

Final Devoicing in French

Marc van Oostendorp
Meertens Instituut, Amsterdam

July 17, 2013

1 Introduction

There is a old tradition in phonology of assuming that language variation is expressed in the computational system, while representations are invariable. A well-known case is the dialectological description in Chomsky and Halle (1968, p. 189), where the difference between two Canadian varieties of English is described in terms of a difference in rule ordering applying to identical underlying representations.

There is no logical reason why the world would have to be organized in this way. In an alternative view, the same processes could work in several languages, but on representations that are qualitatively different, so that the same processes have different effects.

As a matter of fact, such a line of thinking would have advantages over the traditional one, for instance from the point of view of language acquisition. A child will have to necessarily learn the specific representations of her native language anyway - in order to draw a Saussurean connection between [arbr] and the concept of a tree —, and it might therefore be preferable to say that these are the only objects which the child has to learn: the computational machinery is inflexible and therefore basically preinstalled in the brain (or it can be derived from general considerations).

In generative syntax, a similar approach has become known in the past decade as the Borer/Chomsky Conjecture (Borer, 1984; Chomsky, 1995; Baker, 2008), claiming that all parametric variation reduces to properties of functional items. In this chapter I given an exploration of how the idea would work based on one case of microvariation, i.e. final devoicing in (Northern) varieties of French, including Standard French — by which I mean, the language as spoken in Paris. (Obviously, it would require a lot of work to show that every kind of language variation can be caught in representational terms; this paper therefore merely shows that it is possible to catch one type in this way.)

It is not usually assumed that Standard French has final devoicing, whereas some northern Romance dialects do, possibly as a result of contact with

West Germanic varieties (Dutch, Flemish). I show that an alternative analysis is possible, and even plausible: *all* these varieties do have final devoicing, but the syllable structure of Standard French is different from that of the other varieties and this makes the process look different.

Obstruents contrast in Standard French in voicing in coda position before sonorants. It is usually assumed that this shows that Standard French does not have final devoicing, since obstruents can occur at the end of a syllable (1a). On the other hand, obstruents in a coda before a voiceless obstruent are obligatorily devoiced (1b). This is not part of a more general assimilation process, since voicing of obstruents before other voiced obstruents is only optional (1c), so that this is probably a separate process. If there is no final devoicing and no general voicing assimilation, then, we can only conclude that this is a genuine instance of [-voice] spreading, and that is indeed the argument which Wetzels and Mascaró (2001) make.¹

- (1) (data from Wetzels and Mascaró (2001))
 - a. Both voiced and voiceless consonants occur before sonorants: a[d]mirer ‘to admire’, a[k]né ‘acne’, o[s]mose ‘osmosis’, a[t]las ‘atlas’, pa[t]elin ‘little village’
 - b. Etymologically related words show a voiceless counterpart next to another voiceless consonant (there are no voiced-voiceless obstruent clusters): distin[kt]if (distin[g]uer), su[pt]ropical (su[b]alpin), pro[ft]er (pro[ʒ]ète), a[ps]or[ps]ion (absor[b]er), la[ts]us (par[de]sus)
 - c. Before voiced obstruents we can find both voiced and voiceless obstruents, depending on register (etc.): ane[gd/kd]ote, a[gd/kd]uc, dé[zv/sv]ant, a[ʃv/*ʒv]er

However, this line of argumentation is problematic for a number of reasons. One is that the independent evidence for [-voice] is scarce.² Furthermore, whether or not (1a) can be accepted as evidence that Standard French does not have syllable-final devoicing depends on our definition of the latter process. We argue that technically, the relevant constraint is active in the language, albeit very marginally, and in particular that it only shows its effect in (1b).

Assuming that Standard French shows syllable-final devoicing (to which I will from now on also refer as just final devoicing) raises the question how we should analyse those dialects of French — spoken in areas in contact

¹A reviewer points out that in some of these words an ‘underlying’ schwa should be posited right in between the cluster. The generalisations in question thus only hold when we disregard these underlying (but phonetically empty) schwas.

²Next to the French examples, Wetzels and Mascaró (2001) cite Yorkshire English, which is problematic since, as an English dialect, it may be argued not to have a real voicing distinction, but a [spread glottis] distinction instead. See Iverson and Salmons (2003) for discussion.

with West Germanic — which seem to have ‘real’ final devoicing. I argue in section 3 that the difference with Standard French is the result of a difference in syllable structure. Whereas varieties of French such as the Parisian dialect have a more Romance-type syllable structure, dispreferring closed syllables and therefore putting word-final consonants in onset positions, northern French has a more Germanic type of syllable structure, putting them in codas. This makes those final consonants then sensitive to final devoicing.

The analysis here will be cast in what I consider to be a fairly standard set of representational assumptions: I assume that at least the features relevant to my analysis are monovalent, and furthermore I assume that representational well-formedness can be formulated in terms of surface-oriented constraints. Some consequences of this approach will be discussed in the concluding section 4.

2 Final devoicing in Standard French

In order to determine whether or not French has final devoicing, we first have to find out what final devoicing is. Here are a few relevant examples from languages which are neighbours of European French:

- (2) a. Catalan:
 - i. *gris* ‘grey (M)’ - *grizə* ‘grey (F)’
 - ii. *gos* ‘dog (M)’ - *gosə* ‘dog (F)’
- b. Dutch:
 - i. *kwaa[t]* ‘angry (PRED.)’ - *kwadə* ‘angry (ATT)’
 - ii. *laat* ‘late (PRED.)’ - *latə* ‘late (ATT)’
- c. German:
 - i. *Rad* ‘wheel (NOM. SG.)’ - *Rades* ‘wheel (GEN.SG.)’
 - ii. *Rat* ‘council (NOM.SG.)’ - *Rates* ‘council (GEN.SG.)’

In the (i) examples, we find a pair consisting of a form ending in a voiceless obstruent, and another form with a voiced obstruent in a corresponding position, followed by a schwa. This alternation can be described as final devoicing: an ‘underlyingly’ voiced obstruent devoices when it occurs at the end of a word or at the end of a syllable. Alternatively, the alternation could be described as intervocalic voicing: an ‘underlyingly’ voiced obstruent gets voiced before a schwa. However, this second alternative is not available in the languages at hand, because they have pairs such as those in (ii), in which voiceless obstruents do not get voiced intervocalically. Since all three languages also statically do not have any voiced obstruents at the end of a word (or at the end of the syllable, when this notion is defined in

the appropriate way), we may conclude that they are subjected to a process of final devoicing.

We can find many definitions of the constraint responsible for this process in the (OT) literature. Presupposing that final devoicing is due to a so-called positional markedness constraint³, we can distinguish between two positions:

- Licensing by position: [voice] is only allowed in certain syllable positions (e.g. onsets; Lombardi (1999))
- Licensing by cue: [voice] is only allowed in certain phonetically defined positions, viz. those in which the feature is relatively easy to perceive (e.g. before sonorants; Steriade (1997); Rubach (2008))

When taken at face value, final devoicing does not apply under either of these definitions in Standard French, as we can observe quite easily. In order to see this let us first consider Licensing by position. We could formulate final devoicing in the following way:

(3) FINDEV: *[voice]/Coda

But (3) is easily counterexemplified by forms such as *a[d]mirer* in (1a): under any plausible analysis of syllabification, [d] occurs in a coda here, showing that (3) does not play a strong role in Standard French. This is what made Steriade (1997, p. 43) to conclude that “the facts of the real language [=French] are unintelligible under prosodically based analyses of voice neutralization”.

Let us turn to Licensing by Cue, then, and see whether it would bring us any further. In this case, the definition could be as follows:

(4) FINDEV: [voice] needs a cue in a following sonorant

³One influential line of thought (Beckman, 1998; McCarthy, 2002) holds that final devoicing is the result of the interaction between a general markedness constraint against voiced obstruents *[voice] with a positional faithfulness constraint applying to certain strong positions, IDENT_x-[voice]. The following ranking is then responsible for final devoicing:

(1) IDENT_x-[voice] » » *[voice] » IDENT-[voice]

Also under these assumptions, one would still need to establish the identity of the strong position *x*, and in principle one could opt either for a syllabic position such as the onset, or a position which provides a good cue, such as the position preceding a sonorant. The distinction between these two is very similar to that between the alternatives discussed in the main text.

The choice between ‘positional faithfulness’ and ‘positional markedness’ is a subtle one, and it is not always easy to find strong empirical arguments. Zoll (1998); Walker (2001) claim that the strongest arguments are in favour of relativizing markedness rather than faithfulness to syllabic positions. This is also in line with the programme of this paper, as markedness talks about representations rather than about changes.

The idea that French is subject to final devoicing according to the definition in (4) is counterexemplified by minimal pairs such as *laide* ‘ugly’ [lɛd] - *Lette* ‘Latvian’ [lɛt], which show that obstruents can be voiced even if they are not followed by a sonorant.

This could then be taken as an indication that the position before a pause differs from that before a consonant. Yet it should be pointed out that a strict interpretation of Licensing by Cue can be falsified. Steriade (1997) claims that a language in which there is contrast in obstruents before tautosyllabic sonorants, but not before heterosyllabic ones, would constitute a falsification of her claim. Such a language, ‘Fictitious French’ in her terms, could for instance have the following data (assuming that onsets only consist of an obstruent followed by a heterorganic liquid):

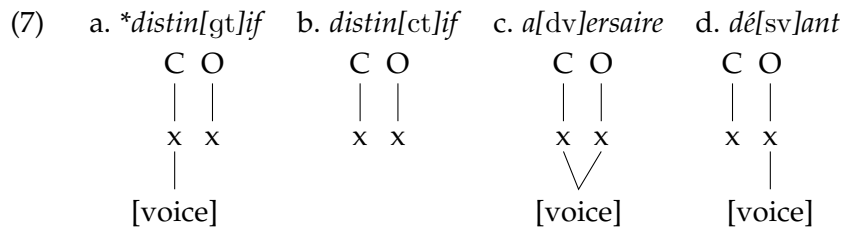
- (5) ‘Fictitious French’: [a.pri - a.bri, sjɛ.klɔ - ɛ.glɔ] but: *[dɔg.mə, mɔd.lɛn]

Wheeler (2005) claims that Catalan is exactly like ‘Fictitious French’: there is a voicing contrast in *clar* ‘clear’ [kla] vs. *gla* ‘acorn’ [gla], but not across syllable boundary, as in *poc lògic* ‘not very logical’. Dutch might be another — possibly even more convincing — case, since it does have final devoicing before sonorants: there is no contrast *atlas* - **adlas*, and words such as *Ariadne* would typically be pronounced with voiceless [t], *pace* Steriade (Booij, 1995). However, when the obstruent and the sonorant occur in a complex onset together, contrast is possible, witness minimal pairs like *draag* ‘carry’ - *traag* ‘slow’. (We will return to the representational difference between French and Catalan in section 4.)

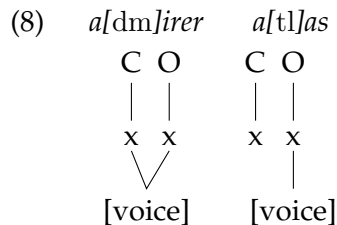
For this reason, it seems fruitful to work towards a more sophisticated version of Licensing by position. Such an account will not state a negative condition on voicing in syllable codas; it will rather state a positive condition preferring voicing in onsets. (This is obviously what the term Licensing already suggests.) We will further assume autosegmental representations, and include a notion of a *path* for maximal precision:

- (6) a. FINDEV: [voice] needs to be licensed in an onset.
 b. α is licensed by β iff there is a path from α to β .
 c. There is a path between two nodes α, β in a phonological representation iff α and β are directly or indirectly connected by association lines and/or prosodic attachment.

There is no appropriate path in (7a), since [voice] is only associated to the coda position. All other representations in (7) are valid; this is true in particular for (7c), in which [voice] is linked to a coda, but *also* to an onset. This definition of final devoicing, then, gives us exactly the Standard facts of obligatory regressive ‘devoicing’ assimilation. Notice that we also do not need a binary feature [\pm voice] to describe these facts.



Why doesn't final devoicing show its effect before a sonorant? I propose that the reason for this is that sonorants can also license [voice] in onset positions: preceding coda obstruents can then dock onto this feature and preserve their underlying specification.



We will not go into the issue here whether sonorants always end up with a specification for voicing in the onset, or whether they only do so when the preceding obstruents needs it. This is in line with the proposal of Itô et al. (1994) on feature licensing, where it is proposed for Japanese that sonorants only have a feature [voice] when they are adjacent to a voiced obstruent; see also section 4 for discussion.

The next important question now of course is, what to say about word-final consonants, which can be voiced in French.

One obvious answer to this is that these consonants occur in onsets and not in codas. If we assume that word-final consonants in French are in onsets of otherwise empty syllables, voicing is licensed in this position. Empty-headed syllables are most well-known from work in Government Phonology (Kaye, 1990), but their existence in French has been argued for outside of that framework as well, e.g. by Dell (1995), van Oostendorp (2000) and Féry (2003).

There are several arguments supporting this position. In the first place, there is the famous geographic/sociolinguistic alternation between ə and ∅ (Durand et al., 2012): where speakers from the south are more tempted to say schwas at the end of the word, although they can sometimes also let those same words end in a consonant. Now, as far as most phonological properties go, such as stress assignment, the northern words behave exactly the same as the southern words. It does not seem unreasonable to assume that they are the same, except that southern speakers have a greater tendency to fill the empty nucleus with a schwa. This allows for a uniform analysis of French stress: the word ends preferably ends in a trochee, with

a weak syllable headed by schwa or nothing. We only find a monosyllabic foot if the final syllable features a full vowel.

Another argument is the fact that French words can end in consonant clusters of rising sonority such as *table* [tabl] or *encre* ‘ink’ [ãkr]. These are not random clusters, however, but exactly the same types of clusters which are attested in onsets. For instance, clusters of an obstruent followed by a nasal are considered ungrammatical in onsets (**knab*) as well as at the end of the word (**bakn*).⁴

The only issue we are left to deal with now is regressive voicing assimilation as exemplified in (1c). Now, the status of this project is rather unclear. It is definitely not the case that both options are possible in every register and every variety. This variable behaviour alone already shows that it is a separate process, maybe only historical, of coarticulation of the laryngeal quality of the two adjacent segments.

We are now ready to draw some interim conclusions. First, under a theory of Licensing by Position which does not seem too far-fetched, we can analyse French as a language with final devoicing, even though its effects are visible only very marginally. We have also seen that actually Licensing by Position seems preferable over its competitor Licensing by Cue, since the latter excludes languages such as Catalan and Dutch, two of the languages which neighbour on French and indisputably have Final Devoicing. Finally, we do not need to refer to [-voice] (*pace* Wetzels and Mascaró (2001)).

3 Two northern dialects

If we assume that Standard French already has a phonological process of final devoicing, it would be somewhat surprising that some northern Romance (‘French’) dialects have been argued to differ from the standard language precisely in showing signs of devoicing at the end of the syllable. Both of these dialects are spoken to the north of Paris (in Northern France or in Belgium), and for both it has been claimed that they have been influenced by West Germanic (Dutch/Flemish) dialects in this respect. If Standard French already has final devoicing, how can these dialects be different?

⁴A reviewer notes that loanword adaptation supports this point, e.g. German *Knödel* ‘dumpling’ > *quənouille*. The reviewer mentions that the one Cn-initial word that has made it into common vocabulary, *pneu* ‘tire’, should also be quoted; and that in Southern varieties it often comes out as *pəneu*.

3.1 Walloon

First we turn to Walloon, which is technically not usually seen as a French dialect, but a separate branch of Romance (Éloy, 1998; Atwood, 1955). The dialects are presently close to extinction, but at least some of them have been well documented. My data have been taken mostly from a useful overview in Francard and Morin (1986).

The following type of data have been taken to indicate the presence of final devoicing in Walloon (in parentheses we indicate the particular Walloon dialect of which the data have been taken):

- (9) *Word-final devoicing* (Liège)
 - a. *wåde-lu* ‘keep it’ [wɔ:tly]
 - b. *wåd’-ler* ‘to support mine walls with billets’ [wɔdle]

The /d/ in (9a) occurs just before a word boundary, whereas there is a suffix boundary in (9b). The latter example might be taken to indicate, in our terms, that voicing can cross the stem-suffix boundary — but what about the former? Word-final devoicing has clearly applied there. We cannot say that assimilation is blocked in these cases as word final plosives do assimilate in voicing to following obstruents:

- (10) *Voicing assimilation to a following obstruent* (Bastogne)
 - a. *lu bo[g] du vèjin* ‘the neighbour’s ram’ (from underlying /bok/)
 - b. *oune gran[t] fêye* ‘a big girl’ (from underlying /grant/)

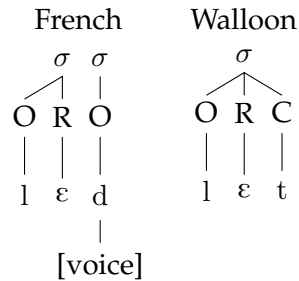
Walloon dialects furthermore show a difference between plosives and fricatives, in that word-final fricatives are always voiced when followed by a vowel word-finally. However, at the end of the syllable before a sonorant they are always devoiced:

- (11) *Intervocalic voicing* (Liège)
 - a. *dèl frize êwe* ‘some cold water’
 - b. *l’êwe est frisse* ‘the water is cold’
- (12) *Syllable-final devoicing of fricatives*
 - a. *amûsmint* ‘amusement’, *mouvemint* ‘movement’ [mufmẽ]

How can we formalize the fact that Walloon seems to have ‘more devoicing’ than French? I propose that the main difference between the two varieties of Romance is not so much a difference in a ‘rule’ of devoicing, or even in any other difference in their grammar, such as a ranking of constraints which would make the process work differently. Rather, it is the reflex of a difference in representations, and in particular in syllable structure.

Concretely, I propose that word-final consonants are onsets in French while they are codas in Walloon. This means that the word *laide* has the following syllable structure:

(13) *laide*



There is independent evidence for this difference in syllabification. The most important argument given above in favour of the assumption that word final consonants are onsets in French, is that they can form clusters (even though this clusters are in some dialects variably simplified). However, these clusters are obligatorily simplified in Walloon: obstruent-liquid clusters are disallowed in this variety. This gives strong support to the assumption that word-final consonants are syllabified differently than in French, and the most natural option is that they are put in codas (in fact, this is the only option if we assume that all consonants have to be syllabified somewhere) :

(14)	underlying form	isolation	prevocalic
	/trist/	[tris] 'sad'	[tristɛs] 'sadness'
	/mɛspl/	[mɛs] 'meddlar'	[mɛspli:] 'meddlar-tree'

It is of course possible that this difference in syllable structure itself is due to language contact. Standard French would still have a 'Romance' preference for open syllables and words ending in a vowel, even if the vowel is phonetically empty, while Walloon has the more 'Germanic' kind of compact syllable and words ending in codas.

In this approach there obviously is a grammatical difference between the two varieties, which could be described e.g. in terms of Piggott (1999)'s proposal that there is a parametric difference between languages allowing word-final codas and languages which do not do so: Walloon would be of the former and Standard French of the latter type. However, the grammatical differences only involve the *representations* at hand, not the computation performed on those representations: the rule of final devoicing works exactly the same when the environments are the same (e.g. on word-internal codas).

To be more concrete: like French, many dialects of Walloon do not seem to show syllable-final devoicing of obstruents (cf. *wâd'-ler*). This is expected, since in this case the syllable boundaries are the same in the two systems. However, Walloon does have devoicing of fricatives in this position, as shown in (11) above. (This devoicing of fricatives is still "well-

established in current regional French of Liège” according to Francard and Morin (1986).)

The difference between fricatives and plosives

How can we understand this difference between plosives and fricatives? Notice that the relevant environment in the examples we have is a fricative followed by a nasal. This is a notorious environment, subject in many languages to what has been called *Padgett's Generalisation* (Padgett, 1994):

- (15) If [+nas,+cons] then [-cont]
 ‘There may not be a path connecting a nasal consonant to a fricative’

Padgett discusses his generalisation mostly in connection to place assimilation, but there is a variety of other consequences it may have. In many languages which have assimilation of nasals to stops, there is no assimilation to fricatives. For example, the prefix *in-* assimilates obligatorily in *i[ŋ]kontinentsa* (‘incontinence’, **i[n]kontinentsa*) in Slovenian, but it does so only optionally in *i[nx]ibitor / i[ŋx]ibitor* (‘inhibitor’).

i-kontinentsa **in-kontinentsa* ‘incontinence’ v. *in-xibitor* *i-xibitor* ‘inhibitor’ (Peter Jurgec, p.c.).

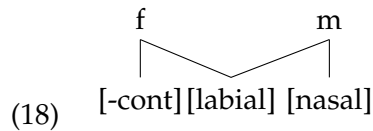
In Polish, ‘nasal vowels’ are realised as a place-assimilated nasal before a plosive, and as a nasalised glide before a fricative (Bethin, 1984; Czaykowska-Higgins, 1992):

- (16) a. i. ząb [zomp] ‘tooth’
 ii. rząd [žondu] ‘government’
 iii. ręce [rence] ‘hands’
 iv. węgiel [veŋgjel] ‘coal’
 b. i. wąski [voŋski] ‘narrow M.SG’
 ii. mąż [moŋš] ‘husband’
 iii. męski [meŋski] ‘man’s (M.SG.)’
 iv. rzęsa [žeŋsa] ‘eyelash’

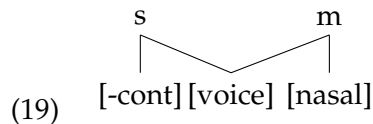
As a final example, in Lithuanian a nasal assimilates in place to a following plosive, but is deleted if the following segment is a fricative (the same prefix *sán* ‘together’ figures in all of the following examples, from Kenstowicz (1972); the *ogonek* denotes nasalisation):

- (17) a. sám-buris ‘assembly’
 b. sán-taka ‘confluence’
 c. sá[ŋ]-kaba ‘coupling’
 d. sâ-skambis ‘harmony’
 e. sâ-žine ‘conscience’

Under Padgett’s Generalisation, place assimilation of nasals to fricatives is blocked because [nasal] and [-cont] become linked by the assimilation process:



The assimilation establishes a path between the features [-cont] and [nas]; this path is blocked because of Padgett’s Generalisation. However, there is no clear theoretical reason why the process should be restricted only to place assimilation; voicing assimilation, for one thing, could be blocked for the same reason



This would then account for the fact that the fricatives do not assimilate in voicing to the following nasals, which in turn explains why they seem to show ‘real’ syllable-final devoicing in Walloon dialects.

3.2 Vimeu Picard

We now turn to another variety, Vimeu Picard, spoken in the West of the French region Picardia. José and Auger (2004) argue that an interesting pattern of nasalisation can be understood if we assume that these dialects are subject to a constraint against voiced final obstruents, but they solve it in a way different from devoicing those obstruents.

The pattern is as follows. Voiced syllable-final plosives are always nasalised next to a nasal, whether that nasal occurs to their right or to their left (20a) — the examples in parentheses give evidence that those forms do have an underlying plosive which shows up in other contexts. Crucially, voiceless consonants never nasalise (20b), nor do any obstruents that occur syllable-finally but which are not adjacent to a nasal consonant:

- (20) a. *rudemint* /rydmɛⁿ/ → [rynmẽ] (cf. *rude* [ryd]), *gamme* /gaⁿb/ → [gãm]
 (cf. *gamber*)
 b. *lampe* /laⁿp/ → [lãmp]
 c. *tube* /tyb/ → [tyb]

José and Auger discuss this phenomenon in the context of the so-called Too Many Repairs Problem (Steriade, 2001, TMRP). One of the problems of OT is that it predicts that one and the same markedness constraint can be satisfied in many different ways and that we will see all of those different

‘solutions’ attested in our typology with equal likelihood. In the case at hand, the constraint FINDEV could be satisfied on the surface by applying any of the following operations to an underlyingly voiced obstruent:

- (21)
- | | | | |
|-------------------|-------|---|--------|
| Devoicing: | /tæb/ | → | /tæp/ |
| Lenition: | /tæb/ | → | /tæj/ |
| C Deletion: | /tæb/ | → | /tæm/ |
| Segment reversal: | /tæb/ | → | /bæt/ |
| Feature reversal: | /tæb/ | → | /dæp/ |
| V insertion: | /tæb/ | → | /tæbə/ |
| Nasalisation | /tæb/ | → | /tæm/ |

The TMRP is that only Devoicing is attested as a repair in languages of the world; José and Auger, however, argue that Vimeu Picard is an example of Nasalisation as a repair to the final devoicing constraint. The idea is that nasalisation can only apply if there is a nasal in the vicinity, as a faithfulness constraint prevents insertion of [nasal]. Furthermore, voiceless obstruents do not undergo the process as FINDEV does not apply to them.

However, under the approach advocated here, nasalisation is not a possible repair for final devoicing. Nasalisation itself involves addition of a feature [nasal], which does not automatically lead to deletion of [voice] (even if we were to assume that sonorants never have such a feature, we have to get rid of it somehow). If we keep this feature, we continue to violate the relevant constraint:

- (22)
- | | | | |
|--|-------|---|-------------|
| | [d] | | [n] |
| | x | | x |
| | | | |
| | Voice | → | Voice Nasal |

However, if we delete the [voice] anyway, the question arises why we would have added [nasal] in the first place: plane devoicing is simply a more economical way of satisfying FINDEV:

- (23)
- | | | | |
|--|-------|---|-------------|
| | [d] | | [n] |
| | x | | x |
| | | | |
| | Voice | → | Voice Nasal |

In other words, devoicing is harmonically bounding nasalisation-cum-devoicing: similarly, the fully faithful candidate tæb will always win from tæm.

As an alternative analysis, then, I propose that there is a different reason why nasalisation takes place: the underlying nasality on the vowel needs to find support on a consonant. This nasalises the underlyingly voiced obstruent. Voiceless obstruents do not undergo the same process because they

are ‘too different’ from nasals: they would have to acquire (spontaneous) voicing next to nasality (Walker, 1998; Botma, 2004).

The process can then be united with other cases of nasal assimilation, in which also nasal consonants affect adjacent voiced consonant, such as in *rudement* > [rynm ε]. There is no final devoicing in this case, there is just nasal assimilation to voiced obstruents and this assimilation can also come from adjacent nasal vowels.

4 Conclusion

I have argued in this paper that final devoicing is operative in many (Northern) varieties of French, even if its effects are sometimes hidden. This means that the differences between French and Walloon are *not* due to a difference in a final devoicing ‘parameter’, but to a difference in syllable structure. Furthermore, Vimeu Picard nasalisation is not due to a final devoicing process different from either of the other varieties; there is no word-final devoicing of the Walloon type in Picard, not even hidden. Instead, there is a different representation of nasality. To the extent that these analyses are viable, they exemplify the broader programme outlined in the introduction: showing that the differences between varieties can be representational rather than in the computational system.

There is still one issue to be sorted out: the voicing behaviour of nasals. In my analysis of Vimeu Picard, I have made crucial use of the fact that nasals (sonorants) *must* be voiced (otherwise we do not understand why voiced obstruents can easily change into nasals but voiceless obstruents cannot). At the same time, in my analysis of Standard French, I used the fact that nasals *can* be voiced but need not be, to explain why *admirer* is well-formed. Thirdly, in order to understand why we do not find regressive voicing assimilation (**adlas*) like we find it before voiced obstruents.

Notice, by the way that such voicing assimilation is found e.g. in Catalan (Wheeler, 2005), where we have clusters like the following, but no counterparts with a voiceless consonant:

(24) *hi[bn]osi, è[dn]ic, ri[dm]e, ca[zn]otable*

It thus looks as if Standard French and Catalan have a different process of assimilation (e.g. one is triggered by Licensing by Position and the other by Licensing by Cue). However, I would submit that this is not the only possible interpretation. We could also assume that they have sonorants of a slightly different structure: in Catalan (and presumably also in Vimeu Picard) sonorants necessarily contain a feature [voice], whereas this is not the case in Standard French.

References

- Atwood, E., 1955. The phonological divisions of belgo-romance. *Orbis* 4, 167–178.
- Baker, M., 2008. The macroparameter in a microparametric world. In: Biberauer, T. (Ed.), *The Limits of Syntactic Variation*. John Benjamins, Amsterdam and Philadelphia, pp. 351–373.
- Beckman, J., 1998. Positional Faithfulness. Ph.D. thesis, University of Massachusetts at Amherst.
- Bethin, C., 1984. A syllabic analysis of nasal vowels in polish. *Studies in language* 8, 163–180.
- Booij, G., 1995. *The Phonology of Dutch*. Oxford University Press, Oxford.
- Borer, H., 1984. *Parametric syntax. Case studies in Semitic and Romance languages*. Foris Publications, Dordrecht.
- Botma, B., 2004. *Phonological Aspects of Nasality. An Element-Based Dependency Approach*. Ph.D. thesis, University of Amsterdam.
- Chomsky, N., 1995. *The Minimalist Program*. The MIT Press, Cambridge, Mass.
- Chomsky, N., Halle, M., 1968. *The Sound Pattern of English*. Harper & Row, New York.
- Czaykowska-Higgins, E., 1992. Placelessness, markedness, and polish nasals. *Linguistic Inquiry* 23, 139–146.
- Dell, F., 1995. Consonant clusters in phonological syllables in French. *Lingua* 95.
- Durand, J., Gut, U., Kristoffersen, G. (Eds.), 2012. *Handbook of Corpus Phonology*. Oxford University Press, Oxford.
- Éloy, J.-M. (Ed.), 1998. *Evaluer la vitalité: Variétés d'oïl et autres langues*. Actes du Colloque international "Evaluer la vitalité des variétés régionales du domaine d'oïl" 29-30 nov. Centre d'études picardes, Amiens.
- Féry, C., 2003. Markedness, faithfulness, vowel quality and syllable structure in french. *French Language Studies* 17, 1–38.
- Francard, M., Morin, Y.-C., 1986. Sandhi in walloon. In: Andersen, H. (Ed.), *Sandhi Phenomena in the Languages of Europe*. Mouton de Gruyter, Berlin/New York, pp. 453–474. URL <http://hdl.handle.net/2078.1/75313>.

- Itô, J., Mester, A., Padgett, J., 1994. Nc: Licensing and underspecification in optimality theory. *Linguistic Inquiry* 26, 571–614.
- Iverson, G., Salmons, J. C., 2003. Legacy specification in the laryngeal phonology of dutch. *Journal of Germanic Linguistics* 15, 1–26.
- José, B., Auger, J., 2004. (final) nasalization as an alternative to (final) devoicing: The case of vimeu picard. URL <https://www.indiana.edu/~iulcwp/pdfs/04-jose.pdf>, indiana Working Papers Online, Vol. 4.
- Kaye, J., 1990. 'Coda' licensing. *Phonology* 7, 301–330.
- Kenstowicz, M., 1972. Lithuanian phonology. *Studies in the linguistic sciences* 2, 1–85.
- Lombardi, L., 1999. Positional faithfulness and voicing assimilation in optimality theory. *Natural Language and Linguistic Theory* 17, 267–302.
- McCarthy, J., 2002. *A Thematic Guide to Optimality Theory*. Research Surveys in Linguistics, Cambridge University Press, Cambridge.
- van Oostendorp, M., 2000. *Phonological Projection*. Mouton de Gruyter, Berlin/New York.
- Padgett, J., 1994. Stricture and nasal place assimilation. *Natural Language and Linguistic Theory* 12, 465–513.
- Piggott, G. L., 1999. At the right edge of words. *The Linguistic Review* 16, 143–185.
- Rubach, J., 2008. Prevocalic faithfulness. *Phonology* 25, 433–468.
- Steriade, D., 1997. Phonetics in phonology: the case of laryngeal neutralization. Manuscript, UCLA.
- Steriade, D., 2001. The phonology of perceptibility effects: The p-map and its consequences for constraint organization. Ms., UCLA.
- Walker, R., 1998. *Nasalization, Neutralization, and Opacity Effects*. Ph.D. thesis, University of California, Santa Cruz. Published from Garland Press, 2000.
- Walker, R., 2001. Positional markedness in vowel harmony. In: *Proceedings of HILP 5. Linguistics in Potsdam*.
- Wetzels, L., Mascaró, J., 2001. The typology of voicing and devoicing. *Language* 77, 207–244.

Wheeler, M., 2005. *The Phonology of Catalan*. Oxford University Press, Oxford.

Zoll, C., 1998. Positional asymmetry and licensing. 'Expanded handout' of a talk presented at the LSA meeting. ROA 282-0998.