Western Romance

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Abstract
This chapter gives an overview of the lenitive changes that affected the Latin consonants in the western part of the Roman Empire, giving rise to the Proto-Western Romance system. It provides a detailed description of five characteristics of WR lenition, followed by a discussion, entirely based on Romance data, of five theoretical problems that arise from the previous description: (i) what purpose, if any, does lenition serve? ; (ii) why can quantitative and qualitative contrasts interact? ; (iii) why does (#)C- behave like -(C)C-? ; (iv) why are sonorants less sensitive to lenition than obstruents? ; (v) why may voicing be bled by *yod*?

1. Introduction

Following on from Wartburg (1950), Romance languages are often classified into three major groups. Western Romance (henceforth WR) comprises Ibero-Romance, Gallo-Romance, Rheto-Romance and northern Italo-Romance until the limit known as the 'La Spezia-Rimini line', viz the diagonally-hatched zone in Figure 1.

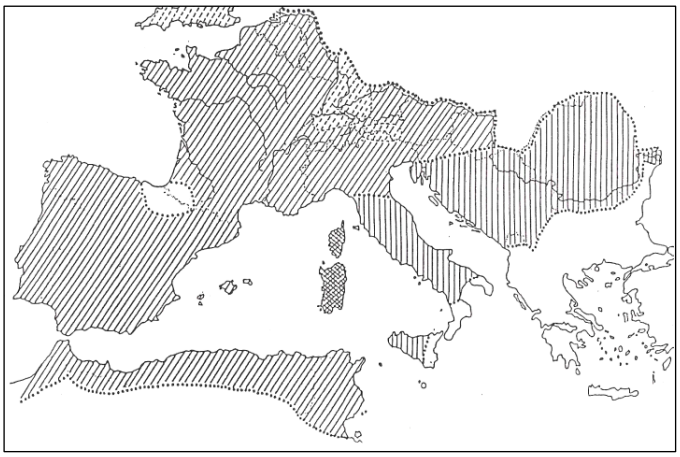

Figure 1. The three Romanias (Wartburg 1950)

This vast dialectal area is based on two phonological features: (a) Latin word-final *s* preservation (cf. Sp. *tres* 'three'), and (b) obstruent lenition (cf. Sp. *gato* 'cat', *vida* 'life'). Eastern Romance languages, which are the remaining Italian dialects and Daco-Romance, have both deleted -*s* (cf. It. *tre*), and (partially) preserved Latin obstruents from lenition-type drifts (cf. It. *gatto*, *vita*).[1] Between these two main zones, Sardinian (and Old Corsican) retained -*s* (*tres*), but failed to undergo lenition (*gattu*, *bita*).[2]

It must be pointed out that this classification does not necessarily reflect the contemporary state of Romance languages: for example, Roumanian, which historically belongs to the non-leniting zone, has undergone degemination, unlike its closest relative, Italian; conversely, French, which is a WR language, has deleted word-final *s* during its particular evolution. This chapter is not about lenition in WR languages. In what follows, I shall mainly deal with the general lenition that affected Latin consonants in Proto-WR (henceforth PWR), and, more particularly, the core of the system, i.e. obstruents. The few WR-internal divergencies that will be treated are basically those that concern sonorants, and cannot be traced back to a common WR type.

The chapter is divided into two parts. In the first section (§ 2), I shall list and comment some general features of the phenomenology of WR lenition. In the second section (§ 3), I will try to sort out the problems that these features still address to any phonological theory.

2. Five characteristics of WR lenition

The consonant inventory of Classical Latin is given in (1). The laryngeal /h/ had fallen in current speech by 400 A.D., and left no trace in Romance.

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[1] African Latin is said to have maintained Lat. -*s* on the basis of facts such as *pullus* > Berber *afullus*, but its behaviour *vis-à-vis* lenition remains uncertain. It has also been sometimes assumed that the ancient Mozarabic dialects of Spain did not undergo consonant voicing, but modern research casts doubt on this claim (cf. Galmés 1983: 175-178). These questions are strongly related with the highly controversial problem of the chronology of the changes, in particular those involved by lenition (cf. § 2.1). On this matter, it is known that the earliest Romance loanwords in Basque do not display voicing (cf. Lausberg 1963: § 363). Interestingly, within the whole WR area, only a small pirenaic zone overlapping the Gascon (Béarnais) and Aragonese domains has conserved voiceless obtruents until our days (cf. Zamora 1967: 227-234).

[2] Part of Sardinian (*Logudorese* and *Campidanese* dialects) shows a remarkable lenition process that is totally independent from the WR type, while being partially related with southern and central Italian phenomena like Tuscan *gorgia* (spirantization of intervocalic voiceless stops, even word-initially): cf. Marotta this volume.

(1)

p	t	k	k^w
b	d	g	g^w
f	s		(h)
m	n		
	l		
	r		

All consonants could be geminated between vowels, though lexical /bb dd gg/ are rare. There was a strong tendency to complementary distribution between [g^w] after a nasal coda (LINGUA, SANGUIS, etc.), and [w] elsewhere. The palatal glide [j], which is not included in (1), can be viewed as resulting from association of purely vocalic material with a C-position, at least in earlier Latin; it was, however, becoming an obstruent (> *j̯ > ɟ > dʒ), parallelly to [w] (> *β > b or v), at the beginning of the imperial era, before Germ. */w/ gave a secondary /g^w/ (cf. It. *guerra* 'war').

WR lenition exhibits at least five characteristics that will be discussed in this section. They concern (i) its segmental correlates, its (ii) segmental and (iii) contextual prerequisites, (iv) changes that may occur either with it or instead of it, and (v) objects that may prevent it from taking place.

2.1. Segmental correlates: degemination, voicing and spirantization

The Latin system of obstruents underwent, in the WR zone, the three changes between vowels (and in the first position of intervocalic obstruent+liquid clusters) given in (2).

(2)

a.	Degemination	pp	tt	kk	kk^w	>	*p	*t	*k	$*k^w$
		ff	ss				*f	*s		
b.	Voicing	p	t	k	k^w	>	*b	*d	*g	$*g^w$
		f	s				*v	*z		
c.	Spirantization	b	d	g		>	*β	*ð	*ɣ	

The geminates (mostly voiceless) turned into their simple counterparts, the simple voiceless segments became voiced, and the voiced segments (necessarily stops) were spirantized. Later on, the consonants of PWR, especially the

spirants */β ð ɣ/, underwent further changes that differ from language to language. Note that */β/ merged with the reflex of classical /w/ in all languages. Also, in northern Gallo-Romance, Rheto-Romance and northern Italo-Romance, further spirantization affected */b d g g^w/ (cf. § 2.4), which generally merged with the phonemes in (2c).

Some examples are added in (3) for the three types of change given in (2). Attested modern forms are mainly taken from Portuguese, which has best conserved both the PWR system and the intervocalic context. (Unless otherwise indicated, the spelling conventions reflect the PWR stage.)

(3)

	Latin	>	PWR		
a.	CŬPPA	>	*kópa	*copa*	‘cup’
	GŬTTA	>	*góta	*gota*	‘drop’
	VACCA	>	*váka	*vaca*	‘cow’
	ECCU HĪC	>	*ék^{w}i	*a*[k]*i*	‘here’
	SŬFFLĀRE	>	*sofláre	Fr. *sou*[f]*ler*	‘to blow’
	GRŌSSU	>	*gróso	*gro*[s]*o*	‘thick’
b.	RĪPA	>	*ríba	*riba*	‘bank’
	RŎTA	>	*rɔ́da	*roda*	‘wheel’
	SPĪCA	>	*espíga	*espiga*	‘spike’
	AQUA	>	*ágwa	*água*	‘water’
	DEFENSA	>	*devéza	*devesa*	‘defence’
	CASA	>	*káza	*ca*[z]*a*	‘house’
c.	CABALLU	>	*kaβállo	*cavalo*	‘horse’
	NŪDA	>	*núða	*nua*	‘naked’
	SAGĬTTA	>	*saɣéta	*s*[ɛː]*ta* > *seta*	‘arrow’

2.2. Segmental constraints: the sonority scale

Two facts show that lenition was a ‘sonority-conditioned’ process. Firstly, all WR languages suppose the changes described above, and only these changes, insofar as lenition processes are concerned, seem to be shared by all WR languages. This amounts to saying that lenition affected *only* obstruents at the PWR stage. Geminate sonorants followed different strategies from language to language (basically simplification or palatalization), while their simple counterparts remained unchanged in most WR languages, which supports the thesis that PWR preserved the subset of Latin consonants in (4).

(4)	a.	*mm	*nn	*flámma, *ánno	‘flame, year’
		*m	*n	*ámo, *máno	‘I love, hand’
	b.	*ll		*gállo	‘cock’
		*l		*málo	‘bad’
	c.	*rr		*tɛ́rra	‘earth’
		*r		*péra	‘pear’

The three coronal geminate sonorants /nn/, /ll/ and /rr/, and their short counterparts, were still attested half a century ago in the Aragonese dialect of Bielsa (Zamora 1967: 233).

Secondly, as was shown by Carvalho (1989: 167-169), the diffusion of degemination followed an implicational path among sonorants, */rr/-reduction presupposing both */ll/- and */nn/-reduction (Rheto-Romance, northern Italo-Romance, modern French, some Occitan dialects, and modern Portuguese), and */ll/-reduction implying */nn/-reduction (Gascon), while the converse cases are never found. Actually, whereas the phonetic contrast between Lat. *rr* and *r* remained unchanged in Old French, and, until our days, in most Occitan dialects, Catalan, Spanish and (conservative varieties of) Portuguese, no modern WR language (except the Aragonese dialect mentioned above) shows /nn/ ~ /n/ and /ll/ ~ /l/ oppositions, though such reflexes as Sp., Cat. [ɲ] ~ [n] and [ʎ] ~ [l], as opposed to Port. [n] ~ Ø and [l] ~ Ø, denote a long persistence of gemination at earlier stages. In sum, degemination followed the implicational path in (5).

(5) Obstruents >> Nasals >> Laterals >> Rhotics

2.3. Contextual constraints: ‘strong’ *vs* ‘weak’ positions

A typical characteristic of WR lenition, as opposed to otherwise similar facts found e.g. in Sardinian or in Celtic languages, is that it does not occur word-initially whenever the consonant is preceded by a word-final vowel, as is exemplified in (6).

(6)

ILLA PIRA	>	*la péra	not **la béra	‘the pear’
ILLA TELA	>	*la téla	not **la déla	‘the linen’
ILLA CASA	>	*la káza	not **la gáza	‘the house’

Thus, Latin onsets yield the same (non-lenited) reflexes in initial and in post-coda positions, whence the two complementary sets of contexts in (7).

(7)

a.	Lenitive contexts:	{V__V}
b.	Non-lenitive contexts:	{C__V, #__V}

The disjunctive context in (7b) was occasionally referred to under the unitary term of ‘strong (or initial) position’ in the literature on Romance historical phonology (cf. Pope 1952: 96, Bourciez 1967: 122). As will be seen, it may be the case that this position is not a mere default context: it certainly disallows lenition in WR, but it also seems to cause fortition.

2.4. Parallel or alternate phenomena: vowel lengthening

A large part of northern Gallo-Romance, Rheto-Romance, and northern Italo-Romance (see Figure 2) exhibit two characteristics: (a) vowel lengthening in open syllables; (b) spirantization overapplication, whence PWR */b d g/ < Lat. /p t k/ generally merged with */β ð ɣ/ < Lat. /b d g/.

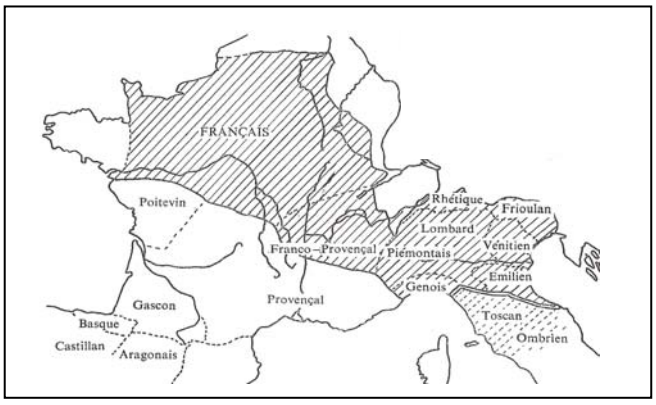

Figure 2. Secondary quantity in Romance (Haudricourt & Juilland 1970)

As a result, this zone (henceforth called NWR for Northern Western Romance) developed a class of 'lenis' intervocalic onsets preceded by long nuclei, which were phonologized later on through diverse means, giving rise to the most systematic cases of distinctive vowel quantity within Romance languages. This change is summarized in (8), where [c] and [C] denote *lenis* and *fortis* consonants respectively.

(8) /VCV/ > [VVcV] ~ /VCCV/ > [VCV] (degemination)

Hence, for example, French shows (9a)- *vs* (9b)-type evolutions, where the modern vowel contrasts date back to length distinctions, and are the sole trace of the simple / geminate oppositions among sonorants.

(9)		NWR	OFr.	MFr.	
a.	*NATTA	*náta	natə	nat (*natte*)	'mat'
	*BALLA	*bála	balə	bal (*balle*)	'packet'
	*CARRU	*kárro	tʃar	ʃaʁ (*char*)	'chariot'
b.	NATA	*náːda	ne(ð)ə	ne(ː) (*née*)	'born (fem.)'
	PALA	*páːla	pelə	pɛl (*pelle*)	'shovel'
	CARU	*káːro	tʃer	ʃɛʁ (*cher*)	'expensive, dear'

2.5. Antileniting phenomena: palatalization

Voicing seems to be often bled either by *yod* or by its palatalizing effect, but not by front vowels, as illustrated in (10a) and (10b) respectively.[3]

(10)		PWR	OPt.	
a.	PŬTĔU	*pótjo	potso (*poço*)	'well'
	FACĬO	*fákjo	fatso (*faço*)	'I do'
	FACĬA	*fákja	fatsa (*faça*)	'do (subj.)'
b.	FACIS		fadzes (*fazes*)	'you do'
	VICĪNU		vidziɲo (*vizinho*)	'neighbour'

Similarly, FACĬA > Fr. *fa*[s]*e*, but VICĪNU > Fr. *voi*[z]*in*.

[3] In Romance both velars and coronals (except /r/) are palatalized by *yod*, but only velars are palatalized by front vowels (except in Sardinian).

Voicing is more often inhibited in *yod*-palatalized velars than in palatalized coronals, though Portuguese, in particular, shows many examples of both cases. A similar variation occurs with *pj-sequences: there is voicing in SAPĬA > Pt. *saiba*, but not in Sp. *sepa* nor in Fr. *sache*. The results of intervocalic */kj/ and, at a lesser extent, of */tj/ are, thus, identical to those of */kkj/ and */ttj/: *MATTĔA > Old Pt. [matsa] (*maça*) 'mace', BRACCHĬU > [bratso] (*braço*) 'arm'. Hence, it is currently assumed that *yod* and/or palatalization by *yod* yielded gemination. Actually, this stage is conserved wherever the primary geminates have been preserved: cf. It. *sappia*, *pozzo*, *faccio*, *faccia*, but *vicino*, *amici* < AMĪCĪ, *fece* < FĒCĬT.[4] A detailed overview is provided by Lausberg (1963: §§ 451-478).

3. Five problems with WR lenition

Five theoretical problems at least arise from the phenomenology of WR lenition described so far. These are listed in (11).

(11) a. What purpose, if any, does lenition serve?
b. Why can quantitative and qualitative contrasts interact?
c. Why does (#)C- behave like -(C)C-?
d. Why are sonorants less sensitive to lenition than obstruents?
e. Why may voicing be bled by *yod*?

(11a) refers to an old controversial question brought up by certain types of sound change. It will be discussed here (cf. § 3.1) mainly because it underlies the problem in (11b) (cf. § 3.2), which is, to my knowledge, new in the literature. I will propose an answer to this question in the third part of this volume. Except perhaps (11c) (cf. § 3.3), all problems listed in (11) may be given substantive explanations; it remains that phonetic naturalness, if any, does not follow from the currently assumed phonological primes and representations, which provide formally arbitrary accounts of the facts in the sense of Chomsky & Halle (1968: § 9).

[4] *Yod*-conditioned gemination is also a well-known feature of Western Germanic languages: cf. Holsinger (this volume).

3.1. Three changes for one purpose?

The advent of structuralist thought within the diachronic field, and especially in the study of Romance languages (Martinet [1952] 1970, Jungemann 1955, Weinrich 1958, Malmberg 1963, Granda 1966, Kiss 1971), was the major source of a unitary view of the changes described in § 2.1, which had long been considered hitherto through an 'atomistic' prism. Actually, the notion 'lenition', taken in a broad sense, is a crucial issue of the confluence of structural phonology with the classical romanistic legacy. However, the abstractness implied by such a generalization brings up some problems. One of them will be treated in § 3.2. I shall be committed here with the functional aspect of the changes detailed in § 2.1: what purpose, if any, does lenition serve?

The structuralist answer, which now sounds as much in line with modern Optimality theory, is that two constraints must be satisfied by lenition. One is paradigmatic, and could be expressed as a NOMERGE constraint: "avoid loss of productive features" (a feature being 'productive' if it distinguishes a significant number of phonemes, or, following on from Trubetzkoy's terminology, if it constitutes a proportional opposition). After years of skepticism, this thesis was recently given strong statistical support by Gurevich (2004).[5]

The second constraint is syntagmatic. Something like "weaken certain consonantal obstacles between vowels" should be appropriate. However, neither spirantization nor voicing seem to be plausible ends: if the voiced stops which underwent spirantization were intolerable for the speakers at a given moment, why, then, have they created new ones by voicing the previously voiceless obstruents? Similarly, if the latter had been felt as 'costly', why have geminates been simplified? The logic of 'chain shifts' leads us to assume that the purpose of WR lenition was to get rid of geminates, which have, indeed, completely disappeared from WR languages; there are no secondary geminates before much later eras, and only in very limited zones.

That WR lenition was due to a tendency to syllable opening is a view that was first proposed by Malmberg (1963) and, later on, developed by Kiss (1971) and Carvalho (1987: § I, 1989). More accurately, as results from

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[5] NO-MERGE may certainly be violated: thus, Roumanian underwent degemination while conserving the voiceless series; this is also the case of Béarnais and some Aragonese in the WR zone (cf. note 1). At least in the latter case (cf., e.g., Rohlfs 1970 [1935]), such facts have been seen as resulting from an original misperception of Latin geminates caused by the substrate language (Old Basque). However that may be, Gurevich (2004), who studied 230 lenition processes in some 153 languages, found that in 92% of cases lenition processes indeed do avoid neutralization.

Granda's (1966) work in particular (cf. also § 2.2 and *infra* § 3.4), only obstruent codas have been affected, at least in a first stage that is shared by all WR languages. Thus, obstruent geminates underwent reduction, which is paralleled by vocalization of the first element of CT-clusters: LACTE, LECTU, OCTO > PWR *lajte, *lejto, *ojto > Pt. *leite*, *leito*, *oito* 'milk, bed, eight'; only /s/, indeed, escaped the general drift to prohibition of any obstruent in internal codas. Assuming that this ban and, therefore, degemination are the actual trigger of WR lenition, we must admit that voicing and spirantization are mere 'repair strategies' for avoiding merger of the consonantal series.

This is in line with one possible interpretation of the so-called 'chain shifts': the one styled 'push-chain' (*chaîne de propulsion*) by Martinet (1970), as opposed to 'drag-chain' (*chaîne de traction*). The former follows from such negative constraints as, in the present case, "forbid geminates" or, more generally, "forbid obstruent codas", while the 'drag-chain' hypothesis would require emergence of new phonemes: something like "phonologize voiced spirants". Other chain shifts as /ll/ > /ʎ$_2$/ and /ʎ$_1$/ > /ʒ/ in Old Castilian ($C_{1/2}$ = primary/secondary phonemes), or /ou/ > /u$_2$/ and /u$_1$/ > /y/ in Old French, can also be seen as based on some constraint ruling out /ll/ and /ou/ respectively. However, though /y/ was, indeed, a new phoneme in French, /ʒ/ already existed in Castilian (< *g^{i,e}, sometimes *j), and did not change by virtue of /ʎ$_1$/-evolution. This makes the 'push-chain' a more general and thereby plausible theory.

Furthermore, while the 'drag-chain' hypothesis often involves 'spontaneous', i.e. context-free, creation of marked phonemes (like /y/ in Old French, and */β ð ɣ/ in PWR), the triggering change within a 'push-chain' generally implies markedness reduction (like /ou/ monophthongization and degemination), new marked objects emerging only through 'repair strategies' (like voicing and spirantization). Thus, assuming that spontaneous changes turn marked objects into unmarked ones, not only are 'push-chains' more general, but they are also more natural than 'drag-chains'.

A necessary and interesting issue of this is that the three changes involved by lenition must have occurred *simultaneously*, which presupposes a system of 'diaphonemes' in Moulton's (1961) sense. This runs counter to the claims that degemination, voicing and spirantization should be chronologically ordered. The relative chronology frequently accepted in Romance (cf., e.g., Bichakjian 1977), which underlies the drag-chain hypothesis (spirantization >> voicing >> degemination), is ruled out by the present considerations on push-chains.

3.2. Why can quantitative and qualitative contrasts interact?

Repair strategies could be viewed as opportunist changes, any means serving contrast preservation. However, this is not, and probably never, the case. WR lenition (among many other similar changes elsewhere) involves the 'transphonologization' process in (12a), and not, say, the one in (12b).

(12) a. /VttV/ ~ /VtV/ > /VtV/ ~ /VdV/

*b. /VttV/ ~ /VtV/ > /VtV/ ~ /Vt^{h}V/

Just as geminates are commonly seen as 'stronger' than simple voiceless consonants, so are the latter *vis-à-vis* their voiced counterparts (cf. Szigetvári, this volume a). Thus, both changes in (12a) agree in that they show a relative weakening of the intervocalic obstacle; degemination and voicing conspire to the same end, gemination and voice behaving as the opposite poles of a strength scale /tt/ >> /t/ >> /d/.

The problem is that this conspiration cannot be given a formally explicit representation, since the scale above does not follow from any theory of segmental primitives. Foley's (1977) claim that /tt/ ~ /t/ ~ /d/ show a gradient relationship cannot be captured by modern phonological theory. Length, unlike voice, is no longer viewed as primitive, as was the case when both features [±long] and [±voice] were allowed; length now results from the spreading of a given melody to two skeletal positions, and this is supported by a large array of facts, from compensatory lengthening and syllable weight (cf., e.g., Kenstowicz 1994: § 8) to word games (Vago 1985) and lapses. How, then, can a quantitative distinction like /tt/ ~ /t/ become a qualitative one such as /t/ ~ /d/? No satisfactory answer is given by the current systems of phonological primes, which assume both the autosegmental representation of length, and the primitive status of voice and voicelessness. It must be added that, since voiced consonants are also spirantized, lenition happens to be a rather complex phenomenon, involving such heterogeneous aspects as length, laryngeal and manner features.

A second type of transphonologization associated with degemination is provided by vowel lengthening in open syllables (cf. § 2.4), as in (13).

(13) /VCCV/ ~ /VCV/ > /VCV/ ~ /VVCV/

Contrary to (12a), (13) implies a relationship between similar objects: both poles of the chain shift in (13) involve quantitative distinctions: geminates and

long vowels. However, it must be recalled that, in the zone shown in Figure 2, the drift in (13) appears either as parallel to (12a) in the case of obstruents, or as an alternative to lenition in the case of sonorants. Hence, it can be argued that vowel length and consonantal voice keep up some relationship that addresses the very same theoretical problems as those that arise from (12a): what phonological properties may quantative and qualitative objects such as length and a laryngeal feature share that allow them to participate in the same 'repair strategy' induced by degemination? In the third part of this volume, I will try to bring an answer to these questions.

3.3. Why does (#)C- behave like -(C)C-?

As was seen in § 2.3, WR consonants behave word-initially as in post-coda position. Hence, both contexts are said to make up the so-called 'strong position'. However, though this label may be adequate on descriptive grounds, is it possible to assign to the initial position, as such, the same sort of 'strength' as to a context where the onset can be said to be 'naturally' protected from lenition by the preceding coda? This is particularly questionable, more especially as Tuscan, some Sardinian and southern Italo-Romance dialects show, like Celtic languages, initial *sandhi*, as exemplified by the *Logudorese* forms in (14) (Lausberg 1963: §§ 364, 577).

(14)	a.	NEPŌTE	>	neβóðe	'nephew'
		SECĀRE	>	seɣáre	'to cut'
	b.	ĬPSA PĬRA	>	sa βíra	'the pear'
		ĬPSAS PĬRAS	>	sas píras	'the pears'
		ĬPSU TĔMPUS	>	su ðémpus	'the time'
		ĬPSOS *TĔMPOS	>	sos témpos	'the times'
		ĬPSU CANE	>	su ɣáne	'the dog'
		ĬPSOS CANES	>	sos kánes	'the dogs'

As will be seen, the absence of word-initial lenition in WR may be given either a phonetic/phonological, or a lexical/analogical account. This is, thus, a fascinating problem, which may serve to illustrate the limits of phonology proper, and the way phonology and lexicon interact. But let us first summarize the facts in classical phonemic terms. According to Martinet's (1952 [1970]) account of WR lenition, degemination led to rephonologization of primitive

/CC/ ~ /C/ oppositions as *fortis* (C) *vs lenis* (c) contrasts, following the pattern given in (15).

(15) /VCCV/ ~ /VCV/ > /VCV/ ~ /VcV/

The results of (15) were *identified* with word-initial counterparts. As is shown in (16a), degeminated stops were perceived as the intervocalic instances of the same phonemes as the initial voiceless stops, while their *lenis* counterparts were identified with the initial voiced stops; following the same pattern, the members of the unique series of initial fricatives and sonorants were perceived as the same phonemes as their intervocalic *fortis* counterparts, as in (16b,c).

(16) a. /-P-, -T-, -K-, -K^{w}-/ = /p-, t-, k-, k^{w}-/
/-p-, -t-, -k-, -k^{w}-/ = /b-, d- g-, g^{w}-/

b. /-F-, -S-/ = /f-, s-/

c. /-M-, -N-, -L-, -R-/ = /m-, n-, l-, r-/

It is worth to note that the equations in (16) generally implied the stability of word-initial consonants, as if this position was indeed intrinsically strong. Actually, /p-, t-, k-, f-, s-/ and /b-, d-, g-/ remained unchanged, and constituted the phonemic targets for degemination and voicing. A possible explanation of this within Martinet's framework is that the absence of lexical initial geminates yielded a lesser structural pressure towards a chain-shift therein. However, neither Proto-Sardinian nor Proto-Celtic had initial geminates either; yet, both developed *sandhi* processes.

Moreover, if initial plosives and fricatives did not change, initial sonorants did in some cases. Either they turned into their geminate counterparts, or both shared a change that did not affect the *lenis* term, and will, therefore, be viewed as *fortition*. The main relevant fact is the evolution of initial *r* in Old French, most Occitan dialects, and all Ibero-Romance languages. The geminate ([r] *versus* [ɾ]) realization of /-R-/ is not only preserved in this zone (cf. § 2.2), but also generalized to the initial position, whereas this was allowed, in Classical Latin, only when the word was preceded by a final floating consonant through compensatory lengthening: *optimo* [ɾ]*ege vs optimu(s)* [r]*ex* (cf., e.g., Lausberg 1963: § 534).

As to the nature of this 'initial geminate' in a system lacking any other geminate, let us consider the parallel changes in (17a,b) occurring word-

internally after a secondary coda. Assuming that both changes are directed towards the same goal, and following on from a point made by Lipski (1990), the strong [r] could be viewed as a special type of complex onset lacking any place feature, which is necessarily the case word-initially for want of any consonant at the left of the sonorant.

(17) a. *r*-fortition I: [ɾ] > [r]

*HÓN(O)RA	>	Pt. *hon*[r]*a*	‘honour’
GEN(Ĕ)RU	>	Pt. *gen*[r]*o*	‘son-in-law’
TEN(Ĕ)RU	>	Pt. *ten*[r]*o*	‘tender’
*VAL(E)RÁ	>	OPt. *val*[r]*á*	‘it will be worth’
MER(Ŭ)LU	>	Pt. *mel*[r]*o*	‘blackbird’

b. *r*-fortition II: epenthesis

ŬM(Ĕ)RU	>	Pt. *om*[bɾ]*o*	‘shoulder’
CŬM(Ŭ)LU	>	Pt. *com*[bɾ]*o*	‘hill’
GEN(Ĕ)RU	>	Fr. *gen*[dɾ]*e*	‘son-in-law’
TEN(Ĕ)RU	>	Fr. *ten*[dɾ]*e*	‘tender’
*VAL(E)RÁ	>	Fr. *vau*[dɾ]*a*	‘it will be worth’

A more direct argument for the claim that /r-/ = /-R-/ is equivalent to a cluster is brought by Gascon prothesis *r-* > *arr-*, where the initial sonorant did change into its strong geminate counterpart. I shall turn to the relationship between (17a) and (17b) in § 3.5.

In addition to /r-/ = /-R-/, non-trivial solidarity between /l-/ and /-L-/, on the one hand, and between /n-/ and /-N-/, on the other hand, can also be found in WR languages, though to a much lesser extent since evidence is limited to the Iberian peninsula. In all Ibero-Romance dialects but Galician-Portuguese, the *fortis* sonorants /-N-/ and /-L-/ gave the palatals [ɲ] and [ʎ], while the *lenis* /-n-/ and /-l-/ remained unchanged. Now, /l-/ = /-L-/ = [ʎ] is attested in Leonese, eastern Aragonese, and Catalan (LUNA > *lluna*), and there are numerous traces of initial [ʎ] in Aragon and in large parts of northern and central Spain during the Middle Ages; /n-/ = /-N-/ = [ɲ], which always presupposes /l-/ = /-L-/ = [ʎ] (cf. § 2.2), is now typical of the sole Asturian core of the Leonese area (NOCTE > *ñueite*), but was once common in other zones (namely in Aragonese).

There is, thus, evidence for assuming that not only may the initial position escape lenition, contrary to what happens in Sardinian or Celtic, but it can also favour the same fortition changes as the post-coda position: both contexts

should therefore make up a more general 'strong position'. Why? A first type of explanation of the scenario in (16) is the one provided by Scheer & Ségéral (2001a) in their 'coda-mirror' theory. It is based on the idea that both positions #__V and C__V are inherently strong, since '#' and the so-called 'coda' of current terminology ultimately constitute two particular instances of the same object: a CV sequence in which the V is empty, and the C either represents the 'coda' in word-internal position, as independently follows from the 'strict CV' approach of Government phonology, or is left empty word-initially. This initial CV (or 'coda-mirror') will be able to act as the internal coda, providing, thus, a unitary representation of the two typical instances of the 'strong position'.

From a theoretical perspective, the most interesting issue of this analysis is that it lends new and strong support to junctures, as opposed to prosodic domains, while assigning them a phonological definition, since, being an empty CV, '#' is made of the very same elements as the skeleton. This view is a welcome alternative to such objects as '#' or '+', which clearly remain theoretical artefacts within standard representations. From an empirical point of view, the 'coda-mirror' theory is especially supported by fortition facts, such as the change of the initial *r*- into a 'strong' segment. However, it does not rule out an alternate explanation of the facts in (16). In what follows I shall try to reformulate an idea originally expressed by Lausberg (1963: §§ 578-581).

All post-lexical lenition processes seem to be boundary-free: cf. Sp. [b]*asco* [β]*ió* [ð]*oce* [ɰ]*atos* 'Vasco saw twelve cats'. Assuming that, similarly, the first stage of WR lenition was *not* constrained by word-initial position, and depended only on whether there was a preceding nucleus or not, what, then, would have been the result of subsequent phonologization of allophones in PWR? Assuredly, the word-initial position is a particularly interesting context since *it is the only one that should have necessarily involved allomorphy*. To take the examples in (6), PĬRA, TĒLA and CASA would then have yielded the following pairs of allomorphs: *[pera, bera], *[tela, dela], and *[kaza, gaza], after a coda (or sentence-initially) and a nucleus respectively; likewise, *BALLA, DĔNTE and GATTU ('packet', 'tooth', 'cat') would have given such alternations as *[balla, βalla], *[dɛnte, ðɛnte], and *[gato, ɣato]. It is worth stressing the complexity of this system, where the realizations of /p-, t-, k-/ and /b-, d-, g-/ would overlap, only the context, i.e. the last segment of the preceding word, determining the segments underlying [b, d, g]. A tempting hypothesis is, thus, that PWR reacted against such a drift through levelling. It is irrelevant that lenition actually occurred word-initially in a first stage, and that the resulting alternations were eliminated later on, or that lenition and

levelling played, and competed, simultaneously. Phonologization of allophones may either have led to an early and relatively stable stage with initial allomorphy in WR, or have been crossed by levelling. In any case, the point is that, according to this view, there is no initial strong position; the absence of lenition word-initially is nothing but an extraphonological effect, which, as is typically the case with analogical changes, might have not occurred as well, like in Sardinian, some Italo-Romance, and Celtic languages.

Certainly, levelling, if any, had to obey some phonological considerations (and Lausberg's theory misses this point). Markedness constraints, for example, are necessary to explain why the hypothetical word-initial [p t k ~ b d g] and [b d g ~ β ð ɣ] alternations were stabilized as [p t k] and [b d g] respectively, and not as *[b d g] and *[β ð ɣ]: no language has voiced consonants without their voiceless counterparts. Note that there are cases of non-etymological stabilization due to overlapping: VĬCE > Sp., Pt. *vez*, but Fr. *fois*, where the diaphoneme */b>v/ merged with the */f>v/ of, e.g., FEMĬNA > Fr. *femme*, which is, once again, the unmarked term of the contrast. As is outlined by Lausberg (1963: §§ 579, 581), such cases strongly support a levelling-based theory. Also, the long hesitation between initial [ɲ, ʎ] and [n, l] in the Iberian peninsula may bring another piece of evidence to the idea that there was competition between phonological change, which palatalized the *fortes* /-N-, -L-/, and the tendency to favouring unmarked segments in allomorph selection. Interestingly, the initial sonorants chosen were the *lenis* [n, l] in an overwhelming majority of cases, and coronals are unmarked with respect to palatals. Hence, cross-language variation concurs with markedness considerations in lending more support to such a theory than to a thesis that is exclusively grounded on phonological principles and representations.

3.4. Why are sonorants more likely to resist lenition than obstruents?

As was seen in § 2.2, PWR preserved Latin sonorant, but not obstruent, geminates. This fact brings up two problems: (a) what exactly is meant by 'geminate preservation' here? (b) in any case, why do sonorants and obstruents clearly diverge as to their evolution in most WR dialects?

Regarding (a), the consonant system of PWR seems quite bizarre: are there really attested cases in the world's languages where gemination, and more generally length, is limited to certain sonority classes? Since gemination is no longer viewed as a feature but as a contour, it should be expected to be 'blind' *vis-à-vis* melodic aspects such as sonority. Yet, this appears to be false. Why,

for example, does modern French frequently show sonorant geminates (as in *sommet*, *grammaire*, *collègue*, etc.), but never obstruent ones? Also, why are lexical voiced geminate obstruents so rare in Latin? Thus, either sonority is not a melodic property, or geminates may not have been preserved as phonological, i.e. representational, objects in PWR. This second solution was the one adopted by Martinet (1952 [1970]) in (18). According to his thesis (cf. § 3.3), the Latin geminates were phonologized as *fortis*, as opposed to the *lenis* phonemes provided by their simple intervocalic counterparts.

(18) a. /tt/ ~ /t/ > */T/ ~ */t/

b. /nn/ ~ /n/ > */N/ ~ */n/

In line with Martinet's structuralist framework, it must be assumed that any difference in phonetic realization between obstruents and sonorants is phonologically irrelevant: just as voice automatically follows from the combination of [–sonorant] and [*lenis*], so may sonorant *fortes* have been pronounced as geminates; in the first case, voice was not yet distinctive; in the second case, gemination was no longer distinctive as such, though still present, like in the 'strong' *r* of Ibero-Romance languages (cf. § 3.3).

This theory certainly reinforces the plausibility of the PWR consonant system; nevertheless, it cannot be denied that some reasons must be adduced in order to explain why obstruents and sonorants have ultimately diverged as to the results of lenition. At this stage, two complementary claims have been made. On the one hand, contrary to */t/ in (18a), */n/ in (18b) cannot undergo voicing since it is already voiced; hence, as can be argued on functional grounds assuming with Martinet some sort of NO-MERGE constraint (cf. § 3.1), the primitive geminate realization of *fortes* will be favoured among sonorants, whose status *vis-à-vis* voice, thus, naturally blocks lenition. Actually, except in the zone that developed secondary quantity (cf. § 2.4), where degemination could occur without problem, only economy-based considerations will explain elsewhere the progressive loss of an allophonic gemination restricted to sonorants, and its replacement with other phonetic types (namely retroflexes, which are assumed to have given the palatals /ɲ/ and /ʎ/ in Spanish *año*, *caballo*, and Catalan *any*, *cavall*, for example).

On the other hand, following on from Malmberg's (1963) and Kiss's (1971) assumption that lenition results from a WR tendency to coda-weakening and syllable-opening, Granda (1966) claims that sonorants are better codas than obstruents. There are, indeed, two pieces of evidence for this thesis. Firstly, as was pointed out in § 3.1, the only (internal) Latin codas that

subsisted in WR were sonorants, with the sole exception of /s/. The velar of OCTO, FACTU, etc. has precisely been vocalized in WR (> *oxto, *faxtu > *oçto, *façtu > *ojto, *fajtu 'eight, done'), while being assimilated in Italo-Romance (> It. *otto*, *fatto*).[6] Crucially, this isogloss coincides with the La Spezia-Rimini line: degemination is, thus, strongly connected with loss of obstruent codas. A second argument for this point is provided by Iberian data, which show two zones according to the drift of nasals and laterals: in the west, Galician-Portuguese has both reduced the geminates, and deleted the simple sonorants, as in (19a), while all other Hispanic dialects (Leonese, Castilian, Aragonese, Catalan) have palatalized the former, and maintained the latter, as in (19b).

(19) a. ANNU ~ MANU > Pt. *ano ~ mão* / Sp. *a*[ɲ]*o ~ mano* 'year', 'hand'
b. GALLU ~ MALU > Pt. *galo ~ mau* / Sp. *ga*[ʎ]*o ~ malo* 'cock', 'bad'

According to Carvalho (1987: § I, 1989), this divergence should be associated with the variable importance of secondary codas in the Iberian peninsula, since the number of contexts allowing deletion of unstressed vowels increases from west to east, as illustrated by the examples in (20).

Galician-Portuguese appears as more conservative in having disallowed vowel loss after non-sonorant (or labial sonorant) consonants and/or after two non-syllabic segments. Interestingly, as is shown in (19), Galician-Portuguese also appears as the most conservative WR language in having preserved, and generalized to the whole consonant system, the PWR tendency to coda weak-

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[6] Similarly, -PT- > It. *-tt-* (SĔPTE > *sette*) *vs* WR *-t- (Pt. *sete*), and -PS- > It. *-ss-* (ĬPSA > *essa*) *vs* PWR *-s- (Pt. *essa*). Only two other clusters containing an obstruent coda were relatively frequent in Latin: -KS- and -GN- (= [ŋn] as is generally accepted). Here, things are less clear-cut, since there are at least two evolution types that may overlap in the same language. On the one hand, a WR-type solution -KS- > *-js- (> -ʃ-), -GN- > *-jn- (> -ɲ-) (cf. -CT- > *-jt-) is shared by Ibero-Romance, some Occitan, and northwestern Italo-Romance, and prevailed even in a large part of central Italian (COXA, LĪGNU > It. *coscia*, *legno*). On the other hand, an Eastern-type solution -KS- > *-ss-, -GN- > *-nn- (cf. -CT- > It. -tt-) is shown by certain southern Italo-Romance dialects, Sardinian (*cossa*, *linnu*), and, for -KS- only, Italian (DĪXĪ > *dissi*), but also, with degemination, by French (COXA > Fr. *cuisse*), some Occitan (Prov. *cuoissa*), Rheto-Romance and north-eastern Italo-Romance, Portuguese (DĪXĪ > *disse vs co*[ʃ]*a* and Sp. *dije*, which show the first evolution type) and Roumanian (*SEXE > *şase*, TRAXIT > *trase*), parallelly to a specific drift yielding labial codas (-CT- > *-pt-*, -KS- > *-ps-*, -GN- > *-mn-*). In both cases, however, the hypothesis of obstruent coda weakening in PWR still holds. By contrast, the palatals in It. *coscia*, *legno*, etc. are geminates, and Roumanian, despite geminate loss elsewhere, developed strong codas in its *-pt-*, *-ps-* and *-mn-* clusters.

ening. Could it be the case, then, that this primitive trend was crossed elsewhere by vowel loss, whence the stability of sonorant geminates?

(20)	Latin	Portuguese	Castilian	
	FALCE	*fouce*	*hoz*	'scythe'
	CIVITĀTE	*cidade*	†*cibdat*, *ciudad*	'city'
	CAULE	*couve*	*col*	'cabbage'
	FEMĪNA	*fêmea*	*hembra* (< **hemna*)	'female'
	JUDĬCĀRE	†*juigar*	*juzgar* (< **judgar*)	'to judge'
	FONTE	*fonte*	†*font*, †*fuent*	'source'
	NŎVE	*nove*	†*nuef*	'nine'
	NŎCTE	*noite*	†*noch*	'night'

There are, thus, reasons for the assumed PWR system, and for the divergence between obstruents and sonorants as to their behaviour *vis-à-vis* lenition. It remains that such reasons can hardly be captured by current frameworks. For example, what do '*fortis*' consonants look like? What is their phonological representation? Simply assigning them a *fortis* feature sounds too much as a 'dormitive virtue'. Given the relative stability of sonorant codas in PWR, it could be suggested that the so-called preservation of geminate sonorants may have been due to their phonological reinterpretation as particular cases of such NC-, lC- and rC-clusters as those of *vɛntu 'wind', *saltu 'jump', *pɔrta 'door'; hence, the prothesis *r-* > *arr-* that affected initial /r-/ in Gascon (cf. § 3.3).[7] That these sequences are not to be given the same representation as geminates is in accordance with the fact that there are languages like Finnish where sonorant codas may be followed by geminates. However, this hypothetical difference between geminates and coda+onset clusters brings up another problem, since both sequences are currently assigned identical phonological representations.

Furthermore, whatever the 'geminate sonorants' of PWR may have been in representational terms, why are sonorants 'better' codas than obstruents? Even assuming that sonorant geminates have been reinterpreted as NC-, lC- and rC-clusters, why is it that such sequences are more 'optimal', and, therefore, more

[7] The PWR reflexes of Lat. /-ll-, -rr-/ may have been interpreted as complex onsets as well, both /Cl-/ and /Cr-/ existing in Romance. The fact that *r* has the same realization word-initially and after coda as intervocalic *-rr-* favours this view (cf. § 3.3). As to the lateral, it is worth mentioning that Lat. initial /pl-, fl-, kl-/ gave the same result as Lat. /-ll-/ in Castilian: [ʎ] (PLUVĬA, FLAMMA, CLAVE > *lluvia*, *llama*, *llave* 'rain', 'flame', 'key').

widespread, than those in which the first element is an obstruent? Once again, can we simply answer that this is so by definition, i.e. by virtue of the intrinsic content of the [±sonorant] feature? Or should we take this feature, just as '*fortis*', as a mere cover-term crossing further research on the phonological representations of consonant clusters? In what way, if any, do obstruents and sonorants involve different VC-interactions? Or might this be a matter of feature (under)specification? In sum, how can the aforementioned substantive reasons for the stability of sonorant codas be formally expressed? We are, thus, faced with the same sort of problem as in § 3.2: why is lenition sensitive to sonority, besides length, laryngeal and manner features?

3.5. Why may voicing be bled by *yod*?

As was seen in § 2.5, voiceless stops often escaped voicing before *yod* in PWR, behaving as if they derived from geminates. The prevailing thesis is that *yod* and/or its palatalizing effect caused gemination before WR lenition. Crucially, geminates are attested in Italo-Romance not only in such cases (cf. (21a)), but also for Lat. /j/ and all *Cj-sequences (except */sj/), most of which underwent lenition in WR (cf. (21b)).

(21)	a.	It. *sappia*	< */pj/	cf. Sp. *sepa*	'he know (subj.)'
		It. *pozzo*	< */tj/	cf. Pt. *po*[s]*o*	'well'
		It. *faccio*	< */kj/	cf. Pt. *fa*[s]*o*	'I do'
	b.	It. *maggio*	< */j/	cf. Pt. *ma*[j]*o*	'may'
		It. *rabbia*	< */bj/	cf. Pt. *ra*[j]*va*	'rage'
		It. *mezzo*	< */dj/	cf. Pt. *me*[j]*o*	'mid'
		It. *correggia*	< */gj/	cf. Pt. *corre*[j]*a*	'strap'
		It. *vi*[ɲɲ]*a*	< */nj/	cf. Pt. *vi*[ɲ]*a*	'vine'
		It. *pa*[ʎʎ]*a*	< */lj/	cf. Pt. *pa*[ʎ]*a*	'straw'

Furthermore, it is not the case that only voiceless consonants have escaped lenition: though less frequently, intervocalic *yod* and voiced *Cj-clusters can also show, in WR, the expected evolution in strong position (cf. JAM > Pt. [ʒ]*á*, DĬARĬA > Pt. [ʒ]*eira*), as illustrated by the Portuguese examples in (22), which contrast with those in (21b).

(22)	MĒĪĀRE	(> */j/)	> Pt. *mi*[ʒ]*ar*	'to piss'
	VĪDĔO	(> */dj/)	> Pt. *ve*[ʒ]*o*	'I see'

HODĬE	(> */dj/)	> Pt. *ho*[ʒ]*e*	'today'
FUGĬO	(> */gj/)	> Pt. *fu*[ʒ]*o*	'I flee'

Hence, such forms as those in (23) are generally postulated at some proto-Romance stage (cf. Lausberg 1963: §§ 451-478).

(23) a. *póttço *fákkço b. *mejjáre *véjjo *ójje *fújjo

Later on, these *yod*-conditioned geminates, like the primary ones, must have been reduced in the WR area. In this respect, they can be said to have been affected by lenition just as all intervocalic consonants.

Nevertheless, it could be argued that gemination is not a necessary stage for understanding the particular drift of *Cj-sequences. After all, *yod* is likely to undergo fortition, as is shown by Lat. [j] > [(d)ʒ] (Holtzmann's law) mostly in strong contexts. Indeed, in such cases as labial+j sequences, *yod*-fortition may have followed from its being in strong position, which requires these clusters to have been heterosyllabic. Hence, voicing could not occur therein, and, ultimately, the labial segment was deleted, as in SAPĬA > */sáp-ja/ > Provençal and Grison *sapcha* 'I/he know (subj.)', and, among other dialects, Fr. *sache* ([saʃ]); cf. also LĪNĔU > Fr. *linge* ([lɛ̃ʒ]) 'linen'. Actually, heterosyllabicity is the basis of Scheer & Ségéral's (2001b) account of all *Cj-sequences that escaped lenition in Gallo-Romance, including */tj/, */kj/ as in Fr. *place*, *fasse* ([plas], [fas]). Could it be the case that this holds for *all* *Cj-sequences that escaped lenition in WR *tout court*, such as those in (21a) and (22)?

In certain *Cj-sequences, indeed, namely labial+j, *yod*-fortition concurs with C-weakening in supporting an initial stage */VC-jV/ in a large northern zone of WR comprising not only most Gallo-Romance dialects, but also Rheto-Romance and some northern Italo-Romance. However, if Lausberg's (1963: § 473) hypothetical stage *[-ppç-] is never attested in modern Romance dialects, *p*-gemination and *yod*-fortition seem to be in complementary distribution, as shown by SAPĬA > It. *sappia*, but also, in southern WR, by Provençal *sapia*, *sepia*, Catalan *sepia*, and Spanish *sepa*, all of which suppose */sáp-pja/ without *yod*-fortition.

Leaving aside the particular case of *yod*-fortition in northern WR, the fact that most *Cj-clusters gave geminates in Italian is too striking for rejecting the hypothesis of *yod*-conditioned gemination before the PWR stage, viz in what is commonly called Vulgar Latin (VL). This precisely follows from the south-

ern WR reflexes of SAPĬA mentioned above, but also holds for most non-labial+j sequences in northern WR. Otherwise, if *yod* had really been alone in strong position in all cases, why would it have given [s] after */t/ and */k/, as in both Fr. *place*, *fasse* and Pt. *poço*, *faça*, instead of *[ʃ], as it does after */p/ in Fr. *sache*? It could be argued that labials are less sensitive to palatalization, which may have favoured heterosyllabicity and, hence, *yod*-fortition. This is probably true. However, assuming heterosyllabic non-labial+j sequences in northern WR would, then, be trivial, since these clusters have generally undergone the same evolution in southern WR, where, as was seen above, labial+j sequences do *not* imply heterosyllabicity. Actually, *C-j heterosyllabicity may be associated, in northern WR, to the absence of C-palatalization: SĪMĬU gave Fr. [sɛ̃ʒ] (*singe*) 'monkey', parallelly to CAMBĬO > [ʃɑ̃ʒ] (*change*) 'I change', while */nj/ exhibits two evolutions: LĪNĔU > */lin-ju/ > [lɛ̃ʒ] (*linge*) 'linen' *vs* LĪNĔA > */li(n)-nja/ > [liɲ] (*ligne*) 'line'.

But why is it that *yod*, and not front vowels (cf. § 2.5), is likely to cause gemination? As is shown by AQUA > It. *acqua* 'water', HABŬĪ, *SAPŬĪ > It. *ebbi*, *seppi* 'I had, I knew', but also, in WR, by Sp. *supe* 'I knew' without voicing, if *yod* often triggers gemination, the latter does not imply the former; it simply presupposes a following glide in general. Hence, it might be the case that consonant lengthening is actually associated with VL syneresis, whereby the unstressed vowels ĭ, ĕ and ŭ changed into [j] and [w] in prevocalic position, as exemplified in (24). (Modern reflexes show that these glides ended by triggering either palatalization or metathesis.)

(24)		VL		+gemination	–gemination	
SAPĬA	>	*sá(p)pja	>	Sp. *sepa*	Pt. *saiba*	'I know (subj.)'
*SAPŬĪ	>	*sá(p)pwi	>	Sp. *supe*	Pt. *soube*	'I knew'
RATĬŌNE	>	*ra(t)tjóne	>	Pt. *ração*	Pt. *razão*	'ration, reason'
PŬTĔU	>	*póttju	>	Pt. *poço*		'well'
PLATĔA	>	*pláttja	>	Fr. *place*		'place'
*LATĬA	>	*látja	>		Fr. *laize*	'width'
HABŬĪ	>	*áβwi	>		Pt. *(h)ouve*	'I had'
VĪDĔO	>	*vé(d)djo	>	Pt. *vejo*	Sp. *veo*	'I see'
VĪDŬA	>	*βé(d)dwa	>	Sp. *viuda*	Pt. *viuva*	'widow'
VĪNĔA	>	*ví(n)nja	>		Pt. *vi*[ɲ]*a*	'vine'
FĪLĬU	>	*fi(l)lju	>		Pt. *fi*[ʎ]*o*	'son'

Thus, not only should gemination precede palatalization by *yod*, but also both changes presuppose syneresis. Now, the latter is a very ancient phenome-

non, at least in the lowest styles of the spoken language, which is corroborated by evidence from VL (Väänänen 1967: §§ 76-78). Therefore, *yod*-conditioned gemination might have been an old process as well, which agrees with the above observation that it necessarily preceded lenition.

In sum, the problem is twofold: (i) why did lenition sometimes affect C+glide clusters, sometimes not? ; (ii) when it did not, why do we have either C-gemination or (mere) heterosyllabicity? What follows is couched within a 'strict CV' approach, mostly because it provides a simple account of two types of syneresis. Indeed, as regards the question (i), I propose that VL developed the solutions to classical hiatuses in (25) and (26a) (V_2 becoming properly governed in both cases), and that (26a) patterns with the change in (26b) affecting many proparoxytonic words in PWR.

(25) 'Weak' (left-oriented) syneresis
[lá-ti-a] > VL *[lá-t^{j}a] (> Fr. *laize*)
[sá-pi-a] > VL *[sá-p^{j}a] (> Pt. *saiba*)

C_1	V_1	C_2	[V_2	C_3]	V_3
l	a	t	I		a
s	a	p	I		a

(26) a. 'Strong' (right-oriented) syneresis
[pó-ti-u] > VL *[pót-ju]
[sá-pi-a] > VL *[sáp-ja]

C_1	V_1	C_2	V_2	C_3	V_3
p	o	t	I		u
s	a	p	I		a

b. Unstressed internal vowel fall
[gé-ne-ɾu] > PWR *[gén-ɾu]

C_1	V_1	C_2	V_2	C_3	V_3
g	e	n	[e]	r	u

The evolution in (25) is 'weak' in that it preserved the intervocalic context of the melody associated to C_2; thereby, palatalization did not preclude voicing in PWR. The evolutions in (26), however, are 'strong', since they led to coda+onset clusters: C_2 being followed by a properly governed nucleus, C_3 became a strong position, which disallowed any lenitive change.[8]

[8] Two arguments support the claim that *t was not a coda in *[lát^{j}a] > Fr. *laize*: (i) it underwent voicing; (ii) the stressed *a followed the expected evolution in open syllables like in AMAT > Fr. *aime*, while VL *[plát-ja] gives Fr. *place* like FLAMMA > *flamme*. Within this framework, this amounts to saying that /I/ cannot be associated to C_3 in *[lát^{j}a].

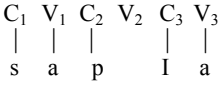
The syneresis in (26a) can be seen as the expected evolution according to purely positional parameters, insofar as /I/ spreads to an empty, and therefore more easily available, slot. The change in (25) may, then, be due to the interference of a melodic factor, since heterosyllabic C-j clusters, in which the coda is less sonorant than the onset, clearly violate the well-known sonority scales ruling syllable structure, especially in languages allowing complex onsets.

Both (25)- and (26a)-type changes must have coexisted in VL. This explains many divergent evolutions such as LĪNĔA > */li-nja/ > Fr. [liɲ] (*ligne*) 'line' *vs* LĪNĔU > */lin-ju/ > [lɛ̃ʒ] (*linge*) 'linen', but also VĬTĬU > */βé-tju/ > Pt. *vezo* 'custom' *vs* > */βét-ju/ > *viço* 'force', -ĬTĬE, -ĬTĬA (suffixes) > */é-tje, é-tja/ > Pt. *-ez*, *-eza vs* > */ét-je, ét-ja/ > *-ice*, *-iça*, -TĬŌNE > Pt. *-zão vs -ção*, GALLÆCĬA > Pt. *Galiza vs* FACĬA > *faça* 'I do (subj.)', etc., where the first term follows from the weak drift in (25), and the second from the strong one in (26a) through different paths.

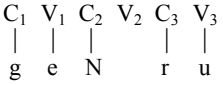
Indeed, not only did the evolutions in (26) preclude any lenition, but they also led to two types of fortition changes, according to whether melodic adjustments, once again, occurred or not. The first change is shown in (27a). It is the one postulated by Scheer & Ségéral (2001b) for most Gallo-Romance C+*yod* clusters. Though, as was argued for above, it should actually be restricted to a small number of such sequences (those that yielded [ʃ, ʒ] in fact: cf. Fr. *sache*, *linge*, etc.), it can also be found elsewhere in WR, e.g. in the *r*-fortition seen in (17a) and represented in (27b). In both cases, fortition compensates for the instability of C+approximant clusters, by strengthening the more sonorant consonant, whence the change of the glide into a fricative in (27a), and that of the tap into a trill in (27b).[9]

(27) Normal 'spontaneous' fortition in strong position

a. *[sáp-ja] > *[sáp-ça] (> Fr. *sache*)



b. *[gén-ɾu] > *[gen-ru] (> Pt. *genro*)



*[sáp-ça] is found in Rheto-Romance *sapcha*, and in Fr. *sache* (with final loss of the governed consonant), but *yod*-fortition in general is a widespread phenomenon throughout the Romance area in strong position; *r*-fortition is

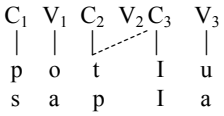
[9] Hence, the strength of /r/ cannot follow from its being bipositional (cf. §§ 3.3, 3.4). Nevertheless, its weight could be accounted for by Schane's (1984) particle phonology: /ç, r/ = {F, F} *vs* /j, ɾ/ = {F} (F = feature).

attested by Pt. *genro*, *tenro* (with subsequent vowel nasalization), and more generally by Ibero-Romance in strong position (cf. § 3.3).

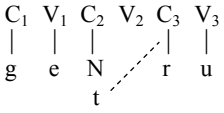
The other fortition change is shown in (28a,b), where compensatory strengthening of the more sonorant consonant is realized through propagation of the place feature associated to C_2 (*t* or *p* below) to the strong C_3-position. Thereby, the palatalization in (28a) can be said to parallel the epenthesis seen in (17b) and represented in (28b); both processes involve homorganicity, whence the 'geminate' stage commonly postulated before glides, which patterns, in fact, with NC-clusters (cf. § 3.4).

(28) Fortition by melodic addition

a. *[pót-ju] > *[pót-tʲu] (> Pt. *poço*)
*[sáp-ja] > [sáp-pʲa] (> Sp. *sepa*)



b. *[gén-ɾu] > *[gén-dɾu] (> Fr. *gendre*)[10]



Later on, just as the results of (25) were subject to voicing, so did those of (28a) undergo degemination in PWR.[11]

The major advantage of the present scenario is that it provides a unitary account of the evolution of both C-j and C-r clusters, while explaining two successive divergencies by means of interaction of positional and melodic factors.

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[10] The place feature comes from the left: cf. CAMĔRA > Fr. *chambre*.

[11] The fact that French underwent both (27a)- and (28b)-type evolutions (*sache*, *gendre*), and Portuguese both (27b) and (28a) (*genro*, *poço*) is not surprising. The changes in (27a, 28a) and those in (27b, 28b) are not contemporary: as was pointed out above, the former originate in VL forms, whereas the latter only took place in WR: cf. It. *sappia*, *pozzo vs genero* without vowel loss. Accordingly, only the more recent of these changes, viz those concerning /VN-rV/ sequences, are still living processes in both languages: thus, the acronym AMRO, 'name of a bank', may cause epenthesis ([ambʁo]) in modern French; likewise, no tap is allowed in strong position in modern Portuguese. On the contrary, neither *yod*-fortition nor gemination will be triggered by [VCyV] sequences in either language, where such clusters cannot be heterosyllabic.

As is expected from the 'strict CV' theory, C_3 behaves like a strong position throughout the changes in (26-28), that is wherever it is preceded by an empty nucleus.

4. Conclusion

I hope the reader has been given a coherent, albeit brief, picture of the general lenition that affected Latin consonants in PWR. Among the five problematic points addressed in § 3, I have more extensively treated those that could reasonably be dealt with if not from a purely theory-free perspective, at least without having to develop too specific formalisms. For this very reason, one major problem has only been sketched above, and will be left unsolved here. It is the subject of another chapter of this volume, in which I shall propose a partial answer to the question of why and how quantitative and qualitative contrasts interact.

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