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The Phonological Status of Nasal Vowels In Sixteenth-century French

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This chapter examines some aspects of the development of nasal vowels in French.* When Peter Rickard published in 1992 The French language in the seventeenth century, the standard reference works for the status of nasal vowels in sixteenth and seventeenth-century French were Bourciez (1899 and later editions) and Nyrop (1899 and later editions). According to these sources, at the end of the fifteenth century, all vowels were allophonically nasalised before a fully articulated nasal consonant, e.g. in bonne [bɔ̃n(ə)], and progressively lost their nasality, except in a few words such as ennuyer [anyije], in which a nasal vowel is still heard in Modern French. By the end of the sixteenth century, '[d]enasalisation before syllables beginning with nor m had made some progress but in general homme, femme, année were still pronounced [5m] [fam] [ane]' (Rickard 1992: 15 - who also mentions grammaire [gramer] in 1989: 109). More recently, Sampson (1999: 97) suggested that denasalisation might have begun slightly earlier: '[i]n the sixteenth century or possibly the later fifteenth century, a counter-tendency to denasalise nasal vowels began to get underway'.

As a tribute to the scholar we celebrate in this volume, I would like to examine what evidence we have for the way denasalisation progressed during the sixteenth century. My corpus will be limited to the texts written by Baïf, Ramus, Meigret and Rambaud using the reformed spelling they advocated, as well as Lanoue's rhyming dictionary (1596).³ My main thesis will be that the variability mentioned by the grammarians of that period, or inferred from their discussion, is not the sign of an on-going phonetic change, as it is sometimes presented, but rather reflects the competition between two social norms, one in which denasalisation is almost complete (assuming there was a prior allophonic nasalisation) and one in which denasalisation spared the nasal back mid vowel [5]⁴ (cf. Morin 1994: 80–81, Morin 2000: 17–21, Sampson 1999: 97 for earlier formulations). The first norm – or 'oral norm', as I shall call it – eventually prevailed and survives virtually unchanged in Modern French. The

second norm - or 'nasal norm' - progressively ceased to be used in the socially accepted standard. There are no reasons to believe that the oral norm developed during that period; it may already have begun much earlier, perhaps even before the thirteenth century, as we shall see. Direct reference to competing norms, however, only appeared when grammarians compared their descriptions. A first allusion to the existence of two norms may perhaps be found in Sylvius's grammar (1531); it is, unfortunately, open to other interpretations. Sylvius, a Picard grammarian, noted that vowels before a reduced (or possibly mute) nasal consonant had a specific acoustic feature, which - as we now know - was nasality (Sylvius 1531: 2, 1998: 206). His formulation did not exclude nasal vowels before full nasal consonants.5 <somme> 'sleep'. as in <femme> <feme>. <assommer>. However, he strongly condemned it in commencer and its derivative: 'Comencer [...], comencement [...] Nec per geminum mm scribenda sunt cum vulgo' [et il ne faut pas les écrire avec deux m comme le fait la foule] (1531: 50; 1998: 258). Bovelles (1533: 19-23, 1973: 93-98), another Picard grammarian, also identified specific nasal vowels. The French examples used to exemplify his rules are on the one hand chambre, ambre, chant, chanson, mutin, hutin and butin, in which the nasal vowels are a and i followed by a reduced (or possibly mute) nasal consonant, and on the other homme, somme, comme, sonne, tonne, with a nasal vowel o followed by a full nasal consonant, in spite of Sylvius's condemnation (the latter regularly writes $\langle \text{home} \rangle$, $\langle \text{sonette} \rangle$, $\langle \text{tonoirre} \rangle$ 'thunder' with only one m or n). One is tempted to interpret Bovelles presentation as a tacit rebuttal of Sylvius's norm. It is not sure, however, that Sylvius's spelling rules for nasal consonants concern the actual pronunciation, rather than some conformity with the etymological Latin spelling. He condemned all 'double letters' when they were not motivated by Latin, as in bonne, telle, quelle, donner, nommer, façonner, messonner, which lacked them in Latin, but allowed them in somme 'sleep', femme, ferrer, vanner, <chastellet>, lasse, <secce> (for sèche), molle, where they were justified by Latin and the phonetic rules he proposed, e.g. femina > (syncope) femne > (assimilation) femme ~ fenne (1531: 50, 86 [1998: 258, 299]). The only discrepancy is found in Jen, Jenet, Jenete (for Jean, Jeannot, Jeannette) corresponding to Latin Johannes.

The clearest indication of different norms appears in the exchange between Peletier and Meigret in 1550, after the former

found fault with the pronunciation indicated by the latter in his translation of Lucianus (*Le Menteur* 1548).

Qui t'acordéra qu'il falhé prononcer par o simplé, ces moz, boné, comodé, conu, comé, homé, honeur? pour bonné, commodé, connu, commé, hommé, honneur? Peletier (1550, 1555: 22, italics added)

Meigret's reply is immediate: the nasal norm championed by Peletier is that of uncouth uneducated Parisians:

Or qãt a ton amiraçíon de mon ecritture d'home, honeur, par m fimple, e aotres femblables, e q'il te femble q'il ne fe trouuera perfone qi me l'accorde, tu ne me nyera' pas qe toute' le' foes qe deus confonates d'une mem' espeçe se conjonet entre deu' voyelles, il et neçessére qe la premiere se conjone' a la voyelle preçedente: de sorte qe si nou'

dizons homme, cõme, donne, il faodra qe nou' prononçíons m en hom' com' en ombre, e com en comme com' en compozer: e don en donne com' en donqes, q'onqes lange de bon Frãçoes ne pronôça: finô qelqes Pariziens mal apriz, qi ençores ne le' peuuet pronôçer qazi qe du nés. Meigret (1550c: 7r°, italics added).

As the answer indicates, Meigret's speech – probably the variety spoken by the dominant classes in Lyons (cf. Shipman 1953) – does not include nasal vowels. In this variety of French, the reflexes of OFr. nasal consonants were probably still relatively articulated in syllable codas and the preceding vowel, at best, weakly nasalised. To his ear, uncouth Parisians not only pronounced the first syllable of *homme* as that of *ombre* but they could not help pronounce it 'through the nose', by which he probably meant that they used a nasal [3], which he found offensive both in *homme* and *ombre*. Meigret's pronunciation corresponds to a third norm, that I call 'meridional' (the French of present-day Lyons would no longer qualify as such, on the basis of that criterion). The meridional norm is closely related to the oral norm and probably derives from it, or from a common ancestor, when French was adopted by the elite of Lyons. This norm is also that described by Rambaud (1578), a Marseilles schoolteacher.

In the rest of this chapter, I shall examine the characteristics of the three norms as they appear in the work of Baïf and Ramus for the oral norm, of Meigret and Rambaud for its meridional variant, and of Peletier and Lanoue (1596) for the nasal norm. The rich rhyming dictionary of Lanoue allows us to grasp the full complexity of the phonological distinctions of vowel length and nasality in specific usages, including a distinction between -in [-e] and the diphthong -ain [-ei] in word-final position, and a quadruple distinction between word-final [-ɔ:nə]/[-a:nə], [-ɔ:nə]/[-a:nə], all too often overlooked in analyses of sixteenth-century French.

1. THE ORAL NORM

1.1 General characteristics of the oral norm

In the oral norm, nasal vowels are seldom found before a strong nasal consonant. They typically occur (1) at the juncture between two morphemes, as in *emmener*, *immortel*, (nous) vînmes, intelligemment, plaisamment, nenni, en (arrivant), enmi, néanmoins, (2) in learned words for vowels followed by two nasal consonants in Latin, as in Anne, annuel, automne, calomnier, condamner, grammaire, hymne, manne 'manna', somme 'sum', sommaire – including prefixed forms with im- and in- also analysable as (1), and (3) in a few isolated words such as année, suranné, ennemi, ennui and flamme (and their cognates).

The pronunciation of nasal vowels at grammatical boundaries is still frequent in modern French. It has regularly disappeared in learned forms such as *immortel* (but not in non-learned derivatives such as *immangeable*) and in the adverbial endings *-amment* and *-emment*. The use of a nasal vowel in these endings was a regular feature of all varieties of French until the seventeenth century. According to Thurot's survey (1883: 453), the first grammarians to advocate an oral vowel are Hindret (1696: 310) and Dumas (1733: 135), to which one can add Vaudelin (1715), as evidenced by his reformed spelling. This innovation may have been, initially, a regional feature: Hindret probably originates from Celtic Brittany and Dumas was born in Nîmes (Languedoc); Vaudelin's origins are not known.

Nasal vowels have completely disappeared in the pronunciation of learned words, victims of the Erasmist reform of Latin pronunciation (Erasmus 1528, cf. Hesseling & Pernot 1919), and not as the result of an on-going phonetic change. Before this reform, vowels followed by -nn-, -mm-, -mn- were pronounced with a nasal vowel in the Latin spoken in Northern France, as appears for instance

in Bovelles description of Latin sounds: *mamma* 'teat', *somnus* 'sleep', *committo* 'I gather', *summa* 'sum' (1533: 19–23, 1973: 93–98). The reform produced various results in the Latin spoken in Northern France. As a rule, vowels followed by *-nn-*, *-mm-*, *-mn-* in the spelling would be rendered by an oral vowel followed by a sequence of two consonants [-nn-, -mm-, -mn-]. The traditional pronunciation was scorned by Ramus (1578), but was still encouraged by Cossard (1633: 63), cf. Thurot (1883: 467). In some cases, Latin vowels could be both nasal *and* followed by a sequence of two consonants, as appears from Vaudelin's transcriptions (1715), e.g. *mamma* [mãmma], *summa* [sõmma] or *Johannem* [3oãnnēm].

The pronunciation of French learned words borrowed from Latin adjusted to the new mores: the vowel became oral and could be followed by a sequence of two consonants [-nn-, -mm-, -mn-], except when this would result in a word-final geminate, as in *somme* [som(\mathfrak{d})], thus *hymne*, *grammaire*, *innocent* and *sommaire* became [imn(\mathfrak{d})], [grammer(\mathfrak{d})]~[grammer(\mathfrak{d})], [innosã]~[inosã], [sommer(\mathfrak{d})]~[somer(\mathfrak{d})]. This is still the usage in Modern French.

Finally, of the few isolated words with a nasal vowel before a strong nasal, only *ennui* and its derivatives survive in Modern French. The pronunciation of *année* may have been influenced by the modification of its learned cognates *annuel*, *perannuel*. The early nasalisation in the words *ennemi* and *ennui* 'annoyance' may be due to their being understood as derivatives of respectively *ami* 'friend' and (historically unrelated) *nuire* 'to harm'. The nasal vowel in *ennemi*, however, was not as firmly implanted as that of *ennui*, and disappeared.

1.2 Baïf's usage

Baïf's usage conformed almost completely to the oral norm as described above (cf. Morin 2000: 17–19), but also included a long nasalised vowel [ã:] for the verb gagner 'to gain', spelt <ganner> in his writing system, and for the noun mamelle 'teat', spelt <manmele>, which may be a learned reanalysis after Latin mamma 'teat'. As appears in the Appendix, Baïf corpus of nasal vowels before a strong nasal consonant is limited to the words annuel, automne, damner, ennui, flamme, gagner, hymne, immortel, innocent, mamelle, solennel and the adverbial endings -amment and -emment both transcribed as

<-anmant> representing [-ã:mã:(t)]. Nasalisation is variable for *ennemi* and does not extend to *enivrer*. 8

There is no evidence that the Erasmist reform influenced his pronunciation of learned words (as shown by the spelling <-nn-> in *damner*, *hymne* and <-nm-> in *immortel*, *mamelle*).

1.3 Ramus's usage

Ramus originated from Picardy and appears to have eliminated specific features from his own speech habits that he considered too provincial, in particular nasal vowels followed by a nasal consonant. Both grammars of 1562 and 1572 conformed to the oral norm.

His first grammar of 1562 allowed nasal vowels before a nasal consonant only in *néanmoins* and in the adverbial endings *-emment* and *-amment*, which were described as phonetically distinct: [-ēmē(t)] and [-āmē(t)] (the distinction between the reflexes of a^n and e^n is a regular Picard feature, perhaps also of some varieties of sixteenth-century Parisian French). In particular, he wrote *ennemi* and the learned words *grammaire*, *grammairien* and *sommaire* with an oral vowel: <code>enemis</code>, <code>egramere</code>, <code>egramerien</code>, <code>egramere</code>, <code>egrameree</code>, <code>egramere</code>

In his second 1572 grammar, Ramus adopted a different, more efficient, writing system (cf. Morin 1999b: 88). This description was probably closer to Parisian habits. The adverbial endings -emment and -amment were no longer distinguished and were both transcribed <-amment>9 with a nasal [ã] (the author otherwise still distinguished the reflexes of a^n and e^n). He wrote ennemi, grammaire, grammairien sommaire with two nasal consonants: «gramme're». «grammerien», «sommerę», «ennemis». One may safely assume that this noted a nasal vowel in ennemi (for [ɛ̃nəmi]); the interpretation of the three learned words is more ambiguous. Ramus may have intended the nasal consonants to be geminated, in the wake of the changes induced by the Erasmist reform - just as he writes Kondamne for condamné with the learned sequence of consonants [-mn-]. The second grammar no longer included the preterite forms of tenir and venir, only those of prendre for which an analogical nasal vowel could be found occurring in all persons, e.g. <(je) prin... (vous) printes>, but not for the 1pl, which is given with an oral vowel: <(nous) primes>.

2. THE MERIDIONAL NORM

2.1 General characteristics of the meridional norm

The meridional norm is essentially identical to the oral norm, except that the nasal vowels are replaced by sequences of oral vowel + nasal consonant.

The Erasmist reform had no effect on learned words in which the vowel was followed by mm and nn in Latin, which already were pronounced with geminate consonants in this norm. A change could only be noted when the vowel was followed by mn, as in hymne: [innə] > [imnə], but there is no direct evidence for such a change.

The meridional norm has been retained in the popular varieties spoken in Southern France, where geminate consonants are still heard in prefixed forms with *en-/em-* and *in-/im-*, from which this pronunciation has sometimes been generalised to *imaginer*, *inonder*, as in Toulouse (cf. Séguy 1978: 36). I have no relevant information concerning subsequent developments at other morpheme boundaries and, in particular, in the adverbial endings *-emment/-amment.* Gemination is also retained in the learned words *grammaire*, *sommaire* as in the Parisian norm, and in the learned proper noun *Anne* and its derivatives *Annie*, *Annette*, etc. The geminate pronunciation sometimes observed in *nommer*, in particular in Toulouse, probably reflects a learned influence. Finally, gemination is often retained in the isolated words *année*, *ennemi*, *ennui* (and its derivatives), as well as in *dîner* (after the Languedocian substrate *dinnar*, according to Séguy 1978: 36).

Séguy observed (before 1950) that Toulouse speakers using a variety of French closer to the Parisian norm replace geminates by the sequences [-ŋm-] and [-ŋn-]. In my own observations over the last thirty years, I have often heard a nasal vowel in *Anne* [ãn], *année* [ãne], ¹¹ but *grammaire*, *sommaire* with geminate [-mm-] as in the Parisian norm.

2.2 Uncovering the meridional norm in sixteenth-century texts

The difference between the oral norm and the meridional norm does not usually appear in Latin-based orthographies, even when they are reformed to represent the pronunciation. This explains the recurrent misunderstandings between grammarians. In Meigret's spelling system, for instance, the learned word *somme*, which he probably pronounced ['somme], was rendered as «somme». Peletier – as well as modern linguists – may understand it as representing ['sompa], ['som], ['som] or ['somma]. It is only because Meigret commented on the 'faulty' pronunciation of some Parisians, who could only pronounce nasal codas 'almost through the nose', that one may infer his own pronunciation.

Rambaud's writing system contained a special letter <N> for a neutral nasal consonant appearing in coda position as in *Jean* <3aN>, *temps* <taN>, *banc* <bah>, *cent* <saNt>, *empêcher* <aN·pe·ʃé>, different from the other nasal consonants in syllable onsets, for which he used different letters: *main* <meN>, *nul* <nyl>, *digne* <dí·ɲæ>. One is tempted to interpret the letter <N> either as a mark of nasality of the preceding vowel or as a velar nasal [ŋ]. Neither of these interpretations, however, is likely. Rambaud's description of <N> clearly refers to a consonant, and not to the nasality of a preceding vowel:

Cecy <N>, est vn figne duquel auons ia parlé par lequel nous est fignifié & commandé de resonner comme fait vn tonneau vuide apres qu'on l'a frappé, ou vne cloche ou baffin, ou vne mouche à miel. (168–170).

The comparison with the resounding of an empty barrel or that of a bell suggests a velar sound, which is often used in onomatopoeic renditions such as 'bang' and 'dong' in English. On the other hand, it is difficult to admit that <N> should represent [ŋ] in all positions, as this would be unlike what is observed in modern meridional norms of French, where nasal consonants in word-final position may indeed be velar, but not before a dental stops (where they are dental) nor before labial stops (where they are labial), cf. Brun (1931: 34–35) and Séguy (1950 [1978: 31–32]).

A careful reading shows that the same distribution of nasal consonants in coda position already obtained in the French described by the Marseilles schoolteacher:

Veu auffi que l'homme refonne à la façon d'un tonneau vuide, raifon nous commande de faire vn figne [<N>], par lequel telle

refonnance foit reprefentee, & non pas abufer en fon lieu de ces deux icy, *m*, *n*. I'ay dit vn figne, & non pas deux, ce qui

femblera eftrange à plufieurs, veu que auons de couftume abufer de deux, & que en refonnant aucunes fois fermons la bouche, & autre fois la laiffons ouuerte: ce que ie laiffe

à la difcretion des lecteurs. Et touchant la couftume de mettre m, auant b, m, p, lefdits b, m, p, nous font fermer la bouche malgré qu'en ayons. (122–124)

Before a labial sound p, b or m, the resonance represented by $\langle N \rangle$ is accompanied by a closing of the lips ('aucunes fois fermons la bouche'), which happens automatically ('malgré qu'en ayons'). In other words, the place of articulation of the nasal resonance <N> is not phonologically relevant: it depends on the following consonant, if any. It is labial before a labial sound. It certainly is dental before a dental consonant, a property, though, that Rambaud's phonetic awareness probably did not allow him to state. His ears were precise enough, however, for him to observe that in word-final position where it is most conspicuous and audible - this sound has the acoustic properties of velar nasal consonants ('comme ... vn tonneau vuide.... ou vne cloche'). One may thus conclude that <N> basically represents a nasal resonance having three allophones [m, n, n]. Rambaud did not equate the first two of them with the consonants [m] and [n] found in syllable onsets, probably because this would hide the functional unity and acoustic similarity of the three allophones in coda position. (It is interesting to note that Rambaud did not identify [s] in onsets with [s] in codas either.)

2.3 Meigret's usage

As appears in the Appendix, geminate nasal consonants in Meigret's corpus occur at morpheme boundaries (but not in *enivrer*), in learned words (but not in *gamme* 'music scale') and in the isolated forms *année*, *ennemi*, *ennui* and *ennuyeuse*. The sequence *-mn-* in learned words is always noted (-mn-) in *damner* and its derivatives (*damnable*, *damnation*, etc., not listed in the Appendix) and frequently in *calomnie* and its derivatives, by which the author certainly noted the pronunciation [-mn-]. In his regional French, however, this pronunciation did not necessarily reflect the new Erasmist learned pronunciation and could continue a traditional pronunciation of syllable-final *-m*, as he also noted a final (-m) in *nom* 'noun, name' and *faim* 'hunger' that need not be simply an influence of the etymologising conventional spelling.

Thurot (1883: 518) considers the few occurrences of <-omm-in Meigret's work to be simple oversights ('et il mit en effet partout cette orthographe [sans redoubler 1'm ni 1'n après o], à quelques exceptions près, que l'on doit considérer comme des inadvertances'), which they are not. The 23 occurrences of *somme* 'sum' and its derivatives (including *sommet* 'summit') are systematically spelt <-omm-> and never <-om->. Otherwise, the spellings <-omm-> and <-onn-> are nowhere to be found. A more careful reading of Meigret shows that he did not really claim m and n never to double after n; he only said that this happens but seldom:

Notez aosi qe l'o n'et gieres prononçé en la lange Françoeze auant deus mm, ne deus nn, e pourtat j'ecry, home, come, coment,

comande, honeur, corone, doner, pour homme, comme, comment, comma[n]de, honneur, coronne, donner. (Lucien, 24)

Meigret's usage is consonant with that of Ramus, who wrote *sommaire* with two <-mm->. *Somme* and its derivatives must thus be included among the learned words that, like *grammaire*, had a nasal vowel preceding a nasal consonant in the oral norm and geminated consonants in the meridional norm.

2.4 Rambaud's usage

Compared to Meigret's, Rambaud's corpus is relatively small, but is totally consistent with the meridional norm. It contains geminate nasal consonants in the adverbial endings *-emment* and *-amment* (unlike Meigret, however, Rambaud did not distinguish the reflexes of a^n and e^n), in *innocent*, and in learned gamma - all occurrences of *ennemi*, however, have a single $\langle -n \rangle$.

3. THE NASAL NORM

3.1 General characteristics of the nasal norm

The essential difference between the oral and nasal norms is found in the distribution of the nasal back mid vowel [5]. The distribution of the other nasal vowels is basically the same: they are also found at the boundary between two morphemes, in the same learned words, and in the same isolated words.

The nasal back mid vowel [5] is regularly observed before a nasal consonant in hereditary words, where it is in phonological

opposition with it oral counterpart [5] in learned words, e.g. dommage [5] vs. dominer [5]. It is noteworthy that modern French orthography often reflects the sixteenth-century nasal norm, not the oral norm that was going to prevail. One may surmise that the former was the norm of the first lexicographers of French, and in particular Robert Estienne, on which the current spelling system was built.

Oral vowels o before a nasal consonant, although typically found in learned words, are quite frequent, as one can observe in Peletier's printed work (cf. the Appendix). They appear not only in learned words that were borrowed relatively late, such as *anatomie*, *atome*, *axiome*, *comédie*, *domestique*, but also in older borrowings such as *moment* and *vomir*, that may easily have been remodelled after the Latin sources (*Rome* and *romain*, however, often kept the nasal vowel they acquired earlier). This means that the phonological opposition between [\tilde{o}] and [o] before a nasal consonant was an integral part of the phonology of the nasal norm, with occasional alternations between a nasal vowel in hereditary words such as *honneur*, *honnête* and an oral vowel in learned cognates such as *honorer* (cf. Lanoue's discussion below, § 3.3) — not a marginal feature on its way to extinction.

3.2 Peletier's usage

The number of isolated words with a nasal vowel before a nasal consonant is slightly higher in Peletier's work than in that of the other grammarians examined here. Most remarkable is *femme*, regularly spelt (famm¢) with a nasal vowel, a feature not found in the work of the other spelling reformers. Their occurrence is nonetheless very small. They constitute less than 5% of the lemmas (and a similar percentage of the tokens) in which an etymological vowel *e* or *a* is followed by a nasal consonant. The rule is for such vowels to be oral, as in *ami*, *blâme*, *cane*, *dame*, *famille*, *lame*, *lamentable*, *manière*, *organe*, *profane*, *rameau*, *vanner* (for *a* before a nasal consonant) or *aimer*, *chêne*, *démon*, *dixième*, *élément*, *frémir*, *mémoire*, *ménage*, *règne*, (il) sème, témoin, ténèbre (for *e* or *ai* before a nasal consonant).

There are two other remarkable features of Peletier's pronunciation. One is the unexpected absence of a nasal vowel in *gagner* in a variety of French where nasal vowels are otherwise relatively frequent before a nasal consonant. The second relates to the development of two distinct reflexes for the OFr. ending *-iene*:

<-ienn¢> [-ieno] and <-ien¢> [-ieno]. The variant with a nasal vowel, is typically found in nouns and adjectives, e.g. ancienne, gardienne, mienne, terrienne, sienne; the second with an oral vowel, in verb forms, e.g. (ils) viennent <vien¢t>, (qu'il) tienne <tien¢>. (Exceptional nouns and adjectives written <-ien¢> are relatively rare, and – surprisingly – appear almost exclusively in the first third of the second edition of the Dialogu¢ that did not contain them in the first edition in 1550).

The distribution of nasal vowels is relatively stable throughout Peletier's production. In his later work, *Euvrés Poetiqués* (1581), published more than twenty-five years after his other reformed texts, Peletier appears to have been sensitive to changing norms as he systematically revised the length of plural endings, for instance. He made only one change for nasal vowels, limited to the initial syllable of *connaître*. In his earlier works, all the forms of *connaître* were written <code>conn-</code> [kɔ̃n-] with a mid nasal vowel, but in the *Euvrés Poetique*, two third of them appeared as <code>coun-</code> [kun-] with a high oral vowel.

3.3 The phonology of nasal vowels in Lanoue's dictionary

Two treatises, one on the conjugation of French verbs and one on French orthography, follow Lanoue's rhyming dictionary. The author made numerous suggestions on how French orthography should be reformed, and in particular suggested that the tilde ('titre') should be earmarked for the representation of vowel nasality (just as a specific mark on the letter e should be used to distinguish [e] from [e]):

Toutesfois pour ofter l'ambiguité d'entre honefte & honorer, où, quoy qu'il ne se prononce qu'vne n seule, neantmoins le fon de l'o est different: on se pourroit à bon droit (peut estre) servire d'vn titre & ecrire & épeler ainsi, H, o, ~, Hõ, n, e, f, nef, t, e, te. Hõnefte: Lequel titre comme vne marque non comme vne lettre, feruiroit feulement pour tefmoigner que la voyelle precedente a le fon que luy aquiert l'*n*, laquelle par apres feroit en fon entier pour gouuerner la fyllabe fuiuante. (402)

Unfortunately, the author did not apply his own orthographic suggestions and only used a moderately reformed spelling, which does not necessarily indicate the nasalisation of pretonic vowels (in particular, though *honnête* is said to have a nasal vowel, it is regularly

spelt *honefte* (both in his treatise on French orthography and the dictionary). Most of the relevant information for phonological distinctions, thus, will be derived from the rhyming dictionary proper, where the distinctions between tonic vowels are examined often in minute details.

3.3.1 In word-final position

One may safely assume that nasal vowels were not followed by a weak nasal coda in Lanoue's usage. One should be wary of formulations in which the author mentions a letter having 'vn bien peu de fon', which should not necessarily be interpreted as an indication for a weak coda, as in the following description of nasal vowels:

Voila nos fix voyelles. Efquelles cecy est à noter. Que deuant toutes les consonantes elles gardent leur fon naïf, horsmis deuant l'm & l'n, où elles ne le changent pas proprement en vn nouueau, mais l'espessifient (par maniere de dire) & remplissent de maniere qu'il s'y remarque vne notable difference, [...] La raison est, que l'm & l'n,

n'ayantz point telle vigueur que les autres confonantes pour fubfifter & fe faire exprimer à la fin d'vne fyllabe, confondent ce qu'elles en ont auec la voyelle qui les precede, dont fe fait ce mellange, qui retient feulement vn bien peu de fon, tefmoin que le mot finit en vne confone d'elles deux. (399)

Such expressions are figures of style, similar to that which allowed de Bèze (as reported by Peletier 1555: 58) to say that preconsonantal s, certainly mute at that period, 'fonn¢t fort douff¢mant' in words such as 'tempeft¢, paft¢, hoft¢, tiftr¢. La ou combien qu'el¢ f¢ leff¢ peu ouïr, fi donn¢ el¢ pour l¢ moins a connoétr¢ qu¢ les filab¢s font plus longu¢s que cel¢ d¢ trompett¢, pat¢, hot¢, tiltr¢.' These expressions are meant to say that mute graphic letters, although they have no direct segmental content, note specific phonetic properties of the preceding vowel.

The nasalisation of o in $honn\hat{e}te$ or (il) sonne, under the most reasonable interpretation, results from a regressive assimilation to the following nasal onset, [onestə, sənə] > [ənestə, sənə], without reduction of a nasal coda. Helsewhere, Lanoue identifies the sound spelt on in $honn\hat{e}te$, sonne and vergogne, to that found in word-final jargon and dragon. One may thus conclude that word-final on also noted a nasal vowel not followed by a reduced nasal coda in his usage.

Puis on affemble *fonne*, qu'on prononce toutesfois auec vne *n* fimple. Si cefte fyllabe auffy eft fuyuie d'vne confonâte au milieu d'ũ mot, elle retient le mefme fon

qu'elle a estant à la fin, comme on peut veoir en ce mot *Vergongne*, où ceste *n* ne se prononce non plus qu'en *jargon* & *dragon*. (400)

Lanoue distinguished four nasal monophthongs in word-final position, two rising diphthongs and one closing diphthong, that may be short or long. They can be tentatively identified as follows:

[ẽ, ẽː]	$[\tilde{\varnothing},\ \tilde{\varnothing}$:]	$[\tilde{\mathfrak{d}}, \tilde{\mathfrak{d}}:]$
	$[\tilde{a}, \tilde{a}:]$	
[i̯ē, i̯ēː]	[ẽi̯, ẽːi̯]	[u̯ẽ, u̯ẽː]

The distinctive length in this position resulted from the combination of two changes: first a shortening of long vowels in word-final position, lapin [lapẽ:] ~ lapins [lapẽ:] > [lapẽ:] ~ [lapẽ:] followed by the loss of word-final s [lapẽ] ~ [lapẽ:] (cf. Morin 1994: 65–67). Lanoue unambiguously describes the opposition between long and short word-final nasal vowels in the following observation: 16

Il y en a qui en cet endroit fe voudroyent feruir de la premiere personne presente de l'indicatif du verbe venir & fes compofez & dire Ie vin au lieu de ie vins (comme aufsy le mefme du verbe Tenir en la precedente) Mais ceftuy-la ne peut paffer. Il eft bien vray qu'on n'y prononce point 1'S, aufsy ne le prononce-on pas come terminaizon brieuement. mais auec vn accet long (que cefte S denote) lequel ne s'accorderoit nullement auec ceux-cy, & auroit mauuaize grace de dire

> Ie trouvay là l'Echeuin Aufsy toft come ie vin

Mais bien diroit on

Aufsy toft comme ie vins
Ie trouvay les Écheuins
car ils ont tous deux la derniere
longue, où toutesfois on n'exprime
point l'S, pource qu'ilz font le
bout du vers. [...] Ce qui a efté
déduit vn peu au lõg qu'õ ne doit
toufiours retrancher l'S de femblables motz, pource que quelquesfois il femble qu'elle ne s'exprime
pas, veu qu'elle fert a discerner sa
pronontiation longue de ceux-cy
qui l'õt breue.

(Lanoue 1596: 168.1)

These seven nasal vowels appear in the examples below:

[- e]	cherubin, voisin	([-ie])	lien, grammairien, logicien
[-į̃ẽ]	ancien, bien, citoyen, moyen	$[-\tilde{\varnothing}]$	parfum, un, chacun, à jeun
[-ẽį]	daim, estaim 'étain', bain, plein	[-õ]	nom, plom 'plomb', don, pardon
[-ũe]	coin, bezoin, fouin	[ã]	an, tiran, fen 'fend (imp.)'

The vowels $[-\tilde{e}]$ and $[-\tilde{e}i]$ are the reflexes of OFr. $-i^n$ and $-ai^n/-ei^n$ respectively (where ⁿ indicates a nasal in coda position). Lanoue regularly allowed the rhyme between these two vowels, and one might conclude that they were phonetically identical. Indeed, Lancelot (1663: 65) appealed to Lanoue's authority to rebuke contemporaries who claimed that they still were phonetically distinct and hence could not rhyme. Lanoue, however, does appear to have made a difference, and only said that the reflexes of $-ai^{n}/-ei^{n}$ were almost ('quasi', 'peu s'en faut') like those of $-i^n$: '[le ai de ain est] quafi qu'vn i tout fimple, à quoi respond mieux la diphtongue ei, dot le son tire sur l'i' (1596: 168.2), 'à l'aide de la terminaison ins dont ceste-cy [ains] a (peu s'en faut) l'entiere pronontiation' (265: 1). One had to adjust the pronunciation of one to the other for the rhyme: 'on peut fort bien rimer [int] auec la terminaizon fuyuante [aint], l'acommodant vn peu à cefte pronontiation' (312.3). In his treatise on French orthography, the reflexes of $-ai^{n}/-ei^{n}$ are regularly identified as being diphthongs: ei in plein is classified, together with obéi. 17 as a 'diphtongue propre', i.e. a diphthong in which the spelling conforms to the pronunciation, while ai in faim and certain is described as follows:

La cinquiesme [diphtongue impropre] est *ai* (selon qu'on la prononce en ces motz *Haine*, *Faim*, *Certain*) où, au lieu de l'a on

profere vn *e*, telles fyllabes fe pourroyent feruir de *ei*, (diphtongue propre) (1596: 409)

I have chosen to represent as $[\tilde{e}]$ the reflex of $-i^n$ because the author, after observing in his treatise on French orthography (401) that the vowel in the endings -en and -em, pronounced $[-\epsilon n]$ and $[-\epsilon m]$ in borrowings such as amen and item (cf. below § 4.3), was the only oral front mid vowel that could be found before a strong final consonant, and that although the ending -ien contained a close e ('e masculin'), the pronunciation of its final -n as [n] would be 'tres difficile, voire prefque impoffible' and indeed 'la couftume n'eft point qu'on mette peine de l'exprimer (comme il fe peut voir en ce mot,

bien, dont la terminaizon n'est nullement en én, mais en in)'. One may thus infer that the reflex of the ending $-i^n$ (written in in the previous quote) is the same as that of the nucleus of bien, i.e. $[\tilde{e}]$, as discussed below.¹⁸

The diphthong that I have transcribed $[-i\tilde{e}]$ is the reflex of OFr. $-ie^n$ and $-iie^n$. Its nucleus is explicitly described as 'é masculin', i.e. close [e], (164.3). The reflexes of OFr. $-iie^n$ were almost always monophthongised, but had retained a disyllabic pronunciation, probably $[-i\tilde{e}]$, in *lien, grammairien, historien* and *terrien*, and rhymed with $[-i\tilde{e}]$ (a regular licence, cf. Morin 1993: 114). Lanoue did not cross-reference $[-i\tilde{e}]$, $[-ii\tilde{e}]/[-i\tilde{e}]$ with the reflexes of the endings $-i^n$ or $-ai^n/-ei^n$. This, however, does not necessarily mean that they had different qualities. As a rule, Lanoue did not allow the rhyme of a diphthong with a monophthong *in oxytones*, even when their nuclei were identical (cf. Morin 1993: 113).

The vowel transcribed here as $[\tilde{u}\tilde{e}]$ is the reflex of $OFr. -o\tilde{i}^n$. Lanoue allowed, by licence, the reflex of $-o\tilde{i}^n$ to rhyme with those of $-a\tilde{i}^n$ and $-e\tilde{i}^n$, but only in monosyllables (that have a privileged status as rhymes, cf. Morin 1993: 114–115), e.g. soin 'care' with main 'hand' (183.3), and not with those of $-i^n$. This could perhaps be interpreted as an indication that both have the same nucleus $[\tilde{e}i]$. This rhyme, however, was said to be too dissonant to be allowed in two consecutive lines. The rhyming words should be separated by at least an extra line. Furthermore, the reader was instructed to 'accommoder la pronontiation au plus pres qu'on peut', i.e., to make one sound like the other. Rhymes showing such licence may simply have been recorded because they were occasionally used by other poets, whose pronunciation of main, for instance, allowed the variant $[m\tilde{u}\tilde{e}] - a$ pronunciation that did not belong to Lanoue's own habits.

This vowel may also result from the syneresis of [uẽ] in *fouin* 'stone-marten' that had both the archaic disyllabic pronunciation [fuẽ], and a preferred monosyllabic one [fwẽ] (which Lanoue advised to spell *foin*). This is (weak) evidence that the nucleus of the ending *-oin* may have been the same as that of the ending *-in*, i.e. without a final glide, and has thus been transcribed here as [ẽ].

3.3.2 Before word-final oral consonant

All the nasal vowels (monophthongs and diphthongs) could appear before word-final [t], where they apparently were always long: (il) vint, défunt, fond, gland, (il) vient, saint, point. Their distribution

was more restricted before other consonants. Before [k] one only found the monophthongs [e], [e] and [e], as in *cinq* (not listed in the dictionary, however), *tronc* and *sang*, and perhaps the diphthong [ei] in *(il) vainc* (not listed in the dictionary, either). Before [p], one only found short [e]: *camp* and *champ* – these two words have an alternate pronunciation without [p], which prompted Lanoue to specify the duration of [e] before [p] as short, which he constrasted with long [e]: found before [t] (184.2). He condemned all alternate pronunciations without final stops after a nasal vowel (that could be heard in other varieties of French at that time), e.g. *venant* *[vəne:] (184.2), *blanc* *[ble] (9.2), *long* *[le] (9.3).

Lanoue did not specify the length of nasal vowels before [k], where it was not distinctive. One may probably assume they were short. Geschiere (1968: 185) notes that Palsgrave's *Lesclarcissement* (1530: 38) had short a^n before word-final [p, k] contrasting with long diphthongised au^n before dental obstruents – which is compatible with Lanoue's observations.

3.3.3 Before a word-final nasal consonant

Word-final strong nasal consonants appeared only in a handful of words, mostly learned or borrowed: *dam* 'displeasure, damage' pronounced either [dã] or [dam] (the latter rhyming with *Adam* [adam] and *Abraham*), *item* [item] (162.2, 400), *amen* [amen], *examen* [-men], *hymen* [imen] (164.3, 400).

3.3.4 Before sequences of nasal consonant + post-tonic shwa

Length was distinctive in Lanoue's system for the oral monophthongs [i, y, e, ε , \mathfrak{d} , a] before a nasal consonant followed by a post-tonic shwa. The vowel [u] did not appear in this context. The long vowel [e:] was only found in learned words, often in variation with long [ε :] and less frequently with short [ε]. Lanoue lists neither *jeune* nor *jeûne* – the only forms that could exemplify the distinction [\emptyset] ~ [\emptyset :] – probably for lack of valid rhymes. One may safely assume that length was distinctive for these two words. Table 1 presents the distinctions that appear in the dictionary. (*Consonne* is not listed among the rhymes. It is regularly used in the body of text where it is spelt <consone>, from which we may assume that its pronunciation was [-one], as it was in Peletier's usage).

	VNə	V:Nə			VNə	V:Nə
			1			
i	farine	(il) dîne		ε	gemme	blême
	lime	dîme			laine	chêne
	ligne	digne			peigne	règne
			1			
у	plume			3	astronome	dôme
	fortune				(consone)	zone
	(il) répugne	bugne				
r			,	r		
e	probléme	diadéme		a	dame	âme
	ébéne				canne	crâne
					bagne	

Table 1. Oral monophthongs before anasal consonant followed by apost-tonic shwa

There were no length distinctions for the oral diphthongs in the same context, as appears in Table 2. This is an accidental gap resulting from the limited sources for diphthongs in this context. For instance, the long diphthong [qi:] was only found in the word *aluifne* (simply identified as 'a tree') that may have been the reflex of *alŏxĭnŭm* > ModFr. *aluine* 'wormwood' (FEW 24.346), but there are no historical sources for the corresponding short diphthong [qi] in the same context (as the learned word *ruine* appears to have been pronounced [ry'inə]). Conversely, the original length distinction between [ie] and [ie:] was transformed into [iɛ] :: [ie:], because short [e], but not long [e:], had opened before a full nasal consonant.

	VNə	V:Nə		VNə	V:Nə
įε	chienne		ųi		aluine
įe:		deuxiéme	ŭε	moine	
"				(il) rejoigne	

Table 2. Oral diphthongs before a nasal consonant followed by a post-tonic shwa

Long oral vowels in hereditary words resulted from the loss of preconsonantal [s], as in âne, aumône, abîme, blâme, blême, Carême, chêne, cygne, deuxiéme²⁰, dîme, dîne, prône, from the coalescence of

two vowels in *chaîne*, and from the reduction of late diphthongs, as in *baume* or *jaune*. The monophthongisation of the late diphthong [ei̯] (still a diphthong in Baïf's vocalic system) produced a short monophthong: [e], as in *graine* (spelt ⟨gréne⟩) or [ε], as in *peine*, not a long one, as is sometimes claimed. Long vowels also resulted from the simplification of sequences of two nasal consonants in medieval learned words: *âme* < *anma (in replacement of hereditary arma), digne (in replacement of hereditary *deing), regne, signe (a learned doublet of seing) (cf. Morin 1994: 65). Late learned words could be borrowed either with a short vowel, e.g. gemme, probléme (also pronounced with a long vowel), astronome or a long one, e.g. crâne, diadéme, thrône, zone (cf. Ouellet 1993).

The only nasal vowels that appeared before a nasal consonant followed by a post-tonic shwa were long [eii, ai] and short [5] as listed in table 3.

	VNə	V:Nə		VNə	V:Nə
ã:		flamme (il) damne (il) gagne	õ	homme bonne cigogne	
ẽ: <u>ặ</u>		haine	ẽ:		(nous) tînmes

Table 3. Nasal vowels before a nasal consonant followed by a post-tonic shwa

The long vowel [e] in learned *hymne*, still observed in Peletier's and Baïf's works, had been replaced by [im] in conformity with the Erasmist reform and only survived in the verb forms (*nous*) tînmes, vînmes (243.1). As a rule, Lanoue favoured the new pronunciation of learned words that conformed to the reconstituted pronunciation of Latin, as in *hymne* [imnə] (82.3), (il) contemne [-temnə] (82.3, 400), automne [-təmnə], colomne [-ləmnə] (83.1s), but not however in (il) damne [dã:nə], (il) condamne. It is difficult to decide what pronunciation Lanoue had in mind for learned manne, [mannə] or [mã:nə], when he wrote: 'Ceftuy cy pour auoir la penultieme longue, & fe prononcer auec deux N...' (83.1) with an indication that both n's should be pronounced, by which he elsewhere indicated that the preceding vowel was nasalised (or that e was pronounced [e] in enne

and *-emme*). Unfortunately, he did not cross-reference it with (*il*) damne (82.3) either to permit the rhyme, or to warn against it (probably an oversight). As geminate consonants do not appear elsewhere in rhymes, even in recent learned forms such as anagramme, épigramme, dilemme (spelt with two m's) and game < gamma, it is likely that manne was pronounced [mã:n(ə)].

The limited distribution of endings with nasal [ei, ai] followed by [mə, nə, nə] made their use difficult at the end of lines, and justified various forms of licence. For instance, as *flamme* [fla:mə] and (il) enflamme were the only two words ending in [-ai:mə], poets were prompted – according to Lanoue – to pronounce them [fla:mə] with a long oral vowel, and even sometimes with a short oral vowel [flamə]:

De droit on devrait prononcer flamme et enflamme auec deux m [i.e. -ã:mə, according to Lanoue's spelling conventions], mais par succession de temps les Poetes en ont retranché vne, pour les aparier à cette

terminaizon [-amə (70.3)], l'vn et l'autre est receu. Au reste on lui baille plus ordinairement la penultieme longue, comme cy apres il y sera rapporté [-a:mə (71.2)].

(Lanoue did not imagine that these variants could simply be regular in some other varieties of French.) Table 3 shows a strong dissymmetry in the length of nasal vowels before [mə, nə, nə]. The nasal vowels [ẽ:i̯, ã:] are long and infrequent; the nasal vowel [ɔ̃] is short and frequent. Their sources are quite distinct.

The hereditary nasal diphthong [ẽ:i̯] was the reflex of OFr. disyllabic sequences [ai] and [ei] and survived in the following words: faîne, gaine, haine, reine, (il) traîne. Here is how Lanoue described it:

Quant à [la terminaizon] qui suit, ores qu'elle ayt mesme orthographe & accent [i.e. length] que [la voyelle longue de *chaîne*] ... sa penultiesme ne prend point le son de la diphthongue *ai* [ɛ], comme la précédente [celle de *chaîne*], ny ne s'arreste sur vne voyelle (au moins que nous ayõs) mais termine sur vn certain son qu'on

ne fçauroit mieux exprimer auec nos lettres qu'en l'escriuant ainfi, *ain* pour le prononcer *quafi* comme disfyllabe, & dire au lieu de *Haine Hainne*. Il a esté besoing de s'estendre vn peu à doner à entendre la naisueté de ceste pronontiation laquelle est consondue ordinairement auec celles des deux precedentes [-ɛnə, -ɛ:nə]. (82.2)

This 'certain fon' is further examined in his treatise on French orthography (p. 409), where it is described as a diphthong on par with the diphthong [ei] of *mondain*, *faim*, *certain*.

The hereditary nasal vowel [ã:] in (il) gagne (spelt gangne) < OFr. gaa(i)gne also reflects a sequence of two Old French vowels. Otherwise, hereditary [ã:] appears in the noun flamme, that underwent a specific series of changes that may have involved the development of a geminated -mm- in Old French (cf. Morin 1994: 60) or a contamination from its variant flambe [flã:bə] (surviving in the verb flamber). Otherwise the nasal vowel [ã:] appears in the late learned borrowings damner, condamner and possibly manne, where it was followed by a sequence of two nasal consonants, but not in the earlier medieval borrowing âme where a was in a similar context.

Curiously, Lanoue only recorded occurrences of the short nasal back mid vowel [$\tilde{3}$], although long [$\tilde{3}$:] is expected in words such as (il) rogne (spelt rongne, 80.3) < OFr. roo(i)gne, if one assumed similar changes for back-mid and low vowels, cf. (il) gagne (spelt gangne) < OFr. gaa(i)gne. Likewise, the geminate -mm- (noted in Meigret's usage) in the late borrowing somme (74.1) should have lengthened the preceding nasal vowel, just as -mn- and -nn- did in (il) damne and manne. One must assume that, in the nasal norm, long nasal back mid vowels have been shortened on the overwhelming model provided by the numerous short vowels [$\tilde{3}$] found in the same context.

4. CONCLUSION

The evidence given by spelling reformers and Lanoue's rhyming dictionary clearly indicates that there are two distinct sources for nasal vowels followed by a nasal consonant in sixteenth-century French.

Back-mid [5] is the only one of these nasal vowels that was regularly found in hereditary words. It is also the only one that fits the traditional conception of a nasal vowel that resulted from an earlier regressive nasalisation. Unlike the other nasal vowels, it is phonetically short. Unlike them also, it is only found in some specific varieties of French, forming the 'nasal norm' represented by the usage of Peletier and Lanoue in our corpus.

The other nasal vowels before a nasal consonant, including [5] in the varieties of French that adopted the oral norm, were relatively rare. They were typically found at the juncture between two morphemes and in learned words. They were long in the varieties with

distinctive length as the result of widely different processes. In hereditary words, their nasality typically resulted from the loss of a following nasal consonant, as in *enmurer* [ã:m-] < [enm-] or *savamment* [-ã:mã:t] < [-an(t)ment], with concomitant compensatory lengthening. They only resulted from regressive nasalisation without loss of a following nasal coda when they acquired their length through coalescence of two consecutive Old French vowels, as in *gagner* [gã:per] and *haine* [hēi:nə]. 21

Eventually, this oral norm became established as the standard. It was also adopted early in Southern France, where it adjusted to the phonological substrates (cf. Fagan 1990), as a consequence of which, nasal vowels were interpreted in Meridional French as sequences consisting of an oral (or partly nasalised) vowel followed by a nasal coda.

One may speculate on the social conditions that allowed both norms to coexist in the language spoken in the sixteenth-century variegated royal Court. They undoubtedly reflected the courtiers' various regional usages. Three centuries later, the dialectal survey of the Atlas Linguistique de la France (ALF) conducted by Gilliéron and Edmont (1902–1910) indicated that regressive nasalisation, although quite variable, was still observable in northern dialects (and possibly in the corresponding low-class regional varieties of French) in a vast area that included most Western Provinces, Normandy, Picardy, Burgundy and Franche-Comté, but rare in Île-de-France, Orléanais and Nivernais, for instance. A similar regional distribution may have existed during the sixteenth century, and perhaps even much earlier. It is probably significant that the thirteenth-century copyists of the manuscript of Le Roman de la Rose edited by Félix Lecoy (1965-1970) - who may well originate from areas where regressive nasalisation was rare in the ALF ²² – seldom used the graphic sequences <mm>, <nm> and <nn>, and did so almost always in accordance with the sixteenth-century oral norm, e.g., in <ennui>,23 in adverbs such as <ardanment>, and in learned words such as <condampné> <condanné>, but never in bonne (written <bone>) or femme (written <fame>), for instance.24 The late date traditionally proposed for a phonetic denasalisation of nasal vowels before n or m appears to result from an analysis of aggregated data that cannot be maintained after a careful analysis of specific varieties of French.

APPENDIX

Baïf E/C Baïf Ps. Ramus 62 Ramus 72 Meigret Rambaud Peletier Lanoue

1.1 Adverb	s							
-amment/ -emment	-nm- (2)	-nm- (11)	-mm- (6)	-mm- (4) -m- (2)	-mm- (94)	-N·m- (3)	-mm- (9)	-mm-
veramment 'vraiment'	_	_	_	_	-mm- (10) -m- (1)	_	_	
gramment	_						-mm- (1)	
1.2 Prefix								
anoblir, ennoblir	_		_	_		_	-nn-(2), -n-(1)	-n-
emmener	_	-nm- (2)	_	_	_	_	_	-mm-
emmurer	_		_	_	_	_	-mm- (2)	-mm-
enivrer	-n- (2)	-n- (3)	_	_	-n- (6) -nn- (1)	_	-n- (2)	-n-
immense	_		_	_	—	_	-mm- (3)	_
immédiat	_		_	_	_	_	-mm- (3)	-mm-
immémorial	_		_	_	-mm- (1)	_	-m- (1)	_
immobile	_		_	_	-mm- (1)	_	_	-mm-
immoler	_	-m- (1)	_	_	-mm- (1)	_	_	-mm-
immonde	_		_	_	-mm- (1)	_	_	-mm-
immortel	-nm- (13)		_	_	_	_	-mm- (13)	-mm-
immuable	_		_	_	-mm- (3)	_	_	_
innocence	-n- (1)	-nn- (5)	_	—	-n- (1) -nn- (1)	_	-nn- (2)	-nn-
innocent	-n- (2)	-nn- (9)	_	_	-n-(2)	-N·n- (3)	-nn- (3)	-nn-
innover	_		_	_	_	_	-nn- (3)	-nn-
innumérable	_		_	_	-nn- (3)		-nn- (5)	_
nenni/nanni	_		-n- (1)	-n- (1)	-n- (2)		-nn- (4)	-nn-
transmettre			_	_	_	_	-mm- (3)	_
1.3 Preterit	es							
tînmes, vînmes	_		-m- (2)	_	-mm- (2)	_	_	-insmes
prîmes (prendre)	_		-m- (1)	-m- (1)	-m- (1)	_	-mm- (1)	_

		_						
	Baïf E/C	Baïf Ps	Ramus 62	Ramus 72	Meigret	Rambaud	Peletier	Lanoue
1.4 Learned	l borrov	vings						
annuel, perannuel	-nn- (2)	-nn- (3)	_	_	-nn- (1)	_	-nn- (5)	-nn-
annales	_		_	-n- (4)	-nn- (1)	_	-nn- (1)	-nn-
Annibal	_		-n- (1)	-n- (1)	-nn- (3)	_	-nn- (1)	_
annihiler	_		_	_	_	_	-nn- (1) -n- (2)	-n-
(con)damner	-nn- (1)	-nn- (5)	_	-mn- (1)	-mn- (3)	_	-nn- (7)	-anne
contemner	_		_	_	_	_	-nn- (1)	-amne
Enne	_		_	_	_	_	-nn- (1)	_
Ennée	_		_	_	_	_	_	_
épigramme	_		-m- (2)	_	_	_	-mm- (12)	-ame
gamma	_		_	_	-mm- (7)	-N·m- (1)	_	_
gamme	_		_	_	-m- (1)	_	_	-ame
grammaire	_		-m- (11)	-mm- (10)	-mm- (9)	_	-mm- (10)	-mm-
grammairien	_		-m- (2)	-mm- (8) -m- (1)	-mm- (5)	_	-mm- (44)	-m-
hymne	-nn- (4)	-nn- (9)	_	_	_	_	-nn- (1)	-imne
manne (céleste)	_	-nn- (1)	_	_	_	_	_	-anne
perannel, suranné	-ann- (1)	-ann- (3)	_	_	_	_	_	
solennité, solennel	-ann- (1)	-ann- (4)	_	_	_	_	-ann- (2)	-mn-
tyrannicide	_		_	_	-nn- (1)	_	_	
tyraniser					-n- (1)			-nn-
1.5.1 Excep	tional w	ords (f	requent)					
année	_	-nn- (3)	-n- (1)	-n- (1)	-nn- (3)		-nn- (16)	-nn-
	(7)	(0.5)	` ′	(2)			/	

1.5.1 Excep	1.5.1 Exceptional words (frequent)											
année	_	-nn- (3)	-n- (1)	-n- (1)	-nn- (3)	_	-nn- (16)	-nn-				
ennemi	-n- (7) -nn- (3)	-n- (95) -nn- (68)	-n- (1)	-nn- (2) -n- (1)	-nn-(14)	-n- (4)	-nn- (25)	-nn-				
ennui	-nn- (12)	-nn- (61)	_	_	-nn- (1)	_	-nn- (24)	-nn-				
ennuy-eux/-er	-nn- (3)		_	_	-nn- (1)	_	-nn- (10)	-nn-				
(en)flamme(r)		-nm- (11) -mm- (1)		_	_	_	-mm- (36)	-mm-				
gagner	-nñ- (25)	-nñ- (8)			-ñ- (8)	_	-ñ- (37)	-ngne				

1.5.2 Excep	1.5.2 Exceptional words (rare)											
hennir	-n- (1)		_	_	-n-(1)-nn-(1)	_	_					
mamelle	_	-nm- (2)	_	_		_	_	-mm-				
penne	-nn- (1)		_	_		_	_					
pennage	_		_	_	-nn- (1)	_	_					
(dés)empenner	_		_	_	-nn- (1)		-nn- (1)					

	Baïf E/C	Baïf Ps	Ramus 62	Ramus 72	Meigret	Rambaud	Peletier	Lanoue	
1.5.3 Excep	tional w	ords in	Peletier	's work					
-ienne	-n- (18)		-n- (26)	-n- (22)	-n- (113) -nn- (12)	-n-	-nn- (76) -n- (138)	-e{n}ne	
anneau	-n- (1)				-n- (3)	_	-nn- (1)	-n-	
bannir	-n- (3)	-n- (2)	-n- (2)	_	-n- (4) -nn- (1)	_	-nn- (2)	-n-	
femme	-m- (29)		-m- (23)	-m- (21)	-m- (61)	-m- (5)	-mm- (22)	-ame	
gemme	_		_	_	_	_	-mm- (2)	-e{m}me	
m, n (letters)	_		_	_	_	_	-nn-/-mm- (2)	_	
milanais	_		_	_	_	_	-nn- (1)	_	
moyenner	-n-		-n- (2)			-n- (1)	-nn- (5)	-e{n}ne	
trame(r)	-m- (2)		_	_	_	_	-mm- (1) -m- (2)	-ame	
2. Check sample									
aîné	-n- (2)		_	_	_	_	_	-n-	
image	-m- (5)	-m- (4)	_	-m- (1)	-m- (18)	-m- (5)	-m- (15)	-m-	
dame	-m- (6)		_	-m- (1)	-m- (10)	_	-m- (52)	-ame	
fame ('renom')	_		_		-m- (2)	_	-m- (10)	(il)difame	
3.1 Heredita	ry words	in - 2N	ə						
besogne	-ñ- (13) -nñ- (1)		_	-ñ- (1)	-ñ- (1)	ñ (2)	-nñ- (8)	-ongne	
connoître	-n- (32)		-n- (13)	-n- (57)	-n- (97)	-ñ- (12) -n- (5)	-nn- (155) -oun (25)	-n-/-nn-	
dommage	-m- (2)		_	_	-m- (1) -õm-(1)	-m- (4)	-mm- (2)	-mm-	
éloigner	-ñ- (6)		-n- (1)	_	-ñ- (2)		-nñ- (16)	-ongne	
homme	-m- (80)		-m- (63)	-m- (49)	-m- (359)	-m- (55)	-mm- (340)	-omme	
honnête	-n- (5)		-n- (5)	-n- (3)	-n-(5)	_	-nn- (13)	-[n]n-	
honneur	-n- (71)		-n- (2)	-n- (7)	-n- (27)	-n- (2)	-nn- (124)	-nn-	
oignon	_		_		-ñ- (1)		-nñ- (1)	-ign-	
rogner					-ñ- (2)		-nñ- (2)	-ongne	
Rome, romain	-m- (6)		-m- (6)	-m- (9)	-m- (55)		-mm- (33)		
soigner	-oñ- (8)						-nñ- (2)	-ongne	
somme <i>masc</i> .	-m- (3) -nm- (1)	-m- (3)	_	_	_	_	-mm- (1)	somme	

	Baïf E/C	Baïf Ps	Ramus 62	Ramus 72	Meigret	Rambaud	Peletier	Lanoue
3.2 Learned w	ords in -	oNə (witl	h an oral	vowel in t	the nasal n	orm)	,	
Amazone		,	_	_	_		-n- (1)	
anatomie	_		_	_	_	_	-n- (2)	-m-
atome	_		_	_	_	_	-m- (2)	-ome
axiome	_		_	_	_	_	-m- (1)	-ome (lg)
binôme	_		_	_	_	_	-m- (65)	_
comique	_		_	_	_	_	-m- (3)	-m-
comédie	_		_	_	_	_	-m- (16)	-m-
consonne	-n- (2)		-n- (23)	-n- (7)	_	-n- (9)	-n- (21)	-n-
consonante	_		-n- (1)	_	-n- (134)	-n- (24)	-n- (6)	-n-
domestique	_		_	_	_	_	-m- (2)	-m-
dominer	_		_	_	_	_	-m- (1)	-m-
économie	_				_	_	-n- (1)	-m-
harmonie, -ieux	_		-n- (1)	_	-n- (6)	_	-n- (11)	-m-
hexagone	_				_	_	-n- (2)	_
honorer, -able	-n- (16)		-n- (3)	-n- (4)	-n- (8)	_	-n- (29)	-n-
ironie	_		_	_	_	_	-n- (2)	-n-
moment	_		_	-m- (1)	_	_	-m- (3)	-m-
omettre	_		-m- (1)	-m- (1)	-m- (7)	_	-m- (14)	-bm-
prononcer	-n- (3)		-n- (21)	_	-n- (244)	-n- (47)	-n- (168)	-n-
promesse	_		_	_	-m- (2)	_	-m- (10)	-m-
symphonie	_		_	_	_	_	-n- (1)	_
trinôme	_		_	_	_	_	-m- (8)	_
vomir	-m- (1)		_		_	_	-m- (2)	-m-

3.3 Learned v			"					
(with a nasal vo	wel or ge	minate na	sal consor	nants in th	e non-nasa	l norms)		
automne	-nn- (3)		_	_	_		-nn- (6)	-omne
calomnie	_				-nn- (4) -mn (5) -õn- (2)		-nn- (1) -mn- (1)	-mn-
calomnier	_		_	_	-nn-(2) -õn- (3)		-nn- (1)	-mn-
calomniateur	_		_	_	-nn- (2) -mn- (1) -õn- (1)		_	_
colonne	_		_	_	-nn- (2)	_	-nn- (1)	-omne
sommaire	_		-m- (1)	-mm- (1)	_	_	-mm- (3)	-mm-
sommairement	_		_	_	-mm- (2)		-mm- (2)	_
(en) somme fém.	_		-m- (1)	_	-mm- (17)	_	-mm- (60)	-omme
sommer	_		_	_	-mm- (4)	_	-mm- (1)	-mm-
sommet	-m- (3)	-m- (2)	_	_	-mm- (1)		-mm- (3)	-mm-

This appendix presents statistics from our corpus: Baïf (1569, 1573, 1574, 1964/1966), Ramus (1562, 1572), Meigret (1548, 1550a-b-c, 1551), Rambaud (1578), Peletier (1554a, 1555a-b-c, 1581) and Lanoue (1596). The first edition of Peletier's *Dialogue* (1550) was analysed, but only the second edition (1555a) has been counted in the statistics. The data from Lanoue's rhyming dictionary are distinguished according to their source: roman characters for the rhymes and italics for the spelling of pre-tonic vowels; the latter are less reliable. In particular, it should be noted that o in honnête is nasalized, as appears elsewhere in Lanoue's analysis of French sounds (1696: 402), yet he writes it with a single <-n-> (corrected as -[n]n- in the Appendix).

The figure following the spelling given by the authors is that of the total number of occurrences of the word in their texts, including all of the relevant inflected forms, e.g. *innocente*, *innocents* for *innocent*, or *connaissait* for *connaître*, except for Lanoue's rhyming dictionary where such statistics are irrelevant. The sign '—' indicates that this word does not appear in the texts of that particular author. This information, however, was not available for Baïf's two *Psautiers* (Baïf 1569, 1573), which have not yet been completely lemmatised: complete statistics are given for the *Étrennes* and the *Chansonnettes* (under the heading *Baïf E/C*) and only the occurrences of identified words for the *Psautiers* (under the heading *Baïf Ps.*).

Sections $\S 1.1$ to $\S 1.5$ give the complete list of words in which any vowel but o is followed by a sequence of two nasal graphic consonants (the first of which being often a mark of the nasality of the preceding vowel) in *any* document of the corpus. The results have been broken down as follows:

- § 1.1 Adverbs ending in *-amment/-emment* archaic *veramment* 'vraiment' and *gramment* 'grandement' have been isolated.
- § 1.2 Prefixed forms with a prefix ending with a nasal segment (including *nenni*, historically non + il).
- § 1.3 The 1pl of the preterite of *tenir*, *venir* and *prendre*.
- § 1.4 Learned borrowings.
- § 1.5 Exceptional words. These have been further subdivided: words frequently observed in most texts (§ 1.5.1), words occasionally observed with two nasal consonants (§ 1.5.2), and words found only in Peletier's work (§ 1.5.3). The 12 occurrences of $\langle -nn \rangle$ for the ending *-ienne* in Meigret's work are typographical errors (found almost exclusively in his early 1548 opuscule). The ending *-enne* and *-emme* of Lanoue's rhyming dictionary are written $-e\{n\}ne$ and $-e\{m\}me$ to take into account the author's convention whereby mm and nn after e notes the open quality of the preceding vowel, not its nasality.

Section § 2 is only a reminder for the very large number of words in which a full nasal consonant is preceded by an oral vowel. In $a\hat{\imath}n\acute{e} < OFr$.

ainsné, the presence of a long nasal vowel would not be surprising in any variety of French, but is not attested in our (limited) corpus.

Sections \S 3.1 to \S 3.3 substantiate the status of o before a nasal consonant:

- § 3.1 Sample of hereditary words, which highlight the distinction between the nasal norm of Peletier and Lanoue and the non-nasal norm of the other authors. (The form <code>domage</code> for <code>Dommage</code> in Meigret's early work is also likely to be a typographical error.)
- § 3.2 Complete list of words with a single nasal consonant found in the documents following the nasal norm.
- § 3.3 Complete list of words with two nasal graphic consonants found in the documents that do not follow the nasal norm.

NOTES

- * This research has been supported in part by the Social Sciences and Humanities Research Council of Canada and by the Government of Québec (FCAR) for a long period of time, during which all the texts by Baïf, Meigret, Peletier du Mans, Rambaud, Ramus and Vaudelin written in reformed orthographies and analysed here have been entered in a computer data base with the exception of Peletier (1554a).
- ¹ Cf. Rickard (1992: 135, 431*n*36).
- 2 I will refer to the (possibly mute) reflexes of OFr. coda nasal consonants as 'reduced nasal consonants', as in OFr. bon [bon] > 16th-c. [bɔ̃n] ~ [bɔ̃] and those of OFr. onset nasal consonants as 'full nasal consonants' as in OFr. bon [bonə] > 16th-c. [bɔ̃n(ə)] ~ [bon(ə)]. It is often impossible to determine whether 'reduced nasal consonants' were still weakly pronounced or silent in specific sixteenth-century's usages.
- ³ More precisely: Baïf (1569, 1573, 1574, 1964/1966), Ramus (1562, 1572), Meigret (1550a-b-c, 1551), Rambaud (1578), Peletier (1550, 1554a, 1555a-b-c, 1581) and Lanoue (1596).
- ⁴ The quality of the nasal vowels represented here as $[\tilde{0}]$ may have been $[\tilde{0}]$, or even $[\tilde{u}]$, depending on varieties of French. I use here $[\tilde{0}]$ as a cover term.
- ⁵ More precisely, Sylvius mentions the existence of weak (i.e. nasalised) vowels 'quando ipsæ m vel n, in eadem syllaba antecedunt' (quand elles précèdent m ou n dans la même syllabe). He makes reference to graphic syllables, however. In his analysis of *commettre*, for instance, he would analyze the first m as 'syllable final', with an implied pronunciation [$k\tilde{\mathfrak{I}}(m)$ metrə].
- The term 'adverbial endings -amment and -emment' refers here to the combination of the adjective endings -ant and -ent with the adverb marker -ment.
- ⁷ Comment, however, has only one <m>, probably because it was no longer felt to be an adverb derived from com.
- ⁸ The few other cases where Baïf wrote a sequence of nasal consonants, e.g. for *besogne, somme,* or inversely writes only one, e.g. for *innocence,* may be instances of poetic licence, cf. Morin 2000: 18n18.
- Two of the four occurrences of *indiféremment* are written with a single <m>, however. According to Darmesteter & Hatzfeld (1923: 213), the adverbial endings -emment/-amment were still pronounced with a nasal yowel in Southern France at the

beginning of the twentieth century: '[les] adverbes en -amment [...] que l'on prononce [maintenant] au midi de la Loire et qu'on prononçait au seizième siècle an-mant.' If we assume that these authors refer to a learned Southern pronunciation, it is likely that the geminate [-mm-] was still common in Southern speech (cf. Séguy's observations infra for the social variation in Southern French).

- ¹¹ One of my Languedocian informants, now aged 60, pronounces *année* [anne] with geminate [nn] while his younger sister, whose usage is more normative, says [ãne] with a nasal yowel.
- ¹² There have been many divergent views on the value of Rambaud's nasal letter <N> (cf. Brunot 1906: 118*n*2, Bousquet 1981: 561, Hermans 1985: 50, Van den Eynde & Hermans 1988: 491, Van Hoecke 1994: 213, Clerico 1999), most of which assume that the Marseilles schoolteacher described a variety of French with true nasal vowels.
- ¹³ One must probably not take into account the other cases of geminate <-nn-> listed in Appendix. which may have resulted from inadvertent oversight or printing errors. In particular, compared to the 113 regular occurrences of <-iene> for the ending -ienne, there are only twelve occurrences of the variant <-ienne>, eleven of them are found in his first essay, *Le menteur* (1548), which contains many typographical errors, as the author later acknowledged.
- ¹⁴ This is, however, only a reasonable interpretation, not a phonological necessity. In some Francoprovençal dialects, regressive nasalisation may lead to the development of a nasal coda: *lana* ['la:na] > ['la:na] > ['lanna] (cf. Morin 1994: 44).
- ¹⁵ The shortening also affected the word coing < OFr. cooing, just as it did all words ending in $-\ddot{e}u$, e.g. cru < OFr. $cr\ddot{e}u$.
- ¹⁶ Morin & Desaulniers (1991: 215) assumed that plural -s could still be pronounced, albeit variably, after word-final nasal vowels. We found it difficult to imagine without cause, however that the plural marker -s could be retained in some forms and not in others. Half a century later, however, Vaugelas noted in his *Remarques* (1647: 564–565) that, though plural -s was mute in *témoins*, a difference could still be heard between singular *partie* and plural *parties* which certainly means that the plural -s could still be pronounced in this word (cf. also Vaugelas's preface, in Rickard 1992: 245, 247).
- ¹⁷ The word *obéi* can be di- or trisvllabic [ɔbe'i] ~ [ɔ'bei].
- ¹⁸ The relationship established between the nasal diphthong -ain/-ein [- $\tilde{e}i$] and the nasal monophthong [\tilde{e}] is paralleled by that between oral [- $\tilde{e}i$ /-ei] and oral [- $\tilde{e}i$]. Lanoue noted that the 1sg verbal ending (je chantai, je chanterai) is pronounced [- $\tilde{e}i$], but that it has a more common variant [-ei], almost identical to the monophthong [e] with which it may rhyme: '[these verb endings] font bien encores auiourd'huy prononcées de quelques vns du tout felõ cefte terminaizõ [$\tilde{e}i$], la plupart toutesfois changeat l'e [ouvert] en \tilde{e} masculin, & luy baillent vne pronontiation fi peu differête de celle en \tilde{e} masculin, pag. 13, col. 3, qu'õ l'y peut rimer, comme fi ce n'eftoit qu'vne chofe meſme.' (330.1) The same ending -ay elsewhere, as in the adjective vray or the noun quay, on the other hand is more often pronounced [- $\tilde{e}i$], and though it may also be pronounced [- $\tilde{e}i$] to rhyme with [-e], this last pronunciation is less natural.
- ¹⁹ Baïf noted the ending -oin as the triphthong [uĕi] (cf. Morin 2000: 22). There are, though, other differences between Baïf's and Lanoue's vocalic systems.
- ²⁰ The conventional modern spelling is normally used for the identification of lemmas in this text, except when Lanoue noted a close [e], now pronounced [ϵ], for which I used the letter ϵ instead of modern ϵ .
- ²¹ Cf. Hajek (1997) for a possible relationship between vocalic nasalisation and length, that may or not apply in this case.

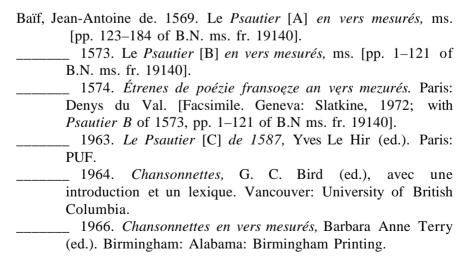
²² Dees *et al.* (1987: 527, 532) observe that the graphic characteristics of this document are those of Nivernais charters for the part corresponding to the text written by Guillaume de Lorris and those of the Paris area for the text by Jean de Meun. In the manuscript of *Le Roman de Thèbes* edited by Raynaud de Lage, probably copied between 1230 and 1270, the distribution of ann, nm, mm does not conform to the oral norm, although it also has the general graphic characteristics of charters written in the Paris area. This might indicate that there already were two norms in this area. The copyist may also have been influenced by the spelling found in the manuscript he was copying (and more generally by other manuscripts). The localisation of this manuscript of *Le Roman de Thèbes* is based on its first 766 verses (not 76 as indicated by mistrake in Dees *et al.* 1987:527). I would like to thank Bernard Derval, from the Département d'Informatique et de recherche opérationnelle de l'Université de Montréal, for giving me access to his computer corpus of medieval texts, and in particular to Lecoy's edition of *Le Roman de la Rose* and Raynaud de Lage's edition of *Le Roman de Thèbes*.

 23 The spelling of *ennui* and its derivatives with two n's is that of the copyist of Jean de Meun's text and may not correspond to the pronunciation of the author, as appears from the leonine rhymes (cf. Langlois 1914: 165, 248). According to Langlois's analysis (248–249, 257), the leonine rhymes would also show that Jean de Meun's usage conformed to the oral norms (this evidence, however, is difficult to interpret).

²⁴ The copyists, however, often used «conm-, cõm-» with *commencer*; perhaps a generalisation of the nasal vowel of *com*- similar to that of *en*- in *ennui*. A nasal vowel may also have developed in *comme* (often spelt «conme, cõme») after *comment*.

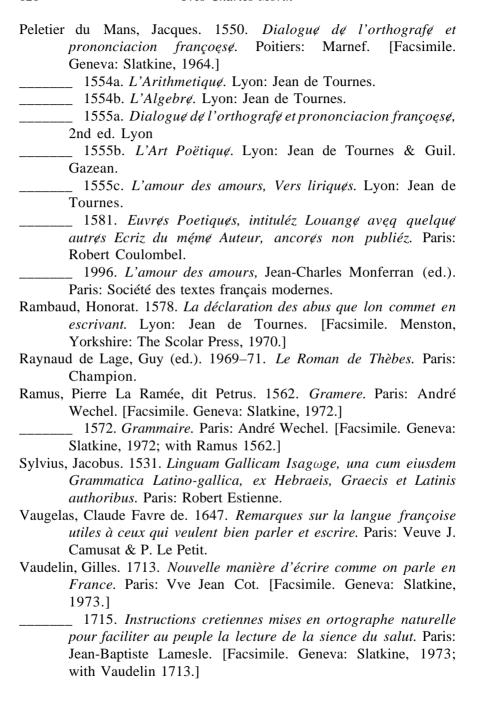
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