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The ‘Autonomy’ of Morphology in Diachrony
The Example of Romance Palatalizations

1. The concept of ‘morphome’. Brief note on the theoretical background.

1.1 *Word and Paradigm* models of morphology (e.g., Aristotle; Robins 1959; Matthews 1972, 1974; Stump 2001) claim that the basic linguistic signs are not ‘morphemes’ (basic, ‘atomic’, ‘Saussurean’, signs arbitrarily combining phonological form and meaning, out of which larger words are built), but ‘lexemes’, manifested as one or more ‘word-forms’ associated lexical meaning with different combinations of grammatical functions. These word-forms, taken together, constitute the ‘inflexional paradigm’ of the lexeme. There is no *necessary* link between the internal structure of a word-form and its lexical or grammatical meaning; form and meaning are potentially separate and independent.

1.2 Putting the lexeme and its *inflexional paradigm* at the centre of morphological analysis may reveal phenomena belonging to what Aronoff (1994) calls the ‘morphomic level’: for example, across the inflexional paradigms of lexemes we may observe recurrent partial or total patterns of similarity between the *word forms* which constitute the inflexional paradigm. These patterns are *autonomously morphological* or *morphomic*, in that their phonological content and context may vary unpredictably from lexeme to lexeme, and they have no coherent semantic or functional content or context. A *morphome* may be understood as an abstract function which systematically links a form (whose phonological content may vary unpredictably) to a synchronically arbitrary and incoherent set of paradigmatic ‘cells’. E.g., in Italian the future and conditional tenses always share the *same* root-form, even though in the modern language there is a fundamental *functional difference* between them (future expresses future time, conditional is a modal form which does not express future time):

Unique, shared, root-allomorph in Italian futures and conditionals

infinitive		future (3sg)	conditional (3sg)
<i>cantare</i>	‘sing’	<i>canterà</i>	<i>canterebbe</i>
<i>dare</i>	‘give’	<i>darà</i>	<i>darebbe</i>
<i>andare</i>	‘go’	<i>andrà</i>	<i>andrebbe</i>
<i>persuadere</i>	‘persuade’	<i>persuaderà</i>	<i>persuaderebbe</i>
<i>sapere</i>	‘know’	<i>saprà</i>	<i>saprebbe</i>
<i>finire</i>	‘finish’	<i>finirà</i>	<i>finirebbe</i>
<i>venire</i>	‘come’	<i>verrà</i>	<i>verrebbe</i>
<i>bere</i>	‘drink’	<i>berrà</i>	<i>berrebbe</i>
<i>essere</i>	‘be’	<i>sarà</i>	<i>sarebbe</i>

1.3 But can speakers see the abstract patterns that linguists can see? These patterns are usually the result of historically regular changes (often sound changes) whose original causes have been lost. These results could, in principle, be synchronically accidental. To demonstrate the psychological reality of such patterns, the evidence of the *subsequent history* of alleged ‘morphomes’ can be crucial. If the subsequent historical

innovations affecting those patterns are *coherent* — i.e., always apply to all the disparate, idiosyncratic, set of cells over which the morphome is defined — it means that speakers have internalized those patterns.

1.4 The Romance verb offers many examples of changes which presuppose the psychological reality of certain morphemes. Indeed, those morphemes seem to play an active role in determining the course of morphological change (see Maiden 2000; 2001; 2005; 2009; 2011a,b). The history of *palatalization* in the verb is one example.

2. The ‘L-pattern’ (‘U-pattern’)

2.1 This is a distribution of root-allomorphy, in non-first conjugation verbs, characteristically affecting all and only cells of the present subjunctive and the first person singular present indicative

2.2 Set out conventionally, this distribution resembles a letter ‘L’. A variant, found mainly in central Italy and (for velars before front vowels) also in Romanian, includes the third person plural present indicative and is labelled ‘U-pattern’.

2.3 The L/U-pattern has two, chronologically and structurally different, but purely phonological, causes. The older shows the palatalizing/affricating effects of proto-Romance yod on immediately preceding consonants; the other reflects the effects of front vowels on preceding velars.

2.4 The (morphologically accidental) paradigmatic distribution of the conditioning environments for these changes happened to be in complementary distribution: earlier sound change led to yod appearing just in the present subjunctive and first person singular present indicative (with third person plural present indicative in central Italo-Romance), while front vowels appeared everywhere but the set of cells just cited. (In Romanian there is a discrepancy with respect to third person plural present, in that postconsonantal back vowels appeared in that cell while yod did not.)

2.5 Nearly all Romance languages show the effects of both sound changes, so that there emerge phonologically disparate types of alternation which nonetheless fortuitously share a distributional pattern. Especially where the effects of yod were concerned, the conditioning environment of the alternation rapidly disappeared. The original environment of the velar-palatal alternation, however, often survives intact, although in all languages where this is true there can be no question of continued automatic phonological conditioning, given extensive examples of non-palatalized velars before front vowels.

2.6 The L/U-pattern is ‘morphomic’: first person singular present indicative + present subjunctive (+ third person plural present indicative) is not a ‘natural class’. The distribution is not motivated synchronically, either phonologically or functionally.

3. Regular, phonologically predictable, examples of the L- and U-pattern from Portuguese Italian, and Romanian

i. Latin distribution of unstressed E/I + vowel

indicative	UIDEO 'see'	UIDES	UIDET	UIDEMUS	UIDETIS	UIDENT
subjunctive	UIDEAM	UIDEAS	UIDEAT	UIDEAMUS	UIDEATIS	UIDEANT

indicative	UENIO 'come'	UENIS	UENIT	UENIMUS	UENITIS	UENIUNT
subjunctive	UENIAM	UENIAS	UENIAT	UENIAMUS	UENIATIS	UENIANT

ii. Distribution of potential palatalizing environments in proto-Romance

indicative	*'vedjo	*'vedes	*'vede	*'ve'demos	*'ve'detes	*'veden	/'*vedjon
subjunctive	*'vedja	*'vedjas	*'vedja	*'ve'djamos	*'ve'djates		*'vedjan

indicative	*'venjo	*'venis	*'vene	*'ve'nimos	*'ve'nites	*'venjon
subjunctive	*'venja	*'venjas	*'venja	*'ve'njamos	*'ve'njates	*'venjan

iii. L/U-pattern effects in the present tense historically produced by yod Portuguese (< TENE0, etc., UIDEO, etc., METIOR, etc.)

indicative	te[n]o 'have'	tens	tem	temos	tendes	têm
subjunctive	te[n]a	te[n]as	te[n]a	te[n]amos	te[n]ais	te[n]am

indicative	ve[ʒ]o 'see'	vês	vê	vemos	vedes	vêem
subjunctive	ve[ʒ]a	ve[ʒ]as	ve[ʒ]a	ve[ʒ]amos	ve[ʒ]ais	ve[ʒ]am

indicative	me[s]o 'measure'	medes	mede	medimos	medis	medem
subjunctive	me[s]a	me[s]as	me[s]a	me[s]amos	me[s]ais	me[s]am

Old Italian (< UALEO, etc., UENIO, etc., UIDEO, etc., MORIOR, etc.)

indicative	va[ʎ]o 'am worth'	vali	vale	valemo	valete	va[ʎ]ono
subjunctive	va[ʎ]a	va[ʎ]i	va[ʎ]a	va[ʎ]amo	va[ʎ]ate	va[ʎ]ano

indicative	ve[n]o 'come'	vieni	viene	venimo	venite	ve[n]ono
subjunctive	ve[n]a	ve[n]i	ve[n]a	ve[n]amo	ve[n]ate	ve[n]ano

indicative	ve[ddʒ]o 'see'	vedi	vede	vedemo	vedete	ve[ddʒ]ono
subjunctive	ve[ddʒ]a	ve[ddʒ]i	ve[ddʒ]a	ve[ddʒ]amo	ve[ddʒ]ate	ve[ddʒ]ano

indicative	muoio 'die'	muori	muore	morimo	morite	muoiono
subjunctive	muoia	muoi	muoia	moiamo	moiate	muoiano

Old Romanian (< UIDEO, etc., TENE0, etc., SALIO, etc.)

indicative	vădzu 'see'	vedzi ¹	vede	vedem	vedeți	vădu
subjunctive		vadză				vadză

indicative	fiu 'hold'	fi	ține	ținem	țineți	finu
subjunctive		fie			fie	

indicative	saiu 'jump'	sari	sare	sărim	săriți	saru
subjunctive		saie			saie	

iv. Latin distribution of velar + front vowel

indicative	DICO 'say'	DICIS	DICIT	DICIMUS	DICITIS	DICUNT
subjunctive	DICAM	DICAS	DICAT	DICAMUS	DICATIS	DICANT

indicative	LEGO 'read'	LEGIS	LEGIT	LEGIMUS	LEGITIS	LEGUNT
subjunctive	LEGAM	LEGAS	LEGAT	LEGAMUS	LEGATIS	LEGANT

v. Phonological L/U-pattern effects of front vowels on velars Portuguese (< DICO, DICIS, etc.)

indicative	digo 'say'	dizes	diz	dizemos	dizeis	dizem
subjunctive	diga	digas	diga	digamos	digais	digam

Spanish (< DICO, DICIS, etc., CRESCO, CRESCIS, etc.)

indicative	digo 'say'	dices	dice	decimos	decís	dicen
subjunctive	diga	digas	diga	digamos	digáis	digam

indicative	crezco 'grow'	creces	crece	crecemos	crecéis	crecen
subjunctive	crezca	crezcas	crezca	crezcamos	crezcáis	crezcan

Old Italian (< DICO, DICIS, etc., LEGO, LEGIS, etc.)

indicative	dico 'say'	d[i]i	d[i]e	d[i]emo	(dite)	dicono
subjunctive	dica	dichi	dica	d[i]iamo	d[i]iate	dicano

indicative	leggo 'read'	le[ddʒ]i	le[ddʒ]e	le[ddʒ]emo	le[ddʒ]ete	leggono
subjunctive	legga	legghi	legga	le[ddʒ]iamo	le[ddʒ]iate	leggano

Romanian (< DICO, DICIS, etc., IMPINGO, IMPINGIS, etc.)

indicative	zic 'say'	zi[ʧ]i	zi[ʧ]e	zi[ʧ]em	zi[ʧ]eți	zic
subjunctive		zică			zică	

indicative	împing 'push'	împin[ɖʒ]i	împin[ɖʒ]e	împin[ɖʒ]em	împin[ɖʒ]eți	împing
subjunctive		împingă				împingă

¹ The alternants before 2SG -i have a different origin and development from that caused by yod.

4. Beyond the ‘regular’ outcomes: the L/U-pattern as a recurrent and coherent template for analogical innovation across Romance.

4.1 Typically, velar alternants are analogically introduced into verbs which had never contained velars. The result is an unprecedented alternation pattern.

Non-etymological introduction of velar alternants into L/U-pattern cells

Early modern Italian (gh = /g/ before front vowels)

indicative	vengo	vieni	viene	veniamo	venite	vengono
subjunctive	venga	venghi	venga	veniamo	veniate	vengano

indicative	veggo	vedi	vede	vediamo	vedete	veggono
subjunctive	vegga	vegghi	vegga	vediamo	vediate	veggano

indicative	valgo	vali	vale	valiamo	valete	valgono
subjunctive	valga	valghi	valga	valiamo	valiate	valgano

Spanish

indicative	valgo	vales	vale	valemos	valéis	valen
subjunctive	valga	valgas	valga	valgamos	valgáis	valgan

indicative	vengo	vienes	viene	venimos	venís	vienen
subjunctive	venga	vengas	venga	vengamos	vengáis	vengan

4.2 The reflexes of Latin POSSE ‘be able’: L/U-pattern redistribution of alternants inherited from Latin.

This verb had two root-allomorphs, POSS- and POT-, distributed differently from what we find in its Romance descendants. In fact, this verb is originally a compound form derived from the verb ‘be’:

indicative	POSSUM	POTES	POTEST	POSSUMUS	POTESTIS	POSSUNT
subjunctive	POSSIM	POSSIS	POSSIT	POSSIMUS	POSSITIS	POSSINT

Typically, the inherited root alternants POSS- and POT- are analogically redistributed according to the locally prevalent L-pattern or U-pattern:

Redistributed reflexes of Latin POSS-, POT- Old Italian (U-pattern)

indicative	posso	puoi	può	potemo	potete	possono
subjunctive	possa	possa	possa	possiamo	possiate	possano

Piedmontese (L-pattern. Alessandria: Castellani 2002)

indicative	'pos	'po	'po	'pu	'domma	'pu	'di	'pon
subjunctive	'posa	'pos	'posa	'posen		'posi		'posen

4.3. Wholly novel alternants with L/U-pattern distributions

Sisco (Corsica) (L-pattern. Chiodi Tischer 1981)

indicative	'bɔ 'go'	'bai	'ba	an'demu	an'dade	'banu
subjunctive	'bɔga	'bɔga	'bɔga	'bɔgamu	'bɔgade	'bɔganu

For further illustration of the extent of such novel manifestations, and the status of real or apparent counterexamples, see Maiden (1992; 2005; 2011b:223-41; 2011c).

4.4 ‘Coherence’

4.4.1 Analogical extensions of the patterns (and eliminations of the alternation) are overwhelmingly ‘coherent’: any change affecting any one cell of present subjunctive + first person singular present indicative (+ third person plural in U-pattern varieties) almost always² equally affects all the others.

4.4.2 The pattern is semantically/functionally ‘incoherent’: the set of cells involved lacks any distinctive, unifying, common, semantic or functional feature.

4.4.3 The pattern is, phonologically ‘incoherent’. In Italian, for example, there is not, and never was, a phonological rule producing an alternation /lg/ - /l/, or /gg/ - /d/, or /ss/ - /t/. Even in old Italian alternations such as *ve[ɲ]o - vieni* the original, ‘natural’ conditioning environment for the alternation has been lost. There is also no synchronic rule of palatalization of velars before front vowels (cf. old Italian 2SG present subjunctive *venghi* [ˈvɛŋgi]; modern MPL *larghi* [ˈlargi], FPL *larghe* [ˈlarge] ‘broad’.

4.4.4 So the L/U-pattern is ‘autonomously morphological’, ‘morphomic’. This is the conclusion reached by, for example, Maiden (2001;2005;2009;2011b); Pirrelli (2000); Pirrelli and Battista (2002).

...but there’s a problem...

5. Could the (modern Italian) U-pattern ‘phonologically conditioned’ after all?

5.1 The U-pattern alternants may be ‘phonologically incoherent’, but they still tend to appear in a ‘phonologically coherent’ environment: U-pattern alternants occur before non-front vowels, non-U-pattern alternants occur before front vowels. In the case of velar-palatal alternations, this is also a highly phonologically ‘natural’ environment.

5.2 Some linguists (e.g., Fanciullo 1998; Burzio 2004; Krämer 2009:56-84) maintain for this reason that the alternants continue to be phonologically conditioned. Their environment is phonologically ‘natural’, even if the phonological substance of the alternation is not.

5.3 Maiden (2000; 2009); Pirrelli (2000); Pirrelli and Battista (2002) stress examples where the identity of the following vowel is in fact ‘unnatural’ and contradictory to alleged phonological conditioning: for example, the type *venghi* in old Italian and the fact that in many modern Italian dialects the marker *-i* has been generalized in the present subjunctive, but the pattern of alternation remains unchanged: e.g., present

² For reasons why the first and second person singulars of the present subjunctive are sometimes not ‘coherent’, see Maiden (2012).

subjunctive *venghi venghi venghi venghino* (i.e., [ˈvɛŋgi]- not *[ˈvɛndʒi]-). Such data suggest that the alternation is *not* sensitive to the phonological environment.

5.4 For Burzio (2004), the predominant correlation of the U-pattern with non-front vowels justifies the ‘phonological’ claim, even if there are exceptions. While allowing that ‘paradigmatic relations enter into the mental computation’, he continues to maintain (2004:38) that ‘the fact that syntagmatic relations do not obtain in [certain cases] does not mean [...] that they do not exist, but rather only that they are outranked’. The counter examples merely show the ‘violability of constraints’, the sporadic subordination of phonological conditioning to morphological constraints.

5.5 Maiden (2009) rejects Burzio’s thesis mainly because: (i) B. gives insufficient weight to the counterexamples, which are widespread, ancient, and historically robust; (ii) B. can only explain the old Italian *vegno - vieni, vaglio - vali* type phonologically by ‘resurrecting’ the historically underlying yod, in fact extinct for well over a thousand years; (iii) B. adduces no concrete, substantive, evidence for his ‘phonological’ argument, beyond the purely synchronic distributional observation.

6. ‘Concrete, substantive evidence’ from Italian in favour of Burzio?

6.1 Old Italian inherited some verbs which — for reasons of regular sound change — the U-pattern alternant also appeared in the gerund:

Latin		Old Italian		
SUBJ.PRS.3SG.	gerund	SUBJ.PRS.3SG.	gerund	
FACIAT	FACIENDUM >	<i>faccia</i>	<i>faccendo</i>	‘doing’
		[ˈfatʃa]	[fatˈʃɛndo]	
UENIAT	UENIENDUM >	<i>vegna</i>	<i>vegnendo</i>	‘coming’
SAPIAT	SAPIENDUM >	<i>sappia</i>	<i>sappiendo</i>	‘knowing’

6.2 Such forms form the basis of a sporadic analogical extension of this pattern in old Italian, but this extension *never affects the velar alternants* (cf. Vanelli 2010:1467f.; Maiden 2013). In the case of the velar – palatal alternations, the alternants persist just in their most phonologically ‘natural’ environments: palatals before front vowels and velars before non-front vowels:

SUBJ.PRS.3SG.	gerund
<i>possa</i>	<i>potendo, possendo</i>
<i>veggia</i>	<i>vedendo, veggendo</i>
<i>teгна</i>	<i>tenendo, tegnendo</i>
<i>piaccia</i>	<i>piacendo, piacciendo</i>
<i>abbia</i>	<i>avendo, abbiendo</i>
<i>voglia</i>	<i>volendo, vogliendo</i>
<i>dica</i>	<i>dicendo</i> [diˈʃɛndo], never <i>**dichendo</i> [diˈkɛndo]
<i>pianga</i>	<i>piangendo</i> [pjanˈdʒɛndo], never <i>**pianghendo</i> [pjanˈgɛndo]

6.3 Note also (as mentioned by Burzio but explained differently by Maiden 2009) that the velar alternants never appear before the 1pl and 2pl present subjunctive endings *-iamo, -iate* (always *diciamo diciate, piangiamo piangiate*, never ***dichiamo **dichiate, **pianghiamo, **pianghiate*).

6.4 An intriguing parallel from Romanian gerunds?

6.4.1 Romanian, like Italian, has U-pattern velar - palatal alternants correlated with the presence / absence of a non-front vowel

6.4.2 Romanian gerunds end in *-ând* (-[ɪnd]), except for fourth conjugation verbs, whose gerund ends in *-ind* (-[ɪnd]).

6.4.3 The above means that the Romanian gerund ending contains a non-front vowel, except in the fourth conjugation, where it contains a front vowel.

6.4.4 This situation appears to be very ancient, and it means that in velar-palatal alternations the ‘U-pattern’ normally includes the gerund as well:

indicative	<i>zic</i> ‘say’	<i>zic</i>	<i>zic</i>	<i>zic</i>	<i>zic</i>
subjunctive		<i>zică</i>			<i>zică</i>
gerund		<i>zicând</i>			

indicative	<i>împing</i>	<i>împin</i> [ɖʒ]i	<i>împin</i> [ɖʒ]e	<i>împin</i> [ɖʒ]em	<i>împin</i> [ɖʒ]eți	<i>împing</i>
subjunctive	‘push’					<i>împingă</i>
gerund			<i>împingă</i>			<i>împingând</i>

6.4.5 There is just one verb in everyday usage which shows U-pattern velar alternants but belongs to the fourth conjugation. In the standard language, its gerund therefore lacks the velar alternant:

indicative	<i>fug</i> ‘run, flee’	<i>fug</i>	<i>fug</i>	<i>fug</i>	<i>fug</i>
subjunctive		<i>fugă</i>			<i>fugă</i>
gerund		<i>fugând</i>			

6.4.6 Since this is, in effect, the *only* verb in the language in which the velar alternant does not occur in the gerund, it is unsurprising that in many Romanian dialects (Maiden 2011c) the velar alternant has been analogically extended into the gerund as well. The following type is extensively attested:

indicative	<i>fug</i>	<i>fug</i>	<i>fug</i>	<i>fug</i>	<i>fug</i>
subjunctive		<i>fugă</i>			<i>fugă</i>
gerund		<i>fugând</i>			

6.4.7 When this analogical extension happens, one never, ever, finds ***fughind* ***[fuˈgɪnd]*; one *only* finds *fugând* [fuˈgɪnd].

6.4.8 This fact clearly indicates that the velar-palatal alternation is *sensitive to the phonological environment*: speakers do not combine the velar alternant [g] with following front vowel [i], but only with a following non-front vowel (in this case [ɪ]).

6.4.9 But this does not mean that the alternation is simply and exclusively ‘phonologically conditioned’, because:

—The sequence [gi] is perfectly possible in modern Romanian (e.g., *ghindă* [ˈgɪndə] ‘acorn’; *mengină* [ˈmɛŋgɪnə] ‘vice’).

—In the rise of *fugând*, the morphological *precedes* the phonological. The basis for the analogical extension is the general pattern which includes the gerund as part of the morpheme; in other words, its basis is *autonomously morphological*. The adjustment

in the gerund ending so that it contains a non-front vowel is a *secondary* consequence of the morphological change. It ensures that the pattern of correlation between the alternation and the phonological content of the ending is not violated.

7. Morphological *autonomy* does not necessarily mean *isolation* from other components of the grammar.

7.1 Data such as those from the Italian and Romanian gerunds suggest a situation in which purely morphomic phenomena may be 'reinforced' by the phonological environment, without however being *determined* by it.

7.2 In fact, Aronoff (1994:25;166;167) in principle allows for such situations, even though he focuses on cases where the any kind of non-morphological conditioning can be excluded.

7.3 Facts such as those described above should inform the way linguists look at morphological phenomena generally. They would be wise to accept that:

- i. There exist phenomena which are exclusively and purely 'morphomic'
- ii. There exist phenomena which are 'semi-autonomous' in that they are morphomic yet retain a measure of phonological (or perhaps semantic) conditioning, without being wholly determined by such factors.
- iii. What appear to be purely morphological phenomena may have an 'extra-morphological' component but, equally, apparently phonologically (or semantically) motivated phenomena may have a morphological component
- iv. The boundaries between 'pure morphology' and extra-morphological conditioning are not necessarily clear-cut: see further Cruschina, Maiden and Smith (2013) 'Introduction' - and many other studies in the same volume.

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