# COMPENSATORY LENGTHENING BY VOWEL AND CONSONANT LOSS IN EARLY FRIULIAN

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The majority of Romanists have recognized that the Romance languages that have developed a length contrast in the vocalic system have done so through a process called open-syllable lengthening, that is, stressed vowels in open syllables automatically lengthened (Lausberg (1985)). However, this is not the case in northern Italian dialects like Friulian or Milanese, where we observe contrasts like the following: FĪNĪTU > [finí:t] vs. FĪNĪTA > [finíde]. What has traditionally been interpreted in the Friulian case is that vowels lengthened before word-final voiced consonants. This article shows that the lengthening process attested in Early Friulian is better understood if we adopt a moraic conception of the syllable and syllabic weight. It is proposed that vowel lengthening is triggered by the loss of the final vowels: while FĪNĪTU deletes the last vowel and compensates the preceding vowel, FĪNĪTA does not drop the final vowel and, consequently, the vowel remains short.

Friulian, like other northern Italian dialects, has developed a tonic vowel system with distinctive length. As a number of philologists have claimed, these length alternations do not derive from Classical Latin, but rather from the Late Latin vowel system, which made no use of phonological vowel length distinctions. While it is clear that in Gallo-Italian dialects such as Frignanese some long vowels are the historical result of lengthening in open syllables before the general apocope that affected non-low final vowels (see Uguzzoni (1971, 1975, 1976)), Repetti (1989a, b)), it is widely assumed that Friulian long vowels developed from lengthening before voiced consonants (see Vanelli (1979, 1986), Rizzolatti (1981), Frau (1984) and Hualde (1990)). Another suggestion that classifies Friulian lengthening with the majority of Romance languages which developed vowel length consists in a general open-syllable lengthening in

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penultimate syllables with subsequent shortening before final [-a] (Morin (1992)). Following up on Pellegrini (1982) and Repetti's (1989a,b) initial proposal, the present article defends an analysis of the Friulian development of long vowels which is based on Compensatory Lengthening (henceforth, CL) by Vowel Loss; basically, this analysis interprets the lengthening of the final stressed vowels as a direct prosodic consequence of the deletion of the final non-low vowels. The type of CL originated by the loss of a vowel in the following syllable (that is, a change of the form VCV > V:C) is well attested in a wide variety of languages (Hock (1986), Hayes (1989)). The moraic view of the syllable structure allows us to look at this type of CL as a natural reorganization of the weight units or moras in a word. Likewise, quantity constraints such as the number of moraic units stressed or unstressed syllables allow, play an important role in the formulation of the process.

The present proposal allows for a wider empirical coverage of the Early Friulian lengthening data and at the same time for a simpler formal analysis. Empirically, the analysis proposed can be used to account for similar processes attested in the evolution of Friulian, namely, CL by consonantal loss in a rime (cf. CAPRA > [cáw.re] > [cá:.re] 'goat' or DORMĪRE > [*durmír] > [durmf:] 'to sleep'). The present analysis does not need to suppose a historical stage in which geminate and non-geminate consonants were distinguished in final position (since both have different effects on the vowel). Moreover, it can motivate why stressed antepenultimate vowels in open syllables did not lengthen.

Formally, the processes of Vowel Loss and Lengthening are interpreted under the present proposal as a unitary phenomenon; instead, the alternative view is forced to postulate two unrelated processes, namely, Vowel Loss and Lengthening before voiced consonants.

In section 1 we describe the distribution of synchronic vowel length and relate systematically the modern Friulian results to Classical Latin forms. The second section concentrates on the comparison of the three alternative views on the Early Friulian diachronic data, defending an analysis based on CL triggered by Vowel and Consonant Loss.

## 1. The Evolution of Vowel Length Contrasts in Friulian

Friulian is a Central Rhaeto-Romance dialect spoken in the North-East part of Italy. Traditionally, Friulian has been divided in four main varieties (Central, Eastern, Western and 'Carnico' Friulian) according to the different results of lengthened vowels across dialects —types of diphthongs, etc.[1] The Central dialect, spoken around Udine, has had the prestige of the standard variety and consequently, most of the descriptive and prescriptive work has been based upon it.[2] The present analysis will be grounded on the following descriptive sources: Marchetti (1952) = M, Francescato (1966) = Fran, Iliescu (1972) = I, Vanelli (1979) = V, Vanelli (1989) = V-89, Rizzolatti (1981) = R, Zannier (1983) = Z, Frau (1984) = F, Hualde (1990) = H, Benincà & Vanelli (to appear) = B&V, and AIS : point 339. Although most of the works agree in the vowel length transcriptions of the oxytones, in the case of the paroxytones, we will observe a clear disagreement between the descriptive works and more prescriptive materials such as Faggin (1985), and Cjanton (1988). As in the case of Gallo-Italian dialects such as Frignanese or Milanese, Friulian has developed a system of contrastive vowel length in stressed positions. The Central variety (consonantal inventory: p, t, c, k, b, d, g, ɟ, m, n, ɲ, ts, tʃ, dz, dʒ, f, s, ʃ, v, r, l, ʒ (Frau (1984:18))) has a synchronic vowel system with the contrasts exemplified in (1) in stressed positions.[3] The long mid open vowels [ɛ:, ɔ:] are not

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[1] According to Frau (1984:30), "le vocali lunghe sono collegate le succesive vicende di dittongazioni (e monottongazioni) ed è sulla base del loro comportamento e della loro attuale realizzazione che si fonda il principale criterio di classificazione dei dialetti". For example, in the Western variety of St. Martino di Campagna, described in Rizzolatti (1984), the Romance vowels [ɛ, ɔ, e, o] in lengthening contexts become [ej, ow] (Rizzolatti (1984:275)). In some villages of the Western Friulian side the diphthongization is of the so-called germanic type [i:ə, u:ə] (Rizzolatti (1978)). See Rizzolatti (1981) for further subdivisions across dialects. See also Francescato (1966:95).

[2] According to Frau (1984:17), "dato il prestigio di cui questa varietà gode a tutt'oggi, ad essa si sono rifatte anche le principali descrizioni del friulano e perciò le sue caratteristiche sono quelle riconosciute come 'normali' per il friulano". For more sociolinguistic information regarding the prestigious role of Venetian and standard Italian in the region, see Frau (1984) and Rizzolatti (1981).

[3] Friulian, as many other Romance languages, neutralize the mid open vowels [ɛ, ɔ] into [e, o] respectively in unstressed positions; thus, a vocalic system with five contrasts is found in reduced environments.

found in Central Friulian varieties (Zannier (1983:106)). For an extensive list of minimal pairs such as [fi] 'fig' ~ [fi:] 'son'; [nó] 'no' ~ [nó:] 'we', see Frau (1984).[4]

(1) *Friulian Synchronic Vowel Inventory (stressed position)*

| | | | |
|---|---|---|---|
| i | u | i: | u: |
| e | o | e: | o: |
| ɛ | ɔ | (ɛ:) | (ɔ:) |
| a | | a: | |

None of the long vowels present in synchronic Romance Languages correspond to the Classical Latin distinctions, which were totally replaced by quality distinctions in Late Latin. Early Friulian participated in one of the most common Early Romance vowel systems, with seven qualitative distinctions (correspondences with Classical Latin: Ī > i; I, Ē > e; E > ɛ; Ā, A > a; O > ɔ; Ō, U > o; Ū > u (Frau (1984:30)) and later developed different changes. Proto-Romance stressed vowels changed as follows in Central Friulian: Romance [i, u, a] kept their quality in all environments; [e] opened to [ɛ] in all environments but when historically the vowel lengthened it became [e:] or [i:],[5] [o] opened to [ɔ] in all environments and when the vowel lengthened it became [o:]; [ɛ] generally became [jɛ], in lengthening environments [i:] or [e:],[6]

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[4] While the standard Friulian variety, spoken in the central and more populated part of the region, developed long vowels, other varieties in the Western region developed off-glide diphthongs (cf. Stand. Friul. [pé:s] ~ [pɛ́js] 'fish'; Stand. Friul [pé:l] ~ [pɛ́jl] 'hair'; Stand. Friul. [né:f] ~ [nɛ́jf] 'snow'; Stand. Friul. [nó:f] ~ [nówf] 'new (m.s.)'; for the results of the diphthongs in different varieties of Friulian, see Rizzolatti (1981:18-22, 1983).

[5] In this case if the vowel [ɛ] was in an open syllable it became [i] (cf. TEPIDU > [tívit] 'lukewarm (m.s.)'; GEMINU > [zímul] 'twin'; VENERIS > [vínars] 'Friday'; cf. Marchetti (1952:49)).

[6] As we will see, in some lengthening environments derived from the loss of the syllable-medial obstruent there was no tendency to raise this vowel (cf. PETRA > [pjé:re] 'stone', *[pí:re]; VET(U)LU > [vjé:li]) 'old (m.s.)'). This fact would confirm the hypothesis that two types of lengthening were produced in different times of the Friulian evolution. While the first type of lengthening (triggered by the loss of the final vowel) affected the quality of the lengthened consonant and was general to all varieties, the second type (triggered by the loss of

and before word-final nasals [e]; [ɔ] generally became [wé], when lengthened became [u:] or [o:], and before nasals [o]. For a more detailed description, in particular of the influence of nasal consonants, see Zannier (1983:110).

(2)

| *Open Syllables* | | | *Closed Syllables* | | |
|---|---|---|---|---|---|
| PRĀTU | prá:t | 'meadow' | PASSU | pás | 'step' |
| DECE | dí:ʃ | 'ten' | PELLE | pjél | 'skin' |
| RĒTE | ré:t | 'net' | PISCE | péʃ | 'fish' |
| OVU | ú:f | 'egg' | COLLU | kwél | 'neck' |
| VŌCE | vó:ʃ | 'voice' | VULPE | vólp | 'fox' |
| VĪTA | víte | 'life' | MĪLLE | míl | 'a thousand' |
| CRŪDU | krú:t | 'raw (m.s.)' | RŪPTU | rót | 'broken (m.s.)' |

Romance dialects followed different strategies in developing vowel length alternations; on the one hand, as Lausberg (1985:217) points out, French, Provençal and some Northern and South-Eastern Italian varieties treated vowels in a closed syllable and vowels in an open syllable differently; while vowels in an open syllable lengthened and sometimes diphthongized, vowels in a closed syllable remained short.[7] That this is not the case in Friulian can be readily seen if one compares the different evolutions of the pairs in (3) in Frignanese[8] (Emilia region) and

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intervocalic obstruents) did not affect the quality of the vowels and only was instantiated in some Friulian varieties.

[7] In Old French the Late Latin [e] developed into [ej] in an open syllable (P[e]RA > [pejre ] -Modern French *poire* -), and into [e] in a close syllable position (M[e]TTERE > [mettere] -Modern French *mettre* -).

[8] The Frignanese data is taken from Uguzzoni (1971, 1975, 1976) and Repetti (1989a,b). As Uguzzoni (1975:55) remarks, the Frignanese examples show that syllables with implosive liquids [r, l] (that is, VrCV) were treated as open syllables, and thus the first vowel was lengthened (CORPU > [kó:rp] 'body'; SVELTU > [ʃvé:lt] 'slim'). Moreover, the group of nasal+voiceless consonant behaved in the same way (cf. PONTE > [pý:nt] 'bridge'). Finally, the Late Latin low vowels [a, ɛ, ɔ] became long in all positions. The same

Friulian. In (3) we observe the masculine and the feminine forms of an adjective; while the masculine adjective (with final [-u]) underwent Non-Low Final Vowel Deletion (i.e., apocope), the feminine form did not (in Friulian, though, word-final [-a] raised to [-e]). Since both pairs have a tonic vowel in an open syllable, the vowel is lengthened in Frignanese,[9] however, in Friulian,[10] the masculine form is the only one that lengthens the vowel, that is, the form which crucially undergoes apocope. For the Latin examples we use the traditional notation V̄ = long vowel, V = short vowel, * = reconstructed form; the words are presented in the accusative singular form without the final -M, which was deleted early in Late Latin. For the present-day forms of Friulian or Frignanese we use IPA notations.

| (3) | *Classical Latin* | *Frignanese* | *Friulian* | |
|---|---|---|---|---|
| | CRŪDU | krý:d | krú:t (R:18) | 'raw (m.s.)' |
| | CRŪDA | krý:da | krúde | 'raw (f.s.)' |
| | FĪNĪTU | finí:d | finí:t (Z:109) | 'finished (m.s.)' |
| | FĪNĪTA | finída | finíde (H:37) | 'finished (f.s.)' |
| | NOVU | nœ́:v | nú:f (R:21)[11] | 'new (m.s.)' |
| | NOVA | nœ́:va | núve | 'new (f.s.)' |
| | LUPU | lú:v | ló:f (Z:109, R:18) | 'wolf (m.s.)' |
| | LUPA | lú:va | lóve (R:25, M:80) | 'wolf (f.s.)' |

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phenomena are attested in other Emilian and Romagnan dialects such as the ones spoken in Bologna, Novellara and Valèstra (see Malagòli (1910, 1934)). For a treatment of these cases, see Prieto (in prep).

[9] We only provide examples of high vowels, since the Late Latin low vowels [a, ɛ, ɔ] became long in all positions in Frignanese, either in closed or in open syllables (for examples see Uguzzoni (1975)).

[10] Milanese follows the same historical pattern Friulian does in this case: [krý:t] ~ [krý:d] 'raw (m.s.)'; [krýda] 'raw f.s.'; however, it differs from Friulian in other specific environments of lengthening (see Nicoli (1983), Sanga (1988) and Gökçen (1990)).

[11] Zannier (1983) cites the variant [ɲú:f].

Paroxytone Latin forms with final apocope such as PILU 'hair', LUPU 'wolf' or CORE 'heart', in which the tonic syllable is open, have the same results in both dialects, namely, lengthening of the stressed vowel (cf. Frig. [pé:l ] ~ Friul. [pé:l]; Frig. [lú:v] ~ Friul. [ló:f] (Z:109, R:18, M:54); Frig. [kœ́r] ~ Friul. [kú:r] 'heart' (R:18, H:36)). More examples of Friulian lengthening of a tonic vowel in an open syllable in apocopated forms are listed in (4).[12]

| (4) | *Classical Latin* | *Friulian* | *Reference* | *Gloss* |
|---|---|---|---|---|
| | ACĒTU | aʃé:t | (R:21, Fran:103, M:70) | 'vinegar' |
| | PRĀTU | prá:t | (Z:111, H:37, I:78) | 'meadow' |
| | RĒTE | ré:t | (F:27) | 'net' |
| | NĪDU | ní:t | (R:33, F:27, M:73) | 'nest' |
| | PĒDE | pí:t | (M:49) | 'foot' |
| | LOCU | lú:k | (Z:114, R:42, I:39) | 'place' |
| | FOCU | fú:k | (Z:114, R:21, I:39) | 'fire' |
| | IUGU | jó:f | (Z:116, M:68) | 'yoke' |
| | VŌCE | vó:ʃ[13] | (Z:116, F:56) | 'voice' |
| | DECE | dí:ʃ | (Z:116, R:21, F:31) | 'ten' |
| | CRUCE | kró:ʃ | (R:42, M:70, I:69) | 'cross' |
| | LŪCE | lú:ʃ | (Z:117, R:42, I:43) | 'light' |
| | NĀSU | ná:s | (F:50) | 'nose' |

[12] It seems that this lengthening also occured when the final vowel was followed by a plural morpheme or a second person verbal morpheme:

| | | | |
|---|---|---|---|
| *FOCUS | fú:ks | | 'fires' |
| *LUPUS | ló:fs | | 'wolfs' |
| POT(I)S | pú:s | (M:63) | 'you can' |
| FAC(I)S | fá:s | (M:63) | 'you do' |

[13] This and similar words have variants consisting of [vó:ʃ] ~ [vó:s] 'voice' across Friulian dialects (cf. Frau (1984)).

| | | | | |
|---|---|---|---|---|
| (4) | FĀMŌSU | famó:s | (H:34) | 'famous (m.s.)' |
| | NIVE | né:f | (Z:111; M:81) | 'snow' |
| | OVU | ú:f | (R:21; M:81) | 'egg' |
| | NĀVE | ná:f | (H:34) | 'ship' |
| | PĀLU | pá:l | (F:56; H:34) | 'stick' |
| | PILU | pé:l | (M:51; H:34) | 'hair' |
| | CAELU | tʃí:l | (Z:113)[14] | 'sky' |
| | CĀRU | cá:r | (Z:109; H:34) | 'dear (m.s.)' |

Vowels in original antepenultimate syllables were not lengthened, as one can observe in the examples in (5).

| | | | |
|---|---|---|---|
| (5) | SPĪRITU | spírit | (R:24) 'spirit' (cf. ACĒTU > [aʒé:t] 'vinegar' (I:41)) |
| | ŪMIDU | úmit | (Z:117) 'humid' (cf. NĪDU > [ní:t] 'nest') |
| | GENERU | zínar | (I:56) 'son-in-law' (cf. MĀTŪRU > [madú:r] 'ripe') |
| | RĪDĒRE | rídi | (Z:111) 'to laugh' |
| | POPULU | pópul | (Z:141) 'people' |
| | TEPIDU | tívit | (M:49) 'lukewarm (m.s.)' |
| | LĪBERU | lífbar | (M:75) 'free (m.s.)' |

Words which had a word-final [-a] and consequently did not undergo apocope did not lengthen the tonic vowel,[15] as the examples in (6) show.[16] Similarly, one can compare the different

[14] According to Zannier (1983:113) in some marginal dialects the sound [i:] is substituted by the diphthongs [éj], [íe] and even [e:]. Also, Rizzolatti (1981:26) points out that the word CAELU 'sky' has the following outcomes in different Friulian varieties: [tʃí:l], [tʃéjl] and [tʃél].

[15] Francescato (1966:135) observes that, vowels are a little longer in open than in closed syllables. Yet, this length is not comparable to phonological vowel length.

[16] I came across the following counterexamples:

results for the feminine and masculine forms in (3); while the form CRŪDU 'raw (m.s.)' underwent lengthening of the stressed vowel (cf. [krú:t]) its femenine counterpart CRŪDA 'raw (f.s.)' did not (cf. [krúde]):

| (6) | *Classical Latin* | *Friulian* | | |
|---|---|---|---|---|
| | CASA | cáse | (R:29) | 'house' |
| | CĒNA | séne | (R:30) | 'dinner' |
| | SACRA | ságre | (Z:64) | 'sacred' |
| | RĪPA | ríve | (M:50, R:24) | 'bank' |
| | GULA | góle | (R:25, M:67) | 'throat' |
| | LŪNA | lúne | (R:25) | 'moon' |
| | SĒRA | sére | (R:25) | 'afternoon' |
| | SCHOLA | skwéle | (R:25) | 'school' |
| | SŌLA | swéle | (R:25) | 'alone (f.s.)' |
| | STRĀTA | stráde | (R:24) | 'street' |
| | VĪTA | víte | (Z:111) | 'life' |
| | FĒTA | féde | (R:25) | 'sheep' |
| | CATĒNA | kadéne | (Bender et al.:221) | 'chain' |
| | GALLĪNA | jalíne | (I:43) | 'hen' |
| | CORŌNA | korône | (M:51) | 'crown' |

The examples in (7) show how stressed vowels in closed syllables in words which underwent Non-Low Final Vowel Deletion did not lengthen:

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| | | | |
|---|---|---|---|
| PANĀRIA | panárie (Z:131) | 'basket for the bread' | (but [panárje] (R:32)) |
| MANUĀRIA | manárie (Z:131) | 'manual' | (but [manárje] (R:32)) |

According to Vanelli (p.c.) these words have a long vowel due to the presence of a following [r]; yet, cases like [sére] 'afternoon' show that this has not been a generalized process. According to Francescato (1966) the only cases of lengthening before [r] are reduced to word-final [-r].

| (7) | *Classical Latin* | *Friulian* | | |
|---|---|---|---|---|
| | BOSCU | bósk | (F:35, M:64) | 'forest' |
| | LUSCU | lóʃk | (I:41) | 'cross.eyed (m.s.)' |
| | PISCE | péʃ | (I:40) | 'fish' |
| | GUSTU | gúst | (I:43) | 'taste' |
| | DULCE | dóltʃ | (M:62, F:71) | 'sweet (m.s.)' |
| | VULPE | vólp | (M:54, I:69) | 'fox' |
| | CAL(I)DU | cált | (I:77) | 'hot (m.s.)' |
| | BRĀCCHIU | brátʃ | (M:76) | 'arm' |
| | CORPU | kwárp[17] | (M:64, Z:115) | 'body' |
| | ORBU | wárp | (M:52, F:72) | 'blind' |
| | APERTU | vjért | (Z:119, I:85) | 'open (m.s.)' |
| | FORTE | fwárt | (M:52) | 'strong (m.s.)' |
| | MORTU | mwárt | (M:52) | 'dead (m.s.)' |
| | NERVU | ɲárf ~ ɲérf | (R:31,V:113, I:75) | 'nerve' |
| | SURDU | sórt | (M:54, F:72) | 'deaf (m.s.)' |
| | LARGU | lárk | (M:67, I:69) | 'long (m.s.)' |
| | TERTIU | cjértʃ | (M:72) | 'third (m.s.)' |
| | MARTIU | mártʃ | (Z:130) | 'March' |
| | SPORCO | spórk | (M:64, F:72) | 'dirty' |
| | DENTE | dínt | (M:51) | 'tooth' |
| | TEMPU | tímp | (M:50) | 'time' |
| | PLUMBU | plómp | (I:41) | 'weight' |
| | COLUMBU | colómp | (I:41) | 'pigeon' |

[17] In the basic cases, the Late Latin mid open vowels [ɔ] and [ɛ] became [wɛ] and [jɛ] respectively (see Zannier (1983:113)). These diphthongs developed into [wa] and [ja] before implosive [-r] in some cases (cf. CORPU > [kwárp] 'body'; APERTU > [vjért] 'open (m.s.)'; COPERTU > [kuvjért] 'covered (m.s.)'; FERRU > [fjér ~ fjár] 'iron'). Although the change to [ja] was generalized to all varieties, [wa] is only attested in the more innovative varieties (Vanelli (p.c.)).

| | | | | |
|---|---|---|---|---|
| (7) | FUNGU | fóŋk | (I:41) | 'mushroom' |
| | GRANDE | gránt | (B&V:4) | 'big (m.s.)' |

The only exceptions to this generalization are the words which have a rime-final [r] followed by a nasal in the following syllable, exemplified in (8). Significantly, the nasal consonant does not incorporate itself in the syllable and deletes, leaving [r] in word-final position. As we will see, there is some evidence to believe that vowel lengthening before [-r] was a later phenomenon.

| (8) | *Classical Latin* | *Friulian* | | |
|---|---|---|---|---|
| | HĪBERNU | umvjá:r | (Z:119) | 'winter' |
| | INFERNU | infjá:r | (M:83) | 'hell' |
| | CORNU | kwá:r | (M:53) | 'horn' |
| | FORNU | fó:r | (F:29, M:52, I:41) | 'oven' |
| | VERME | vjá:r | (M:63) | 'worm' |
| | DORMI(T) | dwá:r | (M:52) | 'he/she sleeps' |
| | FIRMU | fé:r | (M:51, F:73) | 'resistant (m.s.)' |
| | GUBERNIU | guvjá:r | (M:59) | 'government' |

Similarly, tonic vowels in syllables closed by original or secondary geminates (CT > TT and PT > TT are very early assimilations) were not lengthened, as the examples in (9) show.[18] It is worth pointing out that the syllables with the diphthong [AU] counted as closed for the purposes of lengthening: LIGNU > léŋ (F:52, Z:112) 'wood', AURU > áwr (R:26, M:54, Z:118) 'gold', TAURU > táwr (Z:118) 'bull', LAUDE > láwt (R:26, M:54)[19] 'praise'.

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[18] The words DIG(I)TU > [dé:t] 'finger' (M:73) and FRĪG(I)DU > [fré:t] 'cold' (Z:112, M:51) could be explained if the medial vowel [I] merged with the first vowel the first open syllable.

[19] On the other hand, if the sequence AU was monopthongized to [o] the vowel could be lengthened (cf. PAUCU > [pó:k] 'little'; PAURA > [pó:re] 'poverty' (M:74)).

| (9) | *Classical Latin* | *Friulian* | | |
|---|---|---|---|---|
| | *GĀTTU | ɟát | (F:42) | 'cat' |
| | SICCU | sék | (R:25, M:65, I:41) | 'dry (m.s.)' |
| | PASSU | pás | (Z:111) | 'pace' |
| | ROSSU | rós | (H:43) | 'blond' |
| | MĪLLE | mĩl | (Z:111) | 'thousand' |
| | PELLE | pjél | (B&V:4) | 'skin' |
| | AUCELLU | utʃél | (I:48) | 'bird' |
| | SUBTU | sɔ́t ~ sót | (M:54, I:41) | 'under' |
| | NOCTE | ɲɔ́t | (Z:129) | 'night' |
| | LACTE | lát | (R:13, F:42) | 'milk' |
| | OCTU | vɔ́t | (M:86, R:26) | 'eight' |
| | SCRĪPTU | skrít | (M:71, Z:111) | 'written (m.s.)' |
| | FRĪCTU | frít | (R:24, F:27) | 'fried (m.s.)' |
| | DICTU | dít | (M:51) | 'said (m.s.)' |
| | RUPTU | rót | (R:25) | 'broken (m.s.)' |

The Latin groups that in some cases became affricates (TY > ts > tʃ; GE, DY > dʒ) did not allow the lengthening of the stressed vowel either, as in the words in (10).[20] This situation is similar to the French diphthongization case, which was not allowed in front of an affricate (see Fouché (1952:234)).[21]

[20] As Morin points out to us, there are various facts that make think that these sequences were geminated in Early Friulian. For example, the word CAPITIU 'hood', which gave [cávetʃ] in Friulian, and not *[cávez] (as DECE gives [dɛ:ʃ] (Z:116, R:21, F:31) 'ten' and CRUCE, [krɔ́:ʃ] (R:42, M:70, I:69) 'cross'). If the intervocalic sequence was geminated one can explain why it was not simplified as in the other case or why a word like JUSTITIA > [justétʃe] was not voiced.

[21] As Fouché (1952:234) notices for French, "en position intervocalique, les affriquées constituent un groupe disjoint. Leur élément implosif a empêché la voyelle précédente de devenir longue et par conséquent de se diphtonguer" (cf. SĒDICE > *sedze > seze 'sixteen').

| (10) | *Classical Latin* | *Friulian* | | |
|---|---|---|---|---|
| | PALĀTIU | palátʃ | (M:77, Z:156) | 'palace' |
| | *PULLETIU | polétʃ | (M:77) | 'chicken' |
| | *BELLITIA | bjelétʃe | (M:77) | 'beauty' |
| | JUSTITIA | justétʃe | (M:77) | 'justice' |
| | LEGE | létʃ | (Z:141) | 'he/she reads' |
| | MEDIU | mjétʃ | (Z:130, I:74) | 'half' |
| | GRATITIU | gritítʃ | (Z:120) | 'hurdle' |

The contrasts between geminate and non-geminate consonants in words with final apocope can be readily seen in the following contrasts in (11); while geminate consonants did not allow the lengthening of the preceding tonic vowel, non-geminate consonants permitted the lengthening process:

| (11) | *Non-Geminate Consonants* | *Geminate Consonants* |
|---|---|---|
| | MELE > mí:l (F:20, F:808) 'honey' | MĪLLE > míl (Z:111, F:20) 'thousand' |
| | VALE(T) > vá:l (V:72) 'it is worth' | VALLE > vál (F:41) 'valley' |
| | FĪLU > fí:l (Z:111) 'thread' | CASTELLU > caʃcél (Z:142) 'castle' |
| | PRĀTU > prá:t (Z:111) 'meadow' | *GATTU > ɟát (F:42) 'cat' |
| | FOCU > fú:k (Z:114) 'fire' | SICCU > sék (R:25) 'dry (m.s.)' |
| | NĀSU > ná:s (F:50) 'nose' | PASSU > pás (F:20) 'step' |

The only two consonants which had a distinction between geminate and non-geminates and that did not trigger a different behavior in the lengthening of the preceding vowel were the rhotics [r/rr] and the nasals [n/nn]. In (12) we can see how all stressed vowels preceding either geminate and non-geminate [r] are today lengthened. As Frau (1984) points out, the lengthening of final vowels before [-r] is a typical Central Friulian characteristic which is not known in other

Friulian varieties developing vowel length.[22] As a consequence, almost all descriptive grammars agree that stressed vowels are always long before word-final [-r][23] (cf. [intí:r] 'whole'; [cavalí:r] 'knight'; [forestí:r] 'foreigner' (M:67)). From the facts above we can assume that Central Friulian vowel lengthening before word-final [-r] was a process that occurred later and was independent from the other lengthening processes described above.[24] Moreover, if one assumes this late lengthening process, the examples shown in (8) can be explained (cf. HIVERNU > [umvjá:r] 'winter', but TARDU > [tárt] 'sluggish (m.s.)'). Since the final nasal in [-m] deleted, the late process of lengthening before [-r] could apply in the first example, but not in the second (cf. [fé:r] 'strong (m.s.)' versus [férme] 'strong (f.s.)' (F:72-73)):

| (12) | *Non-Geminate /r/* | *Geminate /rr/* |
|---|---|---|
| | MARE > má:r (F:57) 'sea' | TURRE > tó:r (M:62) 'tower' |
| | MŪRO > mú:r (M:156) 'wall' | FERRU > fé:r ~ fjá:r[25] (M:49) 'iron' |
| | FLŌRE > fló:r ( M:51) 'flower' | CURRO > kó:r (M:63) 'I run' |
| | CĀRU > cá:r (M:65) 'dear (m.s.)' | CARRU > cá:r (M:65) 'cart' |

Even though other northern Italian dialects like Milanese show a contrast between the effects of geminate and non-geminate nasals in the lengthening of the tonic vowel, this is not the case of Friulian. Contrary to the effect of rhotics, nasal consonants never allowed lengthening on the

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[22] "L'allungamento delle vocali finali davanti ad [-r] è charatteristico del friulano centrale, mentre è sconosciuto là dove il vocalismo è soltanto breve" (Frau (1984:21)).

[23] According to Pellegrini, there is a contrast between CARRU > [kjár] 'cart' and CA͂RU > [kjá:r] 'dear (m.s.)'. This description should correspond to a non-central variety.

[24] If one assumes this process, one does not need to postulate that the process of degemination or [-RR-] occurred before all the other degemination processes, as Hualde (1989) and Morin (1991) do.

[25] This word is documented with a short stressed vowel in Zannier (1983:113) and Rizzolatti (1981:25).

preceding vowels, as we can see in (13); consequently, Modern Friulian vowels are always short in front of word-final nasal consonants.[26]

| (13) | *Non-Geminate Nasals* | *Geminate Nasals* |
|---|---|---|
| | CANE > cáŋ (F:39, R:29) 'dog' | STAMNU > stáŋ (M:83) 'lead' |
| | PANE > páŋ (F:34, H:35)'bread' | AUTUMNU > otɔ́ŋ (M:82) 'fall' |
| | PRĬMU > príŋ (M:50) 'first' | ANNU > áŋ (I:81, B&V:4) 'year' |
| | FŪMU > fúŋ (I:99) 'smoke' | SOMNU > sómp (I:88) 'dream' |
| | FINE > fíŋ (F:20, R:20) 'end' | |

Until now, we have reviewed the cases in which a vowel was lengthened directly by the deletion of the final vowel or before a word-final [-r]. There are other cases, though, in which the final vowel was not deleted and yet present vowel lengthening in the penultimate syllable.[27] These instances have been totally obviated in 'normative' sources such as Faggin (1985) and the Friulian textbook written by Cjanton (1988).[28] Although the 'normative' variety seems not to mark this type of length in the orthography, it appears with consistency in the descriptive

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[26] As Haiman (1990) and Iliescu (1972) point out, word-final [-n] has a velar articulation in most Friulian dialects. Other marginal dialects also have final [-m] becoming [-ŋ] (Francescato (1966:65)).

[27] This section has been greatly improved by the suggestions and comments made by Yves-Charles Morin.

[28] I revised both texts and there are no examples of vowel lengthening in paroxytones. The only two admitted cases of a long vowel in a paroxytone are the following:

1. some special plurals: [pedóli] 'louse', [pedó:i] 'louse (p.)' (Faggin (1985:941))
2. cases of infinitives followed by a postverbal clitic: [visá:si] 'to remember' (Cjanton (1988:62))

According to Hualde (1989:33) only two paroxytones appear with a long vowel, namely, [jé:re] 'ivy' and [pó:re] 'fear'. Yet the other descriptive grammars almost totally agree in the transcriptions of vowel length (it seems that the only source that writes [pári] and [mári] with a short vowel is Frau (1984:34)).

sources of the Central dialect.[29] What we can observe in the examples in (14) is that if the intervocalic obstruent in a sequence obstruent plus liquid [-BR-, -PR-, -PL-, -DR-, -TR-, -TL-, -TR, -DR, -GR-, -GL-, -GD-, -CR-, -CL-] was deleted, the preceding vowel was lengthened.[30] Obstruents only deleted after stressed vowels: TORC(U)LU > [túrkli] (M:79); CULCITRA > [kó̜ltre] (M:79) 'pillow'.[31] As we will see below, we will follow Steriade

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[29] According to Vanelli (1989:233) these processes are very restricted either geographically or lexically: "Ma in entrambi casi (compenso e coalescenza) si tratta di fenomeni limitati e sporadici dal punto di vista della distribuzione sia lessicale (sono interessate solo alcune parole) sia areale (i fenomeni sono distribuiti variamente nelle diverse parlate friulane)".

[30] It is interesting to note that the deletion of the obstruent consonant in the above clusters only happened when the preceding vowel was stressed. Thus, we have the following contrasts in Modern Friulian:

| | | | |
|---|---|---|---|
| PA¯TRE | pá:ri | (M:72, R:34) | 'father' |
| PA¯TRINU | padrí̜ | (R:34) | 'godfather' |
| PETRA | pjé:re | (M:72) | 'stone' |
| PETRATA | pedrát | (M:72) | 'hit from a stone' |
| VETERU | vjé:ri | (M:72) | 'old (m.s.)' |
| VETERANU | vedrán | (M:72) | 'veteran' |
| OC(U)LU | vó:li | (M:72) | 'eye' |
| OC(U)LATA | vogláde | (M:72, Z:129) | 'look' |

The above contrasts could be interpreted as the 'sonorous' attraction by the preceding stressed vowel. The bimoraic condition on stressed vowels couls explain the difference between both effects. A similar effect is attested in Catalan (cf. PA¯TRE > [párə] 'father'; but PA¯TRINU > [pədrí] 'godfather').

[31] We are aware of the following exceptions (although according to Vanelli (p.c.) the first two examples are pronounced with short vowels):

| | | | |
|---|---|---|---|
| MACRU | má:gri | (Z:130) | 'slim (m.s.)' |
| MAC(U)LA | má:gle | (R:34) | 'stain' |
| VIG(I)LAT | vé:gle | (M:79) | 'to watch over' |

In the following words, which show irregular developments, the vowel was not lengthened: DUPLU > [dópli] (Z:123, M:63) 'double' and LIBRU > [líbri] (Z:123) 'book'.

(1989:400) and assume that this group was at all stages in the onset. Later, groups such as -DR-, -DL-, -GR-, -GR- evolved in -Vjr- and -Vbr-, and -BL- turned into -Vwr-; when glides in rime position deleted they could trigger compensation in the preceding vowel.[32] A similar type of lengthening is also attested in Walloon.[33]

| (14) | *Classical Latin* | *Friulian* | | |
|---|---|---|---|---|
| | LIBRA | lí:re | (M:75) | 'pound' |
| | FRABRU | fá:ri | (M:75) | 'blacksmith' |
| | FIEBRE | fié:re | (M:75) | 'fever' |
| | STAB(U)LU | stá:li | (M:72, R:34) | 'stable' |
| | SCOP(U)LU | skó:l [34] | (M:38, Faggin:1192) | 'little brush' |
| | OP(E)RA | vó:re | (M:86) | 'work' |
| | CAPRA | cá:re | (Z:123,129, M:123, R:24) | 'goat' |
| | SUPRA | só:re | (Z:129) | 'on' |
| | PETRA | pjé:re | (M:72, Z:129) | 'stone' |
| | SPAT(U)LA | spá:le | (M:61) | 'spatula' |

[32] The following examples indicate that this was the most likely evolution in these words: PARAB(U)LA > [peráwle] (Z:118) 'word'; TAB(U)LA > [táwla] (Z:118) 'table'.

[33] As Morin points out to us, a similar lengthening is also found in some dialects of Walloon after the loss of an earlier [b] or its reflex before [l]. For example, the labial consonant in the word TABULA could be the source of [tá:le], through the intermediate stage *[táb.le] or *[táw.le]. Even though this process only affects the vowel [a], the context is significant. Similarly, other examples attested in northern French dialects could be reanalyzed as a process of compensatory lengthening by the loss of the glide in coda position (Fouché (1954:270) supports [páj.la]):

| | |
|---|---|
| TENA¯C(U)LU > te.naj.lu > te.ná:.ʎe | 'string' |
| PALEA > pá.lja > páj.la > pá:.ʎə | 'straw' |

[34] This word is actually transcribed with a long vowel in Faggin (1985:1192) because in Modern Friulian is an oxytone.

| | | | | |
|---|---|---|---|---|
| (14) | SIT(U)LA | sé:le | (M:61, R:28) | 'urn' |
| | PĀTRE | pá:ri[35] | (M:72, R:34, Fran:135) | 'father' |
| | MĀTRE | má:ri | (R:27, 24, Fran:135) | 'mother' |
| | FRĀTRE | frá:ri | (M:51,72, Fran:135) | 'brother' |
| | LATRU | lá:ri | (R:27, Z:129) | 'thief' |
| | NIGRU | né:ri | (R:27, Fran:135) | 'black (m.s.)' |
| | PIGRU | pé:ri | (M:62) | 'worse (m.s.)' |
| | VET(E)RI | vjé:ri | (M:72) | 'old (m.s.)' |
| | CAPIT(U)LU | cavé:li | (M:51) | 'chapter' |
| | VET(E)RA | vjé:le | (F:71) | 'old (f.s.)' |
| | AURIC(U)LA | oré:le | (R:34) | 'ear' |
| | VIG(I)LAT | vé:gle | (M:79) | 'to watch over' |
| | COAG(U)LU | cá:li | (Z:112, R:27, I:40) | 'blot' |
| | ŌC(U)LU | vó:li | (M:72, Z:129) | 'eye' |
| | *SŌLIC(U)LU | soré:li | (Fran:135, R:28, I:40) | 'son' |
| | NUC(U)LA | nó:le | (M:79) | 'hazelnut' |
| | SPEC(U)LU | spjé:li | (M:85) | 'mirror' |
| | PĒDUC(U)LU | pedó:li | (I:41, Z:129) | 'plant louse' |

Another compensatory process is the lengthening of vowels when the word-final liquids [-r, -l] deleted (cf. FĪLIU > [fí:] 'son'; AMĀRE > [amá:] 'to love'; DĪRE > [dí:] 'to say'; as Hualde (1990) points out, infinitive forms are always long due to the deletion of word-final [-r].[36]

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[35] According to Rizzolatti (1981) modern words with final [-i] underwent the general process of vowel deletion; later, word-final sequences such as [-dr] in PA͡TRE > *[pádr] triggered insertion of the epenthetic vowel [-i] at the end of the word.

[36] Another type of lengthening of the stressed syllable which is not triggered by the deletion of a *final* vowel or by the deletion of an intervocalic obstruent is exemplified in (1) and is attested in a non-central variety (Vanelli (p.c.)). In all cases below [-a] is the word-final vowel, which is not deleted; after metathesis of the final glide, the postvocalic glide drops in the penultimate syllable. In the words MASSARIA 'tablecloth' and CAL(I)DĀRIA

Finally, another type of lengthening came from the coalescence of vowels (see Vanelli (1989:233)). Words like CUCUTIA 'pumpkin' or CUCULLU 'pack or hay' (with the loss of the syllable-final obstruent) merged both vowels and gave [kó:tʃe] (V-89:233) and [kó:l]..... (V-89:233). Cases such as MIA > [mé:] 'mine (f.s.)', TUA > [tó:] 'your (f.s.)', SUA > [só:] 'his (f.s.)' are of the same type[37] (see Hualde (1990)).

## 2. Mora Insertion or CL by Vowel Loss?

The historical phenomenon of vowel lengthening in Friulian has traditionally been discussed in relation to other processes, namely, Apocope, Intervocalic Voicing and Devoicing of Final Obstruents. Rizzolatti (1981:20), Zannier (1983) and Frau (1984:31) propose the following chronological order of application.[38]

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'small boiler' where the prevocalic glides were not deleted, the penultimate vowel is not lengthened (cf. [masárje] (M:77); [caldárje] (I:87)):

| *Classical Latin* | *Friulian* | | |
|---|---|---|---|
| *CINĪSIA | cinís:se | (M:77) | 'ash' |
| *CEREVĪSIA | kervés:se | (M:77) | 'beer' |
| *CERESIA | carjés:se | (M:77) | 'cherry' |
| CAMĪSIA | camés:se | (M:77) | 'shirt' |
| PLUVIA | plós:e | (Bender et al:220) | 'rain' |

[37] Some of the following words can also be interpreted as a vowel coalescence process: VIG(I)LAT > [vé:gle] 'to watch over'; OC(U)LU > [vó:li] 'eye'; DIG(I)TU > [dé:t] 'finger'; FENUC(U)LU > [ʃenó:li] 'fennel'. This hypothesis would defend that the loss of the intervocalic obstruent occured before the postonic vowel.

[38] Francescato (1966) proposes that Apocope is ordered before Intervocalic Voicing, as follows:

| | FĪNĪTU 'finished (m.s.)' | FĪNĪTA 'finished (f.s.)' |
|---|---|---|
| Apocope | finít | finíta |
| Intervocalic Voicing | n.a. | finída |

Lengthening will apply after these processes and will only be triggered by voiceless consonants at the end of a word (finít > finí:t). However, as Vanelli (1979:68) pointed out, there are some arguments against this

| (15) | FĪNĪTU 'finished (m.s.)' |
|---|---|
| 1.Intervocalic Voicing | finídu |
| 2.Lengthening | finí:du |
| 3.Non-Low Final Vowel Deletion | finí:d |
| 4.Devoicing of Final Obstruents | finí:t |

However, as Hualde (1990) noted, the chronological order proposed above gives the incorrect results when considering a Classical Latin form like FĪNĪTA 'finished (f.s.)', as exemplified in (16); as we can see, if Lengthening occurred before the Non-Low Final Vowel Deletion or apocope the feminine and the masculine forms of the adjective would undergo lengthening, which is not the case in Friulian.

| (16) | FĪNĪTU'finished (m.s.)' | FĪNĪTA'finished (f.s.)' |
|---|---|---|
| 1.Intervocalic Voicing | finídu | finída |
| 2.Lengthening | finí:du | finí:da |
| 3.Non-Low Final Vowel Deletion | finí:d | n.a. |
| 4.Devoicing of Final Obst. | finí:t | *finí:da |

Both Vanelli (1979) and Hualde (1990) propose an alternative order of application exemplified in (17), which accounts for the existing contrasts in Modern Friulian. The difference between FĪNĪTU 'finished (m.s.)' and FĪNĪTA 'finished (f.s.)' can be readily explained with two assumptions: (a) apocope occurs first, and (b) only word-final voiced obstruents are able to lengthen a preceding tonic vowel.[39]

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hypothesis. As the examples above show, apart from intervocalic voicing, intervocalic Latin [P] was fricativized into [V] (cf. LUPA > [lóve] 'wolf (f.s.)'; LUPU > [ló:f] 'wolf (m.s.)'). Francescato would defend that after the application of Apocope [P] in word-final position became [f]; however, forms such as CORPU > [kwârp] show that final [p] is not realized as [f].

[39] Regarding the relative chronology between Apocope and Degemination, Zamboni's (1976) and Repetti's (1989:83) data on Lagunar Venetian seem to show that when apocope was in effect a distinction between simple

| (17) | FĪNĪTU'finished (m.s.)' | FĪNĪTA 'finished (f.s.)' |
|---|---|---|
| 1.Intervocalic Voicing | finídu | finída |
| 2.Non-Low Final Vowel Deletion | finíd | n.a. |
| 3.Lengthening | finí:d | n.a. |
| 4.Devoicing of Final Obstruents | finí:t | n.a. |
| | [finí:t] | [finíde] |

All of the reviewed proposals concieve the lengthening phenomenon as a phonetic process triggered by voiced consonants, once the general Voicing of Intervocalic Stop Consonants applied in Early Western Romance (see Vanelli (1979:71-72), Rizzolatti (1981:20), Zannier (1983:109), Pellegrini (1981:19-20), Frau (1984:31), Hualde (1990)). Since it is a well-known phonetic fact that a pre-consonantal vowel is generally longer before voiced consonants than before voiceless consonants (Chen (1970), Kluender et al. (1988)), these authors argue that this purely phonetic effect is phonologized at a certain point in the evolution of Friulian; however, as we will see, only a specific environment of this 'automatic' lengthening is phonologized (crucially, for Hualde (1990) the only consonants that can trigger vowel lengthening are single voiced oral consonants in word-final position).[40] The rule Hualde (1990:39) proposes for

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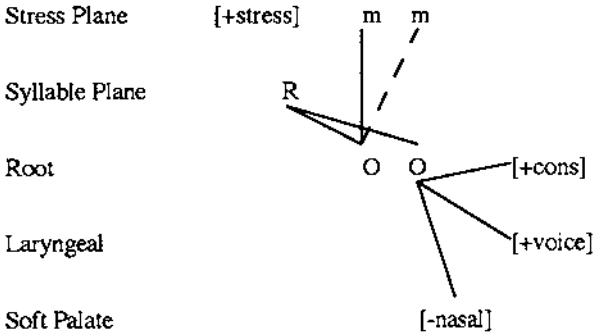
and geminate consonants were in effect. In this dialect Apocope was blocked if the preceding consonants were geminates, as follows:

| | | | |
|---|---|---|---|
| CALLE > [káe] | 'street' | FIDE'LE > [fedél] | 'faithful' |
| FRATELLU > [fradéo] | 'brother' | MELE > [mjél] | 'honey' |
| ANNU > [áno] | 'year' | BENE > [bén] | 'well' |
| PANNU > [páno] | 'cloth' | PANE > [pán] | 'bread' |
| CURRI(T) > [kóre] | 'he/she runs' | MORI(T) >[mór] | 'he/she dies' |
| TURRE > [tóre] | 'tower' | | |

[40] According to Vanelli (1979:71) it is later, when the rule of Final Devoicing of obstruents applied that the length distinction became phonologized: "Quando in friulano si è applicata la regola di desonorizzazione delle ostruenti finali, l'opposizione fonologica sordo~sonoro viene neutralizzata e ad evitare le possibile omofonie il tratto di lunghezza vocalica perde il suo carattere di ridondanza, fonologizzandosi".

historical Lengthening is exemplified in the following chart; a moraic unit (m = μ = moraic unit) is inserted in a stressed rime when a voiced oral consonant is part of the rime.

*Vowel Lengthening as Mora Insertion (Hualde (1990))*




The rule above needs to specify the morphological environment of application, namely, word-final position; otherwise words such as [mármol] 'marble' or [árbul] 'tree' (M:75) would be predicted to be *[má:rmol] and *[á:rbul], since the voiced consonant [r] in the rime of the first syllable would be allowed to insert a moraic unit to the syllable, thus creating a long vowel. The other possibility would be to suppose that all vowels were lengthened before voiced oral consonants in a rime, but only word-final positions were later phonologized. In this case, though, two historically consecutive processes would have to be argued for; first, the rule of lengthening shown above; and second, a specific rule which selects word-final voiced oral consonants as the triggers for the phonological lenghtening. Thus, although the proponents of this analysis advocate for a phonetically-based initial process, the actual phonological lengthening was far more specific than the general phonetic effects; as we know, voiced consonants (either in the rime or in the onset) induce lengthening on preceding vowels (for example, the word *rider* in English, with a long diphthong before a voiced consonant in the

onset —cf. *writer* with a short diphthong); however, in the case of Friulian only voiced non-nasal consonants in a rime and in word-final position were able to induce contrastive length.[41]

Moreover, in order to account for words such as VALLE > [vál] 'valley' (compare with PĀLU > [pá:l] 'stick') the proposal based on Moraic Insertion by a voiced consonant has to assume that at a certain stage in the historical development final geminated [ll] could be distinguished from final non-geminate [l].[42] Crucially, final non-geminate voiced consonants (as in the word PĀLU , which after apocope is *[pál] 'stick') are the only ones that can insert a mora and induce vowel lengthening. However, it is very likely that a contrast between geminate and non-geminate consonants in final position was highly unstable and indeed tended to be rapidly neutralized.[43] Finally, another problem for the Voicing hypothesis is a word like MEDIU > [mjétʃ]. One would have to postulate that the devoicing process of these voiced affricate sequences (cf. *[médʒ], *[lédʒ]) happened before the devoicing of other sequences and before the lengthening supposedly triggered by word-final voiced consonants. However, this will constitute a very marked possibility, since processes of Devoicing usually affect all possible consonants in their right environment. The group of words such as PĀTRE > [pá:ri] 'father',

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[41] An unusual language that contrasts word-final geminates and non-geminates is the case of Breton, which contrasts [n/nn] and [l/ll] (cf. [mél:] 'ball' vs. [mé:l] 'honey') (Anderson (1981)). As Morin points out to me, recent studies show that this difference is lost in Modern Breton.

[42] Vanelli (1979:75) points out, though, that the distinction between final [-ll] and final [-l] was kept until the thirteenth century.

[43] Analyzed in this way, the Friulian data strongly advocates the following historical rule application: 1. Voicing of Intervocalic Stops and 2. Simplification of Geminates. If one supposed that Simplification of Geminates occurred first, the results of Lengthening should be the same. As Lloyd (1987) points out, the relative ordering between Voicing of Intervocalic Stops and Simplification of Geminates has been a very debated question. On the one hand, Martinet proposed that the Simplification of Geminates was the triggering phenomenon which pressed structurally single voiceless consonants to become voice; on the other hand, other philologists such as Corbett propose that the voicing phenomenon occurred first, leaving a structural place for the geminates to degeminate (Martinet and Corbett are cited in Lloyd (1987)).

CAPRA > [cá:re] 'goat' would not be accounted for with this view, and one would need to accept the fact that in these cases a process of compensatory lengthening took place.

A different conjecture is made by Morin (1991). He contends that the environment of lengthening is primarily due to the structure of the syllable. His specific proposal is the following:

(18) Early Friulian vowels were lengthened in paroxytones when they were

a. in an open syllable and

b. not followed by a low vowel.

This view makes the right predictions in the basic cases, that is, when vowels are lengthened in open syllables when word-final vowels deleted. However, what could be called the Open-Syllable analysis has to 'stipulate' that vowels only lengthened in paroxytones (crucially, not in proparoxytones).[44] On the other hand, this view does not make the right prediction in the cases triggered by the deletion of the rime consonants. In these cases final vowels do not play any role in deciding whether or not the vowel would be lengthened (cf. CAPRA > [cá:re], predicted to be *[cáre]).

In a recent discussion of the Friulian data, Repetti (1989) contends that tonic vowel lengthening is a direct consequence of the word-final vowel loss: as she puts it, long vowels in Friulian "originated in Latin paroxytones with open tonic syllables, which, significantly, have undergone apocope". However, her proposal does not make claims about why in some cases the final moraic unit is reattached and retrieved and in some other cases is deleted.[45] Following

[44] Romagnan and Emilian dialects spoken in Novellara and Valèstra attest a similar situation, namely, that tonic vowels in all open syllables but original proparoxytones are lengthened.

[45] As Yves-Charles Morin points out to us, Pellegrini (1982) already suggests this possibility:

> "Sembra verosimile che l'energia sonora con conseguente tensione e allungamento della vocale si sia concentrata sulla vocale tonica della sillaba uscente in consonante (per la caduta della vocale finale)."

up on Repetti's suggestion, the present proposal views the lengthening process in Friulian as a natural outcome of Non-Low Final Vowel Deletion. The preliminary formalization of this rule would have to indicate that, once the vowel is deleted, the mora unit, disassociated from the vowel, has to be filled from the left, as is expressed in (19).[46] This rule will be part of the syllabification principles of the language, as advocated in Hayes (1989):

(19) *CL by Vowel Loss in Early Friulian*

Fill empty morae by spreading from a stressed position on the left.

It has been noted that crosslinguistically stressed vowels are typically the ones that lengthen (Clements & Sezer (1983), Hock (1986), Hayes (1989)); this fact could be obtained through the bimoraic enforcement applicable only to stressed syllables. As we noted before, the type of CL created by vowel deletion (that is, VCV > V:C) is fairly widespread across languages; Slavic languages, for example, lengthened vowels in syllables preceding lost jers (Hock (1986)); and in middle English the stressed vowel lengthened as a result of the loss of the final schwa in forms such as *[tálə] 'tale' which became [tá:l] and later diphthongized (Minkova (1982), Hayes (1989)).[47] We need to specify that the preceding vowel retrieves the floating mora, since even among Romance languages, we find three different strategies to redeem a moraic unit. For example, while Italian Radoppiamento (Chierchia (1983)) shows that the moraic enforcement in final stressed syllables is filled segmentally by the consonant in the onset

[46] This analysis assumes a moraic representation of the syllable structure, as presented in Hock (1986) and Hayes (1989); while Hock (1986) still assumes the necessity of the CV-tier along with moraic representations, Hayes (1989) denies the presence of the first type of structure. Essentially, I will follow Hayes (1989) in that only vowels and sometimes consonants in the rime contribute weight to the syllable; with this assumption one can give an straightforward motivation for the general cross-linguistic observation that onset consonants do not trigger CL.

[47] Although it was traditionally thought that Middle English vowels lengthened in open stressed syllables, Minkova (1982) maintains that the real generalization is that tonic vowels were lengthened just in the case a final schwa was deleted.

of the following word (cf. citt[á:] 'city' citt[áp.p]óvera 'poor city'), Italian bimoraic enforcement in open stressed syllables redeems the moraic unit from the vowel (cf. [pó:vera], not *[póvvera] 'poor (f.s.)'). Another strategy is followed by French when in colloquial speech a non-final schwa is deleted; in this case the consonant in the onset of the deleted schwa is made the nucleus of the syllable [təRɑ̃vɛRsé] > [tR.Rɑ̃.vɛR.sé] *te renverser* 'to knock you down' (for a detailed study of this case see Rialland (1986)).

The moraic representation of the syllable structure accounts in a natural way for CL, which is interpreted as a reorganization process of the quantity units, once the segmental properties of a unit are lost. The restructuring of the moraic units of a word such as FĪNĪTU 'finished (m.s.)' (we start from the Late Latin form *finídu) is expressed in (16); the Non-Low Final Vowel Deletion in step 1 delinks the segmental properties of the vowel [-u], leaving its prosodic structure intact; in step 2, and by the principle of Parasitic Delinking (Hayes (1989)) onset consonants are desyllabified.[48] The floating mora left in the last stage would be able to be redeemed from the left by virtue of rule (19) (s = syllable unit; m = moraic unit). Finally, since the segment [d] can be incorporated into a word-final rime, it attaches to the final syllable.[49]

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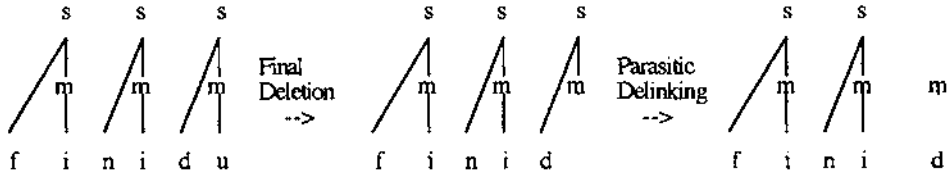
[48] The formulation of the principle of Parasitic Delinking proposed by Hayes (1989) is the following:

> *Parasitic Delinking*
> Onset consonants are desyllabified if their syllable contains no overt moraic nucleus.

As he points out, this principle could also be interpreted as an instantiation of a more general requirements on element licensing.

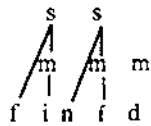
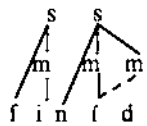
[49] As we have seen, word-final sequences are much more permissive than word-medial sequences; while word-medial rhymes allow [r,l,s], word-final rhymes accept clusters such as [rt, rp, rk, rtʃ, nt, mp, lt, ntʃ ..] (cf. [cálˈt] 'warm (m.s.)', [cámp] 'field', [frɔ́nt] 'forehead'; Bender et al.:219).

(20) CL by Vowel Loss in Early Friulian




The difference between FĪNĪTU > [finí:t] 'finished (m.s.)' and FĪNĪTA > [finíde] 'finished (f.s.)' is derived in the examples in (21); even though the application of the rule of CL does not crucially depend on the previous voicing of intervocalic stops, we will assume that the order of the processes occurred as in (16) above.

(21) *CL by Vowel Loss in Early Friulian*

| Classical Latin forms | FINITU | FINITA |
|---|---|---|
| Late Latin forms | finídu | finída |
| Final Deletion and Parasitic Delinking |  | n.a. |
| CL |  | n.a. |
| Final Devoicing | t | n.a. |
| Output | [finí:t] | [finíde] |

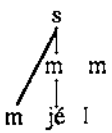
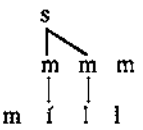
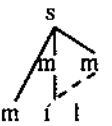




However, why is it that generally tonic vowels in a closed syllable are not lengthened? Why is it that the floating moraic unit cannot be reattached in these cases? On the one hand, the vowel in a closed syllable is not lengthened because association lines would cross, as showed in (22); if

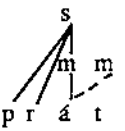
The difference between the results of MĪLLE > [míl] 'thousand' and MELE > [mí:l] 'honey' is precisely due to the same mora constraint; in the case of [*míle], since the stressed syllable contains only one mora it can accommodate the floating moraic unit left by the deletion of the final vowel; on the other hand, if the stressed syllable is already saturated with two moraic units, as it happens in MĪLLE, vowel lenghtening does not occur.

(25) *CL by Vowel Loss in Early Friulian*

| Classical Latin forms | MELE 'honey' | MILLE 'thousand' |
|---|---|---|
| Late Latin forms | mjéle | míle |
| Vowel Deletion and Parasitic Delinking |   |   |
| CL and V change |   | n.a. (Moraic Constraint a.) |
| Output | [mí:l] | [míl] |

Similarly, the contrast between PRĀTU > [prá:t] 'meadow' and PALĀTIU > [palátʃ] 'palace' is obtained through the same mechanisms of mora conservation formulated above. Crucially, PALĀTIU will become either [*palátttsu] or [*palátttʃu] with a word-medial affricate that will close the preceding syllable; consequently, the stressed vowel will not be lengthened, as we see in (26).

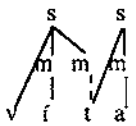
(26) *CL by Vowel Loss in Early Friulian*

| | | |
|---|---|---|
| Classical Latin forms | PALATIU 'palace' | PRATU 'meadow' |
| Late Latin forms | palátt ʃu | prátu |
| Vowel Deletion and Parasitic Delinking |  |  |
| CL | n.a. (Moraic Constraint) |  |
| Output | [palátʃ] | [prá:t] |

The special behavior of nasal consonants, which never allow the preceding tonic vowel to be lengthened (even if the preceding syllable is open), suggests that the property of phonetic nasalization has in some way influence on moraic count.[52] Other processes of CL in the Piedmontese dialect of Val Germanasca (Pons (1973), Repetti (1989a:96)) raise a similar question with respect to the effects of nasalization on vowel compensatory lengthening effects. In this dialect the first onset consonant to the right of a tonic vowel was geminated (LĪTE > [lítti] 'dispute'; V̄I TA > [vítto] 'life'; NEB(U)LA > [nébblo] 'fog'). Like Tuscan Italian Radoppiamento, this process could be seen as the necessity of stressed syllables to license two moraic positions; this position is filled from the consonant on the right, as in (27).

[52] Another tack that has been taken is to suggest that general gemination of nasals was general in Friulian (see Morin (1991)).

(27) *Radoppiamento in Val Germanasca*

| | |
|---|---|
| Classical Latin form | VITA |
| Late Latin form | víta |
| Bimoraic Conspiracy and Radoppiamento |  |
| Output (after [-a] > [-o]) | [vítto] |



However, if the nasal [n] initiated the onset, this consonant was not doubled (cf. LŪNA > [lũno] 'moon'; PLĀNU > [plãno] 'flat (m.s.)'). Thus, it seems as if the nasalized vowel already counted as bimoraic and did not allow the spreading from the consonant to apply.

The same type of effect of nasals on the length of the preceding vowels can be observed in another Gallo-Italian dialect, Bolognese (Ungarelli (1901), Coco (1970), Kaze (1989)). In this dialect, there is an underlying contrast between long and short vowels shown in the following inventory:

(28) *Bolognese Vocalic Inventory (after Kaze (1989:94 ))*

| | | | |
|---|---|---|---|
| i: | u: | | |
| e: | o: | e | o |
| æ: | | æ | ɒ |
| | a: | a | |

Although the majority of length contrasts are underlying (for minimal pairs see Kaze (1989)) some morphophonemic contrasts can be observed in (29) between long [æ:, o:] and short [a, o]. The short version of the low vowel appears only when followed by a tautosyllabic nasal.[53]

[53] Word-final /n/ is realized as [ŋ] in Bolognese (Coco (1970:63)).

(29) *Bolognese Morphophonemic Alternations (Kaze (1989: 99, 113))*

| masculine | feminine | |
|---|---|---|
| italjáŋ | italjǽ:na | 'Italian' |
| napoletáŋ | napolitǽ:na | 'Neapolitan' |
| sáŋ | sǽ:na | 'healthy' |
| bóŋ | bó:na | 'good' |

Apart from the alternations shown in (29), it is the case that only short vowels are allowed before tautosyllabic nasals (cf. [bizóŋ] 'need (m.p.)', [nóm] 'name', [galéŋna] 'hen', [lóŋna] 'moon', [káŋ] 'dog', [máŋ] 'hand', [láŋ] 'bridge'. It seems that the phonetic nasalization of the vowel can fill the two underlying moras a vowel has in some cases in Bolognese (see also Tuttle (1991)). In the case of Friulian, a similar strategy could be followed; if phonetic nasalization could count for two morae, the requirements will already be fulfilled and the vowel would not be able to lengthen.

With respect to the behavior of rhotics, we observe that there is no difference between geminate and non-geminate [r] (cf. CARRU > [cá:r] 'cart' and CĀRU [cá:r] 'dear (m.s.)') in the Central variety. The only cases where lengthening before word-final [r] has been prevented is when [r] is followed by a consonant (cf. FORTE > [fwárt] 'strong (m.s.)'; compare with CORNU > [kwá:r] 'horn'); in all other cases a synchronic word-final [r] has a long vowel preceding it. A reasonable conclusion in the case of CORNU and CARRU, is to suppose a late lengthening effect caused by word-final [r] in Central varieties.[54] Indeed there is some crosslinguistic evidence that sonorant consonants lengthen preceding vowels; for example, liquid consonants such as [r] and [l] in Italian varieties such as Frignanese allowed lengthening of the vowel in the same syllable while all other consonants did not (Uguzzoni (1975), Repetti (1989a:99-102));

[54] According to Rizzolatti (1984:274) the contrast between CARRU ~ CA¯RU is kept in all Eastern and Western varieties (cf. [kár] 'cart' *vs.* [ká:r] 'dear (m.s.)', respectively).

similarly, Old English vowels lengthened before a sonorant in the same syllable (cf. OE cild > [ci:ld] 'child', Hock (1986:431)).

Finally, we will treat the cases of compensation triggered by the deletion of a glide [j, w] in rime position that were instantiated in some dialects[55] (CAPRA > *[cáw.re] > [cá:re] 'goat'. All cases of Compensatory Lengthening in Friulian can be unified with the rule stated in (30); any moraic unit left by a deletion rule will be filled in by the preceding stressed vowel.

(30) *CL in Early Friulian*

Fill empty morae by spreading from a stressed position on the left.

All cases shown in (13) will be interpreted as following from the deletion of the glides [w, j] in the rime. Although traditional studies in Romance history have argued that obstruent+liquid sequences were syllabified with the obstruent in the coda to explain phenomena such as the shift of stress from *ténebra* to *tenébra*, Steriade (1989) has convincingly argued that sequences of obstruent+liquid were syllabified as onsets in all stages in the evolution of Romance. So, like Provençal,[56] Friulian developed obstruent+liquid sequences as glide+liquid, with the glide syllabified in the rime of the preceding stressed syllable. For words which had apocope and ended in plosive+liquid, see a synchronic analysis in Benincà & Vanelli (to appear). The derivation for CAPRA is shown in (31). The rule of glide deletion in both cases will be leaving a moraic unit, that will be rescued by the stressed vowel, as indicated in (31).

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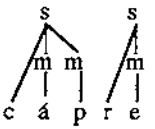
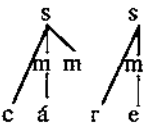
[55] We owe the suggestion of having the relevant consonant in coda position to Jennifer Cole. The fact that only consonants that are not allowed in medial coda position were deleted confirms this hypothesis. Moreover, since the obstruent of sequences like -TR, PR, etc.- was only deleted after a stressed vowel (see examples like [pá:ri], [padrí̯] above), one can hypothesize that the obstruent was attracted only to the stressed syllable, thus deleting. In the cases in which it was not attracted to the coda position (if the preceding syllable was not stressed) the obstruent was not deleted.

[56] The following Provençalisms are attested in Roussillon: PĀTRE > [pájre] 'father'; PĀTRINU > [pajrí] 'godfather' (Veny (1986:64)).

(31) *CL by Glide Loss in Early Friulian*

| | |
|---|---|
| Classical Latin form | CAPRA |
| Late latin form | cápre |
| Initial Structure |  |
| Gliding and Deletion |  |
| CL |  |
| Output | [cá:re] |

One wonders why Latin words with an original obstruent in rime position which was lost[57] did not induce vowel length in the preceding vowel (cf. FACTU > [fát] 'fact', NOCTE > [ɲót] 'night'; LACTE > [lát] 'milk', SCR̆PTU > [skrít] 'written (m.s.)', FR̆CTU > [frít] 'fried (m.s.)'). In fact, other Romance dialects such as Old French and some Piemontese varieties developed a postvocalic high glide in these cases (cf. FACTU > [fájt], LACTE > [lájt]; Meyer-Lübke (1890:412)). We can hypothesize that the loss of syllable-final obstruents in FACTU (perhaps through *[fájt]) was an earlier phenomenon that did not produce lengthening.

In sum, we have presented an analysis of the evolution of vowel length in Early Friulian which relies on the interdependence between Non-Low Final Vowel Deletion and Vowel Lengthening. The first process triggered a prosodic reestructuration of the weight units in the word. As we have defended, this proposal presents some formal and functional advantages over the traditional view and allows the unification of all types of compensatory lengthening phenomena

[57] All original clusters [-pt-, -bt-, -kt-] become [-t-] in Friulian (Zannier (1983:129)).

in a single process. As for the synchronic analysis of vowel length alternations such as [finí:t]/[finíde] 'finished (m.s.)/(f.s.)' or [amá:t]/[amáde] 'loved (m.s.)/(f.s.)' (F:72) there is no evidence for the speaker of Modern Friulian (following Kiparsky's Alternation Condition) that an abstract vowel can delete and compensate the preceding tonic vowel; today's alternations provide the speaker with another interpretation of the data, mainly based on the voicing properties of the final consonant, for which the speaker has some empirical evidence. Strong confirmation of the synchronic reinterpretation of the rule of lengthening by the Friulian speaker is the adaptation of Italian borrowings into Friulian, which seem to entirely depend on the voicing properties of the final consonant (see Vanelli (1986) and Yamamoto (1991)).

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