Explaining schwa in French

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Hyman (1985:60-64) proposes a new analysis of schwa in French which "explains why no French word can begin with schwa" and "why 'h-aspiré' may not be followed by schwa" (p. 63). In this note, I would like to challenge the strength of such explanations.[*]

1   A Syllable-weight analysis of schwa

1.1 In Hyman's analysis, French schwas are represented as underlying weightless vowels, which may not be resyllabified when they are preceded by a weightful consonant which is 'in turn preceded by a vowel', as appears in the following derivations of *bas retrouvé* 'recovered stocking' vs. *bar trouvé* 'found bar':

(1)   a.   underlying forms:

bas retrouvé

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×   ×   ×     ×   ×   ×   ×   ×
|   |   |     |   |   |   |   |
b   a   r   ə   t   r   u   v   e
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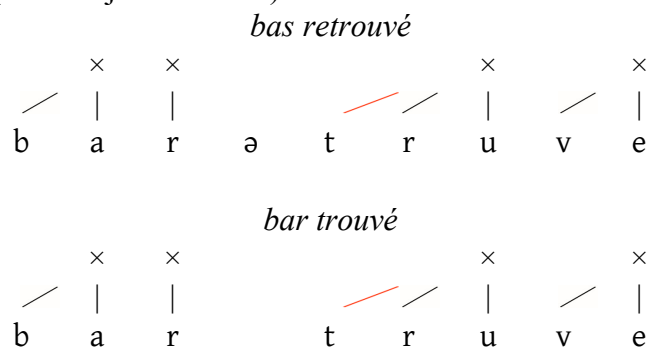
bar trouvé

```
×   ×   ×     ×   ×   ×   ×   ×
|   |   |     |   |   |   |   |
b   a   r     t   r   u   v   e
```

   b.   OCR (onset creation rule):

bas retrouvé

```
    ×   ×       ×       ×       ×
  ╱ |   |     |   ╱ |   ╱ |
b   a   r   ə   t   r   u   v   e
```

bar trouvé

```
    ×   ×       ×       ×       ×
  ╱ |   |     |   ╱ |   ╱ |
b   a   r     t   r   u   v   e
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c. OAR (onset adjunction rule):

bas retrouvé

b a r ə t r u v e

bar trouvé

b a r t r u v e

d. MCR (margin creation rule):

bas retrouvé

b a r ə t r u v e

bar trouvé

b a r t r u v e

"All of the segments in (1a) have an underlying × except the schwa. The forms given in (1b) are obtained after the application of the OCR, in (1c) after that of the onset adjunction rule (deleting the × attached to the t and attaching the resulting stray t to the following ×), and in (1d) after that of the MCR (attaching the r to the × of the preceding W[eight]-U[nit] while deleting its own ×). Somehow, the MCR applies in *bar trouvé* but not in *bas retrouvé*. The schwa is prevented from associating to the × of the preceding WU of *r*, SINCE THIS IN TURN IS PRECEDED BY A VOWEL" (this is a paraphrase of Hyman 1985:62; the emphasis is mine).

This is the extend of Hyman's analysis of French schwa, which allows him to account for the provocative (but not yet independently supported) difference noted by Rialland (1986:203–204) between *je le f(e)rai* "I'll do it' [ʒəlfr̩ɛ], with a 'syllabic' [r̩] and *c'est à ses frais* 'he's got to pay for it' [... frɛ], a difference made "du moins par certains locuteurs" [at least by some speakers] in monitored experimental conditions.[1]

Hyman limited his analysis to this aspect of French schwa, but is well aware that "the rules affecting schwa are complex", and that he 'ha[s] only touched on what [he] hope[s] is the basis for a solution'. I am afraid this is not the case. His account is not

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1. Rialland's analysis predicts a difference in the syllabic status of /l/ in *céleri* [selri] and *sellerie* [sɛlri] for ALL speakers who pronounce *céleri* with a closed [e] in the first syllable, the first /l/ being 'syllabic': [sel̩ri], but not the second [sɛlri].

only unexplanatory, but does not appear to describe the simplest well documented properties of schwa deletion.

1.2 Probably the most characteristic property of schwa in Parisian French is the fact that it is normally retained after a group of TWO consonants in phonological phrases (but not always as we will see below),² but may be deleted after a SINGLE consonant. The deletion is normal word-internally, as in (2), and more or less optional (i.e., it depends on style and elocution) when schwa is in the first syllabe of a word, as in (3) (cf. Dell 1985:228-229):

(2)   a.   exactement   /egzakt+əmã/   [egzaktəmã]
          b.   massivement   /masiv+əmã/   [masivmã]

(3)   a.   quel neveu   /kɛl nəvø/   [kɛlnəvø]
          b.   mon neveu   /mɔ̃ nəvø/   [mɔ̃nəvø] *or* [mɔ̃nvø]

1.3 Hyman's analysis implies the existence of an association rule (similar to his rule (85) for Chuvash) which assigns the weightless vowel /ə/ to the WU of the preceding consonant when the schwa is realized. There is, however, only but succint discussion of this Schwa Association Rule (SAR). We may infer that it is blocked WHEN THE CONSONANT PRECEDING THE SCHWA IN TURN IS PRECEDED BY A VOWEL (see the discussion above), and applies in all other cases: cf. his analysis of *je le ferai* [ʒləfṛɛ], with two weightless schwas in the underlying representation /ləfərɛ/ (his example 91) where it is stated that "the first associates onto the preceding [+cons] WU, SINCE THIS WU IS NOT PRECEDED BY A VOWEL" (p. 62, emphasis added).

According to this analysis, the underlying /ə/ of *quel neveu* /kɛl nəvø/ would be associated to the WU of the preceding /n/ and would surface as [ə] in [kɛlnəvø]. On the other hand, in *mon neveu* /mɔ̃ nəvø/, /n/ is preceded by a vowel, which blocks SAR; as a consequence the weightless schwa undergoes a "late deletion", and /n/ is "syllabic, i.e. the most sonorous segment dominated by its weight unit": [mɔ̃ṇvø]

I have two specific reservations about SAR, and more specifically about the blocking constraint. First, it is not really explanatory. The constraint on SAR appears to be an independent language-specific parameter. There are no reasons why a different constraint could not have existed, e.g. one which blocks SAR when THE CONSONANT PRECEDING THE SCHWA IN TURN IS PRECEDED BY A CONSONANT. As a consequence, one would have to say that the result of this new constraint — *quel neveu* pronounced [kɛlṇvø], with a 'syllabic' [ṇ] and *mon neveu* [mɔ̃nəvø] — is as likely as that of the old one.

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2. I refer here to the deletion of schwa between an obstruent and a following liquid, as in *une pelouse* [ynpəluz] ~ [ynpluz], *Pierre fera ça* [pjɛrfərasa] ~ [pjɛrfrasa], or *je le serai* [ʒəlsərɛ] ~ [ʒəlsrə]. In order to simplify the discussion, I will not comment on other varieties of French where schwa can also be deleted after groups of consonants in other environments, cf. Morin (1987).

The second is more important and concerns its descriptive adequacy. The blocking constraint wrongly claims that the pronunciation of the phonological phrase *mon neveu* [mɔ̃nəvø] with a realized schwa does not exist — when in fact it is quite frequent. Conversely SAR should always apply when a schwa is preceded by two consonants, thus preventing the deletion of the last two underlying schwas in *je le ferai* /ʒə lə fərɛ/ — when in fact the pronuncication [ʒəlfrɛ] is also quite frequent. Indeed, the spectrogram published by Rialland (1986:203, fig. 9) showing the 'syllabic' status of [r̩] in *ferai* and which Hyman discusses when he analyses his examples (90) and (91), shows very clearly that the utterance *Laisse, je le ferai* was pronounced by her subject as: [lɛs ʒəlfrɛ].

Furthermore, Hyman's analysis wrongly claims that all consonants before a phonetically unrealized schwa must be 'syllabic', e.g. in (2b) *massivement* should be [masiɣmã]. But even Rialland (1986:190-191), the only authority on such 'syllabic' consonants, declares that these do not occur before a large class of suffixes, and in particular before the ending *-ment*.

1.4 Finally, Hyman claims that his analysis also explains (1) "why no French word can begin with schwa", and (2) "why 'h-aspiré' may not be followed by shwa". These explanations are derived from simple theoretical assumptions which make them easy to evaluate. But before I do, it will be useful to examine other dialects of French where one can indeed find words which begin with schwa, thus providing some of the necessary brackground for the discussion.

2   Word-initial schwas in French

2.1   Origny-le-Sec (Aube)

In a field enquiry on the regional French of Origny-le-Sec (near Romilly, Aube) in 1976, I noticed that the initial vowel of *était*/*étais*/*étaient* 'was/were' was always syncopated after clitic pronouns, but that the historical liaison consonant was retained:[3]

	Paris French	Origny-le-Sec
il était[4]	[il etɛ]	[iltɛ] ~ [ittɛ]

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3. Pace de Cornulier (1981:183), who hypothesized that such a situation could not develop: "l'idée […] d'une voyelle *abstraite* capable de déclencher élision et liaison devant des mots commençant par une consonne paraît grotesque" (the concept of an abstract vowel that would trigger elision and liaison before consonants appears utterly ridiculous).

4. The /l/ consonant found after the clitic subject *il* must be analyzed as a liaison consonant both in the normal speech of Paris and in Origny. François's (1974:645) Parisian corpus indicates that *il* is normally realized [i] before a consonant and [il] before a vowel, with only one exception. (This is only a dominant pattern, some Parisian speakers can use [il] before a consonant more or less frequently. The distribution of /l/ after the clitic subject *elle* is not as regular. Although in the (normal) speech of Paris, it is often omitted before a consonant, e.g. *elle travaillait* [ɛ travajɛ], it is occasionally found in such contexts in François's corpus (1974:646–647). In other dialects, and in particular those I will present later (Origny, and Western dialects), /l/ is a liaison consonant found only before vowels.

| on était | [ɔ̃n etɛ] | [ɔ̃ntɛ] |
ils étaient	[iz etɛ]	[iltɛ] ~ [ittɛ] ~ [iltɛ̃] ~ [ittɛ̃]
tu étais	[t(y) etɛ]	[tetɛ]
c'était	[setɛ]	[setɛ]

A weightless analysis can easily account for this distribution: the verb *était* has an initial floating /e/, which is realized when SAR may apply, i.e. when the consonant preceding the weightless /e/ is not preceded by a vowel, as in *c'était* or *t(u) étais*.

(4) derivation of *c'était*:
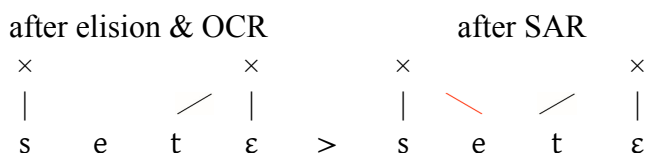
On the other hand, when the floating /e/ is preceded by a liaison consonant (i.e. a floating consonant in Hyman's analysis, p. 55–58), SAR is blocked because this liaison consonant is preceded by a vowel:

(5) underlying form of *on était* :
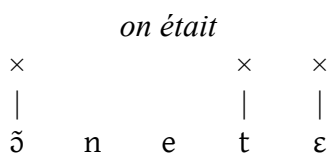
The analysis of liaison in Origny, however, will have to be different from that proposed by Hyman for Standard French. For the sake of discussion, one could suggest that a liaison consonant in Origny is actually associated to the WU of a preceding vowel WHEN A VOWEL FOLLOWS (incidentally, this analysis is actually the one proposed for liaison without enchaînement in Standard French by Encrevé 1983). All other properties of liaison would automatically follow from an independently required enchaînement rule, which dissociates a word-final consonant from its WU and associates it to the WU of a (weighted) following vowel (cf. Hyman's discussion of example 96), as appears below in the derivation of *on était* [ɔ̃ntɛ] vs. *on avait* [ɔ̃navɛ] in Origny:
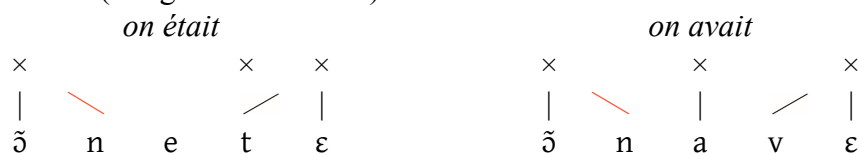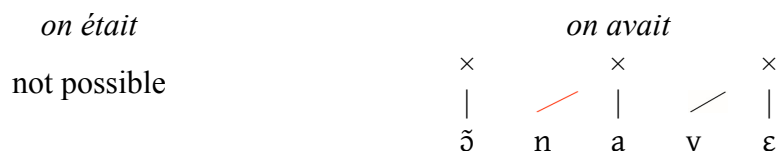
(6) a. underlying forms:

   b. OCR (onset creation rule):

c.   MCR (margin creation rule) and liaison:

d.   enchaînement:

The syncope of the initial vowel of *était* in Origny is historically related to that of schwa elsewhere. Origny is located in an area where schwa used to be realized [e] (cf. Bourcelot 1969, map 373, where the dialectal pronunciation for *grenier* is [greɲe] around Origny). The initial vowel of *était* was phonologically indistiguishable from the other schwas. When Parisian French progressively replaced the local dialect, schwa began to be realized [œ], except in *était* where it kept its original quality — which also happens to be that of the initial vowel of *était* in Paris.[5]

2.2   Word-initial schwas in Western dialects

The weakening of the initial vowel of *était* is not limited to Origny. It is well attested in many Western dialects, where it is noted in the local litterature.[6]

In some dialects, the initial vowel of *était* has simply been deleted from the underlying representation of *était* which now behaves like a regular consonant-initial word, e.g. [i tə][7] 'he was' like [i krɛjə] 'he believed' vs. [il apri] 'he learned'. This appears to be the case in Bazouges-la-Pérouse, Ille-et-Vilaine (Chauveau 1984:26-29) and Muel, Ille-et-Villaine (Petiot 1977:41-57).

Elsewhere, the situation is similar to that of Origny. The verbal form *était* can be analyzed with an underlying schwa, which may surface after a (regular) consonant, but not after a liaison consonant. The initial vowel of *était*, when it is pronounced, is phonetically identical to the other schwas in the dialect. For instance, in la Poterie, Côte-du-Nord (Petiot 1977:95-96), where schwa is pronounced [e] as in *le* [le] ~ [l] 'the', *premier* [premje] 'first', one finds [il te] 'il était', [ɔ̃n te] 'on était' vs. [k ete]

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5. There may be other schwas besides the initial vowel of *était* in Origny which have kept their original quality, but the only one that I could observe is found in *déja* 'already' [deʒa] ~ [dʒa], which, however, is also deletable in similar conditions in Parisian French.

6. I have consulted Brossier *et al.* (1980) [including tapes of the short stories], Chauveau (1984), Dottin & Langouët (1901) and Petiot (1977).

7. In many Western dialects all historical short [e] and [ɛ] vowels have been reduced to a central unrounded [ə] which is phonetically identical to the historical schwa (when it is pronounced). However, [ə] < [e] and [ɛ] is not subject to the rules of schwa deletion and it retains its stress in word-final position.

'qu(i) était'. Similarly in Pléboulle, Côte-du-Nord (Petiot 1977:21-28): [ʒetjɔ̃] 'nous étions', [ɔl tɛ] 'elle était', [il tɛ] 'il était', [si ʒ tɑ] 'si j'étais' (note here that the initial schwa of *étais* is absent when the previous consonant is preceded by a vowel), [ʒ m etɑ pɑ̃dy] 'je m'étais pendue', [t a di k ʒ etɑ budɛ] 't(u) as dit que j'étais boudet (i.e. 'nice')'. Another example from a dialect where shwa is pronounced [ə] is Mayennais (Brossier et al. 1980): [k s ətə dyr] 'qu(e) c'était dur' vs. [stə] 'c'était', [sa tə] 'ça était', [ɔ̃n tə] 'on était' (note here that the initial schwa is realized only after 'heavy' consonant clusters).

3   Explaining gaps

Now we can return to the gaps in Paris French that Hyman's analysis claimed to account.

3.1   No French word can begin with a schwa

 "The weightless representation of schwa explains why no French word can begin with a schwa: if such a word had an initial schwa, this schwa would never be realized, because it would not have a [+cons] WU to attach to" (Hyman, p. 63). There appears to me to be two flaws in this argumentation. First, even if we assume that a word-initial schwa is never realized, this certainly does not mean that it does not exist. Evidence for its existence could come from other sources, e.g. the presence of a liaison consonant as we have just seen in other dialects of French. That Hyman should argue against the existence of a weightless segment because it is never phonetically realized is certainly surprising: a few pages before the same author argues for the existence of a weightless consonant to account for 'h-aspiré' — which is never realized. The second flaw concern the absence of a [+cons] WU to attach to. This argument apparently presupposes that associations cannot extend outside the word, and thus that a schwa could not be attached to a consonant belonging to a preceding word (recall how one can argue that the initial weightless /e/ of *était* in Origny is attached to the preceding /s/ in *c'était* /setɛ/). This also is surprising, when liaison is precisely analyzed by this author as the association of a weightless consonant to the vowel of a different word.

3.2   'h-aspiré' may not be followed by schwa

 "If we represent h-aspiré as floating [+cons] ..., then a həCV sequence would have the representation in [(7)].

(7)

$$\otimes \quad \times$$

[+cons]   ə   C   V

In this representation only the OCR applies. The schwa may not link with the preceding floating [+cons] because the latter does not have a WU, and the floating [+cons] may not link with the following schwa by the OCR, because the latter also does not have a WU. Thus, the sequence h-aspiré + schwa would have no realization, and is therefore never present as an initial sequence in underlying forms." (Hyman, pp. 63-64)

I see the same two flaws: one argues against the existence of a phonological entity because it has no phonetic realization, and one presupposes that no interaction is possible between words.

Note how in the argumentation above nothing depends on the fact that the floating consonant is not completely specified, and how it applies as well to an underlying floating /v/ for instance. I can easily imagine one case where one may want to posit an initial sequence of floating segments /və/, IF one admits a rule linking a floating consonant to the WU of a preceding vowel when it is followed by a vowel (as is argued in similar terms by Encrevé 1983:57 for liaison without enchaînement, or as I proposed — for the sake of the argument — in Origny). The initial /v/ could then be linked to a preceding vowel because it is followed by a floating /ə/, which nonetheless is never realized. (To give some concrete support to our hypothetical situation, imagine what would happen to the verb *venir*, if a historical rule deleted [v] in [vn] clusters after a consonant or in utterance-initial position, as in *Pierre venait* [pjɛr nɛ], *venez!* [ne], but not after a vowel, as in *tu venais* [ty vnɛ], *vous venez* [vu vne], etc.)

If there are some principled reasons why h-aspiré may not be followed by schwa in French, they certainly cannot be (only) those suggested above.

3.3 Actually, these are probably not the only cases of hasty explanations in Hyman (1985). For instance, the reason why Glide Formation (GF) in French is blocked in *brouette* [bruɛt] , *[brwɛt] cannot be "BECAUSE it may not be the case that GF creates more than a ternary branching WU" (p. 80, emphasis mine), cf. *skier* /ski+e/ 'to ski' which may be pronounced [skje] by many speakers of Parisian French and where GF creates a quaternary branching (unless one is willing to say that the OAR for /b/ before /r/ in *brouette* occurs before GL, while the OAR for /s/ before /k/ occurs later). But enough of this, less I be told *Sutor, ne supra crepidam*!

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