

Rescuing phonology through morphology

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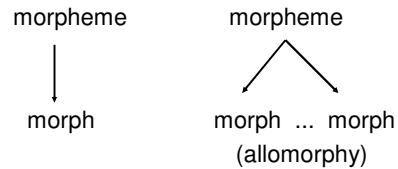
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I. Introduction

- In most cases, the relation between morphemes and their exponence is one of the following:



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In this talk

- We will consider 3 cases of Catalan in which the phonology determines the choice of unexpected morphs:
 - Gender allomorphy** in Catalan (Bonet *et al.* 2007)
 - Verbal forms in imperatives followed by enclitics** in several dialects of Catalan (Bonet&Torres-Tamarit 2009a,b)
 - Verbal subclasses** in Alghero Catalan (Lloret 2009)

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Why these three cases?

- They turn to different morphological strategies to repair phonology:
 - Gender allomorphy → **selection of different, unexpected allomorphs**
 - Imperatives+clitics → **selection of different forms of a paradigm**
 - Verbal subclasses → **selection of a different morphological class**

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Aim of the paper:

- To show that in order to account for these three cases we need:
 - Ordered allomorphs** and
 - Output-Output (OO) constraints.**

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2. Gender allomorphy

2.1. The data

- Gender allomorphs in Catalan (simplified)

	Unmarked	Marked
Masculine	∅	u
Feminine	e	∅

- Gender allomorphs in Catalan (with examples)

	Unmarked	Marked
Masculine	[pál] 'stick'	[mós <u>u</u>] 'lad'
Feminine	[póm <u>e</u>] 'apple'	[sál] 'salt'

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- Typically, one expects to find the same in singular and plural (+s):

[pál] [páls] [mósu] [mósus]
 [pómə] [póməs] [sál] [sáls]

- Even if schwa epenthesis:

/témpl+Ø/: [témplə] 'temple'
 /témpl+Ø+s/: [témpləs] Cf. [ə]stop, [ə]Snoopy

- But:

/pás+Ø/: [pás] 'step'
 /pás+Ø+s/: [pásus] Cf. /ləs#sáb/: [ləsəp]
 *[páss], *[pasəs] 's/he knows them'

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Question

- If the phonological solution to a phonological problem is to insert a schwa (cf. [témpləs], [témplə]), why choose the vowel [u] in [pásus]?
- Or, in other words, why choose a different masculine allomorph in the plural (cf. [pás], [pásus])?

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2.2. The analysis (Bonet et al. 2007)

- Lexical ordering of allomorphs: {Ø>u}
- All allomorphs appear in the input to phonology:
 - /pál+{Ø>u}/
 - /témpl+{Ø>u}/
 - /pás+{Ø>u}/
- Prior(ity)**: Respect lexical priority (ordering) of allomorphs.

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		Prior
/pál+{Ø>u}/:	[pál], [páls]	✓
/témpl+{Ø>u}/:	[témplə], [témpləs]	✓
/pás+{Ø>u}/:	[pás], [pásus]	*

- Other constraints:**

OO: Every segment in the base has a correspondent in the affixed form.

		OO
	[pál], [páls]	✓
	[témplə], [témpləs]	✓
	[témplə], [témpləs]	*

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- Align-MM**: Align the left edge of a morph X with the right edge of a morph Y. (A contiguity relation.)

	AI-MM
[pál], [páls]	✓
[témplə]	✓
[témpləs]	*
[pás], [pásus]	✓

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/pal+{Ø>u}+s/ Base: [pál]	PhonoCons	OO	AI-MM	Prior	Dep
☞ a. páls					
b. paləs			*!		*
c. pálus				*!	

/templ+{Ø>u}+s/ Base: [témplə]	PhonoCons	OO	AI-MM	Prior	Dep
a. témpłs	*!	*			
☞ b. témpłəs			*		*
c. témpłus		*!		*	

/pas+{Ø>u}+s/ Base: [pás]	PhonoCons	OO	AI-MM	Prior	Dep
a. páss	*!				
b. pásəs			*!		*
☞ c. pásus				*	

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3. Verbal forms in imperatives followed by enclitics



3.1. The data

- In conjugational classes II and III, 2nd person singular imperative is a bare stem, which often ends in a consonant.

Ex.: [prumət] 'promise!'

- Most pronominal clitics are a consonant or start with a consonant.

Ex.: /l/ 'him, it (masc.)', /la/ 'her, it (fem.)', /li/ 'to him/her'

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prometre 'to promise' (class II)

	<i>in isolation</i>	<i>with enclitics</i>
a. Central Catalan	[prumət]	[prumətəli]
b. Majorcan	[promət]	[promətəli]
c. Formenteran	[prumət]	[prumətəli]

Cf. [li prumət] '(s/he) promises to him/her' (Central Catalan)

bullir 'to boil' (class III)

	<i>in isolation</i>	<i>with enclitics</i>
a. Central Catalan	[búl]	[búləli]
b. Majorcan	[búl]	[buləli]
c. Formenteran	[búl]	[buliyəli]

Cf. [li búl] '(s/he) boils for him/her'

Where do these 'chunks' come from?

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• Verb classes in Standard Catalan:

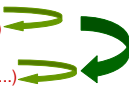
– Class I: ([-ext])

– Class II: [-ext]

[+ext] (velar: /g/, dial. also /g/...)

– Class III: [-ext]

[+ext] (palatal: /sj/, dial. also /ej/...)



• Verb structure: (Viplana 1984, 1986)

Root + Extension + ThV+ TAM + PN

Class III	əfəʒ		í		m	(Standard)
Class I	kəmbi		ə	rɛ	m	(Standard)
Class III	əfəʒ	éj		i	s	(Central)
Class III	əfəʒ	iy	é		m	(Forment.)

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Formenteran: Verbal stem + chunk is a perfect copy of the plural forms of the imperative minus PN in isolation.

perdre 'to lose'

Imperative II, -ext		
	1pl	perð-é-m
2sg	perít	perð-é-w

2sg in enclisis
perð-é#è

aprendre 'to learn'

Imperative II, +ext		
	1pl	əprən-gé-m
2sg	əprén	əprən-gé-w

2sg in enclisis
əprən-gé#è

afegir 'to add'

Imperative III, +ext		
	1pl	əfəʒ-iyé-m
2sg	əfəʒ-éj	əfəʒ-iyé-w

2sg in enclisis
əfəʒ-iyé#è

bullir 'to boil'

Imperative III, -ext		
	1pl	buł-iyé-m
2sg	búł	buł-iyé-w

2sg in enclisis
buł-iyé#è

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Majorcan: The chunk seems to be taken from one of the pl. forms of the imperative, but it is not always a perfect copy.

morir 'to die'

Imperative III, -ext		
	1pl	mur-i-m
2sg	mór	mur-i-w

2sg in enclisis
mur-i#t

cosir 'to sew'

Imperative III, +ext		
	1pl	kuz-iyé-m
2sg	kús	kuz-i-w

2sg in enclisis
kuz-i#lí

rompre 'to break'

Imperative II, +ext		
	1pl	romp-iyé-m
2sg	rómpr	romp-é-w

2sg in enclisis
romp-é#lí

resoldre 'to solve'

Imperative II, +ext		
	1pl	rèzol-yé-m
2sg	rèzól	rèzol-yé-w

2sg in enclisis
rèzol-è#lí

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Central Catalan: The chunk is always a schwa.

bullir 'to boil'

Imperative III, -ext		
	1pl	buł-i-m
2sg	búł	buł-i-w
3sg	búł-i	buł-i-n

2sg in enclisis
búł-ə#è

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3.2. The analysis (Bonet&Torres-Tamarit 2009a,b)



- The contact between the verb and the clitic(s) creates a phonologically marked context, having to do with syllable contact but also, in Formenteran and Majorcan, with stress placement (the need to build a right aligned moraic trochee in Formenteran, and a right aligned iamb in Majorcan).
- Instead of solving the problem with schwa epenthesis, common in other contexts, verbal morphology is added to the plain stem.

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Is it possible to resort to ordered allomorphs?

Majorcan:

- {Ø > ə} for class II: 'Ø', [ə] are class II ThV
{Ø > i} for class III: 'Ø', [i] are class III ThV
- The 'Ø' allomorph would be chosen when no problem arises, i.e. when the imperative has no enclitics. The morph [ə] or [i], depending on class, would be chosen when the relevant phonotactic constraint is violated:
- Class II: /promət+{Ø>ə}/ → [promət] 'promise'
/promət+{Ø>ə}#li/ → [promətəli] 'promise him/her'
- Class III: /kúz+{Ø>i}/ → [kús] 'sew'
/kúz+{Ø>i}#li/ → [kuzili] 'sew for him/her'

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Central Catalan:

- {Ø > ə} for verb classes II and III.
- OK for class II:
/prumət+{Ø>ə}/ → [prumət] 'promise'
/prumət+{Ø>ə}#li/ → [prumətəli] 'promise him/her'

- Problem** for class III: [ə] is not a class III theme vowel.
Where does it come from, then?

/búλ+{Ø>ə}/ → [búλ] 'boil'
/búλ+{Ø>ə}#li/ → [búləli] 'boil for him/her'

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Formenteran:

- {Ø > ə} for some class II verbs.
- The preferred allomorph would again be 'Ø', which is found without enclitics ([búλ]).
- OK for **some** class II: /prumət+{Ø>ə}/ → [prumət]
/prumət+{Ø>ə}#li/ → [prumətəli]
- Problem** for other class II verbs: the chunk is [gə] (2 morphs):
[əprən] 'learn', but [əprən+gə#lə] 'learn it (fem.)'
- Problem** for class III: the chunk is [iy+ə] (2 morphs):
[búλ] 'boil', but [buλ+iy+ə#lə] 'boil it (fem.)'

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The role of Lexical Conservatism (Steriade 1999, 2008)

- Bonet&Torres-Tamarit (2009a,b) account for the different chunks resorting to Lexical Conservatism:

CorrLex constraints that establish correspondence relations between different verbal forms **and OO** constraints that control faithfulness in these relations.

- Corrlex InfiStemImp (CorrlexI)**: Assign one violation mark for any inflectional stem of a pre-clitic imperative that does not have a correspondent in the inflectional stem of an imperative form.
- Corrlex InfiStemImp-φ (CorrlexI-φ)**: Assign one violation mark for any inflectional stem of an pre-clitic imperative that does not have a correspondent in the inflectional stem of an imperative form with the same φ-features.
- Inflectional stem**: Verbal form without φ-features.

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Formenteran:

aprendre 'to learn'

Imperative II, +ext		2sg in enclisis	
1pl	əprən-gə-m	2sg	əprən-gə#lə
2pl	əprən-gə-w		

apren-la: /əprən#lə/ → [əprən-gə#lə] 'learn it (fem.)'

Some listed output inflectional stems: [əprən_i], [əprən-gə_i (m,w)], [əprən_{iə}_k (s)]

/əprən#lə/	μTROCHEE	FAITH-OO	CORR _{LEX} I	DEP-IO	CORR _{LEX} I-φ
a. əprən-(gə _i lə)				**	*
b. əpre(ní _k lə)		*! (M)	*	*	*
c. əpre(nə _i lə)		*! (M)		*	*
d. ə(prən _i)lə	*!				

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Majorcan:

resoldre 'to solve'

Imperative II, +ext	
1pl	rəzɔl-ɣə-m
2sg	rəzól
2pl	rəzɔl-ɣə-w

2sg in enclisis
rəzɔl-ə#lí

resol-li: /rəzɔl#li/ → [rəzɔlə#lí] 'solve for him/her'

Some listed output inflectional stems: [rəzól], [rəzɔlyə́ (m,w)], [rəzólɣi_k]

/rəzɔl#li/	IAMB	DEP- OO	CORR EXL-φ	DEP- IO	MAX- OO	IDENT _{ESTR} ESSI-OO	CORR _{EXL}
a. rəzɔl(ə́ lí)		*	*	*	*	*	*
b. rəzɔl(ɣə́ lí)			*	**	*	*	*
c. rəzɔl(ɣi _k lí)			*	**	*	*	*
d. rəzɔl(ə́ lí)		*!		*	*	*	*
e. rəzɔl lí	*!				*	*	*

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4. Verbal subclasses in Alghero Cat.

4.1. The data

• **Verb classes in Standard Catalan:**

- Class I: [-ext]
- Class II: [-ext]
[+ext] (velar: /g/)
- Class III: [-ext]
[+ext] (palatal: /ɟ/)

• **Novelty in Alghero Catalan:**

- Class I: [-ext]
- Class II: [-ext]
[+ext] (velar: /g/ and palatal /ɟ/)
- Class III: [-ext]
[+ext] (palatal: /ɟ/)



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Distribution of the extensions: velar /g/

- 1sg PI: be+[k] (class II 'beure')
canvi+[k] (class I 'change')
- PS: be+[ɣ]+i/is/i/em/eu/in
canvi+[ɣ]+i/is/i/em/eu/in
- PastS: be+[ɣ]+essi/essis/essi/éssim/éssiu/essin
canvi+[ɣ]+essi/essis/essi/éssim/éssiu/essin
- 3sg,3pl Imp: be+[ɣ]+i/in
canvi+[ɣ]+i/in
- Part: be+[ɣ]+ut but: canvi+at
- Fut: be+[ɣ]+eré/eràs/erà/erem/ereu/eran
canvi+[ɣ]+aré/aràs/arà/arem/areu/aran
- Cond: be+[ɣ]+eriva/erivas/eriva/erivam/erivau/erivan
canvi+[ɣ]+ariva/arivas/ariva/arivam/arivau/arivan

Historical reasons: lexically assigned (cf., e.g., Pérez Saldanya 1996, 1998; Wheeler 1993).

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Distribution of the extensions: palatal /ɟ/

- 1sg PI: salv+[ɟ] (class III 'serve') = odi+[ét] (class I 'hate')
- 2/3sg,3pl PI: salv+[ɟ]+as/a/an = odi+[édɟ]+as/a/an
- 1/2/3sg,3pl PS: salv+[ɟ]+i/is/i/in = odi+[édɟ]+i/is/i/in
- 2/3sg,6pl Imp: salv+[ɟ]/i/in = odi+[édɟ]+a/i/in

Palatal extension /ɟ/ (= < -IDIARE, loan from Sassaese, also in other Italian dial.), used to **regularize the stress verbal pattern** (like /ɟ/).

Result: atonic roots throughout the paradigm.

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Which class I verbs take an extension?

- **Class I verbs with velar extension /g/:** (11 verbs)
assetiar, batiar, canviar, copiar, criar, enrabiar, estudiar, fiar, somiar, triar, pouar
- **Class I verbs with palatal extension /ɟ/:** (25 verbs, mainly loans from Sassaese and Italian)
animar, arruiar, atuar, augurar, considerar, criticar, darriar, dimenticar, educar, eliminar, esperdeciar, estroniar, esvariar, fusilar, limitar, nadar, obligar, odiar, ocupar, preocupar, pronunciar, restaurar, senyalar, telefonar, variar
(Bosch 2002, Scala 2003)
- **OBSERVATION:**
Many of these verbs have roots ending in a vowel.
WHY?

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• **Hypothesis:** (Lloret 2004)

To repair ill-formed 1 PI & spread = **classes II, III**

• Some inflectional morphs are 'Ø'; in this case, superficially, Word = Root: -X]_{Root/Word}

- Masc.Sg (general): os 'bone', pont 'bridge'
- 1sg PI (Alghero): pos 'I put', cant 'I sing' (other dial.: pos+o/e/i)

• When root ends in -V, the resulting superficial -V word (-V]_{Root/Word}) is **quite** problematic:

- Masc.Sg (general): canvi, odi, api (different repairs)
- 1sg PI (Alghero): *canvi, *odi, *continú (other dial.: canvi+o/e/i)

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-V]_{Root/Word}: Noun repair (general)

- Colloquially, **-[t]** addition if **-i]_{Root/Word}**:

canvi > canvi[t] 'change'
 armari > armari[t] 'wardrobe'
 premi > premi[t] 'prize'
 geni > geni[t] 'temper'

- But not if **+i]_{Word}** suffixal:

bigot+i > *bigot+i[t] 'moustache'
 oss+i > *oss+i[t] 'osseous'

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-V]_{Root/Word}: Verb repair (Alghero Catalan)

MORPHOLOGICAL REPAIR: Change of subclass
 to repair ill-formed 1sg PI (*-V]_{Root/Word}) & spread

Class II: **beure** /g/ velar extension 

Class I: **canviar** /g/ velar extension 

Class III: **salvir** /ej/ palatal extension 

Class I: **odiar** /ed3/ palatal extension 

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Empirical evidence (Lloret 2009)

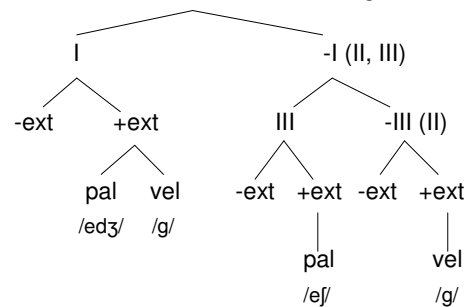
	/g/ 13		/ed3/ 98		Variation 4
	usual	rare	usual	rare	usual
-iar (91)	11	1	55	23	3
-uar (22)	1	0	7	13	1

Data collected with the help of Maria Cabrera (Thanks!)

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4.2. The analysis

Distribution of **verb classes** in Alghero Cat.



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Assignment of specific allomorphs for [+ext]:

- Unmarked:
 - [+ext] is interpreted as palatal /ed3/ (~ Ø) if class I
 - [+ext] is interpreted as palatal /ej/ (~ Ø) if class III
 - [+ext] is interpreted as velar /g/ (~ Ø) if class II
- Lexically marked:
 - [+ext] is interpreted as velar /g/ (~ Ø) if class I, only in 13 verbs

Distribution of specific allomorphs for [+ext]:

- Lexically assigned (historical reasons):
 - velar /g/ (~ Ø) in classes I and II
- External allomorphy** (phonologically conditioned):
 - palatal /ej/ in class III: {Ø, ej}
- What about /ed3/ (~ Ø) in class I? Ordered allomorphs**

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Analysis of class III verbs

- Class III, [-ext] ('Ø'):** /rum/- 'sleep'
 /mor/- 'die' (cf. [móit] 'dead')
- Class III, [+ext] ({Ø, ej}):** /salv/- 'serve'
 /palt/- 'part' (cf. [pált] 'part')

Distribution of Ø and /ej/ conditioned by phonology (**external allomorphy**):

In verbal forms, stress is predictable (assigned during the evaluation).

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- **AI-R-Lex, Stress:** Stress on the last syllable of Lexeme.
Lex = [Root+Ext+ThV] (excludes TAM and PN)
Hence, stress on: a) ThV]_{Lex} b) Ext]_{Lex} c) Root]_{Lex}
- **UE-stress:** Any given morph has the same stress pattern in its various contexts of occurrence (**OO** constraint). (**Anti-Allomorphy** in Burzio's work)
"A consistent pattern of stress on suffixes avoids stem allomorphy" (Wheeler 2005: 287) w.r.t. **stress** (atonic roots throughout) and w.r.t. **vowel reduction**.
 - /e, ε/ : [e, ε] in tonic position; [a] in atonic position
 - /o, ɔ/ : [o, ɔ] in tonic position; [u] in atonic position
- **DepM:** Against the insertion of morphs that are not lexically assigned (not in the input).

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Class III, [-ext] ('Ø' in the slot for 'Ext')
/rum/ 'sleep'

1pl Pl/PS

rum+Ø+i] +m	AI-Stress	DepM	UE-stress
☞ a. rum+i] +m			
b. rum+a[+i] +m		*!	* (Ext)

1sg Pl

rum+Ø]	AI-Stress	DepM	UE-stress
☞ a. rúm]			* (Root)
b. rum+é]		*!	

3pl PS

rum+Ø] +i+n	AI-Stress	DepM	UE-stress
☞ a. rúm] +i+n			* (Root)
b. rum+é] +i+n		*!	

Overall, there are more forms with stress on suffixes (past, future, conditional, finite forms, and some present forms) than forms with stress on the root (only some present forms).

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Class III, [+ext] ({Ø, e}) in the slot for 'Ext'
/salv/ 'serve'

1pl Pl/PS

salv+{Ø,e}] +i +m	AI-Stress	DepM	UE-stress
☞ a. salv+i] +m			
b. salv+é[+i] +m		*!	* (ThV)
c. salv+a[+i] +m			*! (Ext)

3pl PS

salv+{Ø,e}] +i+n	AI-Stress	DepM	UE-stress
a. salv+i] +i+n			*! (Root)
☞ b. salv+é] +i+n			
c. salv+a] +i+n		*!	* (Ext)

1sg Pl

salv+{Ø,e}]	AI-Stress	DepM	UE-stress
a. salv]			*! (Root)
☞ b. salv+é]			

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Analysis of class I verbs

- All have {Ø > éd3} in the slot for 'Ext'

Final surface distribution:

- -C]_R class I are [-ext] : /kant/- 'sing' (cf. [kánt] 'song')
- -V]_R class I are [+ext] : /odi/- 'hate' (cf. [ódj] 'hate')

- Except for a few -C]_R lexically marked:

/dimentik/- 'forget'

Class I, [+ext] ({Ø, ed3} in the slot for 'Ext')
= class III, [+ext] ({Ø, e}) : /salv/- 'serve'

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We add FinalC and DepC in the evaluation.

1pl Pl/PS

kant+{Ø>ed3}+e] +m	FinalC	AI-Stress	DepM	DepC	Prior	UE-stress
☞ a. kant+é] +m						
b. kant+ad3+é] +m					*!	* (Ext)
c. kant+éd3+a] +m		*!				* (ThV)

odi+{Ø>ed3}+e] +m	FinalC	AI-Stress	DepM	DepC	Prior	UE-stress
☞ a. odi+é] +m						
b. odi+ad3+é] +m					*!	* (Ext)
c. odi+éd3+a] +m		*!				*

We end up having: **kant+é] +m**, **odi+é] +m**

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1sg Pl

kant+{Ø>ed3}]	FinalC	AI-Stress	DepM	DepC	Prior	UE-stress
☞ a. kánt]						* (Root)
b. kant+ét]					*!	

odi+{Ø>ed3}]	FinalC	AI-Stress	DepM	DepC	Prior	UE-stress
a. ódj]	*!	*				* (Root)
b. ud]	*!					* (Root)
c. ódj]t		*!			*	* (Root)
d. ud]t					*!	* (Root)
☞ e. odi+ét]					*	

We end up having: **kánt]**, but **odi+ét]**

Noun (masculine)

odi+{Ø>u}	FinalC	AI-Stress	DepM	DepC	Prior	UE-stress
a. ódi	*!					
b. odi+ét]			*!			
c. ódi+u	*!				*	
☞ d. ódit					*	

(Constraints on verbal stress not relevant in nominal inflection)

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6 PS

kant+{Ø>ed3}	+i+n	FinalC	Al-Stress	DepM	DepC	Prior	UE-stress
☞ a. kánt] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>* (Root)</td>	+in						* (Root)
b. kant+éd3] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td>*!</td> <td></td>	+in					*!	

ɔdi+{Ø>ed3}	+i+n	FinalC	Al-Stress	DepM	DepC	Prior	UE-stress
a. ɔdɪ] <td>+in</td> <td></td> <td>*!</td> <td></td> <td></td> <td></td> <td>* (Root)</td>	+in		*!				* (Root)
☛ b. udɪ] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>* (Root)</td>	+in						* (Root)
c. udi+éd3] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td>*!</td> <td></td>	+in					*!	

Need for an OO paradigmatic constraint (Uniform Class):

Only crucial for verbs whose root ends in a vowel (/ɔdi/-), where a more highly ranked phonotactic constraint (FinalC) induces /ed3/ selection despite the role of Priority in the distribution of {Ø > ed3}.

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1sg PI

kant+{Ø>ed3}	FinC	Al-Stress	DepM	DepC	UC	Prior	UE-stress
☞ a. kánt] <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>* (Root)</td>							* (Root)
b. kant+ét] <td></td> <td></td> <td></td> <td></td> <td></td> <td>*!</td> <td></td>						*!	

3pl PS

kant+{Ø>ed3}	+i+n	FinC	Al-Stress	DepM	DepC	UC	Prior	UE-str.
☞ a. kánt] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>* (Root)</td>	+in							* (Root)
b. kant+éd3] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>*!</td> <td></td>	+in						*!	

1sg PI

ɔdi+{Ø>ed3}	FinC	Al-Stress	DepM	DepC	UC	Prior	UE-stress
a. ɔdɪ] <td>*!</td> <td>*</td> <td></td> <td></td> <td></td> <td></td> <td>* (Root)</td>	*!	*					* (Root)
b. udɪ] <td>*!</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>* (Root)</td>	*!						* (Root)
c. ɔdɪt] <td></td> <td>*!</td> <td>*</td> <td></td> <td></td> <td></td> <td>* (Root)</td>		*!	*				* (Root)
d. udi] <td></td> <td></td> <td></td> <td>*!</td> <td></td> <td></td> <td>* (Root)</td>				*!			* (Root)
☞ e. udi+ét] <td></td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td>						*	

3pl PS

ɔdi+{Ø>ed3}	+i+n	FinC	Al-Stress	DepM	DepC	UC	Prior	UE-str.
a. ɔdɪ] <td>+in</td> <td></td> <td>*!</td> <td></td> <td></td> <td>*</td> <td></td> <td>* (Root)</td>	+in		*!			*		* (Root)
b. udɪ] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td>*!</td> <td></td> <td>* (Root)</td>	+in					*!		* (Root)
c. udi+éd3] <td>+in</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td>	+in						*	

We end up having: kánt]+in, but udi+éd3]+in

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5. Conclusions

- We have seen three cases where the expected morph concatenation would give rise to a phonological problem, related to sibilant contact, foot construction or the lack of a final consonant.
- This phonological problem is not solved through epenthesis (as expected) but by resorting to morphological material found in other contexts.
- We have argued that the main mechanisms at work are ordered allomorphs and OO constraints.
- The latter mechanism is especially controversial: sometimes its use seems circular and it puts a burden on computation.

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- So, one question that remains is:

How much we should try to account for and how much we should leave to lexical listing.

- Where's the limit?

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