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Phonology in morpheme realization and non-realization

**Grammar
Architecture**

Morphology and its interfaces

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Introduction

I will give a brief overview of three types of cases I have worked on with other colleagues.

These cases touch on issues that have been at the center of much debate concerning the interaction between morphology and phonology and, in a more limited way, the interaction between phonology, morphology and syntax.

1. Identity avoidance and selection of allomorphs
2. Non-realization of morphemes and phonology
3. The role of paradigms at the morphology-phonology interface

All the analyses sketched here are framed in Optimality Theory (OT).

1. Identity avoidance and selection of allomorphs

Identity is often avoided in phonology, in morphology, and (maybe not so clearly) in syntax.

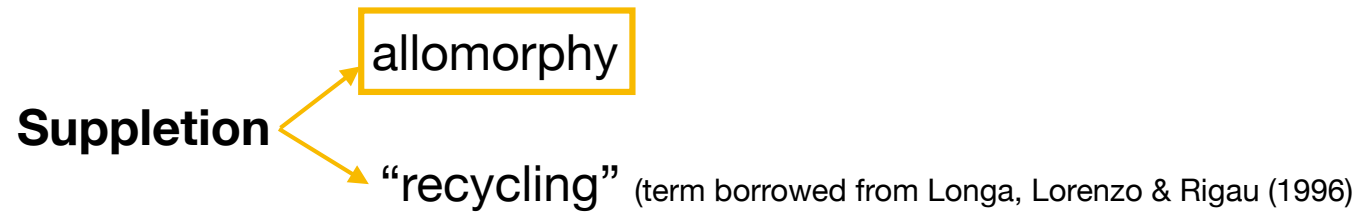
In morphology, three main strategies are found to avoid identity:

- **Haplology**: one exponent is used instead of two. It can be the result of deletion/non-realization of M_1 , deletion/non-realization of M_2 , or coalescence of M_1 and M_2 . Often it is difficult to tell which of the three possibilities is used.

- **Suppletion**: use of an exponent different from the expected one for one of the morphemes involved.

- **Ineffability**: no possible output; a different construction must be used.

Another possibility: use of **expletive** (epenthetic) material between the two morphemes involved.



Example of “**recycling**” from Dutch (Ackema 2001): the inappropriate declarative complementizer **dat** is chosen in interrogative contexts instead of **of** to avoid a sequence **of of**.

- (1) *Vroeg je nou of die plaats vrij is of *of-ie/dat-ie bezet is?*
asked you now if the seat free is either if-it taken is
‘Did you ask whether that seat is free or if it’s taken?’

It can be assumed that the recycled morpheme contains a subset of the features of the morpheme used in non-identity contexts; it’s a default.

I’m not aware of any study that has investigated this type of strategy in depth.

Example of **allomorphy**, Spanish conjunctions:

(2a) **‘AND’**

normally **y** [i]; **e** only to avoid identity

inquieto **y** *optimista* ***e**
optimista **e** *inquieto* ***y**

(2b) **‘OR’**

normally **o**; **u** only to avoid identity

optimista **o** *inquieto* ***u**
inquieto **u** *optimista* ***o**

inquieto ‘restless’; *optimista* ‘optimistic’

Bonet & Mascaró (2006) have analyzed these cases within Optimality Theory, resorting to the notion of **multiple inputs** (see Drachman et al 1996, Kager 1996, Lapointe 2001, Mascaró 1996, 2007, Tranel 1996, among others).

The ‘multiple input’ notion has been proposed for optimizing phonologically-conditioned allomorph selection.

(3) Moroccan Arabic, 3rd sg masc enclitic: **u** / C __ ; **h** / V __

menn-u ‘from him’ **menn-h* (complex coda)
mʔa-h ‘with him’ **mʔa-u* (onsetless syllable)

The selection improves syllable structure.

Vocabulary Item (VI), in Distributed Morphology (DM) terms:

(4) [3rd sg masc] ↔ {-u, -h}

For the Spanish conjunctions a **preference relation** between the allomorphs needs to be added:

$$(5) \quad Y \leftrightarrow \{ /i/ > /e/ \}$$

A constraint called **PRIORITY** penalizes the selection of the less preferred allomorph.

(6a)

Simplified tableaux, from Bonet & Mascaró (2006)

(6b)

/María {i > e} Ignacio/	OCP	PRIORITY
María [i] Ignacio	*!	
👉 María [e] Ignacio		*

/María {i > e} Pedro/	OCP	PRIORITY
👉 María [i] Pedro		
María [e] Pedro		*!

Under this view, then, at least most of the cases of phonologically conditioned allomorphy, with a preference relation (e.g. for the Spanish conjunctions) or without it (as in the Moroccan Arabic example), can be accounted for with VIs that contain a set of exponents.

What is sent to the phonology is a set; the Morphology does not have access to the content of that set.

2. Non-realization of morphemes and phonology

In Bonet, Lloret & Mascaró (2015) we examined several cases from Spanish and Catalan in which, within the DP, there is a concord asymmetry between material to the left of the noun and material to its right.

- (7) el nuevo **arma** secreta (Spanish varieties)
the.M new.M weapon.F secret.F
'the new secret weapon'

In North-Eastern Central (NEC) Catalan, plural concord to the left of the noun fails only to avoid a phonological CsC configuration (see Bonet 2018 for similar cases in Northern Italian varieties).

- (8) molt_ poc_ **professionals** bons presents
much few professional-PL good-PL present-PL
'very few present good professionals'

- (9a) poc__ **nens** grassos (9b) poc**s** **amics**
few kids fat.PL few-PL friends
'few fat kids'

A priori it looks like syntax has access to phonological information (contra the Principle of phonology-free syntax, Zwicky 1969).

The analysis

Only postnominal concord takes place in the syntax.

(10) Syntax: Det A $N_{\alpha F}$ A t_N



At PF there's a family of CONCORD constraints that try to ensure that all elements within the DP share the same inflectional features with N.

A MAX constraint penalizes any inflectional feature of the input that is not in the output.

(11) PF: Det A $N_{\alpha F}$ $A_{\alpha F}$ t_N (input)

MAX

(12) CONCORD 'Some expensive old corks'

Input:	un	tap-s pl	vell-s pl	car-s pl	MAX	*CsC	CONC (num)
a.	un-s pl	tap-s pl	vell-s pl	car-s pl		***!	
b. 🙋	un	tap-s pl	vell-s pl	car-s pl		**	*
c.	un	tap	vell	car-s pl	**!		

The NEC Catalan case shows sensitivity to:

- **phonological** information, because of the *CsC configuration (as opposed to VsV, CsV, VsC);
- **morphological** information, because only the plural morph is subject to non-realization;
- **syntactic** information, because of the asymmetry in concord between prenominal and postnominal modifiers.

Under the view outlined here, syntax does not have access to phonological information but the phonological component has access to morphosyntactic information and contains morphosyntactic constraints.

There are other patterns of “lazy concord” in the nominal domain, with plural appearing only on D, on a prenominal adjective, etc. See Cyrino & Espinal (2019) for a discussion and proposal for the wide array of possibilities for the realization of number.

3. The role of paradigms at the morphology-phonology interface

In approaches like Distributed Morphology, no morphological operation can refer to paradigmatic relations.

Under this view, phenomena like syncretism are the result of postsyntactic operations, like impoverishment, or depend on the feature content of VIs.

But paradigms seem to interact with phonology in certain cases.

One example from Balearic varieties of Catalan: verbal forms in enclisis
(Bonet & Torres-Tamarit 2011, 2011; Torres-Tamarit & Bonet 2019).

Formenteran: 2.sg imperatives ending in a consonant (most conjugation II and III verbs) have added material (extension) in enclisis.

- (13a) *conj. I* ['kantə] 'sing!' [kən'tə#lə] 'sing it (fem)!'
[kəntə#mə#lə] 'sing it (fem) to me!'

(13b)

<i>conj.</i>	<i>in isolation</i>	<i>with enclitics</i>	<i>extension</i>	
IIa	pərt	pər'ð-ə#lə	ə	'lose (it.F)!'
IIb	ə'prən	əprən-'gə#lə	gə	'learn (it.F)!'
IIIa	əfə'ʒ-əʃ	əfəʒ-'i'ɣə#lə	iɣə	'add (it.F)!'
IIIb	buʎ	buʎ-'i'ɣə#lə	iɣə	'buy (it.F)!'

bare root except for IIIa, with thematic increment -eix [əʃ].

Morphological composition of the extension in enclisis:

IIa: [-ə]: 1 morpheme, theme vowel or tense (depending on the analysis)

IIb: [-'gə]: 1 or 2 morphemes, /g(ə)/ being a velar extension (velar morpheme, in Maiden's or Wheler's terms).

III(a,b): [-i'ɣə]: 2 morphemes, a theme vowel /i/ (conj. III) plus the velar extension.

An allomorphy-based account (with \emptyset , or [-əf], with the verb in isolation and [-ə]/[-'gə]/[-i'ɣə] in enclisis) can be excluded because in (at least) [-i'ɣə] there are two morphemes involved in one of the alternating forms.

Our account:

We relate the morphological facts to stress displacement in enclisis (prosodic structure).

Similar facts are found in Majorcan Catalan, and, to a very limited extent, in Eivissan Catalan.

conjugation I verb: 2.sg imperative ends in a vowel

(14) Without enclisis: ['kantə] 'sing!'

With enclisis: [kən('tə#lə)] 'sing it (fem)!'

[kəntə#('mə#lə)] 'sing it (fem) to me!'

} right-aligned
moraic trochee

Without the extension, a well formed right-aligned moraic trochee cannot be built:

(15) a. μ TROCHEE] violated

*(['pɛrt)#lə]

*[ə('prən)#lə]

*[əfə('ʒɛʒ)#lə]

*(['buʎ)#lə]

b. μ TROCHEE] satisfied

[pɛr('ð-ə#lə)] 'lose (it.F)!'

[əprɛŋ-('gə#lə)] 'learn (it.F)!'

[əfəʒ-i('ɣə#lə)] 'add (it.F)!'

[buʎ-i('ɣə#lə)] 'boil (it.F)!'

Instead of resorting to a plain epenthetic vowel to repair the structure,
Formenteran takes the stem found in other forms of the imperative paradigm.

Where does the extension come from for conjugations II and III?

(16)

(8) *Perdre* “to lose”



Imperative IIa			
		1 PL	pər'ð-ə-m
2SG	'pɛrt	2 PL	pər'ð-ə-w

2SG in enclisis

pər'ð-ə#lə

(9) *Aprendre* “to learn”

Imperative IIb			
		1 SG	əprən-'gə-m
2SG	ə'prən	2 PL	əprən-'gə-w

2SG in enclisis

əprən-'gə#lə

(10) *Afegir* “to add”

Imperative IIIa			
		1 PL	əfəz-i'γə-m
2SG	əfə'z-əʃ	2 PL	əfəz-i'γə-w

2SG in enclisis

əfəz-i'γə#lə

(11) *Bullir* “to boil”

Imperative IIIb			
		1 PL	buɹ-i'γə-m
2SG	'buɹ	2 PL	buɹ-i'γə-w

2SG in enclisis

buɹ-i'γə#lə

Essentials of the analysis:

- The input contains the verbal form of the 2.sg imperative without enclisis.
- A highly ranked phonological constraint penalizes any output without a right-aligned moraic trochee.
- Several Output-Output constraints compare listed output forms of the paradigm with the candidates (by establishing a correspondence relation between them) and evaluate them.
- For the syntactic and morphological derivation there is no need to posit two different structures, one for the imperative in isolation and another one for the imperative in enclisis.

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Obrigada!