krave]</td>
<td>[kárve]</td>
</tr>
<tr>
<td>Angleterre</td>
<td>[ágletər]</td>
<td>[ágaltr]</td>
</tr>
<tr>
<td>comprenais</td>
<td>[kšprane]</td>
<td>[kšparne]</td>
</tr>
<tr>
<td>grenier</td>
<td>[granje]</td>
<td>[garnje]</td>
</tr>
<tr>
<td>espièglerie</td>
<td>[éspjegleri]</td>
<td>[éspjegalri]</td>
</tr>
</tbody>
</table>
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sacrament [sakramə] [sakrmə] ‘sacrament’
prenais [prənɛ] [pərnɛ] ‘took’
bretelle [brətɛl] [bartɛl] ‘suspenders’

The words in (7) show that an initial or internal TR cluster followed by a schwa in SF has a schwa-like vowel breaking-up the cluster in AF.\(^\text{11}\) Interestingly and crucially, no initial and internal TR clusters followed by a vowel other than schwa are broken-up in AF (e.g. brasser [brəse] *[barose], *[børse] ‘to shake’ v brebis *[brəbi], [bərbi] ‘sheep’). It is therefore clear that the vowel schwa must be distinguished from the other vowels and I propose that the difference between them is that schwa is the interpretation of an unlicensed empty nucleus while the other vowels are lexical.

2.2 Vowels v schwa

Based on words like those in (6a) above where initial and internal TR clusters are followed by a full vowel, we would assume that the syllabic structure of words like trouver [truve] ‘to find’, anglais [ɑ̃glɛ] ‘English’ is as illustrated below.

(8) a) |---<---| b) |---<---| Gov. Lic.
     O  N  O  N  O  N  O  N
     |  |  |  |  |  |  |
     x  x  x  x  x  x  x
     |  |  |  |  |  |  |
     t  r  u  v  e  d  g  l  ě

In GP terms, both words in (8) above have a branching onset whose head is government-licensed by its nucleus to govern its complement. In both words the nucleus which licenses its onset contains a lexical vowel which has government-licensing properties. Theoretically however, it is not that the nucleus contains a lexical vowel that makes it a good government-licenser, it is that the nucleus is not p-licensed.\(^\text{12}\) This is what we saw earlier in example (5) looking at words of the type of marguerite [margarit] and crever [krave]. In those two words, there is an empty nucleus following the cluster which fails to be p-licensed and which is realised as schwa in order to satisfy the conditions on government-licensers (viz. un-licensed nuclei (word-internally in French)). This is again illustrated in (9) below for convenience.

(9) a) |---<---| (GL) b) * |--/---| |----------<-------| PG
     O  N  O  N  O  N  O  N

\(^{11}\) I say schwa-like because the vowel has different realisations. It can be pronounced as [ə], [ɔ] or [ɶ] depending on the variety of AF.
\(^{12}\) I refer the reader to Charette (1990) for a detailed discussion of government-licensing in French.
The structure in (9a) has a branching onset which is followed by an empty nucleus which fails to be p-licensed in order to government-license the onset head to govern its complement. The structure is well-formed and surfaces as [brəbi]. In (9b) the branching onset is followed by a p-licensed empty nucleus which because it is p-licensed cannot act as a government-licenser for its onset. This ill-formed structure would result in the unattested surface form *[brbi].

Returning to our AF examples, what words like those in (6, 8) therefore show, is that a word-internal nucleus which is not p-licensed is a good government-licenser for its onset in AF. But if this is the case, why aren’t there words with internal branching onsets followed by schwa? Given that the presence of schwa means that the nucleus fails to be p-licensed, words like [brəbi] should be possible in AF. So why aren’t they found?

Based on the fact that [TRa] is un-attested in AF while [TRV], where V is not schwa, is possible, I propose that this dialect of French does not have branching onsets in its grammar. Let us go investigate.

3. The analysis

If AF does not have branching onsets, accounting for the previous facts is straightforward. The TRV clusters found on the surface in the words given in (6) are bogus. The nucleus occurring between the consonants is lexically empty and p-licensed by virtue of being properly governed by the nucleus following it.

(10)  a) |----------<--------| PG
      O   N   O   N   O   N
      |       |       |       |
      x   x   x   x   x   x
      |       |       |       |
      t   r   u   v   e

            b) |----------<--------| PG
      O   N   O   N   O   N
      |       |       |       |
I therefore claim that TRV clusters are bogus in AF. T and R are syllabified in distinct onsets and the nucleus between them is properly governed (and p-licensed) by the following lexically filled and un-licensed nucleus. The next question is: how about schwa; why isn’t it found after TR bogus clusters like the other vowels? The answer is: because of the ECP (i.e. Empty Category Principle).

Let us take a word like brebis which is realised [bəɾbi] in AF. If ‘br’ is a bogus cluster, it means that there is an empty nucleus intervening between the consonants. In addition, if schwa is the interpretation of an empty nucleus failing to be p-licensed, then it means that [CCa] and [CaC] have a sequence of two empty nuclei in their representation (viz./ CØCØ/). This means that the lexical representation of the word brebis is as follows.

\[(11) \quad O \quad N^1 \quad O \quad N^2 \quad O \quad N^3 \quad | \quad | \quad | \quad | \quad | \quad x \quad x \quad x \quad x \quad x \quad x \quad | \quad | \quad | \quad | \quad b \quad r \quad b \quad i\]

The representation in (11) contains a sequence of two empty nuclei. Both empty nuclei are subject to ECP. I.e. they will be unexpressed phonetically iff they are p-licensed. Starting from the end of the domain, N^3 is lexically filled and can properly govern N^2. Being p-licensed, N^2 is un-interpreted and cannot act as a proper governor for N^1 which must therefore receive a phonetic interpretation. This results in the surface form [bəɾbi], the form we find in AF.

\[(12) \quad \begin{array}{c@{}c@{}c@{}c@{}c@{}c@{}c} & \text{PG} \\
O & N^1 & O & N^2 & O & N^3 \\
| & | & | & | & | \\
x & x & x & x & x & x \\
| & | & | & | & | \\
b & \text{[ə]} & r & b & i \quad \end{array}\]

What this means is that all the TR clusters are bogus in AF and they surface as [TR] when there is a vowel properly governing the empty nucleus occurring between them (e.g. [truve]). When the nucleus following the second consonant is lexically empty and properly
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governed by the nucleus following it, it cannot act as a proper governor for the empty nucleus occurring between the two consonants resulting in the surface form \([\text{barbi}]\).\textsuperscript{15}

In conclusion, on the surface AF has all sorts of CC clusters word-initially and internally. Next to TRV we find any CCV, as illustrated below. All clusters are bogus and have a p-licensed empty nucleus occurring between them.

(13)

<table>
<thead>
<tr>
<th>CC</th>
<th>TR</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>[smen]</td>
<td>[truve]</td>
<td>semaine ‘week’</td>
</tr>
<tr>
<td>[mnir]</td>
<td>[gro]</td>
<td>revenir ‘to come back’</td>
</tr>
<tr>
<td>[čval]</td>
<td>[brid]</td>
<td>cheval ‘horse’</td>
</tr>
</tbody>
</table>

Two questions that remain to be addressed are: i) does AF have branching rhymes and ii) do the other dialects of French, like AF, also lack branching onsets? Regarding the rhyme, we know that branching rhymes are less marked than branching onsets which means that it is not because AF has no branching onsets that it does not have branching rhymes (see Kaye & Lowenstamm 1981). Because AF has words ending in rC clusters, we may conclude that it has branching rhymes. However, due to the fact that any coda-onset cluster which is not an rC cluster is simplified, I wonder if perhaps the ‘r’ might not occur in the nucleus instead of in the ‘coda’. For now I therefore leave the question as to whether AF has branching rhymes or not open.

Regarding whether other dialects of French have or do not have branching onsets, it is open to debate. Here it suffices to say that if QF for example did not have branching onsets, words like \([\text{brabi}]\) would be analysed as follows.

(14) 

| --------<-------- |
| O | N | O | N | O | N |
| x | x | x | x | x | x |
| b | r | [a] | b | i |

\textsuperscript{15} It would be interesting to look at words where the empty nucleus following the R of a TR cluster is lexically empty. Such context would be word-finally, but unfortunately there are no word-final TR clusters in AF. They are all simplified to T (e.g. quatre \([\text{kat}]\) ‘four’) as it is also the case in many other dialects. The fact that words like quatre are not realised *\([\text{kator}]\) is likely to mean that the final clusters are not part of the lexical representation. Never being heard, they are not acquired. Note that only rC clusters are possible word-finally. All final CC where C\textsuperscript{1} is not ‘r’ are simplified to C\textsuperscript{1}. 


Unlike what we saw in AF, when a word contains a sequence of two empty nuclei, in QF the two nuclei would be considered in pairs and the one on the right would act as a proper governor for the empty nucleus occurring on its left.  

The difference on how p-licensing would operate in QF and Af is illustrated below.

(15) a) Quebec French

| --------<-------- |
| O N O N O O O O |
| x x x x x x x x |
| v ə d r [a] d i |

b) Acadian French

| --------/-------- | --------<-------- |
| O N O N O O O O |
| x x x x x x x x |
| v ə d [a] r d i |

If it were the case that no dialects of French had true branching onsets (viz. closed domains), then most dialects would opt for the licensing relations between nuclei illustrated in (15a). AF would be ‘more marked’ in opting for the relations illustrated in (15b). Note however, that the licensing relations illustrated in (15b) are those we commonly find in words containing a sequence of empty nuclei (e.g. *semeler /sømøle/ = [samle], *[smale] ‘to put a sole’, *devenir /døvønirø/ = [davnir], *[dvønir] ‘to become’ in QF. It therefore seems strange (not to say wrong) to say that [bərbi] is more marked than [brəbi].

That said, there is no evidence that all dialects of French lack branching onsets/closed domains and it might well be the case that what is special about AF is that unlike (many) other dialects, it has no branching onsets.

4. Conclusion

16 See Rowicka (1999) and Cyran (2010) for more on sequences of empty nuclei.
I hope to have showed that the abundance of words with initial and internal TRV sequences and the absence of TR sequences lead to the conclusion that AF does not have branching onsets. All internal TR clusters are bogus clusters. The empty nucleus intervening between the two consonants is un-interpreted when it is properly governed by a following unlicensed nucleus (i.e. TøRV) and it receives a phonetic interpretation when the nucleus following it is itself p-licensed (i.e. TaRø). If it wasn’t for the distribution of schwa, we would never have known this about AF.

Knowing that Onsets do not branch does not shed any light on the properties of rhymes. In other words, forms like [barbi] and [grós] do not tell us if words of the type of marguerite ‘daisy’ are realised as [margarit], [marґgrit] or [margigr] in AF. The surface form will be [marґgrit] if the rhyme does not branch and [margarit] or [margigr] (depending on the properties of the government-licensors) if it does. I will consider the structure of the rhyme in AF in future research.

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