Development of Language through the Lens of Formal Linguistics

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Preface

The following book was written under the auspices of the Centre for Interdisciplinary Research into Ancient Languages and Early Stages of Modern Languages (MSM 0021622435) at the Faculty of Arts, Masaryk University in Brno, Czech Republic. Its publication has been motivated by a well-known fact that formal approaches to language are typically associated with synchronic linguistics whereas diachronic linguistics is rather connected with traditional philological methods. The goal of this book is thus to demonstrate that formal-linguistic analyses of diachronic language data can not only represent known facts in a new light, but also reveal new facts that have remained hidden to traditional philology.

Therefore, I have invited prominent linguists from distinguished European and American universities to participate in this project, mostly people involved in Slavonic studies and, also linguists of other orientations. Particular studies analyze various phonological, morphological, syntactical, lexical and semantic phenomena, in typologically and genetically diverse languages.

The idea to compile this book emerged during innumerable debates with my colleague Markéta Ziková who originally intended to participate, as a phonologist, in this project. However, pleasant maternal duties have intervened in the end. You will certainly be, dear Markéta, as good a mother as you are a good linguist!

The publication has been made possible thanks to a substantial help of two young colleagues of mine, Jana Zmrzlíková and Aleš Bičan, who prepared the particular chapters for printing, sometimes typographically quite challenging. They deserve my gratitude for this. I also would like to thank Prof. George Cummins, Tulane University, for improving English in some of the chapters; all of the remaining shortcomings are mine.

Petr Karlík

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Lenition in branching onsets in French and in ALF dialects

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1. Introduction

Romance languages have long been a privileged theatre for positional phenomena, i.e. lenition and fortition. In the late 19th century, it was probably the young discipline of Romance studies that evidenced the systematic relationship in phonology between the position of a segment in the linear string and its relative strength. When Bourciez (1967:122, first edition: 1910) for example summarizes the findings of the first generation of romanicists, he emphasizes the central role played by positional factors in the evolution of segments.

If since these days the lenition and fortition of simplex consonants was amply documented in Romance and elsewhere, little may be found in the literature on the behaviour of branching onsets (explosive groups in traditional terminology). This is true on both the empirical and the theoretical side. This double vacancy is the starting point of our article.

The Coda Mirror (Ségéral & Scheer 2001, 2005, 2008, Scheer 2004:§110) is a general theory of lenition and fortition that takes advantage of the tools of so-called CVCV (or strict CV, Lowenstamm 1996, Scheer 2004). It offers an explanation for the contrast between weak positions (intervocalic and coda) and the Strong Position (French *position appuyée* 'bolstered position': word-initial and post-consonantal). However, the Coda Mirror only covers simplex consonants. Regarding branching onsets, it does worse than making a wrong prediction: no prediction at all is made. It is well known, though, that just like simplex consonants TR clusters are also affected in languages where lenition processes are active (T is shorthand for obstruents, R for sonorants). The fact that other theories do not fare any better is not a reason for the Coda Mirror to be unable to make sense of this strange animal TR.

In this situation, another peculiarity of TR groups that is entirely unrelated to lenition may offer a line of attack: in CVCV, branching onsets are the only non-local structures in the sense of syntactic locality (Relativized Minimality, Rizzi 1990). They will therefore be modified below in order to comply with locality requirements.

It so happens that this move, which responds to a purely theoretical issue, modifies the Coda Mirror in such a way that a clear prediction is made regarding the lenition of branching onsets, without the behaviour of the theory being changed otherwise. The prediction made appears under (1) below.

(1) within a branching onset TR, T and R behave in regard of lenition as if they stood alone, i.e. as if the other segment were not there.

Note that this is anything but a trivial prediction: it is intuitively awkward and empirically improbable that a language disregards and forgets about items that are physically and cognitively material. Nevertheless, we will see that this is how French and the dialects recorded in the ALF (Atlas Linguistique de la France, Gilliéron & Edmont 1902–1912) behave (as well as Celtic and the Tuscan dialect of Italian).

The second half of the article thus runs the prediction under (1) against the evidence from the languages mentioned. Due to space restrictions, Celtic and gorgia toscana can only be referred to in passing; we concentrate on the dialectological material, also because it pro-

vides non-static evidence in form of isoglosses: the prediction is that the isoglosses of simplex T and of T that occurs in TR clusters fall together.

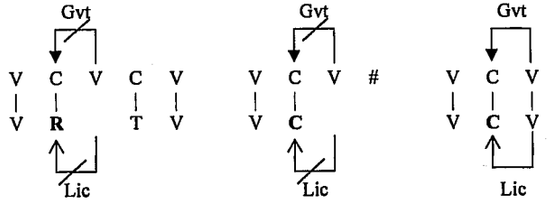
We first expose relevant properties of CVCV as well as the inability of the Coda Mirror to make any statement at all regarding branching onsets in section 2. Section 3 introduces the problem that branching onsets as currently conceived of in CVCV have with locality, and proposes a remedy. Based on the modified representation of branching onsets, the Coda Mirror then imposes (1). Finally, sections 4 and 5 run this prediction against the diachronic development of French and the diatopic evidence that is offered by the dialects of the ALF.

2. CVCV, the Coda Mirror and its muteness regarding branching onsets

The Coda Mirror is couched in the framework of Government Phonology in general, and in the approach to syllable structure that is called CVCV (Lowenstamm 1996) in particular. The latter reduces syllabic constituency to a strict sequence of non-branching onsets and non-branching nuclei. Rather than by arboreal structure, syllabic generalisations are expressed by lateral relations among constituents, government and licensing. It may be seen under (2) that in this environment the coda context __{#,C} ("word-finally and before a heterosyllabic consonant") identifies as __ø ("before an empty nucleus", the contrast between a coda-onset cluster VC.CV and a branching onset V.CCV is discussed shortly).

(2) consonants in coda position are neither governed nor licensed
intervocalic consonants are governed and licensed

a. internal coda __C b. final coda __# c. V__V

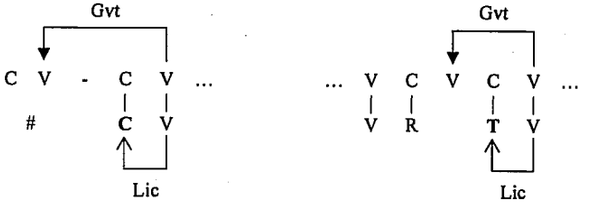


The two lateral forces mentioned are always regressive (they apply from right to left) and can only be headed by phonetically expressed nuclei. This is why coda consonants (which occur before empty nuclei: note that *only* coda consonants occur in this environment) are neither governed nor licensed. By contrast intervocalic consonants are both governed and licensed: their nucleus is phonetically expressed.

We know independently that government has a damaging effect on its target. Licensing on the other hand enhances the segmental expression of its target (Scheer 2004:§125). Given furthermore that empty nuclei can only exist if they are governed, the second consonant of a CC cluster will be licensed but escapes government since its nucleus is called to govern the empty nucleus to its left. This is the description of consonants in (word-internal) strong position: (3) shows that they are licensed (that is, backed up) but ungoverned (i.e. undamaged).

(3) consonants in Strong Position: licensed but ungoverned

a. word-initial consonant #__ b. post-coda consonant coda C.__



If post-consonantal consonants are characterized by the fact of occurring after an empty nucleus, this must also be the case for word-initial consonants: the Strong Position is precisely defined by the uniform behaviour of these two positions in regard of lenition. This conclusion ties in with the proposal that Lowenstamm (1999) has made on the grounds of evidence that is unrelated to lenition: the phonological identity of the beginning of the word is an empty CV unit. The initial CV is depicted under (3).

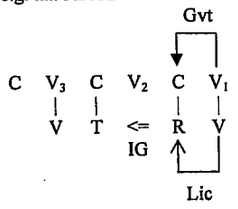
This is how the network of lateral relations and their inherent effect on targets defines positional strength: the Strong Position disjunction {#,C}__ reduces to a uniform and unique context ("after an empty nucleus"). Its strength follows from the fact that it is licensed but ungoverned. Measured by the impact of lateral relations, the two weak positions are certainly weaker than the Strong Position: they identify, respectively, as unlicensed and ungoverned (the coda) and as both licensed and governed (the intervocalic position). The Coda Mirror is thus able to 1) reduce the two disjunctions (of the coda and the Strong Position) to single and unique phonological objects which 2) are symmetrical (ø__ vs. __ø) and 3) define, through the network of lateral relations, the hierarchy of positional strength that is indeed observed across languages. The double symmetry between the Strong Position and the coda regarding their structural description ({#,C}__ vs. __{#,C}) and the effect produced (strength vs. weakness) can hardly be accidental. The Coda Mirror accounts for this pattern by the pivotal role of empty nuclei: ø__ vs. __ø.

Let us now turn to branching onsets. In order to see how they fit into the Coda Mirror, we first need to know what they are made of. In CVCV, the standard analysis is that the solidarity between the two members of a TR cluster stems from a lateral relation that the two consonants contract at the melodic level: so-called Infrasegmental Government (IG) is responsible for their cohesion (Scheer 1999, 2004:§14).[1]

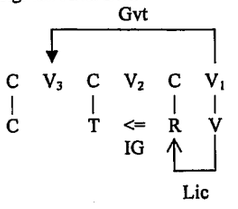
[1] Another option is to consider TR clusters as some kind of contour segment (like affricates), which represent one single syllabic position. This is argued for by Ségéral & Scheer (2005) for some, by Lowenstamm (2003) for all languages. This issue is discussed at greater length in Ségéral & Scheer (2005).

(4) branching onset in CVCV: classical representation

a. in intervocalic position
e.g. lat. PETRA



b. in Strong Position {#,C}__
e.g. lat. AMPLUS



Infrasegmental Government circumscribes the intervening empty nucleus and by this means is responsible for its phonetic muteness. When placed after a consonant as under (4), a branching onset thus produces two empty nuclei in a row. The one that is enclosed within the TR cluster is mute because of IG, while the leftmost empty nucleus is governed by the vowel that follows the sonorant. This long-distance relation is non-local because it applies over two segments that enclose another nucleus. It will be the starting point of the following section.

Given this structure, the situation of the R in regard of lenition is clear: it is governed and licensed when the TR cluster is intervocalic, but licensed and ungoverned in case the cluster stands in Strong Position. By contrast, the T is the target of no lateral relation at all, at least not of government or licensing. Rather, it is targeted by Infrasegmental Government, which however is known for not producing any segmental effect on its target at all (Scheer 2004:§149).

We are thus left without any hint at the relative positional strength of obstruents that occur in branching onsets. This kind of complete absence of indication is certainly worse than a wrong prediction since it does not provide any clue that could allow for a revision of the structure. Reasons for this setback could be either that branching onsets are not the animals depicted under (4), or that the Coda Mirror itself is flawed. The following section shows that the former is the case.

3. Syntactic locality applied to branching onsets

In syntax, the extraction of items over so-called weak islands (quantifiers, subjects, heads) is governed by the principle of Relativized Minimality. According to the generalization that Rizzi (1990) has established, the extraction of any of the three categories mentioned over weak islands is possible unless an item is moved over another item of the same category. Under (5) for example, the result of the movement of *how*, a quantifier, over two heads, *repair* and *think*, as well as over a subject, *Peter*, is well-formed. By contrast, (5) is ungrammatical since a quantifier, *how*, is moved over another quantifier, the negation element.

(5) a. How$_i$ do you think you repair Peter's car __$_i$?
b. * How$_i$ don't you think you repair Peter's car __$_i$?

There would be much to dwell on from the syntactic point of view, but we do not need to go into any further detail, also in the interest of space restrictions. The principle of locality (which continues to play an important role in syntactic thinking today) is sufficiently illustrated. A formal description of locality appears under (6) below.

(6) Locality Principle
given two sets of items A and B whose respective members belong to the same lexical category, a relationship between A_1 and A_2 is local if and only if no other item belonging to A intervenes.

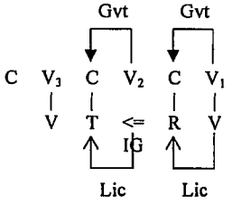
This principle rules out (5) since the relationship between the position in situ of *how* and the position where it is pronounced is interrupted by another quantifier. The same principle also invalidates the phonological structure under (4) where two nuclei, V_1 and V_3, contract a relationship over another nucleus, V_2. On this count, thus, the two categories that are subject to locality restrictions in phonology are onsets and nuclei. This scenario does not appear to be outlandish in CVCV where onsets and nuclei indeed contract lateral relations. Finally, an important thing to note is that branching onsets as under (4) are the only structures in CVCV that violate locality.

It may be objected that there is no reason why a syntactic principle should also govern phonological representations. One may also believe, however, that it is advantageous and desirable that restrictions on syntactic and phonological structure converge. Under the header of structural analogy (Anderson 1992), this is the line of thought developed in Dependency Phonology, and also in Government Phonology (government in phonology is actually an export from syntax, see Kaye 1990): grammar will have a stronger explanatory potential if the same principles can be shown to be active in distinct modules (such as syntax and phonology).

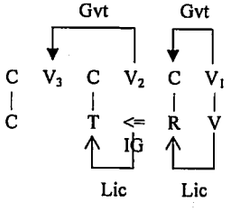
If the violation of locality by branching onsets in Strong Position under (4) is thus taken seriously, their representation needs to be amended. One thing is for sure: the empty nucleus to the left of the TR cluster must be governed, otherwise the entire structure would be ill-formed. There are only two potential governors, though, and we know that considering V_1 as the governor of V_3 leads to the locality violation that we try to do away with. The only alternative is thus to make V_2 the governor of V_3 as under (7) below.

(7) branching onset in CVCV: revised representation

a. in intervocalic position
e.g. PETRA



b. in Strong Position {#,C}__
e.g. AMPLUS



Beyond the source of the government relation that targets V_3 under (7), there is no modification of the old structure: V_2 is still circumscribed by Infrasegmental Government and for that reason does not call for government from V_1.

On the other hand, the fact that V_2 is able to govern is incompatible with a central principle of CVCV that was mentioned earlier: only those nuclei that are phonetically expressed (plus eventually morpheme-final nuclei) are good lateral actors, i.e. can govern and/or license (Kaye 1990). Given (7), this must be wrong. The amended representation of branching onsets thus enforces a view whereby the ability of nuclei to govern and license is defined by their phonological, rather than by their phonetic properties: nuclei are lateral actors iff they are un-

governed, i.e. independently of whether they are pronounced or not. This evolution may be seen as a phonologization of phonology (or, perhaps more accurately, its dephoneticization) since it eliminates the last phonetic condition on a phonological potential (i.e. the ability to govern and license). The move from a non-local to a local representation of branching onsets is described at greater length in Scheer (2000a:199ff, 2000b), where further consequences are also discussed.

Regarding lenition, (7) shows that all of a sudden the Coda Mirror makes clear predictions: both members of the branching onset are now fully integrated into the network of lateral relations. Their respective positional strength is indicated under (8) below according to the position of the entire TR cluster, which may stand in intervocalic or in Strong Position (there are of course no branching onsets in coda position).

(8) positional strength of T and R in a TR cluster that respects locality
  a. TR in intervocalic position V__V
     T and R are both governed and licensed, that is in intervocalic position (cf. (2)c)
  b. TR in Strong Position {#,C}__
     1. T is licensed but ungoverned, i.e. in strong position (cf. (3))
     2. R is governed and licensed, i.e. in intervocalic position (cf. (2)c)

A more user-friendly translation of (8) into non-technical vocabulary may be the following: for each member of the TR cluster and for each position in which the cluster may occur, the situation is exactly the one that would be encountered if the other member did not exist (cf. (1)). This is thus the prediction made by CVCV when branching onsets comply with locality.[2] We insist on the fact that this is anything but an intuitive or trivial statement: there is all reason to believe that consonants will not behave alike when they occur in isolation or engage in a cluster.

4. Testing ground I: the evolution of French

The lenition of simplex consonants is well documented in a great many of languages and has led to phonological generalizations that are valid across language families. Quite surprisingly, though, nothing even remotely comparable is available for TR clusters: it seems that nobody has ever tried to collect relevant data from different languages. We were able to identify three cases in the literature where the behaviour of branching onsets is documented for a particular language, but with no point of comparison or ambition to establish a cross-linguistic generalization. The three patterns in question concern the lenition of branching onsets in the prehistory of Celtic (McCone 1996, Jaskula 2008), in the Tuscan dialect of Italian (gorgia toscana, Castellani 1960, Giannelli & Savoia 1978, 1979, Marotta 2000–01, 2008) and in the evolution of French.

[2] Note that this prediction concerns the behaviour of consonants in isolation and in branching onsets in regard of lenition, but makes no statement regarding their distribution: certain TR clusters may be banned from a given system, which does not mean that the corresponding simplex consonants are also absent. We will see below that the absence of vl in French, and of vl, vr in Provençal, explains the respective evolutions which appear to contradict the prediction. The illicit character of the clusters in question does not imply that the simplex consonant concerned, v, is also banned: the well-formedness of a cluster depends on the relationship that is contracted between its members ("<=" under (7)), and in the case of French and Provençal, this relationship cannot be established between v and r/l. Since intervocalic v does not contract any Infrasegmental Government with any other consonant, its existence in this position is not correlated to the existence of vl/vr.

All confirm (8), but this cannot be documented in the frame of this article. The only case that we can have a closer look at is the evolution of Latin stops in French. All diachronic grammars offer a description, but none mentions the fact that simplex stops and stops in TR clusters show identical behaviour (e.g. Pope 1952:147ff, Fouché 1966–73 III:711ff, La Chaussée 1974:50f, 91ff). Only Bourciez & Bourciez (1967:172) are explicit on the parallel at hand, but only for labials ("les labiales [pr, br] se sont donc comportées ici comme entre deux voyelles" [here the labials [pr, br] thus behaved in the same way as between two vowels]).

Let us examine the situation of labials and dentals.[3] Tables (9) (where primary and secondary TR clusters are distinguished) and (10) show that the result for labials that occur in isolation and in branching onsets is identical in all positions. Except for clusters where the lateral is involved, which produce [bl] (whatever the original voice value of the stop: pl, bl > bl) instead of the expected vl (pl, bl > vl). This impurity is obviously due to the fact that the expected result, vl, is not a possible cluster in French (Bourciez & Bourciez 1967:172f for example are explicit on this).[4] This explanation will also prove useful in the analysis of the ALF dialects below.

(9) evolution of Latin TR clusters for T = labial

	#		coda		V_V	
pr	**pr**una	**pr**une	compr**e**nd(e)re	compr**e**ndre	c**a**pra	chèvre
			p**u**rp(u)ra	p**ou**rpre	p**i**p(e)re	poivre
pl	**pl**enu	**pl**ein	**a**mplus	**a**mple	d**u**plu	d**ou**ble
			*t**e**mp(u)la	t**e**mple	c**a**p(u)lu	afr ch**a**ble
br	**br**achiu	**br**as	**u**mbra	**o**mbre	l**a**bra	lèvre
			arb(o)re	**a**rbre	r**o**b(o)re	r**ou**vre
bl	***bl**astimare	**bl**âmer	germ ***bl**ād	afr em**bl**aver	—	
			umb(i)l**i**cus	afr umb**l**il	f**a**b(u)la	f**a**ble

[3] The situation of velars is complicated by the interference of various palatalizations. Below velars are not considered for this reason.

[4] The cluster vl is indeed absent even in Modern French (except in the onomatopoetic item *vlan!* 'noise of a smash or other impact'. Phonetically, vl may be produced by the absence of a schwa in words such as *jav(e)lot* 'spear', *dév(e)lopper* 'to develop', *ensev(e)lir* 'to bury' etc., but obviously the cluster is not a branching onset in these cases. For one thing, the intervening schwa may be mobilized. But also, the phonetic existence of a cluster whose sonority profile qualifies for a branching onset does not guarantee that this cluster has indeed the status of a branching onset: only its behaviour is a reliable diagnostic (cf. Ségéral & Scheer 2005, 2007). In our case, the fact that the clusters in question are not branching onsets is shown by Midi French varieties (i.e. spoken in the Southern half of the country) where mid vowels are in complementary distribution regarding ATR: /e, o, ø/ are +ATR in open syllables (i.e. including before true branching onsets), but -ATR in closed syllables. Consider for example the contrast between *fêter* [fete] – *je fête* [fɛt] 'to party, I party', *métrique* [metχik] – *mètre* [mɛtχ] 'metrical, meter'. In case a TR cluster is created because a schwa is left out as in *bett(e)rave* [bɛtχav] 'sugar beet', *pot(e)rie* [pɔtχi] 'pottery' and *beuv(e)rie* [bœvʁi] 'crapulence', the pronunciation is necessarily -ATR, witnessing the fact that the following phonetic TR cluster is not a branching onset.

(10) evolution of Latin simplex labials

	#_		coda_		V_V	
p	porta	porte	talpa	taupe	ripa	rive
b	bene	bien	herba	herbe	faba	fève

Dentals under (11) and (12) produce the same picture, this time without any exception since all output clusters that the evolution creates are supported by the language.

(11) evolution of Latin TR clusters for T = dental

	#_		coda_		V_V	
tr	tres	trois	capistru	chevêtre	petra	pierre
	tractare	traiter	alt(e)ru	autre	it(e)rare	errer
dr	drappu	drap	—		quadratu	carré
	*dras(i)ca	drêche	perd(e)re	perdre	rid(e)re	rire

(12) evolution of Latin simplex dentals

	#_		coda_		V_V	
t	tela	toile	cantare	chanter	vita	vie
d	dente	dent	ardore	ardeur	coda	queue

Finally, note that only the behaviour of T in TR clusters was examined: the prediction under (1) also concerns R. The reason is simply that obstruents are the natural target of lenition: sonorants are rarely subject to lenition, except when they occur in coda position. In any case, French does not offer any opportunity to observe the behaviour of sonorants in branching onsets: they remain unmodified.

5. Testing ground II: French dialects recorded in the ALF

Let us now turn to a testing ground that is different in kind. The statement under (1) applies to the grammar of a given language. In presence of multiple systems that represent diatopic variation, a prediction is made to the end that in any given system, whatever the diatopic variation encountered, it cannot concern obstruents in isolation and in TR clusters. In other words, the isogloss that describes the variation of T in isolation and the isogloss that shows the situation of the same obstruent in TR clusters must coincide.

Again, we insist that this prediction by itself has nothing going for it: there is no reason to believe that the two isoglosses may be superposed; rather, their independence is expected. We will see below that the two isoglosses indeed coincide – but this fact has gone unnoticed in the dialectological literature. Like in the case of the French diachronic literature, it remained invisible when looking at the facts through the classical glasses because there was no reason to look at an outlandish pattern of this kind. It is only when the kind of theoretical issue related to locality comes up that all of a sudden the data sort out because somebody happened to ask the right question.

The work on the ALF data that we present below is in progress and hence incomplete. The manual extraction of the variation recorded in the ALF maps is time-consuming and painstaking. All that we could do for the time being is to treat labials in intervocalic position.

Our goal is thus the comparison of -P- with -PR-, -PL-, and of -B- with -BR-, -BL-. The method chosen operates successive syntheses on the basis of the lexical maps that are offered

in the ALF. The pool of words that are available and useful is therefore quite severely curtailed by the limited number of words that the ALF represents in space, and also by their geographic (non)homogeneity. A word like fr. *lèvres* 'lips' for example is represented by a number of different Latin etymons across dialects: *balottes* occurs in Poitevin, *pòts* and *pòtas* are found in Gascon, while *bocas* appears in Provençal. This word is therefore useless for our purpose since we need to be able to follow the evolution of obstruents in the entire diatopic space, which supposes that they share a common lexical source.

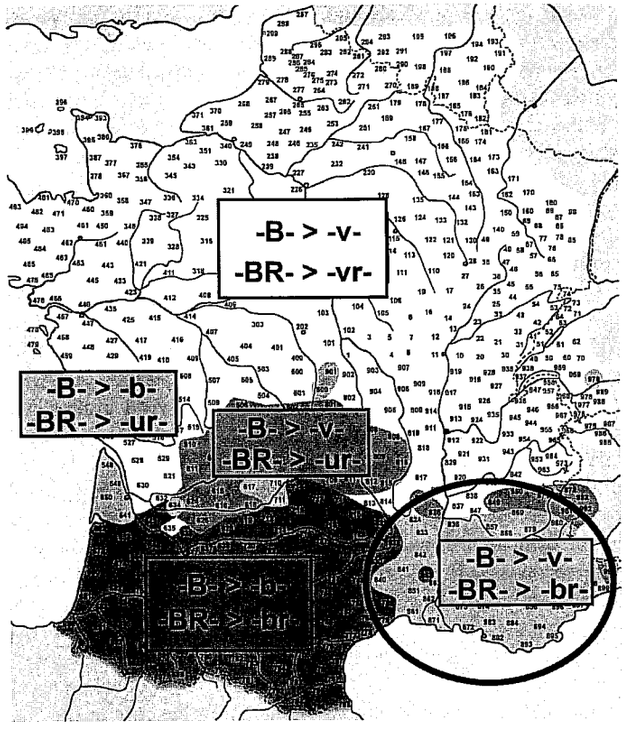
Given these restrictions which eliminate most of the lexical stock that is usually used in French diachronics, our lexical basis is as follows. For -B-, the first level of synthesis (B0) is made of the maps concerning ABANTIARE (>avancer), ABOCULUS (>aveugle), FABA (>fève) and HIBERNU (>hiver). Unfortunately BR0 contains only one word, FEBREM (>fièvre). The synthesis map for B'R0 that records secondary clusters is made of BIB(E)RE (>boire) and SCRIB(E)RE (>écrire). Finally, the map BL0 is based again on only one word, OBLITARE (>oublier), while the sources of B'L0 are SAB(U)LU (>sable), DIAB(U)LU (>diable) and STAB(U)LA (>étable). Based on the synthesis level 0, level 1 groups BR0 and B'R0 in order to produce BR1. The same is done for the clusters with laterals: BL0 and B'L0 are matched into BL1. Finally, BRL2 is the synthesis of BR1 and BL1.

Recall that our goal is to compare BRL2 with B0 (which does not have any more levels of synthesis since it does not represent any variation). However, we must be careful not to compare things that cannot be compared. For example, dialects need to be sorted out when the members of (primary and/or secondary) BR clusters have lost their solidarity, that is when the syllable break has moved in the midst of the cluster (V.BRV > VB.RV). In this situation, the fate of B will of course follow the evolution of coda consonants. FEBREM for example shows solidary reflexes such as *fièvre*, but also appears with vocalized B as in *feure* (e.g. in Limousin); TAB(U)LA produces the solidary result *table* as much as non-solidary reflexes such as *tole* (in Bourguignon) and *taula* (in all Occitan varieties). In the case of labials, non-solidary outputs typically produce vocalizations into [w]. These are indicated in our synthesis maps, but not taken into account for the comparison between B0 and BRL2. This is because our goal is, recall, to compare *solidary* TR clusters with simplex Ts. If [w] is the result of a non-solidary evolution in coda position, it is obvious that these reflexes lie outside of our investigation.

Finally, it goes without saying that the manufacturing of each synthesis map requires making decisions that can only be based on general dialectological expertise, and on the knowledge of the particular Gallo-Romance field. Every map encloses thus a certain amount of subjectivity, and is an analysis by itself. All maps mentioned (BR0, B'R0 etc.) exist materially and will be presented elsewhere – unfortunately for the sake of space restrictions they cannot be included here. Under (13) below, we only show the final comparison that superposes B0 and BRL2 (non-solidary reflexes of -BR- appear in grey).[5]

[5] An area that is not represented on the map below is located on the Western side of the Garonne, but excluding Médoc and Béarn (32 points of inquiry: 641, 645, 648, 653, 656–599, 662, 664, 667–69, 672, 674, 676, 678–82, 687–89, 696, 698, 699, 760, 771, 780, 781,790). In this area -B- comes out as -w-/-β-, but the comparison with -BR- is inconclusive because of a metathesis that affects -BR- clusters in these dialects (e.g. FABA > fawo vs. FEBREM > reβe).

(13)



It may be seen that the superposition of the isoglosses that represent B in isolation and in clusters is complete, except for Provence (encircled) where B spirantizes (B>v), but BR does not (BR > BR). A useful observation is certainly that this is exactly the area where Latin V [w] strengthens into [b] (VACA > baca). But it is the complete absence of [vr] in Provençal that provides the critical clue: the language "tries" to spirantize B everywhere, but cannot produce a result that happens to be ill-formed in the output system. We are thus facing the same mechanism in Provençal that we have already come across in French (cf. above: BL,PL > **vl, hence > bl), except that this time vr is just as ill-formed as vl: neither cluster occurs in Provençal dialects. In fact, there is reason to believe that the state of affairs in Provençal represents the primitive stage of all Occitan systems: following this scenario, the asymmetry -B- > -v- vs. -BR- > -br- was in place everywhere before so-called betacism (bétacisme) "restored" the -v- to -b-. Provençal is then peculiar insofar as it did not implement betacism.[6]

Whatever the correct diachronic scenario (ill-formedness of **vl/vr only in Provence or Provence taking exception to betacism), the result confirms our initial analysis where the grammar "tries" to produce the output predicted, but cannot proceed for independent reasons.

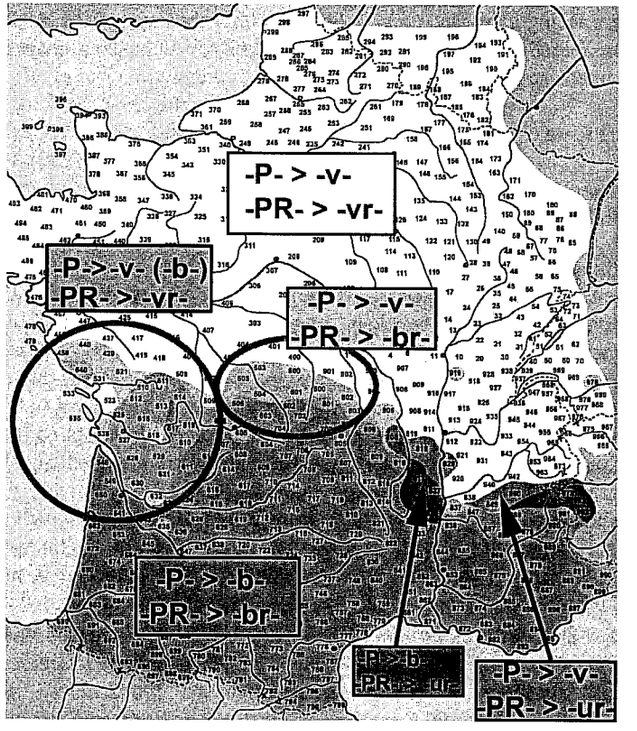
Let us now turn to P. The method is the same as before, and our lexical basis is as follows: P0 CREPANT (>crèvent), NEPOTE (>neveu), *ARRIPARE (>arriver), TROPARE

[6] Betacism is discussed for example in Ronjat (1932:§225) and Bec (1973:65); see also Sauzet (2006). These sources, however, are not explicit on the question that is of interest here, i.e. whether betacism has applied to a Common Occitan where spirantization was complete. We are indebted to Patric Sauzet who shared his expertise on the matter with us.

(>trouver), LUPA (>louve), SAPONE (>savon), SAPA (>sève); PR0 APRILE (>avril); P'R0 PIP(E)R (>poivre), LEP(O)RE (>lièvre), OP(E)RARIU (>ouvrir); PL0 DUPLU (>double); P'L0 CAP(U)LU (>câble).

The map under (2) below shows the superposition of P in isolation (P0) with P in branching onsets (PRL2). Non-solidary reflexes of the kind LEPORE > *léure* appear in grey as before (and are pointed at by arrows).

(14)



It may be seen that as before, the isoglosses of P in isolation and in PR clusters coincide almost perfectly. Only two areas (encircled) show deviant results: on the one hand, 8 points of inquiry (503–5, 600, 601, 800, 802, 803) located in a well-known zone of transition, the so-called Croissant (also reputed for being the home of witches), where P in isolation spirantizes (P > v), but remains occlusive when engaged in a cluster (PR > br).

The opposite pattern is found in Poitevin (24 points of inquiry: 429, 448, 459, 479, 509–13, 515, 517, 518, 521, 525, 527–29, 533, 535, 536, 540, 621, 630, 632) where clusters with P always spirantize (PR > vr), but variation is observed for simplex -P- which sometimes spirantizes (LOPA > louve) but at other times does not (but nevertheless always voices: LOPA > loube). Since -PR- always spirantizes, a fricative output is also expected for -P-. In this light, unexpected non-spirantization actually concerns only two words (out of seven that make our empirical ALF basis): LOPA and SAPONE. The former remains a stop in 19 out of the 24 relevant Poitevin points of inquiry, the latter in 17. The five well-behaved words (CREPANT, NEPOTE, *ARRIPARE, TROPARE, SAPA) show the evolution expected: they spirantize in all 24 points of inquiry.

In this context, an independent phenomenon that is characteristic for Poitevin deserves to be mentioned: so-called *parasitic -k* (Pignon 1960:471ff), which appears "spontaneously" and without etymological grounds in word-final position. Parasitic -k can thus be found in place of the word-final consonant that is expected given the Latin input. For example, *nik*, *nuk*, *luk* represent NIDU, NODU, LUPU (but the etymological consonant of *louve* 'she-wolf' is preserved: *loube/louve*). This instability of word-final consonants, or their concurrence with parasitic -k, may have played a role at least for one of the ill-behaved words, LOPA.

In sum, then, we are facing a deviance that is lexical, rather than systematic or phonological. There is no reason to call into question the basic regularity, which also rules in Poitevin.

6. Conclusion

In the preceding we have tried to show that phonological theory and dialectology may cohabitate in good intelligence: in our case, a purely theoretical concern modifies the model which up to this point had nothing to say regarding the lenition of branching onsets. As a consequence, the theory (which remains unchanged otherwise) makes a precise prediction that is borne out by the echo from the diachronic development of French as well as from ALF dialects. In both cases, a generalization is unearthed that seems to have gone unnoticed. The heuristic value of this generalization is especially empowered by the diatopic witness that mobilizes a great many individual grammatical systems and hence multiplies the sources of variation: the superposition of the two relevant isoglosses that nothing predestinates to coincide is almost complete, in any case much too close in order to entertain a non-systematic or fortuitous perspective on their relationship.

Unfortunately, the behaviour of branching onsets in regard of lenition is not well documented across languages. However, the two other cases that we are aware of, Celtic and gorgia toscana, follow the pattern that is witnessed by French and ALF dialects. This is encouraging and allows us to envision a convergence that makes the generalization discussed a candidate for a more general regularity. If this is true, we will also have learned something about the structure of branching onsets, and about how their members interact.

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