

On the morphologization of word-final consonant deletion in French*

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Consonant liaison is perhaps the most salient and most often discussed external sandhi in French. It takes its origin in a series of processes which reduced syllable codas in Old French, and which are responsible not only for liaison in the narrow sense, but also for allomorphic alternations between free and bound stems for some words, e.g. *beau-bel* 'beautiful (masc.)', and between morphologically related stems, e.g. *cheval-chevaux* 'horse-horses' or *chaud-chaude* 'hot (masc.)-hot (fem.)'.¹ Early generative descriptions have tried to account for the modern reflexes of these processes by postulating various synchronic rules which recapitulate the historical evolution.² This led to a debate on the issue of abstractness in phonology, and various proposals have been advanced to show that the diverse manifestations of these early syllabic changes do not constitute a unitary phonological process, as it had been thought, but that on the contrary they must be analyzed as several distinct, and largely morphologized, phenomena.³ The importance of knowing the evolution of these Old French syllable reductions in the other dialects of French has been emphasized, as a means to understand the nature of the morphological and analogical pressures that may develop out of similar conditions, and thus to provide the basis for a sound analysis of liaison in French.⁴

This survey is intended as a modest contribution to the understanding of the history of word-final consonant deletion and consonant liaison in the various dialects of Northern French for which we have been able to find relevant data.⁵

The general organization of this paper is as follows. Section 1 recapitulates the phonological evolution that led to the reduction of syllable codas in Old French; section 2 presents the various pressures that may have been involved in its further evolution (phonetic, morphological, and stylistic factors); sections 3 to 7 examine the development of final consonants before pause; sections 8 to 15 that of the sandhi associated with word-final consonants.

1. Word-final consonants in Old French

1.1 Deletion of extra-syllabic consonants

The syllabic structure of Late Old French is rather uncontroversial (cf. Walker 1981: 16 and 1982). Word-internal syllable codas contained at most one consonant, which could be a sonorant (a nasal, a liquid [l] or [r]) or the fricative [s].⁶ Word-finally an extra consonant could be added to a regular word-internal nucleus (this will be called extrasyllabic),⁷ e.g. *sa* or *mar* are possible everywhere, but *sac* and *marc* only in word-final position (the distribution of extra-syllabic consonants will be further specified).⁸ This syllabic structure is the result of different processes at various periods, which are difficult to reconstruct.⁹

Whatever the historical sources of this syllabic structure, they were responsible for a synchronic process of consonant deletion, affecting stem-final consonants before inflexional *t* and *s*, whenever their suffixation would create an impossible syllable,¹⁰ e.g. *sac* 'bag' pl. /sak+s/ > *sas*, *dormir* 'to sleep', 3rd pers. pres. ind. /dorm+t/ > *dort*. The sequence /t+s/ originally reduced to the affricate [c], e.g. *chat* 'cat' pl. /čat+s/ > *chaz*. Eventually [c] became the fricative [s], so that /t/ appeared to be synchronically deleted, just as the other obstruents.

Actually, syllables with an extra-syllabic consonant must have had a much more limited distribution than stated above. They probably appeared only in utterance-final position. That such a distribution once existed can be inferred from the sandhi patterns described by 16th century French grammarians (Cf. Thurot 1881-1883) and still found (with many further developments) in some modern Western dialects, in particular Marais Vendéen [2.5], which we will examine later. It is difficult to determine with certainty when this process began. We would expect words to be transcribed with their final consonant, whatever their exact pronunciation in connected discourse, as scribes would normally write words as they are pronounced before pause. We have no reason to believe that syllables had not already lost all extra-syllabic consonants within utterances in Old French, just as they had word-internally.

In other words, the process of consonant deletion applied not to the word, but to the whole utterance. The final *t* of *petit* 'small' probably was pronounced before pause as in *il est petit* 'he is small', before a vowel, e.g. *un petit œil* 'a small eye', where it could be syllabified as the onset of the following syllable, but not before a consonant in connected speech,

as in *un petit nez* 'a small nose'. This syllabic analysis predicts that some extra-syllabic stops could remain before liquids with which they formed a possible syllable onset, as in *un petit rost* 'a small roast'; we have no evidence, however, that they ever did. The syllabic interpretation of consonant deletion, therefore, should be further specified, but we will not do that here.

The deletion of extra-syllabic consonants, both before inflections and in connected speech, is probably common to all Northern French dialects, not to mention some of the other Gallo-Romance dialects. The other processes of consonant weakening that we are now to examine, on the other hand, are not as uniformly distributed among them.

1.2 Weakening of [s] codas

In many Northern French dialects, [s] codas were weakened to a [x]-like or a [h]-like sound before another consonant and eventually survived as a simple lengthening of a preceding vowel (cf. Straka 1964, Morin 1981). This change did not affect Walloon and most Lorrain dialects.

1.3 Weakening of [l] and [λ] codas

The weakening of [l] and [λ] codas before a consonant is quite general. These liquids became the glide [w] and formed with the previous vowel a diphthong, which later monophthongized, e.g. *colp* > *coup* 'stroke'. All liquids did not necessarily go through a [w]-stage before they disappeared. The two processes - reduction to [w] and deletion - can both occur in the history of the same word through analogical reconstruction, in ways which are not always obvious. For instance Fouché (1966: 781) proposes a plural *ostels* reconstructed from the singular *ostel* 'house' to replace an older regular plural **ostieus* (cf. *palus* > *pieus* 'stake') at a time when [l] no longer became [w] before consonant; this [l] was eventually deleted: *ostels* > *ostés*. The plural *ostés* in turn served as a basis for the singular *osté*, according to Pope (1952: 814).

1.4 Weakening of [r] codas

There are many signs that [r] codas were rather unstable and tended to be deleted. The deletion is regular in many dialects when the next syllable begins with an obstruent + liquid cluster (cf. Morin 1982b); it is more variable elsewhere.

It is not impossible that Old French word-final [r] became some kind of fricative [ð] and was considerably weaker than [r] in codas before a consonant.¹¹ These developments, however, became important only later, and [r] in Old French is relatively stable in spite of some early signs of its future evolution.

1.5 Weakening of nasal codas

Nasal codas were also weakened and eventually disappeared, while the preceding vowel was nasalized. We will not discuss this process here (cf. Rochet 1976).

2. Further changes: some of the factors

The developments just presented resulted in the creation of two variants of words originally ending in an extra-syllabic consonant in Old French: a long stem (the stem ending in the extra-syllabic consonant) and a short stem. Similar variants are found of words originally ending in some of the other consonants (i. e. with a sonorant or [s]). In many dialects, final [s] and [l] are weakened first before consonants, which also led to the creation of a long stem (with final [s] and [l]) and a short stem (with a lengthened final vowel or a diphthong in [w]). Originally the long stem was found only before a vowel or pause. This initial distribution, however, was soon to be modified.

Further phonetic weakening of the other Old French word-final sonorants created new alternations of stems similar to those we noted with final [s] and [l], while the former distribution between long and short stems was modified. The long stem was sometimes replaced by the short one before pause, cf. ModF *cap* [kap] vs. *drap* [dra]. The prepausal stem of a word was often generalized to other positions, e.g. ModF *du drap*

anglais, and *le cap* [kap] *magnétique*. In some dialects, a non-etymological consonant was sometimes added to an originally short stem, e.g. in the Poitevin dialect of Aiript [2.12] *clou* > [kλuk] 'nail'. Only a relatively small set of words have kept part of the original alternation, which is now restricted to specific syntactic contexts. This is the source of contemporary liaison in Modern French (cf. Morin – Kaye 1982), e.g. *le petit garçon* 'the small boy' vs. *le petit* [ptit] *enfant* 'the small child'.

Although there have been many changes in the distribution of the two stems of individual words, and often one of them has disappeared, this is not the case with morphologically related stems, which are relatively stable and have often kept to the present day the Old French distribution, both in derived forms e.g. ModF *drap* 'cloth' vs. *draperie* [drapri] 'drapery' or *il se drapé* [i z drap] 'he drapes himself', and in inflected forms, e.g. *il dort* [i dɔr] 'he sleeps' vs. *ils dorment* [i dɔrm] 'they sleep'.

It is often difficult to find the exact causes for these further changes. The generalization of the pre-pausal form of a word to all syntactic contexts is simply a reorganization in the distribution of the two stems:¹² one of them becomes the unique invariant form of that word. The changes affecting words before pause may have had many different sources. We examine here some of the factors that certainly contributed to this complex evolution.

But before we do so a terminological note is necessary. When we use the term "final" as in "final consonant" or "word-final" we mean by that "which was final in Old French". Further developments created new word-final consonants: (i) loss of unstressed final *e*, as in OF *petite* [pətitə] 'little (fem.)' which becomes ModF [pətit] while the (originally) final consonant of the corresponding masculine *petit* is lost to give ModF [pəti], or (ii) loss of an extrametrical consonant after another consonant, as in OF *fort* [fɔrt] > ModF [fɔr], or OF *gost* > Liège Walloon [gɔs] 'taste'. When an ambiguity may result, we will specify "new final" or "originally final".

2.1 Phonetic loss

In some dialects, it is apparent that some of the word-final consonants have simply been lost before pause. This often happened to word-final [r], which probably went through a stage [ð] as we mentioned earlier, as in Jersiais [1.2]. Although Old French final [r] is a good candidate for phonetic loss, there are no reasons to believe that it necessarily ceased to

be pronounced in all dialects, in particular in the Western part of *Mairais-Vendéen* [2.5] or in *Guernesiais* [1.3] where many words have retained it.

A phonetic loss implies a regularity which, however, is often absent. Some of the following factors may be at work.

2.2 Analogical pressures

Changes in the prepausal form of a word may also be attributed to the analogical influence of related stems.

One such influence results in paradigmatic regularization: one of the stems is generalized everywhere. For instance, *cing* [sɛ̃k] has recently replaced the short stem [sɛ̃] in Modern French, e.g. *cing cents* [sɛ̃k sɑ̃] 'five hundred' ([sɛ̃ sɑ̃] is still frequent), or *cing filles* [sɛ̃k fʲi] 'five girls'.

Another change is the reinterpretation of the differences between the two stems as being a reflection of their morphological differences. Thus in the paradigm *clef* 'key' pl. *clés*, truncation of a final consonant may be felt to mark the plural, or /f/ to be a singular suffix. Such morphological reinterpretation is more likely when the historical inflections *s* and *t* disappear, but does not depend on it. Gilliéron notes the extension of *t* as a singular suffix in the Francoprovençal dialect of Bonneval [9.1] which has nonetheless preserved most word-final consonants. Not only is [t] retained at the end of singular nouns and adjectives such as [fret] 'cold' pl. [frɛs], where it is etymological, but it has also been added to mark the singular in nouns ending in a vowel or [r] as in [sɔlart] 'shoe' pl. [sɔlars], [ɛtwit] 'tool' pl. [ɛtwis], etc. The same situation is probably found in the Occitan dialect of Protestant Velay [10.1], where singular [t] is analogical in [pewt] 'louse' pl. [pewɛs].

Similar reinterpretations occur for gender. The long stem of the masculine is normally also found before the feminine suffix *e*, e.g. *chat* 'tom-cat' pl. *chas* / fem. *chate(s)*, and its ending can be interpreted as a feminine marker – particularly when the short stem has been generalized as the unique form of the masculine. Such morphological reinterpretation is probably favored by the eventual loss of feminine *e* which occurred in most Northern French dialects, but this is not necessary. In *Aiript Poitevin* [2.12], word-final unstressed *e* is still pronounced, but *te* has been reinterpreted as a feminine marker, e.g. [kadrü] 'downbeaten' has two feminines, the etymological one [kadrüə], and the analogical one [kadrüə].

2.3 Spelling restoration

Archaizing spelling certainly was one of the factors which contributed to the evolution of French pronunciation, and it must have helped restore the use of some formerly lost final consonants. Its influence, however, is always very difficult to assess, as we will see later.

2.4 Dialect mixture and borrowings

Dialect mixture is another important factor, both between neighboring dialects, and between the language of Paris – the political center – and the other less prestigious dialects. Furthermore, it should be remembered that Parisian French (whether spoken in cultivated circles or among laborers and servants) was a *koinē*, which borrowed heavily from all regional dialects from the 14th or 15th century on, and even earlier.

Borrowings between sociolects is another form of dialect mixture suggested by Fouché (1966: 663). In his analysis, Modern French would derive primarily from higher sociolects, with some occasional borrowings from popular ones.

2.5 Assessing the relative weights of these different factors

Various analyses of word-final consonant loss before pause have attributed different weights to these factors. Pope (1952, §§ 392, 400, 613, and 810) favors paradigmatic regularization. Fouché (1966: 663–666), as we mentioned, proposes different sociolectal evolutions: in the popular language, all word-final consonants would have been phonetically lost; in the higher sociolects, however, only some of them (*viz.* those for which Fouché could find enough regularity), elsewhere loss of final consonants before pause would be the result of paradigmatic regularization. McLaughlin (1980), who observes a wide variety of spellings for final consonants in a language she apparently assumes to be rather homogeneous, concludes that these spellings must have been mere graphic ornaments, and that all final consonants were in fact lost in the language; some of them, eventually, would have been restored after the conventional spelling. However, she does not discuss Fouché's (1966: 665) objections. He has argued that there were no models for the restoration of final consonants in the early 16th century, at a time when their pronun-

ciation is already well attested, and concluded that they must have been preserved, at least in some sociolects.

A word of caution is in order here concerning the interpretation of variable spellings or so-called false spellings. This variability could also be a reflection of the pronunciation. For instance, the three 16th century spellings *cademat*, *candenac*, and *cademas* 'padlock' – a word borrowed from Occitan – may represent three different pronunciations. Séguy, for instance, still notes important variation in the pronunciation of this word in Gascon [10.3: map 772]: [kadenat], [kadenač] and pl. [kadenac] (abstracting from the further evolution of [e] and [n] in these words). The variability found in Paris may well have been borrowed with the word *cademas* itself.

The variability could also be internal. For instance, the three 16th century spellings *sou*, *sot*, *soc* for ModF *soue* 'pigsty' may correspond to the three pronunciations [su], [sut], and [suk] widely attested in Western dialects, which are normal developments (as we will see) that may have existed in Paris. False spellings are no less ambiguous. The change from *rue des Jeux-neufs* to *rue des Jeûneurs* (Dauzat 1930: 99) does not necessarily indicate that final graphic *r* was not pronounced. A final [r] could have been added to *neufs* [nø:] as a plural marker; indeed [nø:r] is a normal plural of *neuf* in Angevin [2.7].

2.6 Sociolects and regional dialects

The analysis proposed by Fouché for Parisian French is more or less implicitly transposed to the other regional dialects of Northern French by many authors. These dialects are normally derived from lower sociolects, not from the higher ones, which instead became closer and closer to high Parisian sociolects (to describe a complex situation very simply). In the regional dialects where word-final consonants now are regularly lost, this is the expected result. In those where they are sometimes retained, however, this poses a problem, particularly when they are not found in the corresponding words in Parisian French.

In his analysis of Poitevin [2.10: 477–481], Pignon assumes that the final consonants in these words were initially used in the higher Poitevin sociolects, seeped into the lower ones, disappeared in the former (i.e., were replaced by borrowings from lower Parisian sociolects, if one accepts Fouché's analysis),¹³ but nonetheless remained in the latter.

Such explanations, however, are not plausible in many other dialects.

As Brasseur notes in his study of Anglo-Norman [1.1: 277], the influence of Parisian sociolects is unlikely in these islands for political reasons. But even where it would be politically possible, phonetic developments specific to a given dialect may automatically exclude this interpretation, as in the following two cases.

The first one concerns the reflexes of Latin [k] in the *-ūcu* endings. Unlike what happened in Francien, [-k] was not always lost in Western and Norman dialects. In particular, it regularly survives in the reflexes of *sa-būcu* > (Western prototype) *[seük] 'elder-tree'. Its retention in dialects where final [k] is also preserved elsewhere, e.g. Sercquois [1.1], Jersiais [1.2], Gallo [2.2: xc], Angevin [2.7], or Poitevin [2.10: 475], is unlikely to be a learned feature.¹⁴

The second case is the development of final [k] and palatalized [sʲ] in the Walloon dialect of Liège [4.2] (similar developments are found in most Walloon dialects for [k] and [sʲ] and in Lorrain dialects for [sʲ]). Corresponding to word-final [k] in Francien, one finds two distinct reflexes in Liège: [č] (mainly from Latin *-ccu*) and [k] (mainly from Germanic and late borrowings from Latin), e.g. [sač] 'bag' and [krøk] 'hook'. If word-final consonants in Liège had been restored on the model of higher Parisian sociolects, they would now be uniformly [k]. Similarly, Francien neutralized the distinctions among three [s]-like sounds: a palatalized [sʲ] (a reflex of post-vocalic [c] and of various combinations such as [sy], [ssy], [scy]), a (probably) fortis [s̥] (a reflex of most post-consonantal [c]) and a (probably) lenis [s]. These three sounds are still often distinguished in Liège. Fortis [s̥] is usually retained as [s]: [pɔ:fis] 'fence' and [čɔ:s] 'lime'. Palatalized [sʲ] became the velar fricative [x]: [dix] 'ten' or [frɛx] 'wet'. Lenis [s] is often lost before pause: [ne] < *nasu* 'nose', but may remain, as in [re:s] < *rasu* 'up to, flush'. Here again, if all word-final consonants had been lost and then restored, the current distribution of [s], [x], and ∅ according to Old French characteristics would be unexplainable.

Another argument against the complete loss of all Old French final consonants in all the dialects and their subsequent restoration can be found in the morphological conditions which control their presence in dialects such as Marais-Vendéen [2.5] which we will discuss later. Not only would these dialects have to have borrowed final consonants, but also the morphological rules for their proper use; a rather complex borrowing.

There do not appear to be any reasons to believe that all final consonants in the various regional dialects have been restored. We will as-

sume in this study that their presence is the result of purely internal developments (without excluding restoration in some cases: this is a matter of philological interpretation, just as for any other historical reconstruction).

3. Loss of word-final inflections

3.1 General development

As a rule, the inflectional affixes *s* and *t* – to which we should add the final [t] of 3rd pers. pl. marker *-(e)nt* – have been lost before pause. It is difficult to say whether this loss is phonetic or paradigmatic (e.g. *il vit* > *il vi* ‘he lives’, after the preconsonantal variant found in *il ne vit point* ‘he does not live’, for instance).

Inflectional *t*, however, has remained in Marais-Vendéen [2.5], and in many dialects of Central-Western Vendéen [2.4: 213]. The retention of final [t] is also frequent in these dialects for *-(e)nt*, but is not as general. The ending [t] is frequently generalized to 3rd pers. verbal forms which lacked it in Old French, e.g. Marais-Vendéen [læ dunrat] ‘he will give’ vs. [tə dunra:] ‘you will give’.¹⁵ In Tourangeau [2.8], the inflectional *-t* has been retained in the imperfect indicative and in the present conditional for the 3rd pers. sg. ending *-ait* only, e.g. [i čätet] ‘he was singing’, [ɔ̃ dīret] ‘one would say’ vs. [ɔ̃ sɛ] ‘one knows’.

The verbal inflection *-s* has been uniformly lost before pause in all dialects of Northern French. In Ranrupt Lorrain [6.3], however, a stem final *s* may have been reinterpreted as a person marker. It is optionally retained in the 2nd pers. sg.: [šwezi] or [šwezi] ‘(thou) choose’ vs. [šwezi] ‘(I) choose’. This inflection, however, has not been extended to new verbs, and is only reported for those whose long stem ends in [s].

Loss of plural *s* (or more generally of inflectional *s* after nouns and adjectives) is also quite general. This *s* sometimes survives in Lorrain [6.1] after an etymological *r* which caused its palatalization, e.g. [dürs] > [düş] ‘hard’, but has been reanalyzed as part of the noun or adjective stem (cf. also Meyer-Lübke 1890: 430, Remacle 1944: 172, 293).

3.2 Plural *s* in Walloon

Although it is usually difficult to determine whether the loss of inflectional affixes is phonetic or analogical, a weak case can be made for phonetic loss of Old French plural *s* in Walloon. As we noted earlier, *s* codas (which probably had a voiced variant before a voiced obstruent) are normally retained word-internally, except before [l] and [n], e.g. Liège W. [brɔzde] ‘to embroid’ or [mɛspli:] ‘meddlar-tree’. One would therefore expect word-final *s* not only to survive as a liaison [z] before a vowel as in most of the other dialects of French, e.g. in *lès-èfants* [lɛz ɛfã] ‘the children’, but also before a consonant, as is the case of the verbal inflection *s* before an enclitic subject, e.g. *[vʊs tü] > [vʊs] ‘do you (sg.) want?’ (where loss of [t] after syncope of a final unstressed vowel is regular, cf. *[tyɛstə] > [tyɛs] ‘head’). Plural *s*, however, has been lost before all consonants, as in *lès feumes* [lɛ fœm] ‘the women’.

One may want to conclude that Old French word-final *s* has been phonetically lost before pause (assuming that its deletion before [l] and [n] did not by itself carry enough weight to be generalized), and that the prepausal form of words ending in *s* has been extended elsewhere. The retention of final *s* in words such as [re:s] < *rasus*, would not necessarily constitute a learned restoration. A phonetic rule does not necessarily apply simultaneously to all words in the lexicon, and its diffusion may be incomplete, particularly if there developed a new process which neutralized the opposition between fortis [ʃ] and lenis [s] (cf. Wang 1969 and Chen – Wang 1975).

There still remains an important problem: why was *s* lost after plural determiners before a consonant? These words are proclitics and do not normally appear before pause. If the loss of *s* was phonetic before pause only, and analogical elsewhere, proclitics should not have been affected.

4. Development of new inflectional suffixes

In this section we examine how the original alternation between long and short stems can have an additive morphological interpretation, i.e. one where one of the variants is analyzed as the addition of some affix to the other one.

4.1 Plural inflection

We saw earlier how the final consonant of nouns or adjectives could be reinterpreted as a singular marker. Reanalysis of a final consonant as a plural marker, on the other hand, is rather infrequent and is limited in our corpus to the consonant [r]. Such a reanalysis is particularly clear in Jersiais [1.2].

In this dialect, Old French final [r] was regularly lost: OF *mer* > [me] 'sea'. OF [r] before a (now deleted) extra-syllabic consonant remains: OF **hard* > [har] 'handle of a lobster-pot', OF *merc* > [mɛr] 'land mark', OF *fort* > [fɔr] 'strong', or OF *cors* > [kɔr] 'body'.¹⁶ Before a now deleted inflectional [s], [r] is also retained.¹⁷

This regular phonetic development has been preserved in the language and is the origin of the following number opposition: [ave] 'child' (lit. 'belongings', cf. ModF *avoir*) pl. [avɛr], [dū] 'hard' pl. [dūr], [fe] 'horse-shoe' pl. [fyɛr], [lavœ:] 'washer' pl. [lavœr] (and all other derived nouns and adjectives with the same ending, corresponding to ModF *-eur*), [kɔyi] 'collar' pl. [kɔyɛr], [piyi] 'pillar' pl. [piyɛr], [prəmi] 'first' pl. [prəmyɛr], [pumi] 'apple-tree' pl. [pumyɛr] (and all nouns and adjectives with the same ending, corresponding to ModF *-ier*), [sœ] 'sure' pl. [sœr], [sü] 'sour' pl. [swär]. This distinction is most frequent with masculine nouns, for historical reasons, but may also apply to feminine ones: [sœ] 'sister' pl. [sœr], [čüyi] 'spoon' pl. [čüyɛr].

A plural [r] is also found in nouns which historically ended in [l] or [λ]. This evolution is probably phonetic:¹⁸ [sœ] 'alone' masc. pl. [sœr] (fem. [sœl]), [yi] 'eye' pl. [yɛr], [vi] 'old' pl. [vyɛr], [žnu] 'knee' pl. [žnwɛr]. One finds only few instances where a non-etymological [r] has been added to nouns to mark the plural. One form at least is attested: [sœ] 'elder-tree' pl. [sœr]. Finally, the final [r] of such pairs was eventually interpreted as part of the stem in some words and was generalized to the singular (in words that were probably frequently used in the plural, cf. Tiersma 1982): [šur] 'cabbage', [pɔwɛr] 'louse'.

The development of [r] as a plural suffix may have been much more widespread than it now is. Traces of that usage are scattered all over Western France: in Guernesiais [1.3] [ye:i] 'eye' pl. [yɛr], in Val-de-Saire [1.4: 103] [žnu] 'knee' pl. [-r], [wüwɛ] 'eye' pl. [-r], [gvø] 'hair' pl. [-r], and in Angevin [2.7] *neuf* ([nø]?) 'new' pl. [nø:r]

4.2 Singular inflection

The morphological reinterpretation of Old French extra-syllabic consonants as singular suffixes is frequent in Western dialects, as noted by Dauzat (1922: 110), e.g. [t] in pairs such as *sot* [sɔt] 'silly' pl. [so:]. Dousinet, in his description of Saintongeais [1.9: 20], is more accurate. The extra-syllabic consonant has become a marker of the masculine singular only. This gender restriction is not surprising as feminine words ending in an extra-syllabic consonant, such as *clef* 'key', were a minority in Old French.

The clearest case of reanalysis of final consonants as masc. sing. suffixes is probably found in Marais-Vendéen [2.5], which we will now examine in some detail.

Marais-Vendéen has preserved a large number of the original alternations found in Old French between singular and plural stems, although inflectional [s], which initially conditioned them, is now lost; examples of alternations (all occurring before pause – we will examine their fate in connected speech in § 9) are: [lup] 'wolf' pl. [lu:], [sɔt] 'silly' pl. [so:], [surt] 'deaf' pl. [su:r], [sak] 'bag' pl. [sa:]. Such morphological alternations make a learned restoration of word-final consonants unlikely, as it would imply a re-introduction of the grammatical conditioning as well. It is even less likely if the restoration were based on the spelling after plural [s] ceased to be pronounced. There would then be little ground for [k] to be used in *sac*, for instance, and not in *sacs*.

In the synchronic grammar of Marais-Vendéen, the alternation could perhaps be interpreted as the result of a morphophonological process deleting word-final consonants in plural nouns and adjectives. There are two arguments against this analysis; a weak one: the process did not extend to new forms; a strong one: the alternate analysis by suffixation accounts for innovative forms.

Truncation of word-final consonants did not extend to consonants that became final after the loss of final unstressed *e*, e.g. OF [kɔdɔ] > [kɔd] 'elbow(s)', does not become [kɔ] or [ko:] in the plural. On the contrary, it lost ground. It apparently is no longer active for feminine nouns such as [nɛyt] 'night', nor for most of the masculine words historically ending in [k], which now tend to keep this consonant in both numbers, e.g. [žük] 'yoke, roost' (invariable at all but three of the points studied by Svenson, where the plural is still [žü:]). On the other hand, words in which final [f] used to be deleted in the plural now have lost it for both numbers: [ɛy] 'egg(s)', [bɛy] 'ox(en)'. The original alternation has mainly

been preserved in the case of words historically ending in [t], and no longer corresponds to a general process of word-final consonant deletion.

Conversely, new singulars have been created through suffixation of [k] in a few cases and, more frequently, of [t], as appears in the following table:

Table 1

Innovations in [k]:	[kʌuk]	'nail'	pl. [kʌu:]	in a few points only
	[lu:k]	'wolf'	pl. [lu:]	in a few points only
	[nik]	'nest'	pl. [ni:] ¹⁹	
Innovations in [t]:	[abrit]	'shelter'	pl. [abri:]	cf. [abriɛy] 'to shelter'
	[frəmit]	'ant'	pl. [frəmi:]	masc. in M.-V.
	[furt]	'oven'	pl. [fu:r]	
	[fūzit]	'gun'	pl. [fūzi:]	
	[grut]	'big'	pl. [gru:]	cf. [grus] (fem. sg./pl.)
	[həyt]	'game'	pl. [həy]	at one point only
	[lumət]	'snail'	pl. [luma:]	masc. in M.-V.
	[movət]	'bad'	pl. [movey]	cf. [movez] (fem. sg./pl.)
	[movit]	'thrush'	pl. [movi:]	
	[surit]	'mouse'	pl. [suri:]	masc. in M.-V.
	[vrit]	'wart'	pl. [vri:]	masc. in M.-V.

It must be noted in table 1 that [t] is suffixed to the masculine stems /abri/, /gru/, and /move/, even though the corresponding feminine or verbal stem has a different ending. These innovations show clearly that [t] and [k] have been reinterpreted as singular masculine suffixes.

Further changes may have altered the distribution of some stem-final consonants and cast some light on the probable evolution in neighboring dialects in which equivalent further changes may hide the initial steps.

The singular masculine form may be extended to the plural, i. e. the final consonant has been analyzed as part of the stem. This happens not only with words in which the consonant is etymological, e. g. the noun [žük] 'yoke' or the adjective [sək] 'dry', but also where it is analogical, e. g. [rut], or sometimes [ruk] 'red-headed', [selərit] 'celery', [sirət] 'sirup'.²⁰

An invariable masculine stem may be generalized to the feminine, as [sək] 'dry (masc./fem., sg./pl.)', or not, e. g. [rut]/[ruk] 'red-headed' still has a specific fem. form [rus]. In the same way, when a formerly masculine noun becomes feminine, it may keep its final analogical masculine consonant, as in [surit] 'mouse'. In the villages where this noun has kept

its original masculine gender, it is regularly [suri:] in the plural; in the other villages it is now feminine (as in the official language) and is invariably [surit] for both numbers. The same evolution is likely for [suk] 'pigsty' which was masculine in Old French, but is now feminine both in Marais-Vendéen and in the official language.

These facts show clearly that final consonants in Marais-Vendéen are first interpreted as masculine suffixes and then may later be reinterpreted as belonging to the stem.

Developments similar to these are found in many Western dialects: Central-Western Vendéen [2.4: 140-142], Tourangeau [2.8: 79-83], Guernesiais [1.3], and probably Sercquais [1.1]. As in Marais-Vendéen, only one of the potential consonants [p], [t], [k], or [f] is productively used as a sing. masc. suffix: [t] in Central-Western Vendéen, Tourangeau, and Sercquais, [k] in Guernesiais.²¹ The other consonants – when they are retained – are not sensitive to number. In Tourangeau, furthermore, final [t] has only been kept as a marker for the singular in the two endings *-et* and *-ot*; this restriction will be discussed in § 6.3.

Although Doussinet describes word-final [t] as a masc. sing. suffix, and gives examples such as [pœdrɪt] 'partridge (masc.)' fem. [pœdrɪ:], his data for Saintongeais [2.9.2] are difficult to interpret: [t] appears at the end of plural nouns as in *dix cots-t-à boère* 'ten glasses of wine', but only after singular adjectives, as in *in groûs-t-oumiâ* 'a big elm' vs. *des groûs (z) oumiâs* 'big elms'. Furthermore, it is not always obvious whether or when these final consonants are regularly found before pause, or only before a vowel.

A situation similar to the one we noted in the West may have existed in some Eastern dialects, but there are few traces of it. Haust notes in Liégeois [4.2] [sēt] 'one hundred' with a final [t] pronounced before pause, but apparently not in the plural, as in [træsē] 'three hundred'. A non etymological word-final [k] often found in Walloon [4.1, vol. 2], e. g. [ōk] 'one', [nuk] 'no one', or [li mēk] 'mine', shows some similarities with the masc. sing. suffix of Western dialects. Although it is traditionally interpreted as the reflex of *-ques*, an ending found of OF *alques* [4.1, vol. 2: 41], it is curiously often restricted to sing. masc. forms.

4.3 Masculine inflection

The Northern French dialects which have preserved word-final consonants frequently have non-etymological final consonants: Gallo [2.2: liii, xc] [pük] 'well', [syēt] 'tallow', [rak] 'shorn', Poitevin [2.10: numerous

examples 472–476], Île de Ré [2.11: 72] [surit] ‘mouse’, [kot] ‘stroke’, [furk] ‘oven’, [ɲuk] ‘string (of the tongue)’, and more generally all over the area covered by the Atlas of Western Dialects [2.1], as appears in the following maps: *épi* (m. 55) with the variants [epit] and [epik], *cep* (m. 185) with [set] and [sek], *houx* (m. 355) with [kusa], [kusat], and [kusak], *trayon* (m. 489) with [se], [sep], [set], and [sek], for instance.²²

These facts are not immediately interpretable, as they cannot be related to other properties of the dialects where they have been observed (one often does not even know the gender of these nouns, nor their plural form). They could be an original masc. sing. prefix later generalized, as we saw in Marais-Vendéen. They could be a haphazard substitution of one consonant by another one, as in Liège *Djudik* < *Judith*. When the non-etymological consonant is a [t] replacing a former [p] or [k], it could be the result of an assimilation of [p] and [k] to a following plural inflexion [s], as is well attested in some Occitan dialects (cf. Ronjat 1932: 282–283). The assimilated [t] would later be generalized to the singular.

Pignon, in his studies of Poitevin [2.10: 478–481], proposes a phonetic development of final [w] to [k] (after a suggestion by Rousselot in his study of Cellefrouin [10.2]). This phonetic development would have affected words ending with a long [u:] – assuming that its phonetic manifestation actually was [uw]. Final [k] would have been analogically extended to other nouns and adjectives (the nature of the analogy, however, is not specified). This explanation does not apply to Marais-Vendéen, where [k] was originally found in the singular, but not in the plural, as this is still observed with [kλuk] ‘nail’ pl. [kλu:], unless plural [s] was still pronounced at that time.

The analysis of specific dialects of that area may prove more fruitful than large scale observations, as it appears from the following preliminary analysis of Vouvant [2.6] and Aiript [2.12].

The two dialects share many properties, although final unstressed [ə] has been retained in Aiript (Central Poitou) but not in Vouvant (South-Eastern Vendée). As a rule, word-final [p] and [t] have disappeared in both dialects (except after adjectives in Vouvant, probably under the influence of the feminine form which regularly kept its stem-final consonant before final unstressed *e*).²³

The two dialects not only have retained a final [k] where it is etymological as in [buk] ‘he-goat’, [pik] ‘woodpecker’, or probably etymological as in [nik] ‘nest’ and [nuk] ‘knot’. It also replaces other final consonants in (originally) masculine nouns, as appears in the table below:

Table 2

Original consonant	Vouvant		Aiript		Etymon	Marais-Vendéen
t	–		lok	‘lot’	*lot-	
	ruk	‘belch’	rök(?)	‘retropulsion of the cow’s vagina’	ructus/ *ruptus	
	suk ²⁴	‘pigsty’	–		sutis	suk ²⁵
	žark	‘gander’	žhark/ ork	id.	*gard-	žart
p	anak	‘container’	–		*hnapp	
	luk	‘wolf’	luk	id.	lupus	lup/luk
	sep ²⁶	‘vine stock’	sek	id.	cippus	
s	rak	‘shorn’	–		rasus/ *rakk-	
l	lœnu	‘frenum of the tongue’	ɲuk	‘shoe-maker’s thread’	*lineolum	ɲu:
	muk	‘soft’	–		mollis	
	–		suk	‘alone’	solus	sul
	šuk	‘cabbage’	–		caulis	šu:
ø/w	kyuk	‘nail’	kλuk	id.	clavus	kλu:/kλuk

Typically, [k] replaces either [w] (assuming that final [l] became [w]), or one of the plosives [t] and [p]. A phonological development is possible in the first case. A phonetic neutralization of all plosives to [k] is less likely, as one would expect many more occurrences of original final [t] to be now [k]; most of them have simply been lost.²⁷

Can we say that word-final [k] came to be identified as a masculine marker par excellence? It is a possibility which is worth exploring. It may not be an accident that in Vouvant, [sep] ‘vine stock’ kept its final [p], but then became feminine, if conversely [t] and [p] were feminine markers.²⁸

4.4 Feminine inflection

When the short stem is generalized in the masculine, the long stem found in the feminine may in its turn be interpreted as derived from the masculine one by affixation of a final consonant possibly followed by an unstressed *e*, e. g. in *gros* [gro] ‘big’ fem. [gros(ə)] the ending [s(ə)] can be interpreted as a feminine marker.

Such reanalyses are frequent in all dialects of Northern French. Gondecourt Picard [3.2] uses [z] as a productive feminine suffix for adjectives which lack a specific historical marker. For instance, the historical distinction is retained in [fo] 'false' fem. [fos], [grɔ] 'big' fem. [grɔs] or [sɛ] 'dry' fem. [sɛk]. With the following adjectives, however: [balu] (ModF *balourd*) 'awkward person', [blo] 'blue', [bosü] 'hunched-back', [žoli] 'beautiful' or [kare] 'square', the feminine is formed by suffixation: [baluz, bloz, bosüz, žoliz, karez].

The consonant [t] is a productive feminine suffix in some Eastern French dialects [5] and in Bourberain Bourguignon [7.1] for instance.

Once final unstressed *e* is lost, there may be competition between a masc. sing. suffix and a fem. suffix. In such cases, we expect a redistribution to occur. This may have been the case in Parisian French where [t] developed into a productive feminine suffix (cf. Morin 1983 a: note 13). This would account for the fact that final [t] was almost always lost after masculine nouns and adjectives, while [p], [f], and [k] were more frequently retained.²⁹

4.5 Verb inflection

Although alternations between long and short stems in verbal paradigms are also very frequent, reanalyses of final consonants as inflectional suffixes are relatively rare. One possible case is Ranrupt Lorrain discussed above in § 3.³⁰

Final [r] is phonetically lost before pause in many Northern French dialects, although the process may be more or less variable. The presence of a final [r] in infinitive verbs, however, does not necessarily mean that the original consonant was retained. New infinitive endings may have been created on the model of Old French fourth conjugation ending [-rə], which regularly survives in, e.g., *croire* 'to believe' or *dire* 'to say', as argued by Bruneau to account for final [r] of verbs such as [kri:r] 'to yell' instead of etymological *crier* in some Eastern dialects [5.1: 351].

5. Inflection by truncation

In the previous section, we have seen how the alternations between short and long stems could receive an additive morphological interpretation. A privative one is also possible: the deletion of the final consonant itself can be regarded to be a morphological mark, e.g. [ø] 'eggs' appears to be derived from the stem [œf] 'egg' through a morphophonological operation which deletes the final consonant to indicate the plural.

Such interpretations are not represented in our corpus of Northern French dialects. In Parisian French alone we find some innovations which suggest a once productive truncation rule for the plural, with [ɔs] 'bone' and *ours* [urs] 'bear' for which the plural forms [o] and [ur] were recommended (the plural [o] is still frequent for *os*). Of course, there are no phonetic reasons for the plural form to be distinct from the singular one in these words. The plural forms, however, need not have been derived directly from the singular ones through the application of a truncation rule. Initially [ɔs] and [o] (respectively [urs] and [ur]) could have been more or less free variants, which eventually were specialized for number. Apparently truncation was not extended to final consonants which arose through loss of final unstressed *e*. Thus one does not find, for instance, a plural *[ku] for *coude* [kud] 'elbow'.³¹

In the same manner, truncation, although a frequent mark of present sing. for verbs – cf. ModF *il rompt* [i rɔ̃] 'he breaks' vs. *ils rompent* [i rɔ̃p] 'they break' – has not been used to create new short stems for the present. Interestingly, however, new present paradigms have been formed with a new long stem borrowed from the infinitive for future/conditional tenses. For instance Liège Walloon [4.2] has retained the original short stem of *joindre* 'to join' in the present: [ʒɔ̃] '(I, thou, he) join(s)', but has replaced the former long stem */ʒɔ̃n-/ by that of the future stem /ʒɔ̃d-/: [ʒɔ̃dā] '(we) join'.³²

6. Inflection through thematic endings

6.1 The morphological reinterpretation of some of the alternations between long and short stems need not be privative or additive. Some specific endings may gain morphological status. For instance, non-etymo-

logical [k] in Marais-Vendéen (§ 4.2) only appears after [u], while [t] shows no such restriction. The consonant [t] behaves like a normal suffix. In the case of [k], one could say that the pair {/-uk (sing.); /-u/ (pl.)} has acquired a specific status as a thematic ending marked for number. A word like [lu] 'wolves' was reanalyzed as containing the plural form /-u/ of this thematic ending (cf. Morin 1982 a). Although this is a possibility in some parts of Marais-Vendéen, it is at best embryonic as we have only few innovations in [k]. Some developments in other dialects of French to which we now turn are more typical.

6.2 The development of non-etymological final *f* in Old French corresponds to the creation of a thematic ending {/-if/ (masc. sg.), /-i-/ (masc. pl.)}. Dauzat (1922: 110) suggests that /f/ is a singular suffix which has been added, for instance, to the word *soi* < Lat. *situ* 'thirst' to give the modern form *soif*. Innovations with a final *f*, however, are particularly frequent after stem-final *i*, as in OF *mendif* (< Lat. *mendicus*) pl. *mendis* (cf. Fouché 1966: 636–637). Another thematic ending is probably {/-eʊλ/ (masc. sing.), /-eʊ-/ (masc. pl.)} accounting for the non-etymological [λ] in *fauteuil* 'arm-chair', *escureuil* 'squirrel', *cercueil* 'coffin', etc.

6.3 In Tourangeau [2.8: 79–83], [t] is the only one of the Old French extrasyllabic consonants still pronounced, e.g. [plat] 'flat (masc./fem.)', [lit] 'bed', [let] 'ugly (masc.)' fem. [led]. The existence of non-etymological [t], e.g. [etwīt] 'case', [ɔrtet] 'toe', shows that it must have been morphologically interpreted – probably as a sing. masc. marker, although it now remains in the plural. The original number alternation has only been retained in two endings: /-et/ pl. /-ε:/ and /-ot/ pl. /-o:/, e.g. [la-set] 'lace' pl. [lasε:] or [sabot] 'wooden shoe' pl. [sabo:]. Historically, these were diminutive suffixes, but they are no longer semantically interpretable. They now constitute thematic endings marked for number.

6.4 Some of the most typical thematic endings marked for number in Western dialects continue endings with a final liquid which weakened to [w]. This lead to alternations of the type [-al]/[-aʊ]: *cheval/chevaux*, [-ɛl]/[-ɛaʊ]: *coutel/couteaux*, [-ɛl]/[-eʊ]: *chevel/cheveux*, [-ɔl]/[-ɔʊ]: *col/cous*, etc. In most Western dialects this alternation is now limited to one or two productive endings, e.g. in Pléchéat Gallo [2.2]: [ʃfa] 'horse' pl. [ʃfaw], [kute] 'knife' pl. [kutyaw].³³ In Parisian French, only the first of these endings is really productive.

6.5 In all the Western dialects, the alternation {/-ε/ (masc. sg.), /-yaw/ (masc. pl.)} (the modern reflexes vary from one dialect to another) is regularly extended to words ending in [ɛ] in the singular. In many cases, this means a replacement of the reflexes of the Latin ending *-ittu* by those of the suffix *-ëllu*, e.g. Gallo [navɛ] (< Lat. *nav + ittu*) 'turnip' pl. [navyaw]. Endings which never enjoyed suffix status in the language may also be affected, as in Plouguenast Gallo [2.3] [bale] (ModF *balai*) 'broom' pl. [balyaw].

This kind of reanalysis, however, often does not apply to monosyllabic words. This restriction is certainly related to the marked character of roots without a vowel (cf. Aronoff 1976: 91), which would be required here. Conversely, monosyllabic words in which the {/-ε/ (masc. sg.), /-yaw/ (masc. pl.)} alternation is historically expected, have often lost it and have replaced it with another of the productive plural markers, e.g., in Val-de-Saire Norman [1.4] the singular form *[vɛ] 'calf' has been replaced by [vyɑɔ], obtained by shortening of the final stressed vowel [ɑ:] of the plural [vyɑ:ɔ], as lengthening of a stressed vowel is another mark of the plural.³⁴

7. Stem leveling

One frequent simplification of the alternation between long and short stems consists in the elimination of one of the stems. This is perhaps the most frequent case.

In nouns and adjectives, the short stem is often generalized. As this is the stem normally found in the plural, the process is often referred to as a generalization of the plural stem (cf. Gilliéron 1887). This terminology is misleading, as it suggests that the plural is the unmarked case (cf. Tiersma 1982). It must be remembered that the short stem is used for both genders before a consonant. In particular, the invariable nouns [naw] 'Christmas' or [saw] 'salt' in Marais-Vendéen [2.5] correspond to a generalization of the short stem, which for semantic reasons must have been used seldom in the plural.

In verbs, on the other hand, the long stem is often generalized, e.g. Liège Walloon [4.2] [bat] '(I, thou, he) beat(s)' or [dwɛm] '(I, thou, he) sleep(s)'. Here again, it is the plural stem which is generalized, although it is marked (Mańczak 1958, Bybee 1980). There are other interpreta-

tions, though. For Bruneau (cf. his analysis of Eastern Dialects [5.1: 425]), the final consonants have simply never been deleted in these verbs. One could also argue that the reanalysis is a generalization of the infinitive stem, which probably is not marked, cf. Liège W. [bat] 'to beat' and [dwermi] 'to sleep'.

8. Changes in sandhi patterns

8.1 In the previous sections we have limited our observations to words in isolation or, more precisely, to words before a pause. We have seen how further phonetic evolution, paradigmatic regularization, and morphological reanalysis of word endings have changed the primitive Old French situation in which word-final consonants were all pronounced before pause.

We will now examine the evolution of sandhi patterns which have their origin in the early rules of consonant deletion and weakening. For this presentation, we will adopt a classification of sandhi in terms of the modification undergone by the prepausal form of a word when it appears in a given context in connected speech. This classification is, in principle, independent of the analysis that may eventually be adopted. This allows us to distinguish four types of sandhi:

- a) Consonant deletion: the final consonant of the prepausal form is deleted before a consonant, as in ModF *six garçons* [si garsõ] 'six boys' vs. *six* pronounced [sis] in isolation.
- b) Consonant liaison: a consonant appears before a vowel which is absent from the prepausal form, as in ModF *deux enfants* [døz ãfã] 'two children' vs. *deux* pronounced [dø] in isolation. We will further distinguish two kinds of liaison: a morphological liaison, when the consonant corresponds to a former inflectional ending, as in the case of plural [z] in *des petits* [z] *enfants* '(some) small children', and a stem liaison otherwise, as in *un petit* [t] *enfant* 'a small child'.
- c) Strict suppletion: the form found in connected speech is different from the prepausal form, and neither falls within one of the categories above, nor is the result of a regular phonological process.
- d) Proclitic alternation: this is a special case for proclitics, which as such are not necessarily found before pause.

This classification is ambiguous in part. In particular when we speak of liaison or of proclitic alternation, it is not always obvious whether a

linking consonant should be analyzed as belonging to the preceding word, as it did historically, or to the following one, or to neither. This ambiguity is frequent in the case of morphological liaison.

We will also ignore the cases of 'silent' segments, i.e. word-initial segments which have been lost, but before which the former sandhi patterns have been retained.³⁵

8.2 According to this classification, the original Old French sandhi patterns analyzed here were basically consonant deletions and marginally proclitic alternations.

Proclitic alternation, as a rule, is still very common in all Northern French dialects, although its scope may have changed; it will be examined in § 12. Consonant deletion, on the other hand, has disappeared in most of them or is limited to a small class of words (e.g. some numerals). One reason is the generalization of the short stem before pause. But even when the long stem is still used, consonant deletion usually disappears, e.g. *sac* [sak] in Modern French is now invariable. The only dialect where consonant deletion is still important, and for which we have enough information, is Marais-Vendéen which we will examine in § 9. Consonant liaison is expected wherever the short stem appears before pause without being generalized everywhere. The contexts in which consonant liaison is found in Modern French are rather complex, but relatively well known (cf. Selkirk 1974 and Morin - Kaye 1982). Consonant liaison is much more limited in the other dialects for which we have the relevant data: it is typically found (i) after verbs and (ii) after prenominal adjectives. After verbs, consonant liaison is always morphological. After adjectives, one may have either morphological or stem liaison. All possible combinations are attested, as appears in the following table:

Table 3

Context	Verb—Complement		Adjective—Noun	
	stem liaison	morph. liaison	stem liaison	morph. liaison
Paris	∅	+	+	+
Liège [4.2]	∅	+	∅	+
Bourberain [7.1]	∅	∅	+	∅
Ranrupt [6.3]	∅	∅	∅	∅
Marais-Vendéen [2.4]	∅	irrel.	irrel.	+

The only generalization which may exist but which does not appear in the table, is that stem liaison is regularly absent in dialects where adjectives normally precede nouns in a noun-phrase, as in Liège Walloon [4.2], in Gondécourt Picard [3.2] (the liaison patterns of which are similar to those of Liège), or in Ranrupt Lorrain [6.3]. In the other dialects where stem consonants are maintained, only a small set of adjectives regularly appear in prenominal position.³⁶

8.3 Before closing this introductory section on the various types of sandhi, which will be examined in more detail further below, we will add a few lines on sandhi with enclitics, which presents only minor problems.

Enclitics are rather few. After nouns and adjectives, one finds the demonstrative particle *-(i)ci* and *-là*, as in ModF *ce garçon-ci* 'this boy' or *ce livre bleu-là* 'that blue book'. After verbs, enclitics are slightly more numerous, but limited to imperative and interrogative forms, e.g. ModF *regardez-moi* 'look at me' or *que dit-il?* 'what does he say?'.³⁷

As a rule, the consonant preceding a vowel-initial enclitic has been reinterpreted as the initial consonant of that enclitic (enclitics typically have specific phonological shapes, often not derivable from their proclitic or non-clitic variants, cf. Morin 1979) and is no longer a liaison consonant. For instance, the enclitics *z-en* and *z-y* in imperative and *t-il(s)/t-elle(s)/t-on* in interrogative constructions in Parisian French can be analyzed as /zã/, /zi/, /ti(l)/, /tɛl/ and /tõ/, e.g. *vas-y* [va zi] 'go ahead' vs. *va-t'en* [va tã] or *parle-t-il* [parl ti(l)] 'does he speak?'. Similar reanalyses are found in a wide variety of dialects which otherwise totally lack liaison after verbs. The enclitic *-t-il* is frequently a simple interrogative particle which in some dialects is no longer necessarily attached to the verb, cf. Tourangeau [2.8: 501-2] *et iou-ti qué j' l'ais mis* 'where did I put it' or *qui-ti qu'a pu fée ça* 'who may have done that'.³⁷

9. Consonant deletion

Marais-Vendéen [2.5] has to a large extent preserved the Old French rule of consonant deletion. Thus, the final [t] of *petit* is pronounced before pause, as in [l ɛ ptit] 'he is small' and before a vowel, but is deleted before a consonant, as in [pti pulan] 'small colt'. Consonant deletion con-

tinues to apply anywhere in connected speech, as we postulated for Old French. We give below some examples showing consonant deletion in different syntactic contexts:

Table 4

Adj — Noun	ɛ pti pulan	'a small colt'	cf. ptit	'small'	before pause
Noun — Adj	ɛ ša nwɛr	'a black cat'	cf. šat	'cat'	id.
Adj — PP	l ɛ sur km ɛ pɔt	'he is dumb like a "pot"'	cf. surt	'dumb'	id.
Noun — PP	ɛ he d kart	'a deck of cards'	cf. heyt	'game, deck'	id.
Verb — NP	lɔ mǎžã do patat	'they are eating potatoes'	cf. lɔ mǎžãt	'they are eating'	id.

A close examination of the examples published by Svenson reveals no cases of consonant deletion between a subject and a following verb; in the few pertinent sentences, the final consonant is retained, e.g. [lɔ šat m at egrosinay] 'the cat scratched me' [2.5: 160]. This does not necessarily mean that consonant deletion is impossible in such a context. Whenever speakers slow down, or make a slight pause, consonant deletion is regularly suppressed; for instance [ɛ heyt d kart] is a slow speech variant of [ɛ he d kart] noted in table 4.³⁸ It is therefore not excluded that the few published examples of consonant retention after the subject were obtained in slow speech.

But this is where the comparison with Old French stops. Whereas consonant deletion in Old French could be given a simple phonological interpretation, this is no longer possible in Marais-Vendéen. Consonants which were followed by a final unstressed *e* now are completely stable. For instance, the feminine *petite* 'small' has the same pronunciation [ptit] before pause as the masculine *petit*, but is stable before a consonant as in [ptit fœλ] 'small girl'. This is apparently also true of some of the consonants which were word-final in Old French, e.g. all occurrences of [bɔrk] 'village' retain the final [k] before another consonant in the published material.³⁹ Furthermore, final [s] is always lost before pause; and, as we have seen, some of the word-final consonants of nouns and adjectives have been given a new morphological interpretation as masc. sing. suffixes.

One synchronic analysis of the data is the following: the rule of consonant deletion is still active in Marais-Vendéen, but applies to a set of specific words and affixes which includes the masc. sing. suffix /-t/

(and probably /-k/, when it is still a masc. sing. suffix), the 3rd pers. suffixes /-t/ and /-āt/, the adverbial suffix /-t/ (which we will not discuss here), and some specific words such as /nef/ 'nine', /tröp/ 'too much', etc.

Under another analysis, each of these suffixes or words has two suppletive variants with and without the final consonant (in particular a \emptyset variant for the suffixes /-t/ and /-k/) whose distribution is phonologically determined. It is difficult to see how this last analysis could be empirically distinguished from the first one. It must be noted, however, that the suppletive variant or the preceding bare stem does not necessarily exist elsewhere in the paradigm. For instance, the bare stem [ša] of *chat* 'cat (sing.)' is distinct from the plural stem [ša(:)].⁴⁰

Unlike Marais-Vendéen, most dialects in our corpus have retained only a few of the original cases of consonant deletion. In Modern French, for instance, it is often limited to the cardinals *cing* 'five', *six* 'six', *huit* 'eight', and *dix* 'ten', and even in these words, the final consonant tends to be pronounced in all contexts, thus *huit garçons* is [wi garsõ], but may be pronounced [wit garsõ] as soon as there is a slight pause between the cardinal and the following noun or the speaker slows down, just as is reported for Marais-Vendéen. To some speakers, the pronunciation without consonant deletion is even the favored one.⁴¹

Furthermore, consonant deletion in Modern French is not as general as in Marais-Vendéen. It is usually limited to some very specific syntactic contexts, viz. when the numeral is followed by a noun or an adjective in the same noun-phrase. Elsewhere the final consonant is pronounced, e.g. *le huit de pique* [lœ wit dø pik] 'the eight of spades'.

10. Morphological liaison after verbs

Liaison after verbs is always morphological. Historically one would expect [z] after 1st and 2nd persons and [t] after 3rd persons (with some restrictions depending on the class of the verb and on the tense). Speakers of Modern French show considerable variation, and in particular do not make the person distinction consistently (cf. Morin - Kaye 1982: 323-326).

Walloon, in particular Liégeois W. [4.2-4.4], is the only other Northern French dialect in our sample for which morphological liaison after

verbs is noted. In Liégeois, one also expects [st] to be a consonant liaison after some 3rd person singular verbs, in particular after *est* '(it) is', because non-final [s] codas were not weakened in this dialect (cf. § 1.2). As the copula *est* is often cliticized onto the following word (cf. Ågren 1973: 39), it is more stable and more frequent than the other liaison consonants after verbs. It is not surprising then that [st] replaces not only 3rd person liaison consonant [t], but also first and second person [z]: Argenteau [4.4: 71] *i sont-st-èwèrés* 'they are surprised', *quand vz-alez-st-al cève* 'when you go to the cellar', *dj'aveûs-st-eune cusène* 'I had a cousin', Liège [4.2: 613] *nos beûrans-st-ine botèye* 'we'll drink a bottle'. Although less frequent, [t] is also used for 1st or 2nd persons. In the only example we have, the liaison occurs after enclitic 'n 'we': Argenteau [4.4: 73] *èstons-n' [t] à pon.ne passés* 'hardly had we passed'. The data are too scarce, however, to permit any other generalizations.

11. Plural liaison after nouns and adjectives

Plural liaison is regularly found after prenominal adjectives, but is absent in certain dialects, e.g. Ranrupt Lorrain [6.3] [di byε a:p] 'beautiful trees', Bourguignon Bourberain [7.1] [le bεl a:br] 'the beautiful trees'.⁴²

Modern French is one of the few dialects for which plural liaison is attested after nouns. This liaison is always optional. Gougenheim (1938: 59-60) and Morin - Kaye (1982: 320-323) argue that it must be interpreted as an optional plural prefix attached to the following adjective or adjective-like expression. For instance, many speakers have different agreement patterns for *z-anglais* 'English (pl.)' in *un marchand de draps z-anglais* 'a merchant of English cloth' and in *des marchands de draps z-anglais* 'merchants of English cloth' or 'English merchants of cloth'. The plural adjective *z-anglais* can only refer to a plural head, and hence not to (*un*) *marchand* in the first noun-phrase.

12. Proclitic alternations

The distinction between consonant deletion and consonant liaison does not apply to proclitics such as *en* 'in' or *mes* 'my (pl.)' which cannot appear before pause. Some proclitics have enclitic or non-clitic variants

which do, e.g. *nous* 'we/us' is proclitic in *il nous voit* 'he sees us', enclitic in *regarde-nous* 'look at us', and non-clitic in *avec nous* 'with us'. For such clitics, the historical sandhi types could be classified as consonant deletion or consonant liaison. We have decided to analyze all proclitics together, as it appears that the other variants, when they exist, have had limited influence on their evolution.

Proclitic alternation is relatively stable in all dialects of Northern French, and changes are relatively minor. For instance, the preconsonantal variant [ɔ̃] of *on* 'one/we' has been generalized before vowel in some dialects of Québec (cf. Morin 1982a). Analogical modifications have been made on the model of other proclitics: [z] is often added to the prevocalic variant of *à* 'to', *pour* 'for', *on* 'one/we', [l] after the prevocalic variant of proclitic *ça* 'it' (cf. Morin 1982a). Such analogical changes are not restricted to alternations resulting from consonant deletion or weakening in Old French, but may affect all alternations, whatever their historical sources. For instance [n] has been added more or less regularly to the possessives [no] 'our', [vo] 'your' and [lø] 'their' before singular nouns in various dialects of Picard [ɔ̃] on the model of *mon* 'my', *ton* 'thy' and *son* 'his', e.g. in Hollain [3.3] [løn ɛglis] 'their church' vs. [lø fil] 'their daughter' and [lø z afā] 'their children'. Conversely Bourberain [7.1] extended the pattern of *notre* 'our' and *votre* 'your' to *leur*; thus [lot] 'their (sg.)' is used both before vowels and consonants, while [lo] and [loz] 'their (pl.)' are used before consonants and vowels respectively.⁴³

The changes in the distribution of proclitics are not necessarily generalizations of consonant deletion or liaison. The innovative form [lot] 'their (sg.)' in Bourberain before both vowel and consonant initial nouns and adjectives shows that these operations did not constitute the model for the analogy. Rather, the changes in the form of proclitics conform to existing and syllabically arbitrary patterns found with other proclitics.⁴⁴ This may also explain why proclitic alternations are often extended to consonants that became final after apocope of unstressed final *e*. In many dialects (except perhaps in the Eastern and Belgian dialects), clitic subject *elle* 'she', determiners *celle* 'this (fem.)' or *telle* 'such (fem.)' have lost their final [l] before a consonant, e.g. Marais-Vendéen [2.5] [ča šūsəŋ] 'this song' vs. [čal ũr] 'this hour'. Similar generalizations of consonant deletion or liaison to consonants that became final after the loss of final unstressed *e*, on the other hand, are not noted in our corpus, and, for instance, Marais-Vendéen [in bəl fam] 'a beautiful woman' did not become *[in bɛ fam].

13. Plural ^{prefix} ~~suffix~~ [z]

13.1 The fact that proclitic alternation is relatively stable does not mean that proclitics are not morphologically interpreted. Some of the generalizations mentioned, on the contrary, indicate that some sort of reanalysis has taken place, although the morphological interpretation of the changes is not always obvious.

After plural proclitic determiners, the consonant [z] is almost always found before a vowel. This consonant historically was a plural suffix attached to the preceding determiner, and has regularly been extended to determiners that lacked it. The possessive *leur* 'their' was originally invariable, and still is in some dialects, e.g. Ranrupt Lorrain [6.3] [zyo: efõ] 'their child/children'; [z] has often been added before a vowel, e.g. ModF *leur enfant* 'their child' vs. *leurs [z] enfants* 'their children'. Similarly, [z] is frequently noted after numerals, e.g. in colloquial ModF *quatre [z] enfants* 'four children'.⁴⁵

Although [z] after plural determiners never ceased to be a plural marker, it may have changed status from that of a suffix attached to the preceding determiner to that of a prefix attached to the following noun or adjective. In particular [z] can be heard in spontaneous speech after prepositions which govern nouns without determiner, e.g. ModF *c'est quoi comme [z] arbres?* 'what kind of trees are they?' vs. *c'est quoi comme arbre?* 'what kind of tree is it?', where one may not want to say that the preposition *comme* is now marked for number.⁴⁶

Interdialectal generalizations also favor this interpretation. A plural [z] before nouns is not only found after determiners but also after prenominal adjectives; it is possible that it has the same function in both cases. It is interesting to note that the dialects in our corpus without plural liaison after prenominal adjectives are precisely those where [z] after determiners has not been generalized – and thus where [z] cannot be a prefix attached to the following noun. This is true in Ranrupt Lorrain [6.3], where *leur* 'their' is not followed by [z] before a plural noun, and in Naissey Comtois [8: 80–83], where [z] liaison is rare after adjectives and has disappeared after the numeral determiners *deux* 'two', *trois* 'three', *six* 'six', and *dix* 'ten'.⁴⁷

In Marais-Vendéen, plural liaison constitutes a unique class. As shown previously, this dialect has retained consonant deletion. Plural [z] after adjectives would therefore constitute the only case of consonant liaison in the language, and appears to be better analyzed as a prefix together with plural [z] after proclitic determiners.

13.2 It is sometimes argued (cf. Tranel 1981: 217) that plural [z] after determiners should be analyzed together with the consonant [z] also found after some plural clitic pronouns, e.g. after *vous* 'you (pl.)' as in *vous [z] arrivez bien* 'you arrive at the right time' or *il vous [z] aime* 'he likes you (pl.)'. The historical changes that have occurred in various dialects indicate that [z] liaison after proclitic pronouns is not necessarily interpreted as a plural marker. Whereas [z] has regularly been added to OF *il* 'they' (now spelt *ils*) before a vowel in Modern French, as in *ils [z] arrivent* 'they come' and sometimes after *leur* (which is socially stigmatized) as in *il leur a donné* [lœr z a dɔne] or (older) [i lœ z a dɔne] 'he gave it to them', this change is not found in most dialects of our corpus which have nonetheless generalized plural [z] after determiners. On the contrary, [z] is frequently generalized after singular proclitic pronouns, e.g. after indefinite *on* 'one' (Val-de-Saire Norman [1.4: 72] or Liège Walloon [4.2]; conversely, [z] has often been lost after plural proclitic *nous* 'we/us' and *vous* 'you' (Tourangeau [2.8: 469], Plouguenast Gallo [2.3], Morvan Bourguignon [7.3 and 7.4: 139]), after the pronoun *les* 'them' (Lorrain Ranrupt [6.3: 19] – although it is still used after the determiner *les* 'the (pl.)'). In Bourberain Bourguignon [7.1: 95–96], [z] has been lost after *vous* 'you (pl.)' when it is object, but not when it is subject.

Actually, this hypothesis is morphologically vague. The plural feature which is supposed to trigger the appearance of [z] has different values in different proclitics. An analysis such as Tranel's should specify exactly which plural is involved: for instance ModF *notre* in *notre emprisonnement* 'our jailing' – which is not followed by [z] – is certainly as "plural" as *nous* in *il nous [z] emprisonne* 'he jails us'.

14. Stem liaison after adjectives or suppletion?

Consonant liaison, according to the definition used here, will be found whenever the short stem appears before pause, but not everywhere. In all the dialects we have examined, the short prepausal stem has been generalized almost everywhere, and the long stem is often restricted to a rather small set of syntactic contexts and idiomatic expressions. This contrasts with consonant deletion in Marais-Vendéen which has not been syntactically restricted, although it also is limited to a small set of lexical or grammatical items. The difference is easy to account for if one

assumes that the prepausal form of a word tends to be interpreted as the basic stem (cf. Venneman 1974: 364). The choice of new basic stems may even cause reanalyses in constructions where no changes seem to have occurred, viz. when a long stem is used before a vowel. We will show here that the long stem of a word subject to consonant deletion does not have the same status as the sequence adjective plus consonant liaison; in other words, although *petit enfant* appears to be identical in Modern French and in Marais-Vendéen, for instance, it has a different analysis in each dialect.

We will not consider here plural liaison, where reanalyses may also have been influenced by plural proclitics. It is abundantly clear that plural and stem liaisons, although both are mostly found after prenominal adjectives, are independent in dialects such as Liège Walloon [4.2], which contrasts historically identical adjective-noun pairs, as *on gros âbe* [ɔ̃ grɔ ɔ:p] 'a big tree' vs. *dès gros-âbes* [dɛ grɔ zɔ:p] '(some) big trees', on the basis of synchronic morphological differences. This may also be the case in other dialects, where the distinction is not so obvious.

Stem liaison is mainly found in dialects where adjectives are normally post-nominal (this is less true for Parisian French, cf. Waugh 1976), and in which the number of adjectives marked for stem liaison is relatively limited. Stem liaison could therefore be analyzed as a special case of suppletion, also frequent in the same dialects in masculine adjectives which ended in [i] or [λ] in Old French. These adjectives may have up to three different forms, and usually have two. The suppletive bound forms in prenominal position often also appear in morphologically related free forms. In Jersiais [1.2] the masc. sing. adjective [bɛ] 'beautiful' has two suppletive bound forms, [bɛl] before a vowel and [bjow] before a consonant, which are respectively identical to the fem. and the pl. masc. free forms. In Parisian French *beau* [bo] has only one suppletive form before a vowel: *bel* [bɛl], which is identical to the feminine form.

In a suppletive analysis of stem liaison, *petit* 'small (masc.)', for instance, could be analyzed as having both a free stem [p(ə)ti] and a bound one [p(ə)tit] (here also, it is identical to the feminine, but this is not always the case, cf. *grand* 'big' free masc. [grɑ̃], bound masc. [grɑ̃t], fem. [grɑ̃d]). The suppletion analysis implies among other things that the original basic stem (found before pause) survives as a bound suppletive stem, and has not been internally reanalyzed, i.e. has the same status as words subject to consonant deletion.

Some support for the suppletive analysis may be derived from a very formal style of speech, in which any individual word may be pro-

nounced without enchaînement to the following one. In such formal speech, a liaison consonant may be phonetically part of the preceding word and separated from the following one by a (usually slight) glottal stop, e. g. *un grand ethnologue* [grāt ʔetnɔlog] 'a famous ethnologist'; this is what Encrevé (1983) accurately describes as a liaison without enchaînement.⁴⁸ Among the words that this kind of formal speech isolates, one finds precisely the bound stems predicted by the suppletive analysis. Still, it is not obvious how liaison without enchaînement can contribute to the understanding of regular discourse. As noted by Encrevé, this manner of speech – mannerism, Ternes has called it – appears to be recent and restricted to very formal discourse. It is almost unknown in Québec, for instance, and strikes Québec residents as strange when they hear it in French radio or television programs. If this is a recent style of speech, liaison without enchaînement will not contribute to the understanding of the evolution of other dialects, unless it can be shown to be inherited from some of them.⁴⁹

Actually, the suppletive analysis poses some problems. The liaison consonant after a masculine adjective does not necessarily behave like that of the final consonant of a "genuine" suppletive bound form. Speakers may choose to make a slight pause at the end of an intonation group, usually for stylistic purposes (actually, this phenomenon is even observed when no actual pause is noticed and should be subsumed under the same general heading as 'lack of enchaînement'; here we will use the term 'pause' for ease of exposition). While Encrevé's study concentrated on liaison consonants which may appear before the pause in the absence of enchaînement, it is also possible for the liaison consonant to appear after the pause – actually this latter kind of lack of enchaînement may even be more frequent than the former. It is not the case, however, that the final consonant of words, including the final consonant of "genuine" suppletive stems, may be separated from the rest of these words to appear after the pause. Thus (if we use the symbol [|] to represent this kind of intonation break with pause), the [t] liaison after *petit* may be joined to the following vowel after the pause in *un petit homme* [œ pti | tɔm] 'a small man'. On the other hand, the final [t] of the word *petité* or the final [l] of the suppletive form *bel* must necessarily appear before the pause, as in *la petite histoire* [la ptit | istwar] and not *[la pti | tistwar] 'the small story', or in *un bel homme* [œ bɛl | ɔm] but not *[œ bɛ | lɔm] 'a beautiful man'.⁵⁰

This difference is probably responsible for some of the distinctions between masculine and feminine forms noted in a variety of Québec

French by Walker (1980), where the feminine form of *petit* [ptɛi] 'small' contains a lax [ɪ] not only before pause, as in *elle est petite* [ptɛ,ɪt] 'she is small' but also before nouns as in *petite amie* [ptɛ,ɪtami] 'small friend (fem.)' unlike the masculine form before a consonant liaison, as in *petit ami* [ptɛ,ɪtami] 'small friend (masc.)'. It is not impossible that similar distinctions exist in Parisian French. In *longue histoire* 'long story (fem.)' the [ɔ̃] of *longue* is probably often longer than the one in *long* [g] *hiver* 'long winter (masc.)', but this should be verified.

The suppletive analysis also makes it difficult to account for some recent changes in the phonological form of some adjectives before a liaison consonant. For instance, in Modern French the former liaison [k] after *long* 'long' is now obsolete and is sometimes replaced by [g], the final consonant of the fem. stem *longue* [lɔ̃g].⁵¹ Such a change could easily be explained as a switch in which the fem. stem replaced the masc. bound one (with the possible objections raised above about phonetic differences between the two vowels [ɔ̃]). Other changes, however, are often made in the opposite direction. A former masc. bound stem may be modified – although it was similar to the feminine stem – and take a new form which does not correspond to any of the previous morphological variants of that stem. The (probably) original bound masculine stems [ɑ̃syɛn] and [dɛrnyɛr] of *ancien* [ɑ̃syɛ] 'former' and *dernier* [dɛrnyɛ] 'last' in Parisian French were identical to the feminine ones, they nonetheless tend to be pronounced [ɑ̃syɛ] plus a liaison [n] and [dɛrnyɛ] plus a liaison [r]. The proper generalization for all these innovations is that a prenominal masculine adjective tends to keep its prepausal form, and that the liaison consonant may be influenced by the last consonant of the feminine stem, and not that the prenominal adjective plus the following liaison consonant constitutes a bound suppletive form.

15. Conclusion

In this survey of the results of the evolution of Old French word-final consonants in the various dialects of Northern French, we have seen how a series of simple phonetic processes have been progressively modified as a consequence of morphological reanalyses and further phonetic losses. In particular, we have seen that there are no reasons to believe that all consonants have been phonetically lost before pause in many dialects, nor that their current retention is due to a learned restoration.

The original sandhi patterns of Old French were the consequences of general rules applying to the whole utterance. In all the dialects surveyed, the sandhi patterns have been morphologized when they were not limited to lexicalized expressions. The prepausal form in which a word will eventually survive – whether this is the consequence of phonetic or morphological processes – appears to a large extent to determine its evolution. The distinction between consonant deletion and consonant liaison that we have introduced is more than terminological. A word-final consonant subject to deletion has a different status in the grammar from that of a liaison consonant. For instance, it remains in slow speech or before a pause even when a consonant follows, as in *huit* [w̃it |] *garçons* ‘eight boys’; on the other hand, this does not normally happen to liaison consonants, as in **un grand* [grāt |] *garçon* ‘a big boy’ (except rarely in the formal style of speech which allows liaison without enchainement). Proclitics, which as a rule do not appear before a pause, have had an evolution typically different from that of other words. Finally, we have seen that while plural liaison [z] may acquire a special status in the grammar of a specific dialect, this is not a direct consequence of its inflectional status – the same reanalysis did not apply to morphological liaison after verbs – but rather the result of historical conditions favoring plural inflections after proclitic determiners.

This survey constitutes a first step in the research program advocated by Long (1978) to understand the nature of liaison in French and to help decide which of the formal mechanisms – consonant deletion, consonant epenthesis, or suppletion – is best suited in each specific case. It must now be evident that one cannot interpret any dialect without a full knowledge of its history: although the non-etymological [t] liaison found in Saintongeais [2.9] in constructions such as *un vrai-t-âne*, may at first be thought to be simply a grammaticalized “false liaison” (i.e. the generalization of a process of consonant epenthesis), there are reasons to believe – as we have tried to show here – that it is the result of two distinct historical processes: a morphological affixation of sing. masc. [t], which was automatically subject to regular consonant deletion.

Notes

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1. Our usage of the word “stem” may appear to imply a morphological analysis in which

the final [d] of *chaude* [šod] is not an inflectional suffix, which we do not necessarily want to defend. We use it principally for convenience.

2. Cf. Schane (1969), Selkirk (1974).
3. Cf. Klausenburger (1978), Tranel (1981), Morin – Kaye (1982), Morin (1983 a).
4. Cf. Long (1978).
5. A list of the sources that we consulted is found in the appendix at the end of this paper. Dialects mentioned in the text will be followed by a number which refers to these sources, as listed in the appendix.
6. The distribution of the palatal sonorants [ɲ, λ], is the same as that of the extrasyllabic consonants to be discussed directly; in particular they are only found in word-final position. Still their historical evolution is similar to that of the other sonorants, with which we classify them here. In word-internal codas, palatal sonorants changed point of articulation, to become identical to one of the other sonorants, and did not delete as did extrasyllabic consonants.
7. This expression may have more or less different meanings. Here an extrasyllabic consonant refers to one consonant in word-final position that could not have been a coda word-internally (palatal sonorants will not be considered extrasyllabic, however, as mentioned in the previous note).
8. In Early Old French, syllables could also contain another *s* or *z* [c] after the sonorant coda or after the nucleus, e.g. *juzt* ‘he judges’, *colzt* ‘he lays down’, *cersne* ‘round’, *hanst* or *hanste* ‘pole’. These were soon to become *s* after a vowel, e.g. *just* or to disappear after consonant, e.g. *cerne*. We will not be concerned either with the complete loss of fricative [θ, ð] or with that of word-final nasal after [r], as in *jorn* ‘day’ or *verm* ‘worm’, which may be completely phonological. Finally, we will also ignore the case of geminate consonants, not only [rr, ll, mm, nn] (which conform to the general syllabic pattern and have survived in Modern French in only a few cases (cf. Morin 1979), but also obstruent geminates, if they existed (cf. Fouché 1966: 803).
9. For instance, we know that Catalan has reduced Latin consonant clusters and geminates, e.g. *nepta* > *nète* or *gütta* > *güte*, but has reintroduced them later after vowel syncope, e.g. *dübito* > *düpte* or *dütte* (cf. Fouché 1924: 138, 163). French may have had similar developments, further followed by other reductions of consonant clusters and geminate obstruents.
10. Flexional *s* and *t* had various functions in Old French. They have left traces in the modern dialects mostly when they were (i) plural markers for nouns and adjectives (viz. *s*), and (ii) 2nd pers. [later also 1st pers.] sg. present indicative (viz. *s*) and 3rd pers. sg. present indicative (viz. *t*) markers for 2nd, 3rd and 4th conjugation verbs.
11. This kind of development is found for instance in the Francoprovençal dialect of Saint-Martin-la-Porte [9.2] and affects equally word-final [r], [l], and [λ].
12. Or an extension of the domain of word-final truncation in an analysis such as Schane’s (1968).
13. Actually final *t* is often retained in Poitevin, while it should be phonetically lost in all sociolects, according to Fouché.
14. The forms [nik] ‘nest’ and [nøk] ‘knot’, also frequently found in Gallo-Romance, may be the reflexes of *[nikə] and *[nøkə], derived from **nidicāre* ‘to nest’ and **nodicāre* ‘to knot’. The presence of a final [ə] would explain the retention of final [k], but is most unlikely in Marais-Vendéen as we will see.

15. Final [t] for 3rd pers. pl. verbs in Picard, e.g. Gondecourt [i kært] 'they run' or [i di:t] 'they say', is not necessarily a simple retention of Old French final *t*, as in Vendéen. A paragogic *e* probably developed after *-nt* (cf. *Atlas Linguistique de la Wallonie* [4.2 vol.2: 104, 308]), followed by an assimilation of *n*: *-nte* > *-tte*, and finally a reduction to *-t* before pause after final unstressed *e* disappeared.
16. The consonant [r] is also deleted before [n] as in Lat. *fūrnū* > [fu] 'oven' or Lat. *hibernū* > [ive] 'winter'. In the plural, [r] regularly remains: [fur] and [ivyer].
17. Fouché (1966: 783) assumes that while [r] is preserved before most final consonants, it is phonetically lost before [s]. This is certainly not true in all dialects.
18. We note for instance in Saint-Martin-la-Porte, that final [r], [l] and [λ] are all neutralized to [ø]. A similar neutralization may have occurred in Jersiais, and final [ð] (or whatever the reflex of these liquids was) was identified as an allophone of /r/ even in some of the words where it was not a reflex of [r]. This kind of evolution would also explain the modern reflexes [vyer] 'old (sg.)' in prenominal position before a consonant as in [vyer garsø] 'bachelor' or the present sing. form of *vouloir*, cf. [i vœr] 'he wants' vs. [i vœl] 'they want'.
19. As we mentioned in note 14, the final [k] of [nik] 'nest' may be etymological. This would be an example of retention of a former alternation.
N.B.: The etymon, however, cannot have been *[nikə] with a final [ə], for this would have prevented the loss of final [k] in the plural.
20. Svenson's data are sometimes difficult to interpret. Absence of a specific form for the plural in his dictionary may mean that it was not elicited, or that the word is invariable. The latter interpretation is the most likely and has been adopted here.
21. In Guernesiais the number opposition has often been leveled in nouns ending in [p], [t], and [f]. Nonetheless, it still is regularly preserved in the words *nuit* 'night (fem.)' and *lit* 'bed (masc.)'. This is probably due to the special phonetic developments that gave different qualities to the vowels in the two stems: [nɛt] 'night' pl. [ni:], [yɛt] 'bed' pl. [li:].
22. Similar facts have been noted in Saintongeais [2.9.1: cf. *bet* p.332; and 2.9.2: 230-231], in Cellefrouin and in adjacent Northern French dialects [10.2: 287, 313].
23. Cf. the reflex of the same etymon: [aya] (name of a dish, masc.) and [ayat] 'partly cooked (masc. and fem.)'.
24. This noun is now feminine in the dialect.
25. Idem.
26. Idem.
27. The change of final [p] to [k] may appear to be statistically significant. This is due to the paucity of stems ending in [p].
28. Similar adjustments should not be possible in Aiript where feminine nouns and adjectives normally end in unstressed [ə].
29. Fouché (1966: 679) sees in the retention of final [t] in the word *dot* [dɔt] 'dowry', the cause of its becoming feminine in the 17th century.
30. The analogical changes noted in Québec French in verbs such as *il joue* [i žu] 'he plays' vs. *ils jouent* > [i žuz] 'they play' (cf. Reighard 1980, Morin 1983 b) and probably in Tourangeau [2.8: 495], where a final [z] or [s] has been extended partly on the model of *il lit* [i li] 'he reads' vs. *ils lisent* [i liz] 'they read' - but not throughout the paradigm, cf. *il jouait* [i žwe] / *[i žuze] vs. *il lisait* [lize] - and the many cases where a final consonant [s, š, ž] has developed as a subjunctive marker, e.g. in Picard, Walloon, or Vendéen, are strictly speaking outside the scope of this study. The initial alternations from which

these consonants have been generalized are not the result of the syllabic deletion rules we discuss here.

31. Cf., however, Bauche (1928: 252b) who notes a masculine [tye] for *tiède* 'lukewarm' fem. [tyed].
32. Similar reanalyses are found in Melleville Picard [3.1] for [kudr] 'to sow' and in Gondecourt Picard [3.2] for [mud] 'to milk'. These reanalyses are relatively rare. Usually the infinitive-future stem is generalized to all persons.
33. The same alternations are well documented in Val-de-Saire Norman [1.4], and more generally in Lower Normandy, including the Anglo-Norman islands [1.1: 64].
34. Similarly, Val-de-Saire [1.4] has [syɑɔ] instead of expected *[se] 'bucket'; Guernesiais [1.3] has [vyo] 'calf' pl. [vyo:] (the plural of [se] 'bucket' - which has survived in this island - however, is not given); Jersiais has [syo] 'bucket' pl. [syow].
In some cases, the plural form has simply been extended to the singular without changes, e.g. Jersiais [vyow] 'calf/calves' or Pléchâtel [2.2: xcix and 179 b] [vyaw] 'calf/calves'.
35. The best known case is *h aspiré*. One also finds a silent [(g)w] in Gondecourt [3.2: 60], and a silent [θ] in the Francoprovençal of Saint-Martin-la-Porte [9.2]. Less known are the cases of silent vowels, e.g. silent [a] in [nɑ:] 'lamb' in Marais-Vendéen [2.5], which triggers plural liaison, cf. [ptiznɑ:] 'small lambs', or the silent [e] of *tait* 'was' in many dialects of Northern French, cf. *Pierre tait content* 'Pierre was happy' vs. *on [ɔn] tait contents* 'we were happy', with a consonant [n] after *on* normally found only before a vowel.
36. For Modern French, however, cf. Waugh (1976) for instance.
37. Such reanalyses are not limited to dialects where the final consonants are lost before pause but can also be found in Marais-Vendéen [2.5: 67].
38. There is no reason to believe that this kind of suppression did not exist in Old French; it would explain the spellings found in the texts.
39. Although we cannot rule out slow speech in the absence of specific comments by Svenson.
40. The opposition between /a/ and /ɑ/ is phonemic in the language (/a/ is realized as the short vowel [a], /ɑ/ as the long vowel [ɑ:] under stress, [a] elsewhere): [šas] 'hunt': [šɑ:s] 'coffin', [šapeɑ] 'hat': [šateɑ] 'castle'. The plural of [ša nwer] 'black cat' should be (the constructed form) [ša nwer], cf. the unstressed variant of [gɑ:] 'boy' before adjective in [ē ga faʎi:] 'a sickly boy'.
41. The numeral *vingt* 'twenty' has two pronunciations before pause [vɛ] and [vɛt]. Final [t], however, is not used before consonant, even after a pause or in slow speech, by the speakers that we have observed.
42. We do not consider here dialects where intervocalic [z], including the liaison [z], has been lost, as in some Morvan dialects [7.4, vol.2: 467] and [7.2: 256].
43. The same kind of analogical change is found in Marais-Vendéen [2.5: 60] for instance: [lüt ga:] 'their son', [lütr uvra:ž] 'their work', [lü do:y] 'their fingers' and [lüz ɔrʎey] 'their pillows'.
44. Cf. also Francard - Morin (1986: § 8) for similar generalizations in proclitic alternations in Walloon.
Another well known case, although little discussed, is the generalization of final [t] in *vingt* 'twenty'. Although the distribution of the two stems of *vingt* is regular before nouns and adjectives, e.g. *vingt garçons* 'twenty boys' vs. *vingt [t] ans* 'twenty years', [t] (or its nasalized variant [n]) is regularly found in higher cardinals before consonants,

- e.g. *vingt-trois* [vɛ̃trwa] or [vɛ̃trwa]. In this case [t] has probably been regularized on the model of *trente* 'thirty', *quarante* 'forty', etc. This kind of regularization is found in dialects where final [t] of *vingt* is pronounced before pause, as in Liège [4.2], where it is not, as in Marais-Vendéen [2.5] and where it is variable, as in Paris.
45. This is explicitly noted in the description of Marais-Vendéen [2.5], of Vouvant Vendéen [2.6], of Liège Walloon [4.3: 630], but may exist even where it is not noted as in Gondécourt Picard [3.2], where no analogical [z] liaisons are mentioned in the description of numerals [p. 59], although they appear in the texts, e.g. *quatre* [z] *éléments* [p. 259 b].
46. Cf. Noailly-Le Bihan (1982) for a description of innovative constructions with such prepositions, after which we frequently find plural [z], e.g. *version* [z] *années soixante* 'as in the sixties'.
47. The data for Bourberain Bourguignon [7.1] are difficult to interpret. No variants are noted by the author for *deux* and *trois*, which may mean here also that [z] has been lost before a vowel.
48. This phenomenon, alluded to briefly in Ågren (1973: 25), Ternes (1977: 45, note 42), and Morin - Kaye (1982: 299-300), has been the object of intensive research by Encrevé (1983). In our own observations (Morin - Kaye 1982), liaison without enchaînement never involved plural liaisons. We hypothesized that this was to be correlated with the difference between stem and plural liaison. Encrevé's observations show that this is not the case; liaison without enchaînement, therefore, offers no additional support for the distinction we are making between stem and plural liaison.
49. The usage of a final [t] in *quand* 'when' before a consonant, which Encrevé (1983) classifies together with liaison without enchaînement, as in *quand* [t] *vous viendrez* 'when you arrive', however, appears to be older and is very common in colloquial speech (we have observed it long ago not only in Paris, but in Brie, Saint-Etienne (Loire), and in Québec).
50. In that sense, the prenominal variants [bɔ̃], [ɑ̃syɛn], or [dɛrnyɛr] of *bon* 'good', *ancien* 'former', or *dernier* 'last' before vowel - and more generally of adjectives where stem liaison is accompanied by a change in the quality of the preceding vowel - correspond more closely to "genuine" suppletive forms, as lack of enchaînement between the vowel and the final consonant appears to be difficult without changing the quality of the preceding vowel, as we will see later.
51. Similar substitutions are attested in other dialects, e.g. in Bourberain Bourguignon [7.1] the new feminine ending of [ʒɑ̃titʰ] is also used as the consonant liaison of *gentil* 'nice' as in [le ʒɑ̃titʰ ɑ̃fɑ̃] 'the nice children (masc. pl.)'.

Appendix

Dialects surveyed

- [1] Norman
 [1.1] Anglo-Norman (general)
 Brasseur, Patrice
 1978 'Les principales caractéristiques phonétiques des parlers normands de Jersey, Sercq, Guernesey, et Magneville (canton de Bricquebec, Manche)', *Annales de Normandie* 28 (1): 49-64 and 28 (3): 215-303.

- [1.2] Jersiais (Anglo-Norman)
 [1.2.1] Le Maistre, Frank
 1966 *Dictionnaire jersiais-français* (Jersey: Don Balleine).
 [1.2.2] Spence, N. C. W.
 1960 *A glossary of Jersey-French* (Oxford: Blackwell).
 [1.3] Guernesiais (Anglo-Norman)
 Sjögren, Albert
 1964 *Les parlers bas-normands de l'île de Guernesey* (Paris: Klincksieck).
 [1.4] Val-de-Saire (Continental Norman)
 Lepelley, René
 1974 *Le parler normand du Val de Saire (Manche)* (Caen: Musée de Normandie).
- [2] Western dialects
 [2.1] General
 Massignon, Geneviève - Brigitte Horiot
 1971-1972 *Atlas linguistique et ethnographique de l'Ouest (Poitou, Aunis, Saintonge, Angoumois)* (Paris: CNRS).
 [2.2] Pléchéat (Gallo)
 Dottin, G. - J. Langouët
 1901 *Glossaire du parler de Pléchéat (Canton de Bain, Ille-et-Vilaine)* (Paris [1970. Genève: Slatkine Reprints]).
 [2.3] Plouguenast (Gallo)
 Hervé, Bernard
 1973 *Le parler de Plouguenast* [M.A. thesis] (Rennes, Université de Haute Bretagne).
 [2.4] Central-Western Vendéen.
 de la Chaussée, François
 1966 *Les parlers du Centre-Ouest de la Vendée* (Paris: d'Arthey).
 [2.5] Marais Vendéen
 Svenson, Lars-Owe
 1959 *Les parlers du Marais vendéen* (Göteborg, [distr.: Almqvist and Wiksell, Stockholm.]).
 [2.6] Vouvant (Vendéen)
 Rézeau, Pierre
 1976 *Un patois de Vendée. Le parler rural de Vouvant* (Paris: Klincksieck).
 [2.7] Angevin
 Verrier, A.-J. - R. Onillon
 1908 *Glossaire des patois et des parlers de l'Anjou* (Angers [1970. Genève: Slatkine Reprints]).
 [2.8] Tourangeau
 Davau, Maurice
 1979 *Le vieux parler tourangeau* (Tours(?): C. L. D.).
 [2.9] Saintongeais
 [2.9.1] Musset, Georges
 1929-1948 *Glossaire des patois et des parlers de l'Aunis et de la Saintonge* (La Rochelle: Masson Fils). [1977. Genève: Slatkine Reprints].

- [2.9.2] Doussinet, Raymond
1971 *Grammaire saintongeaise: Étude des structures d'un parler régional* (La Rochelle: Rupella).
- [2.10] Poitevin (general)
Pignon, Jacques
1960 *L'évolution phonétique des parlers du Poitou (Vienne et Deux-Sèvres)* (Paris: d'Artrey).
- [2.11] Île de Ré (Poitevin)
Aunis, Bernard
1966 *Études phonétiques sur les parlers de l'Île de Ré* (Université de Paris: D. E. S.).
- [2.12] Aiript (Deux-Sèvres) (Poitevin)
Pougnard, G.
1952 *Le parler «franco-provençal» d'Aiript* (La Rochelle: chez l'Auteur).
- [3] Picard
[3.1] Melleville
Vacandard, Jean
1964 *Glossaire picard de Normandie. Dialecte de Melleville, Canton d'Eu, Seine-Maritime* (Amiens: Musée de Picardie).
- [3.2] Gondécourt
Cochet, E.
1933 *Le patois de Gondécourt (Nord)* (Paris: Droz).
- [3.3] Hollain (Tournai)
Eppink, Fons
1973 *Le système flexionnel du parler de Hollain (To 87)*. [Licence thesis] (Louvain: Katholieke Universiteit Leuven).
- [3.4] Valenciennes
Dauby, Jean
1979 *Le livre du «rouchi»: parler picard de Valenciennes* (Amiens: Musée de Picardie).
- [4] Walloon
[4.1] General
Atlas linguistique de la Wallonie
1953-1976 Vol. 1 to 4 (Liège: Vaillant-Carmanne).
- [4.2] Liège (Liégeois)
Haust, Jean
1933 *Dictionnaire liégeois* (Liège: Vaillant-Carmanne).
- [4.3] Oreya and Liège (Liégeois)
Warnant, Léon
1969 *Esquisse pour un chapitre d'une grammaire structurale du wallon: le nombre. Mélanges offerts à Rita Lejeune* (Gembloux: Duculot).
- [4.4] Argenteau and Liège (Liégeois)
Jaminon, Jean
1979 *Phonologie du wallon liégeois: Cinq phénomènes de jointure* (Trondheim).

- [5] Walloon-Lorrain-Champenois boundary
[5.1] Bruneau, Charles
1913 *Étude phonétique des patois d'Ardenne* (Paris: Champion).
- [5.2] Bruneau, Charles
1913 *La limite des dialectes wallon, champenois et lorrain en Ardenne* (Paris: Champion).
- [5.3] Bruneau, Charles
1914-1926 *Enquête linguistique sur les patois d'Ardenne* (Paris: Champion).
- [6] Lorrain
[6.1] General
Richard, Jean
1983 *Les constrictives vélares et pharyngales des patois romans lorrains* (Travail d'Étude et de Recherche. Université de Nancy II).
- [6.2] Moselle Lorrain
Zéliqzon, Léon
1924 *Dictionnaire des patois romans de la Moselle* (Strasbourg: Istra).
- [6.3] Ranrupt
Aub-Büscher, Gertrud
1962 *Le parler rural de Ranrupt (Bas-Rhin)* (Paris: Klincksieck).
- [7] Bourguignon
[7.1] Bourberain
Rabiet, l'Abbé
1887-88-89 'Le patois de Bourberain', *Revue des patois gallo-romans* 1: 241-255; 2: 48-53, 181-186, 257-269, 3: 27-47, 88-102, 161-185, and 241-269.
- [7.2] Southern Bourguignon
Taverdet, Gérard
1980 *Les patois de Saône-et-Loire: Géographie phonétique de la Bourgogne du sud* (Dijon: Association bourguignonne de dialectologie et d'onomastique).
- [7.3] Nivernais
Meunier, Jean-Marie
1912 *Étude morphologique sur les pronoms personnels dans les parlers actuels du Nivernais* (Paris: Champion).
- [7.4] Morvan
Regnier, Claude
1979 *Les parlers du Morvan* (Château-Chinon: Académie du Morvan).
- [8] Comtois (Naisey)
Alex, Paul
Le patois de Naisey, Canton de Roulans, Arrondissement de Besançon (Paris: Pierre Voisin)
- [9] Francoprovençal
[9.1] Bonneval (Savoie)

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- [9.2] Saint-Martin-la-Porte (Savoie)
Ratel, Victorien
1958 *Morphologie du patois de Saint-Martin-la-Porte (Savoie)* (Paris: Les Belles Lettres).
- [10] Occitan
[10.1] Protestant Velay (Haute-Loire)
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1973 *Éléments de grammaire du parler de l'enclave protestante du Velay oriental* (Clermont-Ferrand: Cercle occitan d'Auvergne).
- [10.2] Cellefrouin
Rousselot, l'Abbé
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- [10.3] Gascon
Séguy, Jean
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