

Syllable contact effects as a diachronic precursor to mora licensing in early French /sC/ clusters

During the Old French (OF) period (11th-13th centuries), /s/ ceases to surface as a licit word-internal syllable coda, undergoing deletion accompanied by compensatory lengthening of the preceding vowel (e.g. *feste* [fɛs.tə] > *fe:te* [fɛ:.tə] 'party') (Gess 1999). Given the lengthening reflexes of the deletion process, the prevailing constraint-based analysis relies on mora-licensing constraints governing how sonorous a moraic coda consonant must be (Gess 1998, 1999, and later work). The analysis is compelling in a diachronic perspective, especially as ever-stricter sonority requirements for OF moraic consonants also explain subsequent OF coda loss, particularly coda nasal deletion, coda /l/ vocalization, and dialectal coda /r/ deletion.

But is this the whole story? There are particular details regarding medial /sC/ clusters that hint at additional systemic factors at play, both synchronically and diachronically. First, OF coda /s/ deletion occurs in stages (first to coda [z], then to [s]), as noted by Gess (1998, 1999) and explained with further granular distinctions within mora-licensing constraints and a two-tier lexical phonological approach. But given that [s] ~ [z] allophony likely underlies these two surface codas, an alternate analysis (Montaño 2017) is plausible by which the diachronic rollout of coda /s/ deletion in stages is instead conditioned by the sonority of the following onset segment, a *syllable contact* effect, dispensing with the need for a two-tier phonological analysis of this phenomenon. The second unexplained detail in OF coda /s/ deletion involves the lack of compensatory lengthening upon the loss of coda /s/ in word-initial /sC/ clusters repaired via prothesis. In close chronological proximity to OF coda /s/ deletion, the prothetic vowel of words containing a word-initial /sC/ cluster becomes a fixed rather than conditioned element of surface forms (e.g. /spusə/ 'spouse.FEM' → [es.pu.zə] ~ [spu.zə] > /spusə/ → [e(s).pu.zə]), leading to other scholars' conclusion that prothesis had shifted from the postlexical to the lexical phonology (Pope 1952; Sampson 2010), with the fixed prothetic vowel potentially being reanalyzed as part of the input during acquisition via lexicon optimization (input form /ɛspusə/ → [e(s).pu.zə]). But coda /s/ deletion interferes with prothesis in that simply epenthesizing an initial vowel no longer yields a harmonic output, given it puts /s/ in coda position. Yet /s/ does delete in this position (/spusə/ → [e.pu.zə]), but critically without compensatory lengthening as in word-internal contexts (Pope 1952). This is problematic regardless of whether one considers the once-prothetic vowel to have become underlying or not. If underlying, compensatory lengthening is expected (given that examples such as [bla:.'mer] 'blame-INF' and [tʃa:.'tɛt] 'castle' show lengthening occurred also in unstressed syllables) but does not occur; if not underlying, /s/ deletion in these words is unexplained as /s/ is not in coda position. The moraic analysis does not readily explain this conundrum.

Given these remaining issues, there is more to be elucidated regarding the trajectory of early French medial /sC/ clusters. Building on the fact that OF coda /s/ deletion occurred in (at least) two stages, a diachronic progression on *syllable contact* requirements, serving as a precursor to the blanket ban on moraic sibilants proposed by Gess, provides a fuller explanation of the evolving phonology's treatment of medial /sC/ clusters — in this perspective, *syllable-contact clusters* (SCCs). In my analysis, coda /s/ deletion constitutes one of several phonological repairs possible to resolve an unharmonic syllable contact sonority contour. While sibilant + voiceless obstruents are the SCCs to undergo /s/ deletion last (second 13th century stage), sibilant + lateral liquid, nasals, or voiced obstruents undergo /s/ deletion in earlier OF (by 11th century). The absence of sibilant + rhotic liquid in the lexicon by the time of OF coda /s/ deletion is due to an earlier syllable-contact phenomenon: Gallo-Romance (GR) stop epenthesis of medial /sr/ clusters brought together by syncope (/sr/ → [s.tr]), which had occurred by the time of the earliest 9th century texts. Though the phonological repair is different from OF coda /s/ deletion, I propose that GR stop epenthesis of would-be /sr/ clusters is the earliest observable stage of a multi-stage progressing diachronic shift in sonority contour

requirements in SCCs. My analysis further provides phonotactic explanations for why /s/ SCCs surface faithfully until OF despite exhibiting a sonority contour fitting the profile for GR stop epenthesis. In this broader diachronic dimension and analysis, the final stage of OF coda /s/ deletion by the 13th century is part of a process not limited to OF but rather the culmination of a much longer shift in syllable contact requirements, with distinct phonological repairs applied to specific offending sonority contours at different stages of French diachrony:

| <u>by 9th c.</u> | <u>by 11th c.</u> | <u>by 13th c.</u> | <u>beyond 13th c.</u> |
|---------------------------------|-------------------------------|-------------------------------|-----------------------|
| (/sr/) | (/sl/, /sN/, /sd/) | (/st/, /sp/, /sk/) | (/sC/) |
| *[s.r] > [s.tr] | *[z.l, z.N, z.d] > [V:.l/N/d] | *[s.p, s.t, s.k] > [V:.p/t/k] | *μ/s |
| <i>Repair</i> : stop epenthesis | /s/ deletion, stage 1 | /s/ deletion, stage 2 | --- |

The moraic analysis need not be fully abandoned, and the continuation of the mora-licensing progression into codas of higher sonority remains a compelling explanation for the near total disappearance of coda consonants by the end of OF. Once the underlying presence of coda /s/ is no longer surface-apparent in output, the universal mora-licensing constraint *μ/s would presumably be learned during acquisition as ranking above FAITH, with /s/ patterning with other obstruents, previously banned from moraic positions during the earlier GR period (Gess 1998). This ranking becomes possible during acquisition not only because virtually no examples exhibiting moraic coda /s/ in output remain in the lexicon to justify the opposite ranking, but also because the eventual promotion of *μ/N above FAITH (à la Gess 1999), eliminating nasal codas co-occurring with generalized vowel nasalization, implies *μ/s now outranks FAITH too. Finally, compensatory lengthening is captured prior to the promotion of *μ/s via root node preservation during input-output mapping, with the lack of compensatory lengthening in words exhibiting prothesis but effacing /s/ due to the need to preserve some segment (here, a vowel) in the root node of word-initial /s/, and crucially not due to the deletion of a moraic consonant.

In my optimality-theoretic analysis, I formalize the interrelated nature as well as the predictably ordered chronology of these changes in medial /sC/ clusters using the Split Margin Approach to the Syllable (Baertsch 2002; Baertsch & Davis 2003; and later work). I demonstrate how the rich network of implicational structural relationships among syllable and word-level constraints on margin segments and their interaction with faithfulness constraints model a unified progression of sonority contour requirements on /sC/ SCCs from GR through OF, while elucidating how different phonological repairs apply and intersect in ways revealing of the inner workings of the evolving phonological system. By capitalizing on the high granularity of this approach in the parallel evaluation of diverse sonority contours and its applicability to clusters in both the syllable domain (onset clusters) and the phonological word (SCCs), I offer a comprehensive schematization and how syllable contact requirements within the language evolves over time into one of mora licensing during early French diachrony.

References

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