Prosodically-driven morpheme non-realization in the Minorcan Catalan DP¹

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1. Introduction

Minorcan Catalan, a dialectal variety of Catalan spoken on the Balearic Islands, has an intriguing case of non-realization of the personal article that is prosodically-driven and that cannot be accounted for allomorphically. Kinship restrictive appositional phrases are generally realized with the structure Es conco en Jaume (the-M.DEF.ART uncle the-M.PERS.ART Jaume; 'uncle Jaume') when the personal name starts in a consonant (1), but with the structure Es conco \emptyset Ångel (the-M.DEF.ART uncle \emptyset Àngel; 'uncle Àngel') when the personal name starts in a vowel (2). That is, the masculine personal article en fails to surface when the personal name starts with a vowel. The same pattern, with non-realization of the feminine personal article na, is detected before feminine personal names, either if they start in a consonant or in a vowel (3). Outside this type of constructions (which include the kinship terms conco 'uncle' and avi 'grandfather', and the term amo 'owner') (see §3), the personal article is always realized, no matter the personal name starts in a consonant or a vowel, or it is masculine or feminine (4).

- (1) Masculine personal name starting in a consonant²
 es conco **en** [əskòŋku**n**] Toni / Jaume / Rafel
 the-M.DEF.ART uncle the-M.PERS.ART Toni, etc.
 ('uncle Toni', 'uncle Jaume', 'uncle Rafel')
 l'avi **en** [làvi**n**] Toni / Jaume / Rafel
 the-M.DEF.ART grandfahter the-M.PERS.ART Toni, etc.
 ('grandfather Toni', 'grandfather Jaume', 'grandfather Rafel')
- (2) Masculine personal name starting in a vowel es conco Ø [əskòŋkuØ] Àngel / Ignasi / (E)nric / (E)rnest the-M.DEF.ART uncle Ø Àngel, etc.

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 $^{^{\}scriptscriptstyle 2}$ The personal article appears in bold in all the examples of the paper.

('uncle Àngel', 'uncle Ignasi', 'uncle Enric', 'uncle Ernest')
l'avi Ø [làviØ] Àngel / Ignasi / (E)nric / (E)rnest
the-M.DEF.ART grandfather Ø Àngel, etc.
('grandfather Àngel', 'grandfather Ignasi', 'grandfather Enric', 'grandfather
Ernest')

(3) Feminine personal name

sa tia Ø [sətiəØ] Catalina / Margarita / Amparo

the-F.DEF.ART aunt Ø Catalina, etc.

('aunt Catalina', 'aunt Margarita', 'aunt Amparo')

s'àvia Ø [sàvjaØ] Catalina / Margarita / Amparo

the-F.DEF.ART grandmother Ø Catalina, etc.

('grandmother Catalina', 'grandmother Margarita', 'grandmother Amparo')

(4) Personal article paradigm

Masculine personal name starting in a consonant

[ən] en Toni

the-M.PERS.ART Toni ('Toni')

Masculine personal name starting in a vowel

[n] n'Ignasi

the-M.PERS.ART Ignasi ('Ignasi')

Feminine personal name starting in a consonant

[nə] na Catalina ('Catalina')

the-F.PERS.ART Catalina

Feminine personal name starting in a vowel

[**n**] **n**'Àngela

the-F.PERS.ART Àngela ('Àngela')

Note that, from a strictly syllabic point of view, the behavior in (1) and (2) is completely unexpected since a preconsonantal coda is generated in the former cases and an onset-less syllable and a hiatus are generated in the latter. The syllabic structures obtained are therefore non-optimizing. The purpose of this paper is to identify the factors explaining the asymmetry between morpheme realization and morpheme non-realization in these kinship appositional phrases of the Minorcan Catalan DP, and to show that they can be formalized straightforwardly within a parallel and global OT framework through the interaction of standard alignment (morpho)prosodic constraints (McCarthy & Prince 1993, Selkirk 1996 / 2004; Prince & Smolensky 1993 / 2004) with morpheme realization constraints (see Kurisu 2001, Selkirk 2001, Wolf 2008, among others). The data taken into consideration and the subsequent formal analysis further serves us to explore the nature and the typology

of morpheme realization constraints, as well as the theoretical consequences for the phonology-morphosyntax interface and for the architecture of grammar.

The paper is organized as follows. In § 2 we present some empirical facts concerning the Catalan DP which are relevant to understand the constructions under analysis, such as the forms, the distribution and the uses of the definite article and the personal article across Catalan varieties. In § 3 we describe the kinship appositional phrases and analogous structures which show the mentioned asymmetry between realization and non-realization of the personal article. In § 4 we present the theoretical background in which our proposal is couched. In § 5 we develop the analysis we think better accounts for the data under consideration. In § 6 we discuss alternative analyses, and in § 7 we conclude.

2. The definite and the personal article in Minorcan Catalan

As depicted in § 1, kinship appositional phrases are all introduced by the definite article, followed by the kinship term, the personal article, when it is realized, and the personal name. In order to contextualize the structure and the elements of the restrictive appositional phrases under study, in this section we focus on the main properties of the two grammatical elements that appear in these constructions, the definite article and the personal article. In § 2.1 we present the forms and distribution of the definite article in Minorcan Catalan, and in § 2.2 we introduce the personal article, putting the attention on the forms and the uses it has in relation to the rest of Catalan varieties.

2.1. The definite article in Minorcan Catalan

The definite article in Minorcan Catalan, as in the rest of Balearic Catalan varieties, has two forms, with a specific distribution, which explains the contrast *es conco* the-M.DEF.ART 'uncle', *s'àvia* the-F.DEF.ART 'grandmother' vs. *l'avi* the-M.DEF.ART 'grandfather', seen in the examples of (1-3), and other similar contrasts (see § 4).

The default definite article in Minorcan Catalan is the one derived from the Latin demonstrative IPSE (as opposed to the one derived from the demonstrative ILLE, used in most Catalan varieties), and it is popularly known as "article salat". It adopts different forms depending on the morphological features it carries (masculine, feminine, singular, plural) and the segmental contexts in which it occurs (consonant-initial noun vs. vowel-initial noun) (see, among others, Colomina 2002 / 2008: 545; Brucart 2002 / 2008: 1471). In (5) we present the default definite article paradigm in Minorcan Catalan organized according to these factors.

(5) Default definite article paradigm in Minorcan Catalan (derived from IPSE)

a. M.SG.DEF.ART + noun starting in a C		b. F.SG.DEF.ART + noun starting in a C		
es/s/	[əz] boínder 'the bow window'	sa /s+ə/	[sə] finestra 'the window'	
	[əs] porxo 'the porch'		[sə] cortina 'the curtain'	
c. M.SG.DEF	ART + noun starting in a V	d. F.SG.DEF.ART + noun starting in a V		
s'/s/	[s] animal 'the animal'	s'/s+ə/	[s] illa 'the island'	
	[s] escrú 'the screw'		[s] ala 'the wing'	
e. M.PL.DEF	e. M.PL.DEF.ART + noun starting in a C		f. F.PL.DEF.ART + noun starting in a C	
es /s+z/	[əz] boínders 'the bow windows'	ses /s+ə+z/	[səs] finestres 'the windows'	
	[əz] mèrvils 'the marbles'		[səs] cortines 'the curtains'	
	[əs] porxos 'the porches'		[səz] monges 'the nuns'	
g. M.PL.DEF.ART + noun starting in a V		h. f.pl.def.art + noun starting in a V		
es/s+z/3	[əd͡z] animals 'the animals'	ses /s+ə+z/	[səz] illes 'the islands'	
	[əd͡z] escrús 'the screws'		[səz] ales 'the wings'	
	1		1	

In some specific contexts, though, the definite article takes the forms derived from ILLE (*el*, *la*, *els*, *les*), which, as said, are the default forms in most Catalan varieties. This is the case, among others, of some temporal expressions (6a), lexicalized adverbial phrases (6b), nouns designating unique entities (6c), and traditionally important personalities, which also share the property of unicity (6d). This distribution has created the dichotomy exposed in (7a-b), which is manifested in the restrictive appositional phrases under scrutiny (7c-d). Note, however, that these dichotomies (7) are unrelated to the asymmetry between morpheme realization and morpheme non-realization, which are the focus of the present paper.

(6) Specific definite article paradigm in Minorcan Catalan (derived from ILLE)

- a. *la setmana que ve* 'next week', *l'any que ve* 'next year', *les dues* 'two o'clock', *les tres* 'three o'clock', *les quatre* 'four o'clock', etc.
- b. *a l'esquerra* 'to the left', *a la dreta* 'to the right', *a la fresca* 'in the cool air', a les fosques 'into the dark', etc.
- c. *el món* 'the world', *la Terra* 'the earth', *el bon Jesús* 'the Good Man Jesus', *el papa* 'the pope', *el Barça*, *el Madrid*, *el Manchester*, *el Paris Saint-Germain*
- d. *l'avi* 'my grandfather', *l'amo* 'the owner / the farmer masc.'

(7) Some dichotomies

- a. l'avi 'my grandfather' vs. s'àvia 'my grandmother'
- b. l'amo 'the farmer / the owner masc.' vs. (sa) madona 'the farmer fem.'
- c. l'avi en Jaume 'grandfather Jaume' vs. s'àvia Catalina 'grandmother Catalina'
- d. l'avi en Jaume 'grandfather Jaume' vs. es conco en Jaume 'uncle Jaume'

³ In Minorcan Catalan (and in Majorcan Catalan), the adjacency of two sibilant segments is solved through a process of manner dissimilation, which leads to an affricate (see Pons-Moll 2004).

2.2. The personal article in Minorcan Catalan

Personal names are entities intrinsically denotative and consequently do not need the presence of a determiner to fix the reference. However, in Catalan varieties personal names (and also family names, nicknames, and alias) are generally preceded by an article (Brucart 2002 / 2008: 1477), which in some cases coincides with the forms of the definite article and in some others has a specific form (see 11).4 The use of the personal article, though, is not homogeneous in the Catalan domain. In Balearic Catalan, to which Minorcan Catalan is circumscribed, the personal article is used in almost any kind of situation and register (8a). In Valencian Catalan, some nearby regions and in Alghero Catalan, it is never used (8b), as it does occur in many other languages. In the rest of Catalan varieties (and, to a less extent, also in Balearic varieties), there is an intermediate situation, in which the personal article is used to indicate proximity and familiarity between the speaker and the designated person. This is why it is used in informal registers (8ci), but it is not in more formal ones (8cii-iii). Note, in this respect, the contrast between the sentence in (8iv), in which the family name is preceded by the article, and the sentence in (8v), in which it is not.

(8) The use of the personal article in Catalan varieties

- a. Balearic Catalan
 - i) En Joan ha arribat tardíssim.'Joan has arrived very late'
 - ii) **En** Moll era un bon gramàtic.
 - 'Moll was a good grammarian'
 - iii) En Leonard Cohen ha mort aquest any.'Leonard Cohen died this year'
- b. Valencian Catalan, nearby regions, and Alghero Catalan
 - i) Ø Joan ha arribat tardíssim.
 - ii) Ø Moll era un bon gramàtic.
 - iii) Ø Leonard Cohen ha mort aguest any.
- c. Rest of Catalan varieties
 - i) En / El / Lo Joan ha dinat a casa.

⁴ Specific onymic markers are a rare phenomenon among Indo-European languages, with the exception of Catalan (Caro Reina 2014). The use of the definite article preceding the personal name, though, is documented in languages such as Modern Greek, Romance languages such as Italian, French, Portuguese, Galician, and Colloquial Spanish, and Germanic languages such as German, Norwegian and Swedish.

⁵ The same kind of distribution, subject to stylistic variation, is found in languages such as Italian, Portuguese and Galician (Longobardi 1994: 622).

'Joan has had lunch at home'

- ii) Ø Moll era un bon gramàtic.
- iii) Ø Leonard Cohen ha mort aquest any.
- iv) **En / El / Lo** Mascaró portarà els torrons. 'Mascaró will bring nougat'
- v) Ø Mascaró va treballar en el cicle fonològic. 'Mascaró worked on the phonological cycle'

The personal article precedes the personal name in all functions developed by the noun phrase (9a), except for vocatives (9b), and it has been claimed that its occurrence is incompatible with any other form of address (9c),⁶ or in postadjectival position (9d) (Brucart 2002: 1477). The personal article, finally, is restricted to singulars; for plurals, the regular article is used (Mascaró 1985: 91; Longobardi 1994: 656) (9e).

(9)

a. **En** Joan ha dinat a casa.

'Joan has had lunch at home'

M'ha dit que no havia vist en Joan.

'S/he told me s/he had not seen John'

Aquest noi que ha vingut és en Joan.

'This boy that came is John'

b. Joan, vine! (*En Joan, vine!)

'Joan, come!'

Què vols, Joan? (*Què vols, en Joan?)

'What do you want, Joan?'

c. L'oncle Joan s'ha jubilat. (*L'oncle **en** Joan s'ha jubilat.)

'Uncle Joan has retired'

L'avi Pasqual ha sortit a passejar. (*L'avi **en** Pasqual ha sortit a passejar.)

'Grandfahter Pasqual went out for a walk'

El president Martí ha dimitit. (*El president **en** Martí ha dimitit.)

'President Martí has resigned'

d. Pobre Joan! (*Pobre **en** Joan!)

'Poor Joan!'

Pobra Maria! (*Pobra la Maria!)

'Poor Maria!'

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⁶ This is not the case of Old Catalan, where En / Na, formerly forms of respect and later on universalized as personal markers (see footnote 8), were used in vocative structures ($en \ Johan!$) and in forms of address ($lo \ mestre \ n'Arnau$) (Casanova 2003), as the ones we analyze in this paper.

e. Es dos Joans de ca nostra han vingut.*Ens dos Joans de ca nostra han vingut.'The two Joans have come'

In Balearic Catalan, the use of the personal article is so frequent that it is even used before micro-toponyms, essentially before coastal geographic features like capes, coves, beaches, reefs, etc. (10)

(10)

a. Personal article in micro-toponyms (Minorca)
na Macaret 'little coast village'
na Foradada, na Ganivet, na Vermella, na Negra Janes 'names of capes'

b. Personal article in micro-toponyms (Majorca)
 na Clara, na Patana, na Barberà 'name of beaches'

The forms the personal article adopts depend again on the dialectal variety. One group of varieties, those spoken in the Balearic Islands, use en /n/ (before masculine personal names) $\sim na /n+a/$ (before feminine personal names), which take a different shape depending on the segmental context (11a). These forms are the reduction of don ~ dona, old Catalan forms of respect (shared with languages such as Spanish and Occitan), derived from the Latin Domine ~ Domina.7 A second group of varieties, spoken in the eastern part of Catalunya, use el /l/ (before masculine personal names) ~ la /l+ə/ (before feminine personal names), which also adopt different shapes depending on the segmental context (11b). A third group of varieties, those spoken in the western part of Catalunya, use lo /l+o/ (before masculine personal names), instead of el (11c). The two later set of solutions (11b-c) coincide with the definite article in these varieties (derived from the Latin demonstratives ILLE, ILLA). A final set of varieties, also spoken in the eastern part of Catalunya, show a mixed paradigm, with en /n/ before masculine personal names starting in a consonant, el /l/ before masculine personal names starting in a vowel (see Mascaró 1996 for this allomorphic distribution of /n/ and /l/ in these varieties), and la/l+a/before feminine personal names.8

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⁷ Casanova (2003) assumes the following stages for this reduction process: $D\breve{O}M\breve{N}E > D\breve{O}MNE > don > en$; $D\breve{O}M\breve{N}A > D\breve{O}MNA > dona > na$.

 $^{^8}$ In all Catalan dialects, En / Na were used originally as forms of courtesy and respect before personal names but only to refer to certain personalities (XIth century); due to the introduction of other treatment markers such as $moss\grave{e}n$ 'priest', en / na were generalized and used before personal names of persons of any status and, thus, universalized as personal markers (XIIIth century). Soon, though, the definite article derived from ILLE was introduced with the same function, with a stage where the two forms (en/na; el/la) cohabited (XVth century). Both markers disappeared in Valencian varieties, en/na remained as the personal markers in Balearic Catalan, and el/la progressively substituted

(11) The personal article in Catalan varieties

Before a:	a.	b.	c.	d.
MASC. PERS. name	en Joan	el Joan	lo Joan	en Joan
with initial C	/n/	/1/	/l+o/	/n/
	[ən] Joan	[əl] Joan	[lo] Joan	[ən] Joan
MASC. PERS. name	n'Àngel	l'Àngel	l'Àngel	l'Àngel
with initial C	/n/	/1/	/1/	/1/
	[n] Àngel	[l] Àngel	[l] Àngel	[l] Àngel
FEM. PERS. name	na Maria	la Maria	la Maria	la Maria
with initial C	/n+ə/	/l + ə/	/l + a/	/l + a/
	[nə] Maria	[lə] Maria	[la] Maria	[lə] Maria
FEM. PERS. name	n'Àngela	l'Àngela	l'Àngela	l'Àngela
with initial V	/n + ə/	/l + ə/	/l + a/	/l + a/
	[n] Àngela	[l] Àngela	[l] Àngela	[l] Àngela

For the purposes of this paper, it is important to bear in mind that, although personal names are generally preceded by the personal article in Catalan, some varieties absolutely get by without them and in some others their use is conditioned to pragmatic and stylistic factors. It is also important to remark that whereas the personal article generally cannot co-occur with any form of address (*l'oncle en Joan 'uncle Joan'; 9c), this is not the case of Minorcan Catalan, as we have seen in § 1 and as we will further see in the following section.

3. Asymmetries in kinship restrictive appositional phrases

In this section, we develop and contextualize the conditions under which the asymmetry between realization and non-realization of the personal article depicted in §1 applies. The data exposed are drawn from personal inquiries to five native speakers of Minorcan Catalan and from our own experience with this dialectal variety. As shown in the examples below, these restrictive appositional phrases generally express a kinship relationship (12-13), but they can also express other type of similar relations, such as property (14). In the preceding section, we indicated that these types of structures are generally incompatible with the use of the personal article (see 9c), but, as said, in Minorcan Catalan the productive solution is to use the personal article after the terms *conco*, *l'avi* and *l'amo* in these restrictive appositional phrases. In these constructions, it is possible to find two kinds of asymmetries, which are exposed in the following two sections.

3.1 Asymmetry I

A first type of asymmetry is established between those restrictive appositional phrases with a masculine personal name starting in a consonant, in which the personal article is realized (12a, 13a, 14a), and those with a masculine personal name

en/na in the rest of Catalan varieties (although, as said, a mixed paradigm is still found in some of these varieties (11d)) (see Casanova 2003, Caro-Reina 2014).

starting in a vowel, in which the personal article is never realized (12b, 13b, 14b). That is, whereas structures like *es conco en Toni* (the-M.DEF.ART uncle the-M.PERS.ART Toni) are permitted, structures like **es conco n'Ernest* (*the-M.DEF.ART uncle the-M.PERS.ART Ernest) are not.

(12)

a. C-initial Masc. Pers. Name b. V	^y -initial Masc. Pers. Name
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es conco en Rafel	es conco Ø Àngel	* es conco n' Àngel
[əs.kòŋ.ku n .rə.fél]	[əs.kòŋ.ku.án.ʒəl]	* [əs.kòŋ.ku. n án.ʒəl]
es conco en Toni	es conco Ø (E)rnest	* es conco n' Ernest
[əs.kòŋ.ku n .tś.ni]	[əs.kòŋ.kur.nést]	* [əs.kòŋ.ku. n ər.nést]
es conco en Joan	es conco Ø (E)nric	* es conco n 'Enric
[əs.kòŋ.ku n .ʒu.án]	[əs.kòŋ.kun.rîk]	* [əs.kòŋ.ku .n ən.rík]
es conco en Pedro	es conco Ø Ignasi	* es conco n' Ignasi
[əs.kòŋ.ku m .pé.ðro]	[əs.kòŋ.kujn.ná.zi]	* [əs.kòŋ.ku. n in.ná.zi]

(13)

a. C-initial Masc. Pers. Name	b. V-initial Masc. Pers. Name
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l'avi en Rafel	l'avi Ø Àngel	* l'avi n' Àngel
[là.vi n .rə.fél]	[là.vi.án.ʒəl]	* [là.vi. n án.ʒəl]
l'avi en Toni	l'avi Ø Ernest	* l'avi n' Ernest
[là.vi n .tź.ni]	[là.vir.nést]	* [là.vi. n ər.nést]
l'avi en Joan	l'avi Ø Enric	* l'avi n' Enric
[là.vi n .ʒu.án]	[là.vin.rík]	* [là.vi. n ən.rîk]
l'avi en Pedro	l'avi Ø Ignasi	* l'avi n' Ignasi
[là.vi m .pé.ðro]	[là.vin.ná.zi]	* [là.vi. n in.ná.zi]

(14)

a. C-initial Masc. Pers. Name	b. V-initial Masc. Pers. Name
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l'amo en Rafel	l'amo Ø Àngel	* l'amo n' Àngel
[là.mu n. rə.fél]	[là.mu.án.ʒəl]	* [là.mu. n án.ʒəl]
l'amo en Toni	l'amo Ø (E)rnest	* l'amo n' Ernest
[là.mu n. tź.ni]	[là.mur.nést]	* [là.mu. n ər.nést]
l'amo en Joan	l'amo Ø (E)nric	* l'amo n' Enric

[là.mu n .ʒu.án]	[là.mun.rîk]	* [là.mu. n ən.rîk]
l'amo en Pedro	l'amo Ø Ignasi	* l'amo n' Ignasi
[là.mu m .pé.ðro]	[là.mujn.ná.zi]	* [là.mu. n in.ná.zi]

The productivity of this asymmetry is supported by the identical behavior with personal names borrowed from Spanish, which were introduced later on into the dialect (15):

(15)

a. C-initial Masc. Pers. Name	b. V-initial Masc. Pers. Name		
es conco en Pedro	es conco Ø Ilario	*es conco n' Ilario	
[əs.kòŋ.ku m. pé.ðro]	[əs.kòŋ.kuj.lá.rjo]	* [əs.kòŋ.ku. n i.lá.rjo]	
es conco en Julio	es conco Ø Eduardo	*es conco n' Eduardo	
[əs.kòŋ.ku n .χú.ljo]	[əs.kòŋ.ku.ðwár.ðo]	[əs.kòŋ.ku. n e.ðwár.ðo]	
es conco en Paco	es conco Ø Andrés	*es conco n' Andrés	
[əs.kòŋ.ku m .pá.ko]	[əs.kòŋ.kun.drés]	[əs.kòŋ.ku. n ən.drés]	

Structures of the type *es conco en Jaume* and *l'avi en Toni*, both with realization of the personal article, or structures like *es conco Ø Àngel* and *l'avi Ø Àngel*, both without realization of the personal article, show that the asymmetry is not correlated to the use of either the definite article derived from IPSE or the definite article derived from ILLE. The personal article can indeed be realized or not with both types of definite articles.

Note, on the other hand, that, generally, these constructions are not broken by any kind of particle, not even by a possessive (*es conco meu en Jaume; *es conco seu en Jaume); in fact, in these varieties the possessive relation is already expressed by the definite article: es conco ha arribat tard already expresses a possessive relationship. The use of the possessive is possible, though, when the appositional phrase is not restrictive (es conco meu, en Jaume). It is important to remark, finally, that these constructions are not found when the expressed kinship relation is between equals (*es cosí en Jaume, *the-M.DEF.ART cousin the-M.PERS.ART Jaume; 'cousin Jaume') or from an superior to an inferior (*es net en Jaume the-M.DEF.ART grandson the-M.PERS.ART Jaume; 'grandson Jaume').

3.2 Asymmetry II

A second type of asymmetry is established between restrictive appositional phrases with a **masculine** personal name starting with a consonant, in which, as said, the personal article is realized, and restrictive appositional phrases with a **feminine**

personal name, starting either in a consonant or a vowel (16a, 16b), in which the personal article is never realized.

(16)

a. C-initial Fem. Pers. Name

s'àvia Ø Catalina *s'àvia **na** Catalina [sà.vjə.kə.tə.lí.nə] *[sà.vjə.**nə**.kə.tə.lí.nə]

s'àvia Ø Montse *s'àvia **na** Montse [sà.vjə.món.se] *[sà.vjə.**nə**.món.se]

('grandmother Catalina', 'grandmother Montse, etc.)

sa tia Ø Catalina *sa tia **na** Catalina

[sə.ti.ə.kə.tə.li.nə] *[sə.ti.ə.**nə**.kə.tə.li.nə]

sa tia Ø Montse *sa tia **na** Montse [sə.ti.ə.món.se] *[sə.ti.ə.nə.món.se]

('aunt Catalina', 'aunt Montse', etc.)

b. V-initial Fem. Pers. Name

s'àvia Ø (E)sperança *s'àvia n'Esperança [sà.vjəs.pə.rán.sə] *[sà.vjə.**n**əs.pə.rán.sə]

s'àvia Ø (A)nnita *s'àvia **n'**Annita [sà.vjən.nî.tə] *[sà.vjə.**n**ən.nî.tə]

('grandmother Esperança' / 'grandmother Annita')

sa tia \emptyset (E)sperança * sa tia \mathbf{n} 'Esperança

sa tia \emptyset (A)nnita *sa tia **n**'Annita [sə.ti.ən.ní.tə] *[sə.ti.ə.nən.ní.tə]

('aunt Esperança', 'aunt Annita', etc.)

3.3 Parallel asymmetries

Parallel asymmetries are registered in micro-toponyms. Appositional restrictive phrases with generic terms such as *cala* 'cove' can be followed by a proper name (either a personal name, or a proper name derived from the nominalization of an adjective or the personalization of a common name). In these cases, the proper name is preceded by the personal article when it is masculine and starts in a consonant

(cala **en** [kàləm] Bosch, cala **en** [kàləm] Brut, cala **en** [kàləm] Blanes; 'Bosch/Blanes/Brut cove'), but not when it starts in a vowel (cala Ø Escorxador) or when it is feminine (cala Ø [kàlə] Mitjana, *cala na Mitjana; cala Ø [kàlə] Tortuga *cala **na** Tortuga; Mitjana/Tortuga cove').9

4. THEORETICAL BACKGROUND

In this section, we briefly expose the theoretical background in which our analysis is couched. Our proposal is largely inspired by Selkirk's (2001) approach to prosodically-driven morpheme non-realization (§ 4.1), and it is sustained on two basic formal mechanisms. On the one hand, on a particular interpretation of the alignment constraints proposed within the Generalized Alignment theory (McCarthy & Prince 1993) and re-elaborated in Selkirk's (1996 / 2004) work (§ 4.2). On the other hand, on the constraints on morpheme realization, proposed, among others, by Kurisu 2001, Selkirk 2001, Wolf 2008. In what follows we describe these proposals, and we specify the way in which we address them to account for the data under consideration.

4.1. Prosodically-driven morpheme non-realization

According to Selkirk's (2001) approach, there are two circumstances in which phonology may influence the morphosyntax of the sentence. First, those where the phonological constraint ranking may force the non-realization (interpreted as deletion) of a function word, and which are only possible if that deletion is recoverable (see Pesetsky 1998). Second, those in which the phonological constraint ranking may force the non-realization of the whole sentence containing the function word, leading to a late "crashing" of the derivation, and which are triggered when the deletion of the function word is not recoverable. In order to account for these two circumstances, the author resorts to the constraint Realize(α) (17a), which is part of the constraint hierarchy, and the principle of Recoverability, which is external to the constraint hierarchy and which has the function to check the output of EVAL (17b). According to the author, the way in which the mentioned circumstances in which phonology may influence the morphosyntax of the sentence interact with the constraint Realize(α) and the external principle of Recoverability is the one exposed in (18):

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⁹ In fact, an intriguing parallel to the distribution depicted in §3 is found in French locatives, in which en is found before feminine proper names (en France, en Maurtanie) or proper names starting in a vowel (en Irlande, en Egypte, en Afghanistan, en Angola), but au before masculine proper names (au Canada, au Pérou) (see, among others, Matushansky 2015).

(17)

- a. Realize(α): Assign one violation mark for each α which is not phonologically realized (where α is a variable over morphemes). (Adapted from Selkirk 2001: 261).
- b. Recoverability: A syntactic unit with semantic content must be pronounced [=realized] unless it has sufficiently local antecedent (Selkirk 2001: 261; after Pesetsky 1998).

(18)

- a. The non-realization of α in a phonologically illicit configuration. When the optimal output candidate S' corresponding to a specific input S contains a violation of Realize(α), and the absence of α in the output S' does not incur a Recoverability violation, then α is simply not realized.
- b. The non-realization of a sentence with α in a phonologically illicit configuration. When the optimal output candidate S' corresponding to a specific input S contains a violation of Realize(α), and the absence of α in the output does incur a Recoverability violation, then neither the optimal output S' nor any other output candidate with the same input S is realized ("The derivation crashes")." (Selkirk 2001: 261)

Most of the cases identified in the literature, including the one we analyze in this paper, correspond to the former type situation, in which a specific morpheme (a function word, in Selkirk's terminology) is not phonologically realized to avoid a phonologically illicit configuration. In our proposal, though, we subsume the principle of Recoverability and the constraint on morpheme realization into a single constraint, Max-Morph(unrecoverable) (25), according to which a morpheme has to be phonologically realized if its carried information is not recoverable; this constraint, like the standard morpheme realization constraints, is assumed to be part of the hierarchy. As can be seen in § 5, in our analysis Max-Morph(unrecoverable) is always high-ranked, although we assume that it can be dominated, in which case a "crashing" in the derivation would be expected (for the consequences of this approach, see § 6.4).

4.2. Alignment constraints

The standard formulation that alignment constraints receive is the one in (19). According to this formulation, for each category (either prosodic or grammatical), exists another category (either prosodic or grammatical), such that the edge (left or

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¹⁰ For Catalan, see Bonet *et al.* (2015), who analyze a segmentally-driven case of morpheme non-realization subject to prenominal and postnominal concord asymmetry in North-Eastern Catalan.

right) of the first cited category coincides with the edge (left or right) of the second cited category.

(19) Generalized Alignment (McCarthy & Prince 1993: 80)

```
Align (Cat₁, Edge₁, Cat₂, Edge₂)=def

∀ Cat₁ ∃ Cat₂ such that Edge₁ of Cat₁ and Edge₂ of Cat₂ coincide
```

```
Where Cat1, Cat2 \in ProsCat \cup GramCat Edge1, Edge2 \in {Right, Left}
```

ProsCat: {PWd, Foot, syllable, mora...} GramCat: {word, stem, root, affix...}

Generalized alignment constraints, therefore, make claims about how some particular constituents align with others. As indicated in the formulation, the categories to be aligned can be prosodic (i.e. the syllable, the mora, the foot, the prosodic word, etc.) and grammatical (the grammatical word, the stem, the root, the affix, etc.), and the alignment can be required between the edges of two prosodic categories, between the edges of two grammatical categories, between the edge of a grammatical category and the edge of a prosodic category, or even between the edge of a prosodic category and the edge of a grammatical category (see 20). According to McCarthy & Prince's (1993: 82) proposal, indeed, "[i]n terms of the functional notation [...], the edge-based theory of sentence phonology reduces to Align(GCat, Edge1, PCat, Edge1), a mapping from the edges of grammatical categories onto the same edges of prosodic categories. Through GA, we extend this approach fully, so that opposite as well as corresponding edges can be aligned, and so that Align(PCat, GCat), Align(PCat, PCat), and Align(GCAt, GCat) are also licit expressions". This is a relevant issue, because our approach relies on constraints in which the alignment constraint pivots on the edge of the prosodic category, with respect to which the grammatical category has to be aligned (see 20b, in the following schema).

(20) Alignment possibilities (after McCarthy and Prince 1993: 82)

```
a) ALIGN(GCat, E; PCat, E)
```

- b) ALIGN(PCat, E; GCat, E)
- c) ALIGN(PCat, E; PCat, E)
- d) ALIGN(GCat, E; PCat, E)

As indicated before, moreover, our proposal is based on a particular interpretation of the alignment constraints, essentially founded on Selkirk's generalized alignment enhancements. First, we follow the position taken by the author, according to which the "set of constraints governing the interface between morphosyntactic and prosodic structure makes no reference to functional categories at all. Rather, it is only lexical categories and their phrasal projections which would figure in the statement of morphosyntactic constraints on prosodic structure" (Selkirk 1996: 191 / 2004: 468; see also Selkirk 1984, 1986). This is why we avoid any reference to functional categories like the personal article on the statement of the alignment constraints formulation (see 25a). Second, also following the Selkirk's view, we understand that the grammatical category in the alignment constraints stands only for a lexical category. Note that Selkirk, as McCarthy and Prince (1993), also recognizes the legitimacy of reversing the categories to be aligned, including both the alignment of a lexical category with a prosodic category and the alignment of a prosodic category with a lexical category. This leads to the following typology of alignment constraints:

```
The Word Alignment Constraints
a. Align (Lex, L; PWd, L)
b. Align (Lex, R; PWd, R)
The Prosodic Word Alignment Constraints
a. Align (PWd, L; Lex, L)
```

(21) Selkirk (1996: 192 / 2004: 468)

b. Align (PWd, R; Lex, R)

In our proposal, finally, we relax the formulation of the alignment constraints, by just targeting the edge of the first cited category; the intention behind this formulation is to ensure that a designated specific edge of a certain category is aligned with another category, no matter its edge. Therefore, besides the standard constraints in (20), reformulated in the form of the constraints in (21), we assume the existence of alignment constraints such as the ones in (22).

(22)

```
a) ALIGN(Lex, E; PCat)b) ALIGN(PCat, E; Lex)c) ALIGN(PCat, E; PCat)d) ALIGN(Lex, E; Lex)
```

4.3. Constraints on morpheme realization

In this paper we assume the hypothesis that the morphological spell-out of morphemes takes place in the phonology, as in Distributed Morphology (Halle & Marantz 1993). We follow Wolf (2008) in assuming that the output of the morphological component consists of a set of morphemes, which are composed of abstract morphosyntactic features, arranged in an unlinearized tree structure. Then,

all morph selection and their linearization occurs in the same component as the phonology. Under his view, words are built in two separate stages. First, the morphology operates with abstract morphemes and merges them to produce a tree structure. Second, the phonology realizes those abstract morphemes by associating a phonological structure with them. Wolf (2008) further assumes that a correspondence relation is established between the morphosyntactic feature bundles of morphemes and the phonological feature bundles of morphs. Given these correspondence relations, Wolf (2008) proposes a set of morphological faithfulness constraints drawn from Correspondence theory (McCarthy & Prince 1995, 1999). Such correspondence constraints can be violated in order to satisfy higher-ranked phonological markedness constraints. This situation produces mismatches between the feature structure of abstract morphemes and the feature structure of morphs associated with them. One specific type of phonologically-driven morphological mismatch is the non-maximal spell-out of morphosyntactic features of morphemes. This kind of mismatch is produced when the constraint Max-M(F), defined in (23), is violated.

(23) Max-M(F) (Wolf 2008: 26)

For every instance φ of the feature F at the morpheme level, assign a violation-mark if there is not an instance φ ' of F at the morph level, such that $\varphi \Re \varphi$ '.

The constraint Max-M(F) favors the use of morphs that spell-out more features over those that spell-out fewer features for the same morpheme. An extreme case of non-maximal spell-out of morphosyntactic features is the non-realization of a morpheme. In this paper we resort to the constraint Max-Morph(eme) (24), similar to the one in (23) but without making reference to features. This is so because we are dealing with cases of morpheme non-realization, in which all the features at the morpheme level have no correspondence at the morph level. Other types of morphological mismatches explored in Wolf (2008) are feature-mismatch, superfluous morph insertion, and linear misordering of morphs.

(24) MAX-Morph(eme): Assign one violation mark for each morph corresponding to morpheme-X which is not phonologically realized (adapted from Wolf 2008).

5. Proposal and analysis

In § 3 we identified two kinds of asymmetries: the one stablished between masculine personal names starting with a consonant (*es conco en Jaume*) and masculine personal names starting with a vowel (*es conco Àngel*) (Asymmetry I) (12-15), and the one stablished between masculine personal names starting with a consonant (*es conco en Jaume*) and feminine personal names, starting either with a consonant (*sa*

tia Margarita) or with a vowel (sa tia Àngela) (Asymmetry II) (16). In § 5.1 we focus on the first type of asymmetry and in § 5.2, on the second type.

5.1. Asymmetry I

Since the morphosyntactic structure between masculine personal names starting in a consonant and masculine personal names starting in a vowel is the same, we argue that the answer to the asymmetry is in the phonology, and more specifically in the prosodification of the personal pronoun within the prosodic word in relation to the lexical category. According to our proposal, the observed asymmetric behavior is mainly driven by the constraint ALIGN(PWd, L; Lex) (see 25a), according to which the left edge of every prosodic word must be aligned with a lexical category; that is, a clitic cannot intervene between the left edge of a prosodic word and the lexical category. Whereas it is possible to satisfy this constraint without challenging Catalan basic syllabification constraints (i.e. *C.V) (25b) when the personal name starts in a consonant (i.e. ([əs.kòŋ.ku**n**.])_{PWD} ([ʒáw.mə])_{PWD}), it is not when the personal name starts in a vowel (i.e. *([əs.kòn.ku**n**.])_{PWD} ([án.ʒəl])_{PWD}). The effects of ALIGN(PWd, L; Lex), on the other hand, are inhibited by the need to realize phonologically the morph corresponding to a morpheme when its carried information is not recoverable (25c). This explains its realization when occurring outside the kinship appositional phrase, where no local antecedent, i.e., the definite article, is available (see Pesetsky 1998). The discrepant behavior in relation to morpheme realization, depending on its recoverable or unrecoverable carried information, advocates splitting the constraints demanding morpheme-realization into two categories, MAX-Morph(eme) and MAX-Morph(eme)(unrecoverable) (see 25c). Both constraints, which are in a stringency relation, are assumed to be part of the constraint hierarchy. The constraint on morpheme realization Max-Morph(eme), on the other hand, can be split into different categories depending on the involved morphosyntactic features; in our case, the pertinent constraint is Max-Pers.Art. The reason why we assume the need to make explicit reference to the type of morph(eme)s involved in the expression of the Max-Morph(eme) family constraints is that morph(eme)s can behave differently in relation to their possibilities of (non-)realization due to prosodic factors: the morph /ə/, corresponding to the feminine morpheme, for instance, can fail to surface to avoid the contact of two adjacent unstressed vowels: dona implicada /dɔn+ə##inplikad+ə/ [dò.nim.pli.ká.ðə] 'involved woman', where the deleted schwa is the exponent of the feminine morpheme. On the contrary, there is no need to split the constraint Max-Morph(eme)(unrecoverable) depending on the involved morph(eme)s, because we understand that the recoverability condition is constant for all types of morph(eme)s. For the sake of simplicity, we ignore the constraint Max-Morph(eme), which is outranked by the more specific one Max-Pers.Art. In (25) we present and define the basic constraints, and in (26) we expose the constraint

hierarchy relevant to account for the basic facts concerning Asymmetry I. This constraint hierarchy will be justified gradually with the partial ranking arguments (28-31), and will be completed later on with some facts concerning vowel contact resolutions (37-41).

(25) Relevant basic constraints

a. Morphoprosodic constraint

• ALIGN(PWd, L; Lex): Assign one violation mark for every left edge of a prosodic word which is not aligned with a lexical category. (It penalizes the presence of a functional category at the left edge of the prosodic word.) (See McCarthy & Prince 1993, Selkirk 1996/2004.)¹¹

b. Syllable structure constraints

- ONSET: Assign one violation mark for every onset-less syllable (see Prince & Smolensky 1993).
- *C.V: Assign one violation mark for every consonant syllabified in the coda followed by a vowel (see Prince & Smolensky 1993).¹²

c. Constraints on morph(eme) realization

- Max-Morph(eme): Assign one violation mark for each morph corresponding to morpheme-X which is not phonologically realized (adapted from Wolf 2008).
- Max-Morph(unrecoverable): Assign one violation mark for each morph corresponding to a morpheme whose morphosyntactic information cannot be recovered (Adapted from Wolf 2008; Selkirk 2001, after Pesetsky 1998).
- Max-Pers.Art.: Assign one violation mark for each morph corresponding to the personal article morpheme which is not phonologically realized (adapted from Wolf 2008).

(26) Relevant constraint hierarchy MAX-Morph(Unrec) >> ALIGN(PWd, L; Lex), *C.V >> MAX-Pers.Art., ONSET

In (27), we present the constraint sub-hierarchy in Minorcan Catalan which accounts for the isolated constructions composed by the personal article and the personal

¹¹ As stated in § 4, we follow Selkirk's approach, according to which the "set of constraints governing the interface between morphosyntactic and prosodic structure makes no reference to functional categories at all. In fact, an alternative approach to the constraint Align(PWd, L; Lex) would be to introduce the clitic category in the alignment configuration and to resort to Relation-Specific Alignment, along the lines of Hyde (2012): "Assign one violation mark for each <PW, Lex, clitic> where PW precedes Lex with a clitic intervening".

¹² Note that this constraint is a shorthand for the local conjunction constraint *CODA & ONSET]_{ADJ SYLL}, which penalizes a simultaneous violation of the constraints *CODA and ONSET in the local context of adjacent syllables.

name and whose effects can be observed in the tableau of (28). As seen, the ranking of Max-Morph(Unrec) above ALIGN(PWd, L; Lex) explains the realization of the personal article in this type of constructions (see the winning candidates in (28ia), (28iia), (28iia), because its lack of realization, due to the alignment requirement, would not be recoverable.¹³ For these varieties, in which the personal article is obligatory before the personal name, its lack of realization involves a violation of Max-Morph(Unrec); it is only when definiteness is already expressed by the definite article in the preceding D phrase that the personal article can be left unrealized due to the morphoprosodic requirements. Note, finally, that the ranking argument between ALIGN(PWd, L; Lex) and Max-Pers.Art. is not justified in this tableau, but in the one of (30).

(27) Constraint sub-hierarchy for isolated constructions in Minorcan Catalan Max-Morph(Unrec) >> ALIGN(PWd, L; Lex) >> Max-Pers.Art.

(28) Isolated constructions of personal article + personal name: **en** Jaume, **n'**Àngel, **na** Catalina

<i>i.</i> / n +∅#ʒawm/	Max-Morph	ALIGN	Max-
M.PERS.ART Jaume	(Unrec)	(PWd, L; Lex)	Pers.Art.
☞ a. ([ə n .ʒáw.mə]) _{PWD}		*	
b. ([ʒáw.mə]) _{РWD}	*!		*
<i>ii.</i> / n +∅#anʒəl/			
M.PERS.ART Àngel			
a. ([n án.ʒəl]) _{PWD}		*	
b. ([án.ʒəl]) _{PWD}	*!		*
iii. / n +ə#kətəlin+ə/			
F.PERS.ART Catalina			
☞ a. ([nə .kə.tə.li.nə]) _{PWD}		*	
b. ([kə.tə.lí.nə]) _{PWD}	*!		*

In (29-31) we show the effects of the complete ranking in (26) in kinship appositional phrases. Note, to begin with, that all candidates incur at least one violation of ALIGN(PWd, L; Lex), since the definite article *es* ([55]) intervenes between the left edge of the PWd and the lexical category in all cases. Note that in the tableaux that follow we do not consider candidates with non-realization of the definite article (*i.e.* *conco en Jaume), because they would involve a violation of Max-Morph(Unrec). The rationale beyond this is that, whereas it is possible to not realize the personal article due to ALIGN(PWd, L; Lex) when there is a preceding D phrase with a definite article (see tableaux (30) and (31)), it is not possible to not realize the definite article

¹³ The ranking MAX-Morph(Unrec) >> ALIGN(PWd, L; Lex) is crucial to explain the realization of other functional categories at the left edge of the PWd and the Lexical Category, in cases of proclisis: *la carta* ([la.kár.ta])_{PWD} the-F.DEF.ART letter 'the letter', *el pot* ([al.pót])_{PWD} the-M.DEF.ART jar 'the jar', *la pentina* ([la.pən.tí.na])_{PWD} 'S/he brushes her hair', etc.

due to ALIGN(PWd, L; Lex), given the "lack of sufficiently local antecedent" (see Selkirk 2001, after Pesetsky).

The tableau in (29) illustrates the behavior of the constructions with a personal name starting in a consonant. This tableau shows that ALIGN(PWd, L; Lex) is responsible for discarding the candidate with the personal pronoun prosodified at the left edge of the second prosodic word (29c). Note that this candidate also violates the low-ranked constraint ONSET, which is outranked by ALIGN(PWd, L; Lex), as justified in (30). The competition between the two remaining candidates, incurring a single violation of ALIGN(PWd, L; Lex), is solved in favor of the one with the personal pronoun prosodified at the right edge of the first prosodic word (29a), due to the activity of the low ranked constraint MAX-Pers.Art., which penalizes the candidate with non-realization of the personal article as a strategy to satisfy the alignment requirement (29b).

(29) Kinship appositional phrases with a C-initial personal name: es conco en Jaume

/s+Ø#konk+u## n +Ø#ʒawm/ M.DEF.ART conco M.PERS.ART Jaume	MAX-MORPH (Unrec)	ALIGN (PWd, L; Lex)	MAX- Pers.Art.
☞a. ([əs.kòŋ.ku n .]) _{PWD} ([ʒáw.mə]) _{PWD}		*	
b. ([əs.kòŋ.ku.]) _{PWD} ([ʒáw.mə]) _{PWD}		*	*!
c. ([əs.kòŋ.ku.]) _{PWD} ([ə n .ʒáw.mə]) _{PWD}		**!	

The tableau in (30) partially illustrates the behavior of kinship appositional phrases with a V-initial personal name, in which the personal pronoun is unrealized. The tableau illustrates the ranking argument ALIGN(PWd, L; Lex) >> MAX-Pers.Art., which explains why morpheme non-realization is preferred to the alignment of the clitic at the left edge of the prosodic word, despite this leads to the selection of an onset-less candidate (30b). In fact, another decisive ranking argument illustrated in this tableau is ALIGN(PWd, L; Lex) >> ONSET, which reflects that the left-alignment requirement is superior to a basic syllabification constraint.

(30) Kinship appositional phrases with a V-initial personal name: es conco Àngel

	-			•
/s+Ø#konk+u## n +Ø#anʒəl/ M.DEF.ART conco M.PERS.ART Àngel	MAX- Morph (Unrec)	ALIGN (PWd, L; Lex)	MAX- Pers.Art.	ONSET
a. ([əs.kòŋ.ku.]) _{PWD} ([n án.ʒəl]) _{PWD}		**!		*
☞ b. ([əs.kòŋ.ku.]) _{PWD} ([án.ʒəl]) _{PWD}		*	*	**

A logical additional candidate for these constructions, which, along with the winning candidate with morpheme non-realization (30b), would also satisfy ALIGN(PWd, L; Lex) is that with the personal pronoun prosodified at the right edge of the first prosodic word (*i.e.* ([əs.kòŋ.ku**n**.])_{PWD} ([án.ʒəl])_{PWD}, parallel to the one selected when the personal name starts with a consonant (*i.e.* [əs.kòŋ.ku**n**.])_{PWD} ([ʒáw.mə])_{PWD}; see 29a). As shown in the following tableau, the syllable structure markedness constraint

*C.V makes unfeasible such a solution. Note that ONSET in this case could not do the work because both candidates (31b) and (31c) violate this constraint.

(31) Kinship appositional phrases with a V-initial personal name: es conco Àngel

/s+Ø#konk+u## n +Ø#anʒəl/ M.DEF.ART conco PERS.ART Àngel	Align (PWd, L; Lex)	*C.V	Max- Pers.Art.	Onset
a. ([əs.kòŋ.ku.]) _{PWD} ([n án.ʒəl]) _{PWD}	**!			*
☞ b. ([əs.kòŋ.ku.]) _{PWD} ([án.ʒəl]) _{PWD}	*		*	**
c. ([əs.kòŋ.ku n .]) _{PWD} ([án.ʒəl]) _{PWD}	*	*!		**

Up to now, we have considered personal names starting with a stressed vowel, and we have seen that the vowel contact created is solved with the preservation of both vowels and the creation of a hiatus (31b). In fact, this behavior is coherent with the vowel contact resolutions created by the adjunction of words at the sentence level (see 32b). A different situation is generated when the personal name starts with an unstressed vowel: when this vowel is a schwa, this vowel is deleted (33a), as it does occur in the sentence level with the contacts of high unstressed vowels followed by a schwa (33b); when both unstressed vowels are identical, a process of fusion that gives as a result a single vowel is triggered (34a), like at the sentence level (34b); finally, when the unstressed vowel is a different vowel other than a schwa, the contact is solved with the formation of a diphthong (35a), as it also does occur at the sentence level (35b).

- (32) Unstressed vowel + stressed vowel: vowel preservation
 - a. es conco Àngel /s+Ø#konk+u##n#anʒəl/ [əs.kòŋ.ku.án.ʒəl] 'uncle Àngel' l'avi Àngel /l+Ø#avi##n#anʒəl/ [là.vi.án.ʒəl] 'grandfather Àngel'
 - b. caldo àcid /kald+u##asid/[kàl.du.á.sit] 'acid soup'
 odi àvid /odi##avid/ [ò.ði.á.vit] 'avid hate'
- (33) High unstressed vowel ([i], [u])+ schwa: schwa deletion
 - a. es conco Ernest /s+Ø#konk+u##n#ərnest/ [əs.kòŋ.kur.nést] 'uncle Ernest' l'avi Ernest /l+Ø#avi##n#ərnest/ [là.vir.nést] 'grandfather Ernest'
 - b. caldo antic /kald+u##əntig/ [kàl.dun.tík] 'old soup' codi antic /kɔdi##əntig/ [kò.ðin.tík] 'old code'
- (34) Identical high unstressed vowels ([u] + [u]; [i] + [i]): fusion
 - a. *es conco Ulari* /s+Ø#konk+u##n#ulaɾi/ [əs.kòŋ.ku.lá.ɾi] 'uncle Ulari' *l'avi Ignasi* /l+Ø#avi##n#innazi/ [là.vin.ná.zi] 'grandfather Ignasi'

- b. caldo horrorós /kald+u##urrɔr+oz/ [kàl.du.ru.rós] 'terrible soup' codi intern /kɔdi##intern/ [kò.ðin.térn] 'internal code'
- (35) Different unstressed high vowels ([u] + [i]; [i] + [u]): formation of a diphthong a. es conco Ilario /s+Ø#konk+u##n#ilarjo/ [əs.kòŋ.kuj.lá.rjo] 'uncle Ignasi' l'avi Ulari /l+Ø#avi##n#ulari/ [là.viw.lá.ri] 'grandfather Ulari' b. caldo insípid /kald+u##insipid/ [kàl.dujn.sí.pit] 'tasteless soup' codi unificat /kɔdi##unifik+a+d/ [kò.ðiw.ni.fi.kát] 'unified code'

These resolutions are not directly related to the issue at stake here and they simply follow the phonotactics of Catalan (see Bonet & Lloret 1998), and more specifically of Minorcan Catalan. The low ranked constraint ONSET is responsible for the process of schwa deletion (see the tableau in 37) and the process of fusion of identical unstressed high vowels (see the tableau in 39). The fact that the contact between the unstressed high vowels and the schwa is solved via deletion of the schwa is explained by the ranking Max-V(high) >> ONSET >> Max-V(schwa), which expresses the greater resistance of high vowels to deletion with respect to the schwa, and which justifies that the schwa is the vowel sacrificed to satisfy ONSET. (For a different interpretation of vowel contact resolutions within OT, see Campmany 2008).

(36) Vowel preservation constraints

- Max-V(high): Assign one violation mark for every high vowel in the input that does not have a correspondent in the output (McCarthy & Prince 1995).
- Max-V(schwa): Assign one violation mark for every schwa in the input that does not have a correspondent in the output (McCarthy & Prince 1995).

In the tableau of (37), we can see the effects of these constraints in the hierarchy. Candidates (37a) and (37b) are ruled out for the same reasons adduced before. The constraint Onset is responsible for discarding the candidate with vowel preservation (37c), which would be the parallel one to the sequences with a personal name starting with a stressed vowel (cf. *es conco Àngel* /s+Ø#konk+u##n#anʒəl/[əs.kòŋ.ku.án.ʒəl]). As said, the ranking Max-V(high) >> Max-V(schwa) explains why the vowel preserved is [u] and not the schwa. Note that we have interpreted that the final [u] in *conco* is the exponent of the masculine morpheme, so that the constraint Max-Morph(unrec) would also discard a candidate with deletion of this vowel. Max-V(high), though, is still relevant to account for contacts where the vowel does not carry unrecoverable morphosyntactic information, such as the [i] in *l'avi en Toni*, where the vowel is just the final element of the stem.

(37) Kinship appositional phrases with a personal name starting with an unstressed schwa: *es conco Ernest* [əs.kòn.kur.nést], *l'avi Ernest* [là.vir.nést]

$/s+\varnothing$ #konk+u## n + \varnothing #ərnest/	Max-V	ALIGN	*C.V	MAX-	ONSET	Max-V
M.DEF.ART conco M.PERS.ART Ernest	(high)	(PWd,	! !	Pers.	<u> </u>	(schwa)
		L; Lex)		Art.	; ! !	
a. ([əs.kòŋ.ku.]) _{PWD} ([n ər.nést]) _{PWD}		**!			*	
b. ([əs.kòŋ.ku n .]) _{PWD} ([ər.nést]) _{PWD}		*	*!		**	
c. ([əs.kòŋ.ku.]) _{PWD} ([ər.nést]) _{PWD}		*		*	**!	
d. ([əs.kòŋ.]) _{PWD} ([kər.nést]) _{PWD}	*!	*		*	*	
☞ e. ([əs.kòŋ.kur.]) _{PWD} ([nést]) _{PWD}		*		*	*	*

In the tableau in (39) we illustrate the cases with two identical high unstressed vowels. As a process of fusion is considered for these cases, the constraint Uniformity (38) has been incorporated into the constraint hierarchy. As seen in the tableau, the hierarchy Max-V(high) >> Uniformity is responsible that the selected strategy is fusion and not deletion (see 39e *vs.* 39f, g). Note, also, the ranking argument stablished between Onset and Uniformity, which ensures fusion over vowel preservation, unlike the cases with a stressed vowel in second position.

- (38) Uniformity: Assign one violation mark for every segment in the output with more than one correspondent in the input (McCarthy & Prince 1995).
- (39) Kinship appositional phrases with a personal name starting with an unstressed high vowel identical to the previous one: *es conco Ulari* [əs.kòŋ.ku.lá.ri], *l'avi Ignasi* [là.vin.ná.zi]

/s+Ø#konk+u## n +Ø#ulari/	Max-V	ALIGN	*C.V	Max-	ONSET	Unif
M.DEF.ART conco M.PERS.ART Ulari	(high)	(PWd,		Per.Art.	i ! !	
		L; Lex)				
a. ([əs.kòŋ.ku.]) _{PWD} ([n u.lá.ri]) _{PWD}		**!			*	
b. ([əs.kòŋ.ku n .]) _{PWD} ([u.lá.ɾi]) _{PWD}		*	*!		**	
c. ([əs.kòŋ.ku.]) _{PWD} ([u.lá.ri]) _{PWD}		*		*	**!	
d. ([əs.kòŋ.]) _{PWD} ([kə.lá.ɾi]) _{PWD}	**!	*	i ! !	*	*	
☞ e. ([əs.kòŋ.ku₁,₂.]) _{PWD} ([lá.ɾi]) _{PWD}		*		*	*	*
f. ([əs.kòŋ.ku ₁ .]) _{PWD} ([lá.ri]) _{PWD}	*!	*		*	*	
g. ([əs.kòŋ.ku₂.]) _{PWD} ([lá.ɾi]) _{PWD}	*!	*		*	*	

This ranking is also responsible for the selection of the candidate with vowel preservation when the unstressed vowels are high but different. In this case, fusion is

not possible because, being both high vowels segmentally different, the application of such a process would incur a violation of the faithfulness constraint IDENT(F) (40).

- (40) IDENT(F): Assign one violation mark for every segment in the output with a different featural specification than the input (McCarthy & Prince 1995).
- (41) Kinship appositional phrases with a personal name starting with an unstressed high vowel different to the previous one: *es conco Ilario* [əs.kòŋ.kuj.lá.rjo], *l'avi Ulari* [là.viw.lá.ri]

/s+Ø#konk+u## n +Ø#ilarjo/	Max-V	IDENT	ALIGN	*C.V	Max-	ONSET	Unif
M.DEF.ART conco M.PERS.ART Ilario	(high)	(F)	(PWd,		Per.Art.	 	
		:	L; Lex)			' 	
a. ([əs.kòŋ.ku.]) _{PWD} ([n i.lá.rjo]) _{PWD}		 - - - -	**!	 - - -		*	
b. ([əs.kòŋ.ku n.]) _{PWD} ([i.lá.rjo]) _{PWD}			*	*!		**	
c. ([əs.kòŋ.ku.]) _{PWD} ([i.lá.ɾjo]) _{PWD}		1 ! ! !	*	i ! ! !	*	**!	
d. ([əs.kòŋ.ki _{1,2}]) _{PWD} ([lá.rjo]) _{PWD}		*!	*	! !	*	*	*
e. ([əs.kòŋ.ku _{1,2} .]) _{PWD} ([lá.ɾjo]) _{PWD}		*!	*	1 1 1 1 1	*	*	*
f. ([əs.kòŋ.ku₁.]) _{PWD} ([lá.rjo]) _{PWD}	*!	1	*	1	*	*	
g. ([əs.kòŋ.ki².])PWD ([lá.rjo])PWD	*!	 	*	 	*	*	
☞ h. ([əs.kòŋ.ku₁ j₂.]) _{PWD} ([lá.rjo]) _{PWD}		 - - - -	*	 - -	*	*	

At this point, it is important to justify why there is no vowel deletion when the personal name starts with a stressed vowel (see 31). The constraints Max-V(high) and Max-V(stressed), high ranked in the constraint hierarchy, are responsible, respectively, of discarding the candidate with deletion of [u] or (*i.e.* *([əs.kòŋ.])_{PWD} ([kán.ʒəl])_{PWD}) and the candidate with deletion of the initial stressed vowel (i.e. *([əs.kòŋ.])_{PWD} ([kún.ʒəl])_{PWD}).

5.2. Asymmetry II

The asymmetry II is stablished between masculine personal names starting with a consonant, with morpheme realization (es conco en Jaume), and feminine personal names, with morpheme non-realization, either if they start with a consonant (sa tia Margarita) or a vowel (sa tia Àngela). According to our proposal, the interaction between the constraints in (42) and right-alignment requirements between the prosodic word and the lexical category explain this second type of asymmetry. The tableau in (43) illustrates how the competition between the candidate with morpheme-realization but with the personal article aligned at the left edge of the prosodic word (43a) and the candidate with morpheme non-realization (43b) is

solved with the selection of the latter, due to the ranking ALIGN(PWd, L; Lex) >> MAX-Pers.Art.

(42)
MAX-Morph(Unrec) >> ALIGN(PWd, L; Lex) >> MAX-Pers.Art.

(43) sa tia Catalina

/s+ə#tí+ə## n +ə#kətəlín+ə/ F. DEF.ART. tia F.PERS.ART Catalina	MAX- Morph (Unrec)	ALIGN (PWd, L; Lex)	MAX- Per.Art.
a. ([sə.ti.ə]) _{PWD} ([nə .kə.tə.li.nə]) _{PWD}		**!	
☞ b. ([sə.ti.ə]) _{PWD} ([kə.tə.li.nə]) _{PWD}		*	*

Note, however, that some relevant candidates are missing in the preceding tableau, a candidate with the personal article prosodified at the right edge of the first prosodic word (44c, in the following tableau) and a candidate with the personal article prosodified as an independent prosodic word (44d).

(44) sa tia Catalina

/s+ə#ti+ə## n +ə#kətəlín+ə/ F. DEF.ART. tia F.PERS.ART Catalina	MAX- Morph (Unrec)	ALIGN (PWd, L; Lex)	ALIGN (PWd, Lex, R)	MAX- PER.ART.
			/σ	
a. ([sə.ti.ə]) _{PWD} ([nə .kə.tə.li.nə]) _{PWD}		**!	 	
☞ b. ([sə.ti.ə]) _{PWD} ([kə.tə.li.nə]) _{PWD}		*) 	*
c. ([sə.ti.ə. nə]) _{PWD} ([kə.tə.li.nə]) _{PWD}		*	*!	
d. ([sə.ti.ə]) $_{PWD}$ ([nə]) $_{PWD}$ ([kə.tə.li.nə]) $_{PWD}$		**!	*	

As seen in the previous tableau, the constraint responsible for discarding candidate (44c) is ALIGN(PWd, Lex, R)/ σ , according to which a syllable cannot intervene between the right edge of the Prosodic Word and the right edge of the Lexical Category (45). The drive beyond this constraint, which is a constrained version of the general one ALIGN(PWd, Lex, R) (46) and with respect to which is in a stringency relation, is that the syllabic personal article implies too much phonological material with no lexical content aligned at the right edge of the prosodic word. This is why ALIGN(PWd, Lex, R)/ σ is violated by ([sə.ti.ə.nə])_{PWD} ([kə.tə.li.nə])_{PWD}, but it is not by ([əs.kòŋ.kun.])_{PWD} ([ʒáw.mə])_{PWD} (see 29a), with the personal pronoun syllabified as the coda of the preceding lexical category. Namely, while the former implies an intervening syllable, the later does not. Note, finally, that a candidate with the personal article prosodified as an independent prosodic word (44d) violates both alignment constraints, apart from Exhaustivity (which for space reasons is not considered in the tableau).

- (45) ALIGN(PWd, Lex, R)/ σ : Assign one violation for every syllable intervening between the right edge of the Prosodic Word and the right edge of the Lexical Category.
- (46) ALIGN(PWd, Lex, R): Assign one violation for every Prosodic Word not right-aligned with a lexical category.

The specific ranking ALIGN(PWd, Lex, R) / $\sigma >> Max-Pers.Art. >> ALIGN(PWd, Lex, R)$, not illustrated in the tableaux, explains why ([sə.ti.ə.nə])_{PWD} ([kə.tə.li.nə])_{PWD} is not a possible prosodification in Minorcan Catalan, whereas it is ([əs.kòŋ.kun.])_{PWD} ([ʒáw.mə])_{PWD}. ALIGN(PWd, Lex, R) / $\sigma >> Max-Pers.Art$. prevents from personal article realization in the case of the feminine constructions (*sa tia na Catalina; sa tia Catalina), and Max-Pers.Art >> ALIGN(PWd, Lex, R) prevents from morpheme non-realization in the case of the masculine construction with a personal name starting with a consonant (*es conco Jaume, es conco en Jaume).

6. Alternative analyses and further issues

In this section, we briefly explore other potential approaches to the facts under analysis, such as external allomorphy, the use of a more specific morphoprosodic alignment constraint, or an interpretation based on morphological haplology, and we justify why we understand they are not viable. We also discuss further issues derived from our proposal, such as the consequences of considering the constraint Max-Morph(Unrecoverable) as part of Con and of the constraint hierarchy.

6.1 External allomorphy

An external allomorphic account based on the double lexical representation /konku/ ~ /konkun/ (after a conceivable diachronic process of agglutination of *conco* + *en*) is not feasible: it is not possible to derive the selection of /konku/ before a word starting with a vowel, given the constraint ONSET. One would expect, indeed, the selection of the alternative allomorph (*i.e.* /konkun/), which would entail the satisfaction of ONSET, through the resyllabification of the final consonant of the allomorph as the onset of the following syllable (*i.e.* *([əs.kòŋ.ku.])_{PWD}([nán.ʒəl])_{PWD}). One could give, of course, lexical priority to the allomorph /konku/ (*i.e.* /{konku₁, konku₂}/), and rank the constraint Priority (according to which the lexical ordering of allomorphs has to be respected) above ONSET (see, for instance, Mascaró 2007, Bonet *et al.* 2007 for this kind of approach applied to other Catalan data), but this way it would be

impossible to derive ([əs.kòŋ.kun.])_{PWD} ([ʒáw.mə])_{PWD}, with the selection of the non-prioritized allomorph, when the personal name starts with a consonant. Note, additionally, that the selection of the allomorph without the final consonant would always be more harmonic than the selection of the allomorph with the final consonant, due to the activity of the constraint *Coda. Finally, under the allomorphic perspective, a completely independent approach would be necessary to account for the feminine cases, losing therefore strength in the analysis.

Alternatively, one could consider that it is the personal article the one subject to allomorphy $(/n/\sim/\varnothing/)$, but the same reasons adduced before would prevent from selecting $/\varnothing/$ before a personal name starting with a vowel: the selection of /n/ before a personal name starting with a vowel would always be better, given the constraint ONSET, which would discard ([əs.kòŋ.ku.])_{PWD} ([Øán.ʒəl])_{PWD} and select *([əs.kòŋ.ku.])_{PWD} ([nán.ʒəl])_{PWD}. Note that, in this case, stablishing the lexical order $\{/\varnothing_1, \mathbf{n}_2/\}$, would have undesired consequences, since $/\varnothing_1/$ would always be favored in isolated constructions and in appositions with the personal name starting in a consonant (*i.e.* *([Ø₁ʒáw.mə])_{PWD}; *([əs.kòŋ.ku])_{PWD} ([Ø₁ʒáw.mə])_{PWD}).¹⁴ Finally, the ranking ALIGN(PWd, L; Lex) >> PRIORITY and the lexical order $\{/\mathbf{n}_1, \varnothing_2/\}$, although it would lead to the selection of the correct outputs in cases of apposition, would wrongly induce the selection of $/\varnothing_2/$ in isolated constructions.

6.2 Specific morphoprosodic alignment constraint

Another possible analysis would consist of the interaction of the constraint ALIGN(EN, R, PWd, R) (which states "Assign one violation mark for every instance of en that is not right-aligned with the Prosodic Word") with the rest of constraints proposed in this paper: the ranking Max-Morph(Unrec) >> ALIGN(EN, R, PWd, R), *C.V >> ONSET, Max-Pers.Art. would ensure the realization of the personal article before a personal name starting with a consonant, and its lack of realization when the personal name starts in a vowel. In fact, an account along these lines, within a different framework, is found in Inkelas (1987) and Zec & Inkelas (1990) for Hausa: the focus particle fa in Hausa can only appear at the right edge of the phonological phrase ([Verb fa]_{PPH}; [Verb fa]_{PPH} [A N]_{PPH}) but not in other positions (*[Verb fa N]_{PPH}), a circumstance which is understood by the authors as a case of lexical prosodic subcategorization (i.e. [PPh___]). In our view, a constraint like ALIGN(EN, R, PWd, R) is $ad\ hoc$, in that it would just account for these data, as opposed to the one we propose (i.e. ALIGN(PWd, L; Lex), which is drawn from Generalized Alignment,

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¹⁴ For an overview of syllabically non-optimizing cases of allomorph selection which can be analyzed resorting to specific morphological alignment, see Nevins (2011: 2364-2366). See also Klein (2003) or Bonet *et. al.* (2007: § 2), who analyze the classic example of Haitian creole, by means of right alignment of the stem with the syllable, or Kikuchi (2006) and Bonet & Lloret (2016), who analyze allomorph selection in the Galician definite article by means of left alignment of the morphological word edge with the syllable edge.

which prevents from making explicit reference to functional elements (see Selkirk 1996/2004, and above), and which expresses the need to have the left edge of the prosodic word associated to lexical material, that is, aligned with a category free of clitic material. Note, on the other hand, that a constraint such as ALIGN(EN, R, PWd, R) is counterintuitive in that, for proclisis, one would expect alignment of the clitic with the left edge of the prosodic category.

6.3 Morphological haplology

Yet another analysis would be to consider that the non-realization of the personal article is an instance of morphological haplology, by which "an affix or clitic is absent when the adjacent part of the stem is homophonous to it" (Stemberger 1981: 791). Such interpretation would make sense when the personal name starts in a sequence which is identical or quasi-identical to the personal article (i.e. Angel [án.3əl], Enric [ən.rík]), but, as seen, it is not always the case that vowel-initial personal names start with a segmental sequence which is homophonous to the personal article (i.e. Ignasi [in.ná.zi], Ernest [ər.nést], etc.). Alternatively, it could be interpreted that the identity avoidance applies at the morphological level, in the sense that definiteness in these appositional restrictive phrases is expressed by two different elements, the definite article that precedes the kinship noun and the personal article that precedes the personal name. This type of interpretation is not possible either, since nothing could explain why the identity avoidance is active before a personal name starting with a vowel, but not before a personal name starting with a consonant. If identity avoidance was the drive for morpheme non-realization in these appositional phrases, one would expect, indeed, lack of realization of the personal article in both cases, that is, before a personal name starting with a consonant and before a personal name starting with a vowel, but this is not the case.

6.4. Further issues

A question raised in the paper, still to be explored in depth, is how the constraint Max-Morph(unrecoverable) interacts with the rest of constraints and which additional mechanism is necessary to explain how morpheme non-realization in cases of no recoverability leads to the generation of a "crashing" in the derivation and of an alternative morphosyntactic construction. We have considered that the recoverability factor, which is understood as an external principle which checks the output of Eval in Selkirk's (2011) proposal, can act as the relativization term of the standard constraint Max-Morph: Max-Morph(unrecoverable). We argued this constraint to be part of Con and of the constraint hierarchy. In our analysis, on the other hand, Max-Morph(unrecoverable) is always high-ranked, although, given the factorial typology, we must assume that it can be dominated. It is in the cases of

domination of this constraint that we expect the generation of a *null parse* (in Prince & Smolensky's 1993 terms), the creation of a gap in the system and of the subsequent alternative morphosyntactic construction. An alternative formalization to that, quite similar to the one advocated for in Selkirk (2001), would be to resort to *hard* and *soft* constraints, along the lines of Orgun & Sprouse (1999). These authors understand that, besides EVAL (which contains a ranking of *violable* constraints, *i.e.* the so called *soft constraints*, and which evaluates the generated candidates for a given input, selecting one as the optimal), the grammar also comprises another component, CONTROL (which only contains a subset of the constraints available to EVAL and which are *inviolable* and thus called *hard constraints*). According to their proposal, once a candidate has been selected as optimal by EVAL, it goes through the CONTROL component, and, in case it violates some of the constraints included in this component, the candidate is blocked and, therefore, the corresponding input has no output. Under this perspective, the constraint Max-Morph(unrecoverable) would be part of the CONTROL component.

7. Final remarks

In this paper, we have focused on a case of prosodically-driven morpheme nonrealization found in Minorcan Catalan kinship restrictive appositional phrases, in which the personal article en is realized before masculine personal names starting in a consonant, but it is not before masculine personal names starting in a vowel or before feminine personal names, either starting in a vowel or a consonant. As seen, this pattern is unexpected from a strictly syllabic point of view, since a preconsonantal coda is generated when the personal article precedes a consonantinitial masculine personal name and an onset-less syllable and a hiatus are generated when the personal article precedes a vowel-initial masculine personal name. According to our proposal, this asymmetric behavior is mainly driven by the constraint ALIGN(PWd, L; Lex), according to which the left edge of the prosodic word must be aligned with a lexical category; that is, a clitic cannot intervene between the left edge of a prosodic word and the lexical category. We have shown that, whereas it is possible to satisfy this constraint without challenging basic syllabification constraints (i.e. *C.V, ONSET) when the personal name starts with a consonant, it is not when the personal name starts with a vowel. The effects of the alignment constraint, on the other hand, are inhibited by the need to realize phonologically the morph corresponding to a morpheme when its carried information is not recoverable, and this explains the realization of the personal article in isolated constructions, either if the personal name starts in a consonant or a vowel, either if it is masculine or feminine. The interaction of ALIGN(PWd, L; Lex) with standard rightalignment requirements, finally, accounts for the lack of realization of the feminine personal article before feminine personal names in these appositional phrases.

On the whole, we have shown that a parallel and a global OT approach is powerful enough to account for the data under consideration, without the introduction of *ad hoc* stipulations or sophisticated refinements. It can be claimed that phonology (expressed through a specific constraint hierarchy that places prosodic and morpheme realizational constraints at the same level) can act as a blocker of the phonological expression of certain morphemes. What remains to be explored in more depth is how the recoverability factor, and the corresponding Max-Morph(unrec) constraint, interacts with the rest of constraints of the hierarchy and which additional formal mechanism is necessary to account for a "crashing" in the derivation and the generation of the subsequent alternative morphosyntactic construction.

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