Clàudia Pons-Moll*, Francesc Torres-Tamarit and Ignasi Mascaró

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

Abstract: This article focuses on a case of prosodically-driven morpheme non-realization found in the Minorcan Catalan DP that has not been documented or accounted for in the previous literature. In this variety of Catalan, kinship restrictive appositive phrases show the realization of the masculine personal article if the following personal name starts with a consonant (*es conco en Toni*, the-DEF.ART.M uncle the-PERS.ART.M Toni 'uncle Toni'), but not if it starts with a vowel (*es conco Àngel*, the-DEF.ART.M uncle Àngel 'uncle Àngel'). This asymmetrical pattern is entirely unexpected since a preconsonantal coda is generated in the former cases (cf. *es conco en Toni* [əs.kòŋ.kun.tɔ́.ni]) and an onsetless syllable and a hiatus are generated in the latter (cf. *es conco Àngel* [əs.kòŋ.ku.án.ʒəl]). The structures obtained are indeed non-optimizing from a strictly syllabic point of view and stand as a clear case of antimarkedness. We argue that this asymmetric behavior is prosodic in nature, and is mainly driven by the need to keep the left edge of the prosodic word free of clitic material, without challenging basic syllabification constraints active in Catalan. We further justify how the cases under scrutiny shed new light on the typology of alignment constraints referred to the alignment between prosodic and lexical categories, on the nature of morpheme realization constraints, and on the morphosyntax-phonology interface.

Keywords: alignment constraints; Catalan; morpheme realization; non-optimizing patterns; Optimality Theory; prosody-morphosyntax interface

1 Introduction

This article provides new empirical evidence in the debate on syllabically non-optimizing patterns that can be analyzed through the specific alignment of

*Corresponding author: Clàudia Pons-Moll**, Departament de Filologia Catalana i Lingüística General, Universitat de Barcelona, Gran Via 585, 08007 Barcelona, Spain, E-mail: claudia.pons@ub.edu.
https://orcid.org/0000-0003-4669-2172
Francesc Torres-Tamarit, Departament de Filologia Catalana, Universitat Autònoma de Barcelona, Bellaterra, Spain, E-mail: francescjosep.torres@uab.cat.
https://orcid.org/0000-0003-3646-7545
Ignasi Mascaró, Institut Menorquí d'Estudis, Maó, Illes Balears, Spain, E-mail: ipmascaro@gmail.com

morphological and prosodic categories and proposes a revision of the constraints referring to this kind of alignment. The paper also adds to a growing body of evidence for the role of prosodic factors in morpheme realization. The facts under inspection are the following. In Minorcan Catalan, a dialectal variety of Catalan spoken on the Balearic Islands, kinship appositive phrases are realized with the structure *es conco en Toni* (DEF.ART.M uncle PERS.ART.M Toni, [əs.kòŋ.kun.tɔ́.ni] 'uncle Toni') if the personal name starts with a consonant, but with the structure *Es conco Àngel* (the-DEF.ART.M uncle Àngel, [əs.kòŋ.ku.án.ʒəl] 'uncle Àngel') if it starts with a vowel. That is, the masculine personal article *en* does not appear if the personal name starts with a vowel. This asymmetrical pattern, which is categorical and productive in the dialect, is entirely unexpected since a preconsonantal coda is generated in the former cases (cf. [əs.kòŋ.kun.tɔ́.ni]) and an onsetless syllable and a hiatus are generated in the latter (cf. [əs.kòŋ.ku.án.ʒəl]). From a strictly syllabic point of view, the structures obtained are certainly non-optimizing.

The specific purpose of this paper is to identify the factors explaining the asymmetry between morpheme realization and morpheme non-realization in these kinship appositive phrases of the Minorcan Catalan DP, which we believe are essentially prosodic. We also intend to show that these factors can be formalized straightforwardly within a parallel and global Optimality Theory framework through the interaction of a new, refined version of alignment between prosodic and lexical categories (McCarthy and Prince 1993a; Prince and Smolensky 2004; Selkirk 2004 [1996]) with morpheme realization constraints (see Kurisu 2001; Selkirk 2001; Wolf 2008, among others). Our analytical proposal, largely inspired by Selkirk's (2001, 2004 [1996], 2011) studies, is sustained by three interrelated formal mechanisms. The first is a particular interpretation of the alignment constraints proposed within Generalized Alignment theory (McCarthy and Prince 1993a), which, just as Selkirk (1996), discards any reference to functional categories in the formulation of the alignment constraints. The second is a new refinement of the alignment constraints that crucially relaxes their formulation by targeting just the edge of one of the categories to be aligned. This approach to alignment is essential to an explanation not only of the data under consideration but also of independent data drawn from other languages with similar effects (see Section 5.2). The third is the interaction of these alignment constraints with morpheme realization constraints, relativized according to the hierarchical syntactic position of the morphemes involved (Kurisu 2001; Selkirk 2001; Wolf 2008).

As said, the article also provides further empirical evidence for syllabically non-optimizing patterns that can be analyzed by specific alignment between morpho-logical and prosodic categories (see, among others, Bonet et al. 2007; Klein 2003; Nevins 2011). In fact, the Minorcan Catalan patterns analyzed in this article resemble those of the suffixal determiner in Haitian Creole and other Antillean creoles, classic

examples of anti-markedness. From a syllabic point of view, Haitian Creole exhibits an unexpected distribution of the suffixal determiner allomorphs –*la* and –*a* (Klein 2003). The allomorph –*la*, indeed, is selected after a stem ending with a consonant or a glide ([malad.la] 'the sick', [ʃat.la] 'the cat', [bagaj.la] 'the thing', [kaw.la] 'the crow'), and this generates a preconsonantal coda that could be avoided if the other available allomorph (–*a*) were selected (*[mala.da]). The allomorph –*a* is selected if the preceding stem ends in -*a* ([papa.a] 'the father'), generating an onsetless syllable and a hiatus, which could be avoided if the other allomorph were selected (*[papa.la]). In fact, the hiatus is avoided with the insertion of a glide if the stem ends in a back rounded or a front vowel, that is, if the insertion of the glides available does not involve a change in the place of articulation with respect to the preceding vowels: [papie.ja] 'the paper', [bato.wa] 'the boat'). These unexpected patterns have traditionally been proposed as evidence for alignment between morphological and prosodic edges. Klein (2003), and also Bonet et al. (2007), resort to a constraint that demands the alignment of the right edge of the stem with the right edge of the syllable to explain the selection of the allomorph –*la* if the stem ends with a consonant (i.e., [malad.la]). The Haitian patterns have also been considered as evidence for lexical priority between allomorphs, i.e., {–*a* > –*la*}. This explains, in this specific case, the selection of –*a* if the stem ends with a vowel (i.e., [papa.a]), even though it generates a highly marked structure, that is, a hiatus, besides an onsetless syllable (Bonet et al. 2007) (see Section 5.1, for more discussion).

The depicted patterns of Minorcan Catalan involve the generation of the same type of highly marked structures from a syllabic point of view, but, as we show, they cannot be interpreted as cases of phonologically-driven allomorphy, but rather as cases of phonologically-conditioned morpheme non-realization. As said above, however, our analysis also relies on the alignment of prosodic categories with morphological categories, specifically, lexical categories (Selkirk 2004 [1996]).

The article is organized as follows. In Section 2 we describe the kinship appositive phrases and analogous structures which show the asymmetry mentioned between realization and non-realization of the personal article, and also some empirical facts concerning the use of the personal article in the Catalan DP which are relevant to an understanding of the constructions under analysis. In Section 3 we briefly refer to the syntactic and prosodic structure of these constructions and present the theoretical background to our proposal with a full justification of the required formal refinements, and in Section 4 we develop the analysis we think accounts best for the data under consideration. In Section 5 we contextualize our proposal in a broader picture, with a detailed discussion about its empirical and theoretical consequences. In Section 6 we discuss some alternative analyses and we justify why they are not applicable to the data under scrutiny, and in Section 7 we conclude.

2 Data

In this section, we present and contextualize the conditions under which the personal article's asymmetry between realization and non-realization applies. The data presented are drawn from personal inquiries made to five native speakers of Minorcan Catalan aged between 39 and 45 years old and from our own experience with this dialect. First, we introduce the default patterns of the personal article outside kinship appositive phrases (Section 2.1) and then refer to the specific ones found in this kind of syntactic structure (Section 2.1).

2.1 The behavior of the personal article outside kinship appositive phrases

In (1) we show the default personal article paradigm. As seen in these examples, outside kinship restrictive appositive phrases, the personal article is always realized, no matter whether the personal name starts with a consonant or a vowel or whether it is masculine or feminine. The forms the personal article adopts depend on whether it is masculine or feminine and on the segmental context that follows: [ən] before a consonant-initial masculine personal name (1a); [n] before a vowel-initial masculine personal name (1b); [nə] before a consonant-initial feminine personal name (1c); [n] before a vowel-initial feminine personal name (1d) (see, among others, Wheeler et al. 1999: 67).

(1)   Personal article paradigm

    a.   Masculine personal name starting with a consonant
        en   *Toni*   [ən.tɔ́.ni]
        PERS.ART.M   Toni   'Toni'
    b.   Masculine personal name starting with a vowel
        n'   *Ignasi*   [nin.ná.zi]
        PERS.ART.M   Ignasi   'Ignasi'
    c.   Feminine personal name starting with a consonant
        na   *Catalina*   [nə.kə.tə.lí.nə]
        PERS.ART.F   Catalina   'Catalina'
    d.   Feminine personal name starting with a vowel
        n'   *Àngela*   [nán.ʒə.lə]
        PERS.ART.F   Àngela   'Àngela'

In most Catalan varieties, the personal article is realized regardless of the syntactic position of the nominal construction in which it occurs. It precedes the

personal name in almost all functions developed by the noun phrase: (1a) subject, as in *En Joan ha dinat a casa* 'Joan has had lunch at home'; (1b) direct object, as in *M'ha dit que no havia vist en Joan* 'S/he told me s/he had not seen Joan'; (1c) predicate, as in *Aquest noi que ha vingut és en Joan* 'This boy that came is John', etc. The only exceptions in which the personal article does not precede the personal name are *a*) vocatives, which in present Catalan varieties are incompatible with the occurrence of the personal article: *Joan, vine!,* **En Joan, vine!* 'Joan, come!'; *Què vols*, Joan*?,* *Què vols, en Joan*?* '*What do you want,* Joan*?*'; *b*) appositive phrases (including kinship ones), which do not allow the occurrence of the personal article before the personal name in most Catalan varieties: 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* 'Grandfather Pasqual went out for a walk'; el president Martí *ha dimitit,* *el president en *Martí ha dimitit* 'President Martí has resigned'; or *c*) in postadjectival position: *Pobre Joan!* *Pobre en Joan! Poor Joan! (Brucart 2002: 1477; Wheeler et al. 1999: 70). Interestingly enough, though, in Old Catalan *en/na*, formerly forms of respect and later on universalized as personal markers, were also used in vocative structures (*en Johan*! 'Joan!') and in appositive phrases (*lo mestre* en Joan 'the teacher Joan').

2.2 The behavior of the personal article in kinship appositive phrases

In Minorcan kinship appositive phrases, the productive solution is to use the personal article after the terms *conco* 'uncle', *avi* 'grandfather' and *amo* 'land owner' and before the personal name, but only if the personal name starts with a consonant (*es conco en Toni, l'avi en Jaume, l'amo en Joan*). As introduced in Section 1, indeed, an asymmetry is established between appositive phrases with a masculine personal name starting with a consonant, in which the personal article is realized ([2a], [3a], [4a]), and those with a masculine personal name starting with a vowel, in which the personal article is never realized ([2b], [3b], [4b]). That is, whereas structures like *es conco en Toni* (the-DEF.ART.M uncle the-PERS.ART.M Toni) are obligatory, equivalent structures like **es conco n'Ernest* (*the-DEF.ART.M uncle the-PERS.ART.M Ernest) are not allowed. As shown in Examples (2)–(4) below, these appositive phrases may express a kinship relationship ([2]–[3]), and also another similar type of relation, property (4). (See Pons-Moll 2004, 2007, for the assimilation processes involving consonants in Minorcan Catalan.)

(2)   Constructions with conco 'uncle' followed by a masculine personal name

    a.   Consonant-initial masculine personal name

es	*conco*	*en*	*Toni*	[əs.kòŋ.kun.tó.ni]
es	*conco*	*en*	*Rafel*	[əs.kòŋ.kun.rə.fél]
es	*conco*	*en*	*Pere*	[əs.kòŋ.kum.pé.rə]

    DEF.ART.M uncle PERS.ART.M Toni, Rafel, Pere
    'uncle Toni', 'uncle Rafel', 'uncle Pere'

    b.   Vowel-initial masculine personal name

es	*conco*	*Àngel*	[əs.kòŋ.ku.án.ʒəl]
es	*conco*	*Ernest*	[əs.kòŋ.kur.nést]
es	*conco*	*Ignasi*	[əs.kòŋ.kujn.ná.zi]

    DEF.ART.M uncle Àngel, Ernest, Ignasi
    'uncle Toni', 'uncle Rafel', 'uncle Pere'

(3)   Constructions with *avi* 'grandfather' followed by a masculine personal name

    a.   Consonant-initial masculine personal name

l'avi	*en*	*Toni*	[là.vin.tó.ni]
l'avi	*en*	*Rafel*	[là.vin.rə.fél]
l'avi	*en*	*Pere*	[là.vim.pé.rə]

    DEF.ART.M grandfather PERS.ART.M Toni, Rafel, Pere
    'grandfather Toni', 'grandfather Rafel', 'grandfather Pere'

    b.   Vowel-initial masculine personal name

l' avi	*Àngel*	[là.vi.án.ʒəl]
l'avi	*Ernest*	[là.vir.nést]
l'avi	*Ignasi*	[là.vin.ná.zi]

    DEF.ART.M grandfather Àngel, Ernest, Ignasi
    'grandfather Àngel', 'grandfather Ernest', 'grandfather Ignasi'

(4)   Constructions with *amo* 'owner' followed by a masculine personal name

    a.   *Consonant-initial masculine personal name*

l'	*amo*	*en*	*Toni*	[là.mun.tó.ni]
l'	*amo*	*en*	*Rafel*	[là.mun.rə.fél]
l'	*amo*	*en*	*Pere*	[là.mum.pé.rə]

    DEF.ART.M owner PERS.ART.M Toni, Rafel, Pere
    'owner Toni', 'owner Rafel', 'owner Pere'

    b.   Vowel-initial masculine personal name

l'	*amo*	*Àngel*	[là.mu.án.ʒəl]
l'	*amo*	*Ernest*	[là.mur.nést]
l'	*amo*	*Ignasi*	[là.mujn.ná.zi]

    DEF.ART.M owner Àngel, Ernest, Ignasi
    'owner Àngel', 'owner Ernest', 'owner Ignasi'

Note, moreover, that the productivity of the asymmetry is supported by the identical behavior with personal names borrowed from Spanish (*Pedro*, *Julio*, *Paco*; *Ilario*, *Eduardo*, *Andrés*), which were introduced into the dialect later (5).

(5) a. Consonant-initial masculine personal name

  es conco en Pedro [əs.kòŋ.kum.pé.ðɾo] DEF.ART.M uncle the-PERS.ART.M Pedro 'uncle Pedro'

  es conco en Julio [əs.kòŋ.kuɴ.χú.ljo] DEF.ART.M uncle the-PERS.ART.M Julio 'uncle Julio'

  es conco en Paco [əs.kòɲ.kum.pá.ko] DEF.ART.M uncle the-PERS.ART.M Paco 'uncle Paco'

 b. Vowel-initial masculine personal name

  es conco Ilario [əs.kòŋ.kuj.lá.rjo] DEF.ART.M uncle Ilario 'uncle Ilario'

  es conco Eduardo [əs.kòŋ.ku.ðwár.ðo] DEF.ART.M uncle Eduardo 'uncle Eduardo'

  es conco Andrés [əs.kòŋ.kun.dɾés] DEF.ART.M uncle Eduardo 'uncle Andrés'

Since the only difference between the structures in (2a)–(5a) and those in (2b)–(5b) is the phonological context which follows the personal article (personal name starting with a consonant vs. personal name starting with a vowel), we understand that the asymmetry in morpheme realization is purely phonological in nature and, more specifically, prosodic (see Section 4).

  The lack of realization of the personal article is not only found before personal names starting with a vowel but also before feminine personal names, whether they start with a consonant or with a vowel ([6a], [6b]). In the feminine paradigm of these appositive phrases, thus, there is no contrast between realization and non-realization, as there is in the masculine appositive counterparts; the personal article is never realized in those cases. We attribute this pattern to a morphosyntactic representation of the feminine appositive phrases lacking the phonological exponent of the personal article. This morphosyntactic representation is the direct result of the grammaticalization of pragmatic or social factors such as the social hierarchical distinction between male and female relatives since the use of the personal article in these constructions (as in *es conco en Jaume*) expresses a form of respect. As we argue below, this explains why the personal article is only used if there is a hierarchical relation from inferior to superior between the speaker and the relative referred to through the kinship name. Note that this social distinction between males and females was in fact the origin of another dichotomy, that between *l'avi* 'the grand-father' (with the use of the article derived from ILLE) and *s'àvia* 'the grandmother' (with the use of the article derived from IPSE) (for an explanation of the distribution

of these two articles in Minorcan Catalan, see below). In our view, the lack of contrast between the presence and absence of the personal article in the constructions with feminine personal names casts doubt on the feasibility of a grammatical explanation parallel to the one for the masculine constructions. In any case, in Section 6.5 we show that the constraint interaction we propose in Section 4.3 would lead to the realization of the feminine personal article if it was present underlyingly unless an additional alignment constraint of the same family as the ones we propose is considered.

(6)   Constructions with a feminine personal name

    a. *Consonant-initial feminine personal name*

sa	*tia*	*Catalina*	[sə.tì.ə.kə.tə.lí.nə]
the-DEF.ART.F	aunt	Catalina	'aunt Catalina'
s'	*àvia*	*Catalina*	[sà.vjə.kə.tə.lí.nə]
DEF.ART.F	grandmother	Catalina	'grandmother Catalina'

    b. *Vowel-initial feminine personal name*

sa	*tia*	*Amparo*	[sə.tì.əm.pá.ro]
DEF.ART.F	aunt	Amparo	'aunt Amparo'
s'	*àvia*	*Amparo*	[sà.vjəm.pá.ro]
DEF.ART.F	grandmother	Amparo	'grandmother Amparo'

There are certain semantic requirements that prevent the use of these kinship appositive constructions. As in the rest of Catalan varieties, these kinship appositive phrases (either with the use of the personal article or not, in the specific case of Minorcan Catalan) are not found if the kinship relation expressed is between equals (**es germà (en) Jaume* DEF.ART.M brother (PERS.ART.M) 'brother Jaume'; **es cosí (en) Jaume,* DEF.ART.M cousin (PERS.ART.M) Jaume 'cousin Jaume'; cf. other varieties of Catalan: **el germà Jaume,* **el cosí Jaume.* These kinship appositive phrases are not used either to refer to relatives that are unique, such as *papà* (*pare,* in other varieties) 'father' or *mamà* (*mare,* in other varieties) 'mother'.

    Another question to answer is why these kinship appositive phrases are restricted to the terms *conco* 'uncle', *avi* 'grandfather' and *amo* 'owner'. The explanation is historical and goes as follows: In all Catalan dialects, *en/na* (the-PERS.ART.M, the-PERS.ART.F) were the reduction of *don ~ dona* 'Mr.'~'Mrs.', old Catalan forms of respect (shared with languages such as Spanish and Occitan), derived from the Latin vocatives DOMINE ~ DOMINA 'mister'~'mistress'. These nominal forms were originally used as forms of courtesy and respect and appeared in proclitic positions before personal names. *Don* and the reduced form *en* coexisted, and very soon the former was only used to refer to certain people of some importance (such as clergymen) and *en* to refer to people in general, always with an idea of affection and

respect (eleventh century) (Casanova 2003: 210). Later on, due to the introduction of other titles of address such as *mossèn* 'priest', *en/na* were finally generalized and used before personal names of persons of any status and, thus, universalized as personal determiners (thirteenth century). Soon, however, the definite article *el/la*, derived from demonstrative ILLE 'that', was introduced with the same function, with a stage where the two forms (*en/na*; *el/la*) coexisted (fifteenth century). Both markers disappeared in Valencian varieties, *en/na* remained as the personal markers in Balearic Catalan, and *el/la* progressively replaced *en/na* in the rest of Catalan varieties (although a mixed paradigm is still found in some of them) (see Caro-Reina 2014; Casanova 2003; Mascaró 1985). Therefore, the original use of the personal article as a form of respect (in vocatives and in kinship appositive phrases) explains why it is used only if there is a hierarchical relation from inferior to superior between the speaker and the referent of the kinship term.

An additional remark is in order in relation to the other determiner heading these constructions, namely, the definite article preceding the kinship names *conco*, *avi*, and *amo*. As can be observed in examples of (2)–(4), while the definite article derived from the Latin demonstrative IPSE (i.e., *es* [əs]) is used before *conco* 'the uncle', the definite article derived from the Latin demonstrative ILLE (i.e., *el* [əl], realized as *l'* [l] before a vowel-initial name) is selected before *avi* 'grandfather' and *amo* 'owner'). The same distribution of definite articles is found outside these kinship appositive constructions (Es *conco ha arribat tard* 'The uncle has arrived late' vs. L'*avi ha arribat tard* 'Grandfather has arrived late'; L'*amo ha arribat tard* 'The land owner has arrived late'). Therefore, the selection of the article derived from the Latin IPSE (es *conco en Jaume*) or the one derived from the Latin ILLE (l'*avi en Jaume*) does not depend on the phonological structure of the following noun but on well-known semantic factors that have been grammaticalized. Note, in this respect, that while 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), popularly known as the "article salat" 'salty article', in some specific contexts the definite article takes the forms derived from ILLE (*el, la, els, les*). Examples are some temporal expressions (*la setmana que ve* 'next week', *l'any que ve* 'next year'), lexicalized adverbial phrases (*a l'esquerra* 'to the left', *a la dreta* 'to the right'), nouns designating unique entities (*el món* 'the world', *la terra* 'the Earth', *el bon Jesús* 'Good Jesus', *el papa* 'the pope', and sports teams *el Barça*, *el Madrid*, *el Manchester*), and traditionally important personalities. These also present the property of uniqueness in the context of discourse, like the ones studied in this article (*l'avi* 'the grandfather', *l'amo* 'the owner/the farmer masc.') (see, among others, Wheeler et al. 1999: 43–44). This lack of relation between the selection of one definite article or the other and the asymmetry under study here is further supported by the fact that the same behavior in relation to the realization of the personal article is

found in structures headed by the definite article *es* and structures headed by the definite article *el*. The personal article may or may not be realized with both types of definite article, and the choice depends only on whether the following personal name starts with a consonant or a vowel.

Note, on the other hand, that these constructions, in their restrictive sense, are not interrupted by any kind of particle, not even by a possessive (i.e., **es conco* meu *en Jaume*; DEF.ART.M uncle meu-POSS.M.S PERS.ART.M *Jaume* 'my uncle Jaume'). In fact, in these varieties, the possessive relation is already expressed by the definite article: *es conco ha arribat tard* ('the [DEF.ART.M] uncle 'Uncle has arrived late'') inherently implies a possessive relationship. The use of the possessive is possible, though, if the appositive phrase is not restrictive (*es conco meu, en Jaume* 'my uncle, Jaume').

3 Representational assumptions and theoretical framework

In this section, we present and justify the assumed prosodic and syntactic structure of the constructions under study (Section 3.1), and we describe the theoretical background to our analysis and how we address it to account for the data under consideration (Section 3.2). Our analytical proposal, framed within Optimality Theory, is built upon Selkirk's (2004 [1996], 2001, 2011) works. The proposal is sustained by the three interrelated formal mechanisms mentioned in the introduction: a particular interpretation of the alignment constraints proposed within the Generalized Alignment theory, a refinement of the alignment constraints which crucially relaxes their formulation by targeting just the edge of one of the categories to be aligned, and the interaction of these alignment constraints with morpheme realization constraints, relativized according to the syntactic hierarchical position to which they are associated.

3.1 Prosodic and syntactic representations

The prosodic representations that we assume for these structures are shown in (7). The prosodification that we assume for each lexical and functional element is indicated in parentheses and subindexed to the right, and the type of category (functional or lexical) involved in each case is subindexed to the left. Following Peperkamp (1997) and Selkirk (2004 [1996]), we assume that the definite article and the personal article are prosodified as dependents of the phonological phrase (PPh) if they form a syllable by themselves. This can occur before lexical items beginning with a consonant and

when they take the shape VC, due to the insertion of a peripheral epenthetic vowel (i.e., [7a] and [7b]). On the other hand, the definite article and the personal article are prosodified as dependents of the prosodic word (PWd) if they cannot create a syllable by themselves. Prosodification can take place before lexical items beginning with a vowel and when they take the shape C (i.e., [7c] and [7d]). The consequences of this prosodification are the following: in the first cases – i.e., (7a): ($_{Func}$es ($_{Lex}$conco)$_{PWd}$)$_{PPh}$; (7b): ($_{Func}$en ($_{Lex}$Jaume)$_{PWd}$)$_{PPh}$) – the left edge of the prosodic word coincides with the lexical category, whereas in the latter – (7d): (($_{Func}$n'Àngel)$_{PWd}$)$_{PPh}$; (7e): (($_{Func}$l'avi)$_{PWd}$)$_{PPh}$ – the left edge of the prosodic word coincides with a functional category. As for the kinship appositive phrases, we assume the representations in (7e)–(7h). If the personal name starts with a consonant, the personal article takes a C shape and it is prosodified at the right edge of the first prosodic word because the prosodic word parses a vowel-final lexical element; no vowel epenthesis is needed ([7e]–[7f]). If the personal name starts with a vowel, the personal article does not emerge and the resulting prosodification is the one in (7g)–(7h). The reasons why other prosodifications are not possible are explained in detail through the constraint hierarchy in Section 4. As we will see, the key issue here is whether it is possible to keep the left edge of the second prosodic word free of clitic material without defying the basic syllabication constraints that are active in Catalan.

As for the notation used in the underlying representations, we use the sign '+' to indicate a morphological boundary, the sign '=' to indicate a clitic-host limit, and the sign '#' to indicate a word-word boundary. The default exponent for the masculine morpheme in Catalan is '∅', that is, a morph without phonological content (see Mascaró 1985); we assume that it is realized as such in all the candidates. Note, finally, that the schwa preceding the /n/ is an epenthetic vowel.

(7)   Prosodic representations

   a.   *es conco* /s+∅=konk+u/
        DEF.ART.M conco
        ($_{Func}$es ($_{Lex}$conco)$_{PWd}$)$_{PPh}$
        ($_{Func}$əs.($_{Lex}$kóŋ.ku)$_{PWd}$)$_{PPh}$
   b.   *en Jaume* /n+∅=ʒawm/
        PERS.ART.M Jaume
        ($_{Func}$en ($_{Lex}$Jaume)$_{PWd}$)$_{PPh}$
        ($_{Func}$ən.($_{Lex}$ʒaáw.mə)$_{PWd}$)$_{PPh}$
   c.   *l'avi* /l+∅=avi/
        DEF.ART.M avi
        (($_{Func}$l'avi)$_{PWd}$)$_{PPh}$
        (($_{Func}$lá.vi)$_{PWd}$)$_{PPh}$

    d.   *n'Àngel* /n+∅=anʒəl/
         PERS.ART.M Àngel
         (($_{Func}$n'Àngel)$_{PWd}$)$_{PPh}$
         (($_{Func}$nán.ʒəl)$_{PWd}$)$_{PPh}$

    e.   *Es conco en Jaume* /s+∅=konk+u#n+∅=ʒawm/
         DEF.ART.M conco PERS.ART.M Jaume
         ($_{Func}$es ($_{Lex}$conco en)$_{PWd}$ ($_{Lex}$Jaume)$_{PWd}$)$_{PPh}$
         ($_{Func}$əs.($_{Lex}$kòŋ.kun.)$_{PWd}$ ($_{Lex}$ʒáw.mə)$_{PWd}$)$_{PPh}$

    f.   *L'avi en Jaume* /l+∅=avi#n+∅=ʒawm/
         DEF.ART.M avi PERS.ART.M Jaume
         (($_{Func}$l'avi en)$_{PWd}$ ($_{Lex}$Jaume)$_{PWd}$)$_{PPh}$
         (($_{Func}$là.vin.)$_{PWd}$ ($_{Lex}$ʒáw.mə)$_{PWd}$)$_{PPh}$

    g.   *Es conco Àngel* /s+∅=konk+u#n+∅=anʒəl/
         M.DEF.ART conco M.PERS.ART Àngel
         ($_{Func}$es ($_{Lex}$conco)$_{PWd}$ ($_{Lex}$Àngel)$_{PWd}$)$_{PPh}$
         ($_{Func}$əs.($_{Lex}$kòŋ.ku.)$_{PWd}$ ($_{Lex}$án.ʒəl)$_{PWd}$)$_{PPh}$

    h.   *L'avi Àngel* /l+∅=avi#n+∅=anʒəl/
         M.DEF.ART avi M.PERS.ART Àngel
         (($_{Func}$l'avi)$_{PWd}$) ($_{Lex}$Àngel)$_{PWd}$)$_{PPh}$
         (($_{Func}$là.vi.)$_{PWd}$ ($_{Lex}$án.ʒəl)$_{PWd}$)$_{PPh}$

An alternative to this prosodification would be to assume that article proclitics, instead of attaching directly to a phonological phrase, adjoin to a recursive prosodic word – i.e., (*es*(*conco*)$_{PWd}$)$_{PWd}$ – along the lines of Itô and Mester (2009), who make use of recursive prosodic words for functional proclitic elements in English. A recursive prosodic word structure has also been proposed for European Portuguese pronominal proclitics – i.e., (clitic(host)$_{PWd}$)$_{PWd}$ – because in this language they display the phonology of PWd-initial elements (for discussion of this approach, see Vigário 2010: 494; also Vigário 2003). Similarly, a recursive structure has also been advocated for pronominal enclitics in some dialects of Catalan because the encliticized verb does not undergo word-level phonological processes, such as word-final rhotic deletion and word-final consonant-cluster simplification (Torres-Tamarit and Bonet 2019). These authors, indeed, hold that only simultaneous minimal and maximal prosodic words undergo those processes, but not minimal prosodic words, which refer to the embedded prosodic words when enclitics are PWd-adjoined. An additional argument in this direction is that pronominal enclitics intervene in stress assignment when attached to the verb in Balearic Catalan varieties. However, when we take into account determiners, pronominal proclitics and other proclitics in Catalan, it is not possible to find definitive empirical arguments in favor of a recursive prosodification or a prosodification with PPh-attached proclitics. Be that as

it may, we assume PPh-attached proclitics, as they allow for a transparent syntax-prosody mapping of DPs, where DPs map onto phonological phrases and lexical heads map onto prosodic words (i.e., [$_{DP}$ [$_D$ *es*] [$_{NP/N}$ *conco*]] → (*es*(*conco*)$_{PWd}$)$_{PPh}$). This is the default case, except for proclitics preceding a noun starting in a vowel, in which case attachment is to the prosodic word because the proclitic syllabifies as an onset. Overall, as different languages may attach clitics to distinct prosodic categories and differences are found between proclisis and enclisis, it seems reasonable to believe that "there is no specific prosodic domain responsible for the organization of clitic-host combinations" (Vigário 2010: 494). (We refer the interested reader to Vigário 2010, for a thorough review of the prosodic structure between the prosodic word and the phonological phrase on the basis of the behavior of clitics and compounds.)

From a morphosyntactic and semantic point of view, the kinship appositive phrases under study in this article can be categorized as polydefinite DP constructions, similar to those found (among other languages) in Greek, in which both the noun and the adjective are preceded by a definite determiner in the DP: *to ksilino to trapezi*, the-DEF.ART wooden the-DEF.ART table 'the wooden table' (see, among others, Alexiadou 2014; Alexiadou and Wilder 1998).

As summarized in Tsiakmakis et al. (2021), Greek polydefinite constructions differ from monodefinite constructions in displaying doubling of the definite determiner, and show the following core properties: the whole polydefinite DP makes reference to a single entity, so they contain definite determiners that do not independently introduce iota functions; a predicative source is generally identified in the adjectives that arise as the articled modifiers (Alexiadou and Wilder 1998), although they are ambiguous between a predicate-modifying and a nominal-modifying interpretation (Larson 1995, 1998); the adjectives generally function as restrictive modifiers (Kolliakou 1995, 2004), and they have a colloquial status. All these properties are, in fact, found in the constructions under study, the only difference being the doubling of definiteness in a definite article and a personal article, instead of in two definite articles, and the presence of two nouns, instead of a noun and an adjective.

Previous generative proposals differ in the syntactic representation for structures of this type: *a*) some propose a bi-DP flat structure; *b*) others, a structure involving a predication relation; and, finally, *c*) yet others argue for a structure involving a restrictive relative clause substructure (Alexiadou 2014; Alexiadou and Wilder 1998; Cinque 2010; Giusti 2015; Tsiakmakis et al. 2021). The kinship appositive phrases of Minorcan Catalan accommodate to this last type of interpretation (see 8): the second DP, constituted by the personal article and the personal name (i.e., *en Jaume*), functions as a restrictive relative clause (CP), modifying the first noun (i.e., *conco*). The second DP is, indeed, equivalent to a restrictive relative clause like *que és en Jaume* in *Es conco* que és en Jaume 'The uncle who is Jaume'. So, building on

previous accounts (Alexiadou 2014; Alexiadou and Wilder 1998; Giusti 2015; Tsiak-makis et al. 2021), we interpret polydefiniteness in Minorcan Catalan as a type of postnominal modification in the form of a reduced restrictive relative clause. Contrary to standard relative clauses, in which there is an overt relative operator (the relative *que*, meaning 'who' in the sentence *Es conco* que és en Jaume), in these cases there is a null relative operator, occupying the C position. Like Tsiakmakis et al. (2021), we also assume a predicative source of the nominal structure in the second DP for the cases of Minorcan Catalan, so in between the CP and the DP we have a Predicative Phrase with a null Predicative head, which, for expository reasons, we represent with "….." in the tree structure of (8).

(8)
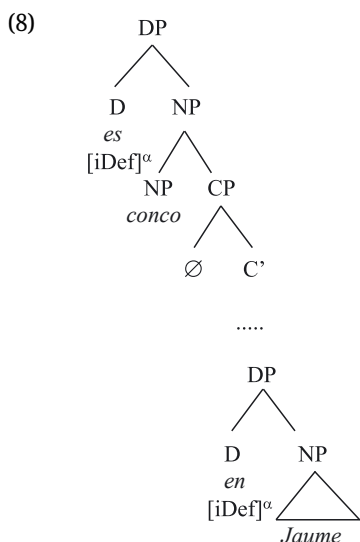
We must highlight two key points in this representation that are crucial for our analysis: *a*) the definite article and the personal article have the same referent, represented in (8) by [iDef]$^\alpha$; and *b*) the first determiner, i.e., the definite article, occupies a higher position than the second determiner, i.e., the personal article, so the former c-commands the latter.

Now that we have introduced the assumed prosodic and syntactic representations for the structures under analysis, we will clarify the interconnection between the two interfaces. In Match Theory (Selkirk 2011), syntactic structure is mirrored in prosodic structure through the activity of Match constraints (see also Section 5.3). However, syntax-prosody mismatches exist. Syntax-prosody mismatches occur

when well-formedness markedness constraints outrank MATCH constraints. As illustrated in (8), we assume a syntactic structure of kinship appositive phrases in which a DP is embedded within another DP. Satisfying the MATCH constraint that requires XPs to correspond to PPhs would give as a result a prosodic structure in which a PPh is dominated by another PPh: (əs (kóŋkun)$_{PWd}$ ((ʒáwmə)$_{PWd}$)$_{PPh}$)$_{PPh}$. However, such a recursive prosodic structure violates a constraint penalizing non-binary PPhs (those consisting solely of a single prosodic word). We assume that in this case recursion at the level of the PPh is avoided as a way to improve the well-formedness of PPhs. Therefore, we claim that the actual prosodic structure is (əs (kóŋkun)$_{PWd}$ (ʒáwmə)$_{PWd}$)$_{PPh}$), with a single PPh that dominates two PWds and a PPh-attached personal article.

3.2 Theoretical framework

3.2.1 Generalized alignment

In this section, we review the tenets of Generalized Alignment theory as originally conceived by McCarthy and Prince (1993a) and as reinterpreted later by Selkirk (2004 [1996]). We also argue that alignment constraints can be refined in order to capture the tendency of languages to keep the left edge of the prosodic word free of non-lexical material, while giving them the necessary flexibility to allow, at the same time, for the application of phenomena in which there is no total preservation of the lexical category or in which there is no perfect alignment between the left edge of a prosodic category and the left edge of a lexical category. As we will see, these phenomena include basic deletion processes caused by vowel contacts (which lead to the deletion of word-initial vowels) and basic syllabification tendencies (which can provoke a misalignment between the left edge of a prosodic category and the corresponding lexical category).

The standard formulation that alignment constraints receive is the one shown in (9). According to this formulation, for each category (either prosodic or grammatical), there exists another category (either prosodic or grammatical), such that the edge (left or right) of the first cited category coincides with the edge (left or right) of the second.

(9)   Generalized Alignment (McCarthy and Prince 1993a: 80)
        ALIGN (Cat$_1$, Edge$_1$, Cat$_2$, Edge$_2$)=def
        $\forall$ Cat$_1$ $\exists$ Cat$_2$ such that Edge$_1$ of Cat$_1$ and Edge$_2$ of Cat$_2$ 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 mora, the syllable, the foot, the prosodic word, etc.) or grammatical (the grammatical word, the stem, the root, the affix, etc.). The alignment, on the other hand, 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 between the edge of a prosodic category and the edge of a grammatical category. According to McCarthy and Prince's (1993a: 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/lexical category has to be aligned (see [10b], in the following schema).

(10)　　Alignment possibilities (after McCarthy and Prince 1993a, 1993b: 82)
　　　　a.　ALIGN(GCat, E; Pcat, E)　　　　c.　ALIGN(Pcat, E; Pcat, E)
　　　　b.　ALIGN(Pcat, E; Gcat, E)　　　　d.　ALIGN(Gcat, E; Gcat, E)

Moreover, as indicated above, our proposal is based on a particular interpretation of the alignment constraints, essentially founded on Selkirk's generalized alignment enhancements. 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" (Selkirk 2004: 468 [1996: 191]; see also Selkirk 1984, 1986). Like Selkirk, therefore, we understand that the grammatical category in the alignment constraints stands only for a lexical category (*Lexical Category Condition*). This leads to the following typology of alignment constraints referring to the word:

(11)　　Selkirk (2004: 468 [1996: 192])
　　　　– *The Word Alignment*　　　　　　– *The Prosodic Word Alignment*
　　　　　Constraints　　　　　　　　　　*Constraints*
　　　　a.　ALIGN(Lex, L; PWd, L)　　　　c.　ALIGN(PWd, L; Lex, L)
　　　　b.　ALIGN(Lex, R; PWd, R)　　　　d.　ALIGN(PWd, R; Lex, R)

This is why we avoid any reference to functional categories like the personal article in the statement of the formulation of alignment constraints (see 13). In our proposal, moreover, crucially we relax the formulation of the alignment constraints by targeting just 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, without reference to the edge of this other category. Therefore, besides the standard constraints in (11), we assume the existence of alignment constraints where the edge of only *one* of the involved categories is targeted (see [12]). The idea is that there are two categories to be aligned, but only the edge of one of them is relevant. For instance, a constraint like ALIGN(Pcat, L; Lex, X) (see [12b]) demands that the left edge of a prosodic category, such as a prosodic word or a phonological phrase, is aligned with a segment that belongs to the phonological exponent of a lexical category, and not with a segment that belongs to the phonological exponent of a functional category. That is, what matters is that the left edge of a designated prosodic category coincides with lexical material and not with functional material. This version of the alignment constraints allows, for instance, for alignment between the left edge of a prosodic category and a lexical category whose initial segment has been deleted or has been prosodified in the preceding prosodic category for syllabic reasons (see Section 4). This refinement is necessary to accommodate the – not always acknowledged – interaction between syllabification and alignment between prosodic and lexical categories.

(12)   a.   ALIGN(Lex, E; Pcat, X)
            b.   ALIGN(Pcat, E; Lex, X)
            c.   ALIGN(Pcat, E; Pcat, X)
            d.   ALIGN(Lex, E; Lex, X)

This approach to alignment constraints is crucial to explaining not only the data under consideration but also independent data drawn from other languages with similar effects (see Section 5.2, for more details). Our specific formulation of the constraint is the one in (13a). Of course, the existence of this constraint does not deny the existence of the corresponding standard alignment constraint, the one that targets the edges of both the prosodic and the lexical category. Note that they are in a stringency relation, in that the violation of the specific one (13a) entails a violation of the general one (13b), but not the other way around.
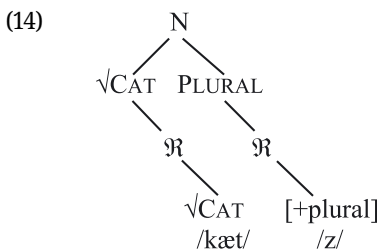
(13)   a.   ALIGN(PWd, L; Lex, X): Assign one violation mark for every prosodic word whose left edge does not coincide with some output segment belonging to X, where X corresponds to any part of a lexical category. (This penalizes the presence of a functional category at the left edge of the prosodic word.) (See McCarthy and Prince 1993a; Selkirk 2004 [1996].)

b.   Align(PWd, L; Lex, L): Assign one violation mark for every prosodic word whose left edge is not aligned with the left edge of a lexical category. (This penalizes any left edge of a prosodic word not aligned with the left edge of a lexical category.) (See McCarthy and Prince 1993a; Selkirk 2004 [1996].)

An alternative approach to the constraint Align(PWd, L; Lex, X) 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". Although we think this is a legitimate expression, 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.

3.2.2 Relativized constraints on morpheme realization

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 feature structures (FS), arranged in an unlinearized tree structure (as is standard in Distributed Morphology [Halle and Marantz 1993]). We further assume that the input to the phonological component consists of two different structures: those abstract morphosyntactic FS, and underlying phonological FS of morphs, as in (14), after Vocabulary Insertion. Abstract morphosyntactic FS of morphemes stand in correspondence with underlying representations, that is, phonological FS of morphs in the input (see [14]).

(14)

$$
\begin{array}{c}
\text{N} \\
\diagup \qquad \diagdown \\
\sqrt{\text{Cat}} \quad \text{Plural} \\
\diagdown \qquad \diagdown \\
\Re \qquad \Re \\
\sqrt{\text{Cat}} \quad [\text{+plural}] \\
\text{/kæt/} \qquad \text{/z/}
\end{array}
$$

As is standard in parallel OT, output candidates in our analysis consist solely of surface representations, that is, surface FS of morphs, which are in correspondence with the underlying FS of morphs in the input. The fact that the input contains a correspondence relation between underlying phonological FS of morphs and abstract morphosyntactic FS of morphemes allows for making direct reference to

morphosyntactic categories in morphological faithfulness constraints on morpheme realization. Wolf (2008) proposes a set of morphological faithfulness constraints drawn from Correspondence Theory (McCarthy and Prince 1995, 1999) that can be violated in order to satisfy higher-ranked phonological markedness constraints. In our case at hand, an instance of non-realization of a morpheme, the constraint Max-M(FS) in (15) is violated.

(15)　　Max-M(FS): For every abstract morphosyntactic FS Φ in correspondence with an underlying phonological FS φ in the input, assign a violation mark if there is no surface phonological FS φ' in the output such that $\varphi\Re\varphi'$ (adapted from Wolf 2008: 70; see also Bonet 2018).

The constraint on morpheme realization Max-M(FS) can be split into different categories depending on the morphosyntactic features involved, as standard faithfulness constraints in relation to specific features. In our case, the pertinent constraint is Max-Determiner (see the definition in [16b]). The reason why we assume the need to make explicit reference to the type of morphemes involved in the expression of the Max-M(FS) family constraints is that morphemes and their corresponding morphs can behave differently in relation to their possibilities of (non-)realization due to phonological factors. The morph /ə/, corresponding to the feminine morpheme, for instance, may fail to appear in order to avoid the contact of two adjacent unstressed vowels. In *dona implicada* /dɔn+ə#inplikad+ə/ [dɔ̀.nim.pli.ká.ðə] 'involved woman', for instance, the deleted schwa is the exponent of the feminine morpheme (for the legitimacy of resorting to constraints referring to specific morphological categories, see, among others, McCarthy and Prince 1993a and Wolf 2008).

On the other hand, the differences in behavior in relation to morpheme realization depending on the syntactic hierarchical position to which the morphemes are associated recommends splitting the constraints demanding morpheme-realization into two categories. These are Max-M(FS), which requires the phonological realization of a morpheme, and Max-M(FS)(high), which requires the phonological realization of a morpheme which occupies a high hierarchical syntactic position. Both constraints, Max-M(FS) and Max-M(FS)(high), are in a stringency relation in the sense that the latter is more specific than the former, so that whenever Max-M(FS)(high) is violated, so is Max-M(FS), but not vice versa.

The combination of these two factors (morphosyntactic features involved and syntactic position), to which morpheme realization constraints can be relativized leads to the following two constraints:

(16)   a.   Max-Det(high): For every determiner at the morpheme level that is not
              c-commanded by another determiner in correspondence with an
              underlying phonological FS φ in the input, assign a violation mark if
              there is no surface phonological FS φ′ in the output such that φℜφ′
              (adapted from Wolf 2008: 70).
        b.   Max-Det: For every determiner at the morpheme level, assign a
              violation mark if there is no realization of this determiner at the morph
              level (adapted from Wolf 2008: 70).

Given the representation in (8), the non-realization of the determiner in isolated
constructions such as *es conco* or *l'avi*, *en Jaume* or *n'Àngel*, etc., which is not
c-commanded by another determiner, incurs a violation of Max-Det(high). In
contrast, the non-realization of the second determiner in *es conco Àngel* (or in a
hypothetical *es conco Jaume), which is c-commanded, does not incur a violation of
this constraint, but only of Max-Det.

       Note, moreover, that in the reported structures both determiners introduce
definiteness to the same referent (a circumstance represented by [iDef]$^\alpha$ in the tree
structure of [8]), so the semantic information carried by the second determiner can
be recovered through the information carried by the first determinant. This
circumstance connects with the idea of *recoverability* found in Selkirk (2001), who, on
the basis of the behavior of the morpheme *fa* in Hausa and the Japanese particle *no*,
claims that phonology may influence the morphosyntax of the sentence in two
circumstances. In the first, the phonological constraint ranking may force the non-
realization of a function word (this is only possible if the deletion is semantically
recoverable, see Pesetsky 1998). In the second, 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 triggered if the deletion of the function
word is not recoverable.

       In order to account for these two circumstances, Selkirk (2001) resorts to the
standard morpheme-realization constraint Realize(α), which is part of the constraint
hierarchy. She also employs the principle of Recoverability, which is external to the
constraint hierarchy and has the function of checking the output of Eval as follows:
"A syntactic unit with semantic content must be pronounced [=realized] unless it has
a sufficiently local antecedent" (Selkirk 2001: 261; after Pesetsky 1998). Although in
this article we do not pursue this idea and make instead reference to c-command,
we think it could also be applied to explain the fact that the second determiner,
precisely because it does not carry unrecoverable information, may fail to appear in
order to obey a prosodic requirement (for more discussion about this issue, see
Section 5.4).

4 Proposal and analysis

4.1 General cases

In this section, we present the analysis for the simple DP and also for the kinship-restrictive appositive phrases with a personal name starting with a consonant or a stressed vowel. Since the morphosyntactic structure in masculine personal names starting with a consonant and in those starting with a vowel is the same, we argue that the answer to the asymmetry necessarily lies in the phonology, and more specifically in the prosodification of the personal article within the prosodic word that matches each lexical category. According to our proposal, the asymmetric behavior reported in Section 2 is driven by the activity of the constraint ALIGN(PWd, L; Lex, X), according to which the left edge of the prosodic word must coincide with some output segment belonging to a lexical category, in combination with basic syllabification constraints, such as *C.V. The constraint ALIGN(PWd, L; Lex, X), as formally defined in (13a) and (17a), penalizes a clitic intervening between the left edge of a prosodic word and the lexical category. *C.V, as formally defined in (17b), penalizes a consonant syllabified in the coda followed by a vowel.

As illustrated in the schema in (18), it is possible to satisfy ALIGN(PWd, L; Lex, X) without challenging the syllabification constraints operative in Catalan (such as the already introduced *C.V) if the personal name starts with a consonant, as in (18a). This is because in this case the personal article (realized as [n]) is encliticized to the prosodic word corresponding to the previous kinship noun. It can be syllabified, indeed, as a final coda of the previous vowel-final lexical element, and this leaves the following personal name, the lexical category, parsed into its own prosodic word. However, as also illustrated in the schema of (18), it is not possible to satisfy this constraint without challenging crucial syllabification constraints in Catalan if the personal name starts with a vowel, as in (18b), in which *C.V is not satisfied. For the sake of completeness, in the same schema of (18), some constraints violated by the actual forms (i.e., ONSET and EXHAUSTIVITY) have also been added, as well as kinship appositive phrases with a personal name starting in an unstressed vowel ([18e], [18f]), which are formalized in Section 4.2 and which reveal the relevance of the distinction between the specific constraint ALIGN(PWd, L; Lex, X) and the more general one ALIGN(PWd, L; Lex, L).

The effects of ALIGN(PWd, L; Lex, X), on the other hand, are inhibited by the need to realize the morph corresponding to a determiner associated with a category occupying a syntactic position that is not c-commanded by another determiner (see the syntactic tree in (8) and the previous justification in Section 3.2.2). This explains why a clitic prosodified at the left edge of the prosodic word is, by default, realized

(cf. [18g]–[18h] versus [18i]–[18j]; cf. also [18k] versus [18l]), unless it does not occupy a high syntactic position in the DP, as in (18d). In this case, its realization can be dispensed with.

We present and define in (17) the basic constraints mentioned. In relation to the constraint *C.V (previously used in Bonet et al. 2007, following Klein 2003, to account for Haitian phonology), it is a shorthand for the local conjunction constraint *CODA & ONSET]_ADJSYLL, which penalizes a simultaneous violation of the constraints *CODA and ONSET in the local context of adjacent syllables.

(17)   *Relevant basic constraints*

   a.   *(Morpho)prosodic constraints*
        – ALIGN(PWd, L; Lex, X): Assign one violation mark for every prosodic word whose left edge does not coincide with some output segment belonging to X, where X corresponds to any part of a lexical category (See McCarthy and Prince 1993a; Selkirk 2004 [1996]).
        – ALIGN(PWd, L; Lex, L): Assign one violation mark for every prosodic word whose left edge is not aligned with the left edge of a lexical category.
        – EXHAUSTIVITY: Assign one violation mark for every constituent of type X–1 that is not dominated by some constituent of type X. (Selkirk 2004 [1996])

   b.   *Syllable structure constraints*
        – ONSET: Assign one violation mark for every onset-less syllable (see Prince and Smolensky 2004).
        – *C.V: Assign one violation mark for every consonant syllabified in the coda followed by a vowel (see Bonet et al. 2007; Klein 2003; Prince and Smolensky 2004).

   c.   *Constraints on morph(eme) realization*
        – MAX-Det(high): For every determiner at the morpheme level that is not c-commanded by another determiner in correspondence with an underlying phonological FS φ in the input, assign a violation mark if there is no surface phonological FS φ' in the output such that $\varphi \Re \varphi'$ (adapted from Wolf 2008: 70).
        – MAX-Det: For every determiner at the morpheme level, assign a violation mark if there is no realization of this determiner at the morph level (adapted from Wolf 2008: 70).

(18)

	Max-Det (high)	Align (PWd, L; Lex, X)	*C.V	Onset	Exhaust	Align (PWd, L; Lex, L)
a. *es conco en Jaume* (Funcəs.(Lexkòŋ.kun.)PWd (Lexʒáw.mə)PWd)PPh	✓	✓	✓	✗	✗	✓
b. **es conco n'Àngel* (Funcəs.(Lexkòŋ.kun.)PWd (Lexán.ʒəl)PWd)PPh	✓	✓	✗	✗✗	✗	✓
c. **es conco n'Àngel* (Funcəs.(Lexkòŋ.ku.)PWd (Funcnán.ʒəl)PWd)PPh	✓	✗	✓	✗	✗	✗
d. *es conco Àngel* (Funcəs.(Lexkòŋ.ku.)PWd (Lexán.ʒəl)PWd)PPh	✓	✓	✓	✗✗	✗	✓
e. **es conco n'Ernest* (Funcəs.(Lexkòŋ.ku.)PWd (Funcnər.nést)PWd)PPh	✓	✗	✓	✗	✗	✗
f. *es conco Ernest* (Funcəs.(Lexkòŋ.kur.)PWd (Lexnést)PWd)PPh	✓	✓	✓	✗	✗	✗
g. ((Funclá.vi)PWd)PPh	✓	✗	✓	✓	✓	✗
h. ((Funcnán.ʒəl)PWd)PPh	✓	✗	✓	✓	✓	✗
i. *((Lexá.vi)PWd)PPh	✗	✓	✓	✗	✓	✓
j. *((Lexán.ʒəl)PWd)PPh	✗	✓	✓	✗	✓	✓
k. ((Funclá.vin.)PWd (Lexʒáw.mə)PWd)PPh	✓	✗	✓	✓	✓	✗
l. *((Lexá.vin.)PWd (Lexʒáw.mə)PWd)PPh	✗	✓	✓	✓	✓	✓

In (19) we present the relevant constraint hierarchy to account for the facts concerning the asymmetry under study. This constraint hierarchy will be justified gradually with the partial ranking arguments (21)–(25) and will be completed later with the facts concerning vowel contact resolutions (Section 4.2).

(19)   *Relevant constraint hierarchy*
     Max-Det(high) >> Align(PWd, L; Lex, X) >> Max-Det, Onset, Exhaustivity >>
     Align(PWd, L; Lex, L)

In (20), we present the constraint sub-hierarchy in Minorcan Catalan, which accounts for the single DP constructions composed by the personal article and the personal name and whose effects can be observed in the tableau in (21). As shown, the ranking of

Max-Det(high) above Align(PWd, L; Lex, X) explains the realization of the personal article if the personal name starts with a vowel; thus, the personal article takes an asyllabic form and it is prosodified at the left edge of the prosodic word, along with the following personal name (21iia). If the personal name starts with a consonant, the determiner takes a syllabic form, and therefore is aligned not at the left edge of the prosodic word but at the left edge of the phonological phrase. This is why, in these cases, the candidates with realization of the personal article do not incur a violation of Align(PWd, L; Lex, X). Note that the prosodification of the determiner as a PPh-attached element (see [7] and [18]) follows from avoiding a violation of Align(PWd, L; Lex, X), prosodic word recursion (a violation of No-Recursion), and Foot-Binarity (which would be violated by a determiner parsed into its own prosodic word). The winning candidate, though, violates Exhaustivity because a Phonological Phrase directly dominates a syllable (see Itô and Mester 2009; Peperkamp 1997; Selkirk 2004 [1996]).

(20)　　Constraint sub-hierarchy for isolated constructions in Minorcan Catalan
　　　Max-Det(high) >> Align(PWd, L; Lex, X) >> Max-Det, Exhaustivity >>
　　　Align(PWd, L; Lex, L)

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

i. /n+∅=ʒawm/ PERS.ART.M Jaume	MAX-Det(high)	ALIGN (PWd, L; Lex, X)	MAX-Det	EXHAUST	ALIGN (PWd, L; Lex, L)
☞　a. (ən.(ʒáw.mə)ₚWd)ₚₚₕ				*	
b. ((ʒáw.mə)ₚWd)ₚₚₕ	*!		*		
ii. /n+∅=anʒəl/ PERS.ART.M Àngel					
☞　a. ((nán.ʒəl)ₚWd)ₚₚₕ		*			*
b. ((án.ʒəl)ₚWd)ₚₚₕ	*!		*		
iii. /n+ə=kətəlin+ə/ PERS.ART.F Catalina					
☞　a. (nə.(kə.tə.lí.nə)ₚWd)ₚₚₕ				*	
b. ((kə.tə.lí.nə)ₚWd)ₚₚₕ	*!		*		

Note that the proposed constraint ranking, Max-Det(high) >> Align(PWd, L; Lex, X), would never allow the selection of a candidate without the realization of the personal article, even if it were prosodified at the left edge of the prosodic word (as in the hypothetical ((ən.ʒáw.mə)ₚWd)ₚₚₕ). In fact, the ranking Max-Det(high) >> Align(PWd, L; Lex, X) is likewise crucial in order to explain the realization of other functional categories at the left edge of the PWd in cases of proclisis before lexical categories starting with a vowel, in which the clitic is prosodified at the left edge of the prosodic word: *l'anima* (lá.ni.mə)ₚWd the-DEF.ART.F soul 'the soul'; *l'estima* ((ləs.tí.mə)ₚWd 'S/he loves him/her, etc. A candidate such as (ən.(án.ʒəl)ₚWd)ₚₚₕ for the input /n+∅=anʒəl/, not included in this tableau, would satisfy Align(PWd, L; Lex, X), but it would be ruled out by the constraint *C.V ([17b]; see also [24]), and would involve a violation of Dep-IO. Note, finally, that the ranking argument between Align(PWd, L; Lex, X) and Max-Det is justified not in this tableau but in the one in (22), where the kinship appositive constructions are taken into consideration.

The next tableau, indeed, illustrates the behavior of kinship appositive phrases if the personal name starts with a consonant. As can be seen, in these cases, the realization of the personal article is possible since it can be prosodified at the right edge of the first prosodic word, thus not violating Align(PWd, L; Lex, X) (see 22a). The candidate without realization of the personal article, (22b), unnecessarily violates the constraint Max-Det, and this is why it is ruled out. A potential candidate with both determiners prosodified at the left edge of the prosodic word (22c) would also be ruled out by Align(PWd, L; Lex, X). Finally, candidates (22d) and (22e), without realization of the definite article in the first case and without realization of both determiners in the second, are ruled out by the constraint Max-Det(high).

(22)   Kinship appositive phrases with a C-initial personal name: *es conco en Jaume*

/s+∅=konk+u#n+∅=ʒawm/ DEF.ART.M conco PERS.ART.M Jaume	MAX-Det (high)	ALIGN (PWd, L; Lex, X)	MAX-Det	ONSET	EXHAUST	ALIGN (PWd, L; Lex, L)
☞ a. (əs.(kòŋ.kun.)PWd (ʒáw.mə)PWd)PPh				*	*	
b. (əs.(kòŋ.ku.)PWd (ʒáw.mə)PWd)PPh			*!	*	*	
c. ((əs.kòŋ.ku.)PWd (ən.ʒáw.mə)PWd)PPh		**!		**		**
d. (əs.(kòŋ.ku.)PWd ən.(ʒáw.mə)PWd)PPh				**!	*	
e. ((kòŋ.kun.)PWd (ʒáw.mə)PWd)PPh	*!		*			
f. ((kòŋ.ku.)PWd (ʒáw.mə)PWd)PPh	*!		**			

The tableau in (23) is intended to illustrate that the same results are obtained when the definite article preceding the kinship noun is the one derived from Ille (*el*) and when the kinship noun starts with a vowel (*avi*). In this case, in contrast to (22), the definite article takes an asyllabic form ([l]), and is thus prosodified at the left edge of the prosodic word (so all candidates with realization of this article, [23a]–[23c]), incur a violation of the constraint Align(PWd, L; Lex, X). As can be seen in the tableau, even in these cases, there is no chance for the non-realization of the definite article (as in candidates (23e)–(23f), because Max-Det(high) outranks Align(PWd, L; Lex, X).

(23)   Kinship appositive phrases with a C-initial personal name: *l'avi en Jaume*

/l+∅=avi#n+∅=ʒawm/ DEF.ART.M avi PERS.ART.M Jaume	MAX-Det (high)	ALIGN (PWd, L; Lex, X)	MAX-Det	ONSET	EXHAUST	ALIGN (PWd, L; Lex, L)
☞ a. ((làvin.)PWd (ʒáw.mə)PWd)PPh		*				*
b. ((làvi.)PWd (ʒáw.mə)PWd)PPh		*	*!			*
c. ((làvi.)PWd (ən.ʒáw.mə)PWd)PPh		**		*!		**
d. ((làvi.)PWd ən.(ʒáw.mə)PWd)PPh		*		*!	*	*
e. ((àvin.)PWd (ʒáw.mə)PWd)PPh	*!		*	*		
f. ((àvi.)PWd (ʒáw.mə)PWd)PPh	*!		**	*		

The tableau in (24) shows why the personal article is not realized when the personal name starts with a vowel, in this specific case a stressed vowel. It illustrates the impossibility of a prosodification with the personal article at the left edge of the second prosodic word (24a), a candidate which in fact would be the most harmonic in strictly syllabic terms. In this tableau, it is shown that Align(PWd, L; Lex, X) dominates Onset

and Max-Det, that is, that prosodic well-formedness takes priority over syllabic well-formedness (cf. [24b] versus [24a]) and over morpheme realization (cf. again [24b] versus [24a]). The same tableau also shows that a prosodification equivalent to the cases with a personal name starting with a consonant is not possible: *(əs.(kòŋ.kun.)_PWd (án.ʒəl)_PWd)_PPh versus (əs.(kòŋ.kun.)_PWd (ʒáw.mə)_PWd)_PPh. The candidate in (24c), indeed, obeys the alignment constraint but disregards a basic syllabification constraint, such as *C.V. The idea, then, is that it is not feasible to satisfy the alignment constraint without violating at the same time an undominated syllabic constraint (i.e., *C.V).

(24)   Kinship appositive phrases with a stressed V-initial personal name: *es conco Àngel*

/s+∅=konk+u#n+∅=anʒəl/ M.DEF.ART conco M.PERS.ART Àngel	MAX-Det (high)	ALIGN (PWd, L; Lex, X)	*C.V	MAX-Det	ONSET	EXHAUST	ALIGN (PWd, L; Lex, L)
a. (əs.(kòŋ.ku.)_PWd (nán.ʒəl)_PWd)_PPh		*!			*	*	*
☞ b. (əs.(kòŋ.ku.)_PWd (án.ʒəl)_PWd)_PPh				*	**	*	
c. (əs.(kòŋ.kun.)_PWd (án.ʒəl)_PWd)_PPh			*!		**	*	

4.2 Other cases involving contacts of unstressed vowels

So far, 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 (26a). In fact, this behavior is consistent with the vowel contact resolutions created by the concatenation of words at the sentence level (see [26b]). A different situation is generated if the personal name starts with an unstressed vowel. If this vowel is a schwa, it can be deleted (27a), as does occur at the sentence level with the contact of high unstressed vowels followed by a schwa in Catalan (27b). If the two unstressed vowels are identical, a process of fusion that gives as a result a single vowel is triggered (28a), as at the sentence level (28b). Finally, if the unstressed vowel is a vowel other than a schwa, which is always a high vowel, the contact is solved with the formation of a diphthong (29a), as also occurs at the sentence level (29b) (see, among others, Bonet and Lloret 1998; Wheeler 2005).

(26)   Unstressed vowel + stressed vowel: vowel preservation

a.   *es conco Àngel* /s+∅=konk+u#n+∅=anʒəl/ [əs.kòŋ.ku.án.ʒəl] 'uncle Àngel'
l'avi Àngel /l+∅=avi#n+∅=anʒəl/ [la.vi.án.ʒəl] 'grandfather Àngel'

b.   *caldo àcid* /kald+u#asid/[kàl.du.á.sit] 'sour soup'
odi àvid /ɔdi#avid/ [ɔ̀.ði.á.vit] 'avid hate'

(27)   High unstressed vowel ([i], [u])+ schwa: schwa deletion

    a.   *es conco Ernest* /s+∅=konk+u#n+∅=əɾnest/ [əs.kòŋ.kur.nést] 'uncle Ernest'
           l'avi Ernest /l+∅=avi#n+∅=əɾnest/ [là.vir.nést] 'grandfather Ernest'

    b.   *caldo antic* /kald+u#əntiɣ/ [kàl.dun.tík] 'old soup'
           codi antic /kɔdi#əntiɣ/ [kɔ̀.ðin.tík] 'old code'

(28)   Identical high unstressed vowels ([u] + [u]; [i] + [i]): fusion

    a.   *es conco Ulari* /s+∅=konk+u#n+∅=ulaɾi/ [əs.kòŋ.ku.lá.ɾi] 'uncle Ulari'
           l'avi Ignasi /l+∅=avi#n+∅=innazi/ [là.vin.ná.zi] 'grandfather Ignasi'

    b.   *caldo horrorós* /kald+u#uɾɾoɾ+oz/ [kàl.du.ru.rós] 'terrible soup'
           codi intern /kɔdi#intɛrn/ [kɔ̀.ðin.tɛ́rn] 'internal code'

(29)   Different unstressed high vowels ([u] + [i]; [i] + [u]): formation of a diphthong

    a.   *es conco Ilario* /s+∅=konk+u#n+∅=ilaɾio/ [əs.kòŋ.kuj.lá.rjo] 'uncle Ilario'
           l'avi Ulari /l+∅=avi#n+∅=ulaɾi/ [là.viw.láɾi] 'grandfather Ulari'

    b.   *caldo insípid* /kald+u#insipid/ [kàl.dujn.sí.pit] 'bland soup'
           codi unificat /kɔdi#unifik+a+d/ [kɔ̀.ðiw.ni.fi.kát] 'unified code'

These resolutions are not exclusively related to the issue at stake here, in that they generally follow the phonotactics of Catalan (see Bonet and Lloret 1998; Wheeler 2005: Section 5; Cabré and Prieto 2009), and more specifically those of Minorcan Catalan. However, they are important to justify the formulation we gave to the constraint Align(PWd, L; Lex, X). Given its definition, indeed, the constraint Align(PWd, L; Lex, X) is satisfied by candidates in which the first underlying segment(s) of the personal name is either deleted or prosodified as a final coda of the first lexical element and therefore parsed into the first prosodic word (see the tableaux [31], [33], [34]). The only requirement for satisfying this constraint is the presence of lexical material, and not clitic material, prosodified at the left edge of the prosodic word. This is an important refinement because alignment constraints should be elastic enough not to block common processes that entail the deletion of the first segment of a lexical category, or to basic syllabification that entails misalignment between the left edge of the prosodic category and the left edge of the lexical category. As can be seen in all these tableaux, in which unstressed vowels are involved ([31], [33], [34]), indeed, the standard constraint Align(PWd, L; Lex, L), which requires left alignment between the prosodic word and the corresponding lexical category, is violated by the actual candidates ([31e], [33d], [34h]), but not the specific constraint Align(PWd, L; Lex, X).

In (30) we present and define the faithfulness constraints regulating vowel modifications that are relevant to account for the data.

(30)   Faithfulness constraints regulating vowel modifications
  a. MAX-V(high): Assign one violation mark for every high vowel in the input that does not have a correspondent in the output (McCarthy and Prince 1995).
  b. MAX-V(schwa): Assign one violation mark for every schwa in the input that does not have a correspondent in the output (McCarthy and Prince 1995).
  c. UNIFORMITY: Assign one violation mark for every segment in the output with more than one correspondent in the input (McCarthy and Prince 1995).
  d. IDENT(F): Assign one violation mark for every segment in the output with a different featural specification than the input (McCarthy and Prince 1995).

As seen in the tableau of (31), illustrating the contact of a final unstressed high vowel followed by a schwa, the low-ranked constraint ONSET is responsible for the process of vowel deletion. The constraint ONSET is responsible for discarding the candidate with vowel preservation (31c), which would be the one parallel to the sequences with a personal name starting with a stressed vowel (*es conco Àngel* [əs.kòŋ.ku.án.ʒəl]). The fact that the vowel sacrificed to satisfy ONSET is the schwa and not the preceding unstressed high vowel (cf. [31d] versus [31e]) is a consequence of the ranking MAX-V(high) >> ONSET >> MAX-V(schwa). This ranking expresses the greater resistance of high vowels to deletion with respect to the schwa (for a different interpretation of vowel contact resolutions within OT, see Wheeler 2005; Campmany 2008.). Candidates (31a) and (31b), finally, are ruled out for the reasons adduced in the previous section.

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

/s+∅=konk+u#n+∅=ərnest/ DEF.ART.M conco PERS.ART.M Ernest	MAX-V (high)	ALIGN (PWd, L; Lex)	*C.V	MAX-Det	ONSET	MAX-V (schwa)	ALIGN (PWd, L; Lex, L)
a. (əs.(kòŋ.ku.)PWd (nər.nést)PWd)PPh		*!			*		*
b. (əs.(kòŋ.kun.)PWd (ər.nést)PWd)PPh			*!		**		
c. (əs.(kòŋ.ku.)PWd (ər.nést)PWd)PPh				*	**!		
d. (əs.(kòŋ.)PWd (kər.nést)PWd)PPh	*!			*	*		*
☞ e. (əs.(kòŋ.kur.)PWd (nést)PWd)PPh				*	*	*	*

At this point, it is important to explain why there is no vowel deletion if the personal name starts with a stressed vowel (see [21] and [32]). The constraints MAX-V(high) explains, again, why deletion of the underlying high vowel /u/ is not possible (32d). As

we understand that stress is absent from underlying representations, the preservation of the stressed vowel in cases of the type *es conco Àngel* is explained by the activity of the output-output faithfulness constraint Max-OO('V), according to which a stressed vowel in an output form has to be preserved in all its occurrences. This makes realizations like the ones in (32e) and (32f) impossible.

(32)   Kinship appositive phrases with a personal name starting with a stressed vowel (revisited): *es conco Àngel* [əs.kòŋ.ku.án.ʒəl]

/s+∅=konk+u#n+∅=anʒəl/ M.DEF.ART conco M.PERS.ART Àngel	MAX- OO('V)	MAX-V (high)	ALIGN (PWd, L; Lex, X)	*C.V	MAX- Det	ONSET	ALIGN (PWd, L; Lex, L)
a. (əs.(kòŋ.ku.)PWd (nán.ʒəl)PWd)PPh			*!			*	*
☞ b. (əs.(kòŋ.ku.)PWd (án.ʒəl)PWd)PPh					*	**	
c. (əs.(kòŋ.kun.)PWd (án.ʒəl)PWd)PPh				*!		**	
d. (əs.(kòŋ.)PWd (kán.ʒəl)PWd)PPh		*!			*	*	*
e. (əs.(kòŋ.)PWd (kún.ʒəl)PWd)PPh	*!				*	*	*
f. (əs.(kòŋ.)PWd (kun.ʒél)PWd)PPh	*!				*	*	*

In the tableau in (33) we illustrate the cases with two identical high unstressed vowels. As a process of fusion is considered for these cases, the constraint UNIFORMITY (30c) has been incorporated into the constraint hierarchy. As seen in the tableau, the hierarchy Max-V(high) >> UNIFORMITY is responsible for the fact that the selected strategy is fusion and not deletion (see [33d] versus [33e], [33f]). Note also the ranking argument established between ONSET and UNIFORMITY, which ensures fusion over vowel preservation, unlike the cases with a stressed vowel in second position.

(33)   Kinship appositive phrases with a personal name starting with an unstressed high vowel identical to the previous one: *es conco Ulari* [əs.kòŋ.ku.lá.ɾi], *l'avi Ignasi* [là.vin.ná.zi]

| /s+∅=konk+u₁#n+∅=u₂lari/ DEF.ART.M conco PERS.ART.M Ulari	MAX-V (high)	ALIGN (PWd, L; Lex)	*C.V	MAX- Det	ONSET	UNIF	ALIGN (PWd, L; Lex, L)
a. (əs.(kòŋ.ku.)PWd (nu.lá.ɾi)PWd)PPh	*!				*		*
b. (əs.(kòŋ.kun.)PWd (u.lá.ɾi)PWd)PPh			*!		**		
c. (əs.(kòŋ.ku.)PWd (u.lá.ɾi)PWd)PPh				*	**!		
☞ d. (əs.(kòŋ.ku₁,₂.)PWd (lá.ɾi)PWd)PPh				*	*	*	*
e. (əs.(kòŋ.ku₁.)PWd (lá.ɾi)PWd)PPh	*!			*	*		*
f. (əs.(kòŋ.ku₂.)PWd (lá.ɾi)PWd)PPh	*!			*	*		*

This ranking is also responsible for the selection of the candidate with vowel preservation if the unstressed vowels are high but different. In this case, fusion is not possible because, as the two high vowels are segmentally different, the application of this process would incur a violation of the faithfulness constraint IDENT(F) (34).

(34)   Kinship appositive 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.ɾi]

/s+∅=konk+u₁#n+∅=i₂larjo/ DEF.ART.M conco PERS.ART.M Ilario	MAX-V (high)	IDENT (F)	ALIGN (PWd, L; Lex, X)	*C.V	MAX -Det	ONSET	UNIF	ALIGN (PWd, L; Lex, L)
a. (əs.(kòŋ.ku.)$_{PWd}$ (ni.lá.rjo)$_{PWd}$)$_{PPh}$			*!			*		*
b. (əs.(kòŋ.kun.)$_{PWd}$ (i.lá.rjo)$_{PWd}$)$_{PPh}$				*!		**		
c. (əs.(kòŋ.ku.)$_{PWd}$ (i.lá.rjo)$_{PWd}$)$_{PPh}$					*	**!		
d. (əs.(kòŋ.ki$_{1,2}$.)$_{PWd}$ (lá.rjo)$_{PWd}$)$_{PPh}$		*!			*	*	*	*
e. (əs.(kòŋ.ku$_{1,2}$.)$_{PWd}$ (lá.rjo)$_{PWd}$)$_{PPh}$		*!			*	*	*	*
f. (əs.(kòŋ.ku$_1$.)$_{PWd}$ (lá.rjo)$_{PWd}$)$_{PPh}$	*!				*	*		*
g. (əs.(kòŋ.ki$_1$.)$_{PWd}$ (lá.rjo)$_{PWd}$)$_{PPh}$	*!				*	*		*
☞ h. (əs.(kòŋ.ku$_1$j$_2$.)$_{PWd}$ (lá.rjo)$_{PWd}$)$_{PPh}$					*	*		*

The following Hasse diagram reproduces the constraint hierarchy of Minorcan Catalan.

(35)   Minorcan Catalan grammar
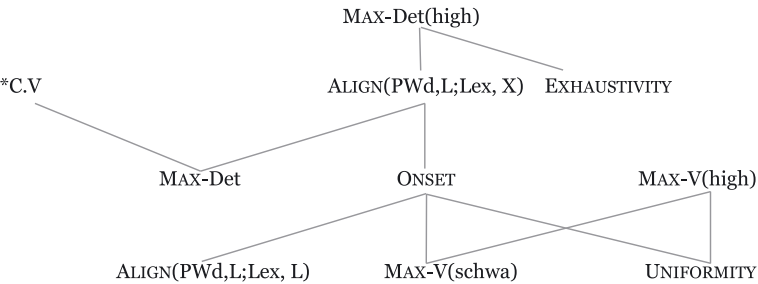
5 Our proposal in context

The purpose of this section is to put the patterns under analysis and our proposal in a broader context and to discuss their empirical and theoretical consequences. Here we show that, although the phenomenon analyzed in this article has a limited scope, its description and analysis are of particular interest. First, because the data taken into consideration represent an unambiguous case of non-optimizing behavior from a syllabic point of view, a pattern that is not so common in natural languages (see Section 5.1). Second, because our interpretation of the facts adds to a growing body of evidence for the role of prosodic factors in morpheme realization and in shaping constituent order (see Section 5.2 and also Section 5.3). Finally, because it corroborates that morpheme non-realization or morpheme deletion determined by prosody are only possible under very specific syntactic conditions (see Section 5.4).

5.1 Optimizing and non-optimizing patterns

As already discussed in Section 1, the cases under scrutiny are clear instances of a non-optimizing behavior from a syllabic point of view, since the realization of the personal article before personal names starting in a consonant leads to a coda followed by a consonant (violating, thus, the markedness constraint against an internal coda) and, more importantly, its lack of realization leads to an onsetless syllable and a hiatus (thus violating the markedness constraints Onset and *Hiatus). One would expect the exact opposite behavior, or, at least, the realization of the personal article in both cases.

In fact, most cases identified in the literature in which phonology conditions morphology, like allomorph selection, take the opposite direction and are driven by the need to satisfy well-formedness markedness constraints relative to syllable structure. The effects of these constraints, although they might not be active in the regular phonology of a language, emerge in allomorph selection, as an instance of the emergence of the unmarked (Mascaró 1996a, 1996b). This is the case of the well-known example of the English indefinite article, which has two allomorphs: *a* is the default allomorph, selected before nouns starting in a consonant (*a reason*), that is, when no syllabic markedness constraints are violated, and *an* is the non-default allomorph, selected before nouns starting in a vowel (*an argument*), that is, to avoid an onsetless syllable and a vowel hiatus. In OT terms, the selection of *a*, and not of *an*, before nouns starting in a consonant avoids a violation of *Coda (*an reason*) and the selection of *an* before nouns starting in a vowel avoids a violation of Onset and *Hiatus (*a argument*) (Mascaró 2007).

In Central Catalan varieties, the masculine personal article has two allomorphs, /ən/ and /l/, with a distribution also determined by the shape of the following word: /ən/ is selected before a personal name starting with a consonant (36a) and /l/, before a personal name starting with a vowel (36b). The default allomorph is /ən/, and /l/ is the allomorph selected to avoid violations of Onset (cf. *en Prince* [əm.príns] vs. **en Alan Prince* [ə.nà.lam.príns]; l'Alan Prince [là.lam.príns]).

(36)   Central Catalan (Mascaró 1996a)

    a.   /ən/: *en Jaume, en Joan, en Pere, en Prince*
            PERS.ART.M Jaume, Joan, Pere, Prince
    b.   /l/: *l'Àngel, l'Ignasi, l'Antoni, l'Alan Prince*
            PERS.ART.M Àngel, Ignasi, Antoni, Alan Prince
    c.   **en Àngel, *en Ignasi, *en Antoni, *en Alan Prince*

French also shows many cases of this type, in which the selection of the allomorph is determined by the phonological shape of the following word. The allomorphs *bel*,

nouvel, *vieil*, with a final consonant, are selected whenever a masculine noun starting in a vowel follows (*bel ami* 'nice friend', *nouvel ami* 'new friend', *vieil ami* 'old friend'). In contrast, *beau, nouveau, vieux*, with a final vowel, are selected whenever a masculine noun starting in a consonant follows (*beau collègue* 'nice colleague', *nouveau collègue* 'new colleague', *vieux collègue* 'old colleague') (Mascaró 1996a, 1996b). The drive for the selection of one or the other allomorph is the same as for English, to satisfy basic syllabic constraints, such as *Coda, Onset and *Hiatus, and it is another instance of the emergence of the unmarked (Mascaró 1996a, 1996b).

These and other patterns reported in the literature are the exact opposite of the ones we find in Minorcan Catalan, in which *Coda, Onset and *Hiatus are unexpectedly violated, and this is what led us to categorize them as non-optimizing, from a syllabic point of view. The alignment between the prosodic word and the lexical category seems to be the only explanation for this unexpected behavior. This alignment requirement, though, is restrained by two conditions: it cannot lead to the deletion of an element associated to a high syntactic position (see Section 5.4) and it cannot lead to a highly marked structure like a consonant coda followed by a vowel (C.V). The similarities of the Minorcan Catalan case with the Haitian Creole definite article distribution of the allomorphs *a*– and *la*–, analyzed by Klein (2003) and Bonet et al. (2007), are striking. The allomorph *–la* is selected after a stem ending with a consonant or a glide ([malad.la]; see [37a]), and this generates a preconsonantal coda that could be avoided if the other available allomorph (*–a*) were selected (*[mal-a.da]). The allomorph *–a* is selected when the preceding stem ends in *–a* ([papa.a]; see [37b]), generating an onsetless syllable and a hiatus, which could be avoided if the other allomorph were selected (*[papa.la]). And it is also an alignment requirement, in this case expressing the need to have the right edge of the stem aligned with the right edge of the syllable, that explains this behavior (38). As seen in (38b), only with the selection of the non-priority allomorph *–la* is it possible to satisfy the alignment constraint R-Align, because a candidate satisfying both Priority and R-Align incurs a fatal violation of *C.V. The ranking of Priority >> Onset explains why the prioritary allomorph *–a* is selected after a stem ending in a vowel, even though this leads to the formation of a vowel hiatus.

(37)　　Haitian Creole definite article allomorphs *a-* and *la-* distribution

a.	/malad/	'sick'	[malad.la]	'the sick (person)'
	/ʃat/	'cat'	[ʃat.la]	'the cat'
	/liv/	'book'	[liv.la]	'the book'
	/bagaj/	'thing'	[bagaj.la]	'the thing'
	/kaw/	'crow'	[kaw.la]	'the crow'
b.	/papa/	'father'	[papa.a]	'the father'
	/bujwa/	'kettle'	[bujwa.a]	'the kettle'

(38)   Analysis based on Klein (2003) and Bonet et al. (2007)

      a.   Selection of *–a* after a stem ending in a vowel

/papa-{a>la}/	R-ALIGN	*C.V	PRIORITY	ONSET
a. papa.la			*!	
☞ b. papa.a				*

      b.   Selection of *–la* after a stem ending in a consonant

/liv-{a>la}/	R-ALIGN	*C.V	PRIORITY	ONSET
☞ a. liv.la			*	
b. liv.a		*!		*
c. li.va	*!			

More recently this behavior has been analyzed as a means to keep the morphological limits more visible (Storme and Otilien 2022), following Hay's (2003) results, according to which speakers are more likely to posit a morpheme boundary between consonants in low probability clusters than between consonants in high probability clusters. So, instead of resorting to alignment, Storme and Otilien (2022) propose morphophonological constraints that assign a greater penalty to morphological junctures that are phonoctatically less marked (for instance, *C#V, penalizing the use of a CV transition as a morpheme boundary). We think that this idea can be connected to our proposal because the effects of ALIGN(PW, Lex, L, X) have the benefit of keeping the morphological boundaries more visible: the vowel contact V.V created in *es conco àngel* has a lower frequency than the contact V.CV that would be created in a potential *es conco n'Àngel*, so the actual morphological boundary is more ostensible. That explanation, though, would not work for kinships with a personal name starting with an unstressed vowel, because the type of contact generated in these cases is not marked. In any case, the reinterpretation of some alignment constraints along these lines is an interesting matter for future research.

     Standard Galician also shows a case of allomorph selection that is not syllabically optimizing (Bonet and Lloret 2016; Kikuchi 2006; Nevins 2011), similar to the Minorcan Catalan case and the Haitian case. The masculine and feminine definite articles have two different allomorphs, *o(s)* and *a(s)* and *lo(s)* and *la(s)*. The allomorphs with an initial onset are those selected after a word ending in an underlying consonant ([39e]–[39f]), and the onsetless allomorphs are selected elsewhere, even though this leads to a violation of ONSET ([39a]–[39d]) and in some cases of *HIATUS ([39b]–[39c]). These violations would be prevented with the selection of the allomorph with an initial consonant: *[pa.ra.lo.né.no], *[pa.ra.la.né.na].

(39)   Standard Galician definite article allomorphy

a.	*neno*	[o.né.no]	'the boy'
	a nena	[a.né.na]	'the girl'
b.	*para o neno*	[pa.ɾa.o.né.no]	'for the boy'
	para a nena	[pa.ɾa.a.né.na]	'for the girl'
c.	*sobre o neno*	[so.βɾe.o.né.no]	'about the boy'
	sobre a nena	[so.βɾe.a.né.na]	'about the girl'
d.	*comen o caldo*	[kɔ.me.no.kál.do]	'they eat the broth'
	comen a carne	[kɔ.me.na.kár.ne]	'they eat the meat'
e.	*ver o neno*	[be.lo.né.no]	'to see the boy'
	ver a nena	[be.la.né.na]	'to see the girl' (cf. *ver* [bér])
f.	*vímos lo neno*	[bi.mo.lo.né.no]	'we saw the boy'
	vímos la nena	[bi.mo.la.né.na]	'we saw the girl' (cf. *vimos* [bímos])

Note, moreover, that after a word ending in an underlying consonant, the expected behavior would be to select the onsetless allomorph because this would lead to unmarked syllabic structures (*[be.ɾo.né.no]), but the other allomorph is selected, with a posterior process of reduction of the resulting cluster ([ber.lo.né.no] → [be.lo.né.no]). Again, a morphoprosodic alignment constraint requiring the alignment between the right edge of the word and the right edge of the syllable has been advocated to explain why the unexpected allomorph is selected (cf. [be(r).lo.né.no], with a perfect right alignment, and *[be.ɾo.né.no], with a right misalignment between the stem and the syllable) (Kikuchi 2006). However, the reduction process, with the deletion of the final-stem consonant, hides the reason for which the consonant initial allomorph is selected, and one would expect the selection of the onsetless one (cf. *[be.o.né.no], as [pa.ɾa.o.né.no]). Overall, this is another case of non-optimizing behavior from a syllabic point view, which becomes optimizing once morphoprosodic alignment is considered; once again the reason might be the need to keep the morphological boundaries more visible.

Among all the cases identified in the literature as non-optimizing, the Haitian and the Galician cases are the only ones comparable to the one we are dealing with in this article. In all these cases, the reversed selection of the available allomorphs would avoid the violation of basic syllabic constraints such as Onset and *Hiatus, and the reason is the intervention of alignment between morphological or lexical categories with prosodic categories. The rest of the documented non-optimizing patterns are different, because the selection of either one allomorph or the other is equally non-optimizing, whatever the context in which they occur, and alignment seems not to intervene (Paster 2006).

The Minorcan Catalan case, though, is the only one we are aware of in which the antimarkedness situation arises in proclitic position. In fact, a parallel pattern

to kinship appositive phrases is found also in Minorcan Catalan, in this case in micro-toponyms. Appositive 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). The proper name is preceded by the personal article if it is masculine and starts with a consonant (*cala en* [kàləm] *Bosch*, 'Bosch cove'; *cala en* [kàləm] *Brut* 'Brut cove', cala en [kàləm] Porter 'Porter cove'; *cala en* [kàləm] *Blanes* 'Blanes cove'), but not if it starts with a vowel (*cala Escorxador*, **cala n'Escorxador*; *cala Alcalfar*, **cala n'Alcalfar*) or if it is feminine (*cala* [kàlə] *Mitjana*, **cala na Mitjana*; *cala* [kàlə] *Tortuga *cala na Tortuga*; Mitjana/Tortuga cove'). The reason for this behavior seems to be the same: to keep the left edge of the prosodic word free of functional elements.

Here we have focused on cases where the generation of a marked structure from a syllabic point of view is explained through some type of alignment constraint. In Catalan pronominal cliticization, it is possible to find the opposite direction, that is, cases in which a well-formed syllabic structure created by the adjunction of a clitic to its verbal host is unexpectedly avoided through epenthesis; these cases have also been explained by resorting to alignment constraints (see, in this respect, Bonet and Lloret 2005 and also Jiménez 1997).

5.2 More evidence for alignment between prosodic and lexical categories

We have analyzed the behavior of Minorcan Catalan as a means to keep the left edge of the prosodic word free of non-lexical material or, in other words, as a means to have prosodic and lexical categories aligned. More evidence in this direction is found in infixation patterns. McCarthy and Prince (1993b), for instance, hold that some cases of negative prosodic circumscription, in which the base to which a syllable is prefixed and which it copies is the word minus its initial consonant, are driven by the constraint ROOT-ALIGN. This constraint "requires that the segment lying in PrWd-initial position be Root-initial as well" (McCarthy and Prince 1993b: 121). Among other languages, this type of infixation is found in Mangarayi plural reduplication, illustrated in (40). The pattern that emerges is one in which "the reduplicant is as close as possible to initial position without actually being there, since initial position must be occupied by root material" (McCarthy and Prince 1993b: 122). The ranking of ROOT-ALIGN above LEFTMOSTNESS, requiring affixes to be placed as far to the left as possible, explains the locus of the reduplicative affix in Mangarayi, just after the first consonant of the stem. The locus of the affix, thus, is prosodically determined.

(40)   Mangarayi (plural reduplication)

singular	plural	
baraŋali	b+ar+araŋali	'father-in-law'
gabuji	g+ab+abuji	'old person'
yirag	y+ir+irag	'father'
jimgan	j+img+imgan	'knowledgeable person'
muyg–ji	m+uygj+uyg+ji	'having a dog'

In fact, Yu's (2003) extensive survey on infixation records multiple cases in which a fixed or a reduplicative affix has as a pivot the first consonant, vowel or syllable of the base, that is, of the root or the word. These patterns are found in Austronesian languages such as Kamhmuʔ (41a), Mlabri (41b), and Atayal (41c), among others, and all have in common the maintenance of the left edge of the prosodic word aligned with lexical categories, such as the root, the stem, or the word, and not with grammatical categories.

(41)   a.   Kamhmuʔ nominalization

           hiip   'eat with spoon'   h+rn+iip   'spoon'
           cok   'to gouge'   c+rn+ok   'gouging instrument'
           (Anderson 2005: 126)

      b.   Mlabri nominalization

           guɰh   'to ablaze'   g+rn+uɰh   'flames'
           kap   'to sing'   k+rn+ap   'singing, song'
           tɛk   'to hit'   t+rn+ɛk   'a hammer'
           (Yu 2003: 12)

      c.   Atayal animate actor focus

           qul   q+m+ul   'snatch'
           kat   k+m+at   'bite'
           kuu   k+m+uu   'too tired, not in the mood'
           (Yu 2003: 13)

Anderson (2005: 138–139), in his survey of cliticization, also considers cases of infixation of the type in (41), and reflects on the adequacy of a set of constraints, all banning grammatical or clitic material at the left edge of a specified domain, and all in competition with the constraint requiring a left-peripheral location for affixes (i.e., LEFTMOST). These constraints are LEFTEDGEFAITH(word), requiring that "the element at the left edge (of the word) in the output form should correspond to the element at the left edge in the input", and NONINITIAL(e, D), where *e* stands for some linguistic element such as an affix or a clitic and D for a designated domain. The author argues for the first type of constraint. Interestingly enough, he proposes to apply this apparatus to phrase-level cliticization, and relates infixation with second-

position clitics, which are also excluded from certain prosodic positions, such as the left edge of the intonational phrase. Based on work by Barbosa (1996), Anderson illustrates this fact with data from European Portuguese (43), where clitics precede the verb ([43a]–[43c]) except if this would mean that they would occur at the beginning of the intonational phrase, in which case they follow the verb ([43d]–[43f]). The author attributes this behavior to the ranking NonInitial(cl, IP) >> LeftMost(cl,V$_{finite}$).

(43)   a.   *Alguém*   ***o**=*   *viu*
            someone   him   saw
            'Someone saw him'

       b.   *O João*   *nao*   ***a**=*   *viu*
            the John   not   her   saw
            'John didn't see her'

       c.   *O João*   *nunca*   *a=*   *vè*
            the John   never   her   sees
            'John never see her'

       d.   *Viu*   *=**o***   *o*   *João*
            saw   him   the   John
            John saw him

       e.   *Esses livros,*   *dei=*   ***os***   *á Maria*
            those books   1sg-gave   them   to Mary
            'These books, I gave (them) to Mary'

       f.   *A Maria*   *viu*   *=**o***
            the Mary   saw   him
            'Mary saw him'

Both Yu (2003: 194–195) and Anderson (2005: 138) consider that these types of constraints are motivated by the fact that lexical identification in many languages is highly sensitive to the beginnings of words. Requiring the left edges of prosodic categories to coincide with lexical categories, and not with grammatical categories, can be seen as evidence in this direction.

5.3 Some more reflections on syntax-prosody alignment constraints

Our analysis is framed within the edge-alignment approaches to the syntax-prosody interface (see Selkirk and Shen 1990; Truckenbrodt 1999, among others). More recently, Selkirk (2011) has proposed Match Theory (see also Bennett et al. 2016; Elfner 2015a, 2015b; Itô and Mester 2013; Myrberg 2013, among others), a new theory

of the syntax-prosody interface that abandons edge-specific alignment and advocates instead for syntax-prosody mapping constraints requiring that both edges of syntactic constituents transparently map onto their corresponding prosodic constituents; that is, she proposes two-sided alignment constraints. The recent article of Itô and Mester (2019) demonstrates that a categorical definition of MATCH constraints (violated whenever a perfect mapping is not obtained, as proposed in Elfner 2012) runs into problems since phonological requirements, especially syllabification, frequently introduce divergences from perfect correspondence between syntactic and prosodic constituents. Itô and Mester (2019) propose reinterpreting Match Theory two-sided alignment as instances of existential faithfulness constraints of the MAX/DEP family of correspondence constraints. According to these authors, a constraint like MAX-Lex,PWd enforces a lexical word with phonological content in the input syntactic representation to correspond to some prosodic word in the output phonological representation. Inversely, a constraint like DEP-PWd,Lex enforces a prosodic word in the output phonological representation to correspond to some lexical word with phonological content in the input syntactic representation. This is exemplified in Itô and Mester (2019) with abstract prosodic structures involving a function element followed by a lexical category, like those instantiated by determiners followed by nouns, modal verbs followed by infinitives or prepositions followed by nouns in English. A constraint like MAX-Lex,PWd is violated whenever a lexical category does not correspond to some PWd, irrespective of whether the PWd is aligned or not with the lexical category. If the function element is internal to the PWd, for instance, MAX-Lex,PWd will still be satisfied (only alignment constraints will be violated). If the function element is parsed into its own PWd, however, DEP-PWd,Lex will be violated, because the PWd does not correspond to some lexical category. Besides existential MATCH constraints, specific details of correspondence are enforced by standard syntax-prosody and prosody-syntax alignment constraints.

Our proposed alignment constraint rests upon the idea that languages need to make reference to either the left or right edges of syntactic constituents in the mapping from syntax to prosody, as pursued in Itô and Mester (2019). Match constraints of the existential type (those referring to lexical heads) are always satisfied in our tableaux and therefore are not relevant for the analysis of prosodically-driven morpheme non-realization found in the Minorcan Catalan DP. This is so because in our case study non-realization affects a functional category, namely the personal article. Match constraints, like syntax-prosody and prosody-syntax alignment constraints, do not make reference to functional elements, in accordance with the *lexical category condition*, although this condition only applies at the level of syntactic heads, not at the phrasal (XP) and clausal (CP) levels. Moreover, our case study demonstrates that it is only the left edge of prosodic words which must necessarily

coincide with a segment belonging to a lexical category, whereas right alignment is dispensable, an asymmetry that has already been detected in previous studies (see Itô and Mester 2019: Section 2). (For recent overviews of the syntax-prosody interface theories, see Bennett and Elfner 2019; Elfner 2018; Elordieta 2008).

5.4 Recoverability as the limit of morpheme non-realization

Prosodically-driven morpheme non-realization, omission or deletion has a very concrete limitation. We have argued for an analysis in which the alignment constraint against clitic material at the left edge of the prosodic word can only lead to the non-realization of a determiner that is c-commanded by another determiner. The ranking Max-Det(high) >> Align(PWd, L; Lex, X) >> Max-Det explains the preservation of the determiner in isolated constructions and its omission in kinship appositive phrases. An important point introduced in Section 3.2 is that in the reported structures both determiners introduce definiteness to the same referent, so the semantic information carried by the second determiner (*en* in *es conco en Jaume*) can be recovered, in case of omission, through the information carried by the first determinant (i.e., *es* in *es conco en Jaume*). This connects with the issue we want to discuss in this section: the notion of *recoverability* as a condition for morpheme non-realization, omission, or deletion. Selkirk (2001), following Pesetsky (1998), claims that the phonological constraint ranking may force the non-realization of a function word only when the deletion is semantically recoverable, and argues why this only affects function words. "A function word, unlike a 'content' word, may indeed fail to make an independent semantic contribution to the sentence, and so its deletion is potentially recoverable". This circumstance adds to the fact that "function words, unlike content words, may fail to be assigned the status of prosodic word by the constraint system" (Selkirk 2001: 262) as a strategy for its survival. According to the author, who illustrates her proposal with data from Hausa, Japanese and Ancient Greek, the redundancy of the focus particle *fa* in Hausa and the lack of semantic content of the particle *no* in Japanese explains their deletion to meet the phonological requirements in these languages. As shown in (45a), the Hausa focus particle *fa* is deleted if not placed at the left edge of the phonological phrase, more specifically, if there is a violation of MedialExhaustivity, and this is possible because focus is already expressed in the sentence prosody (Selkirk 2001: 261). As shown in (45b), the genitive and the copulative particle *no* in Japanese is deleted to avoid two adjacent identical elements parsed in the same prosodic word, and this is possible because these type particles have no semantic content (Selkirk 2001: 263) (here we illustrate the pattern with the genitive particle only).

(45) a. Hausa morpheme (non-)realization: focus particle *fa*
(Verb *fa*)$_{PPh}$
(Verb *fa*)$_{PPh}$ (Adjective Noun)$_{PPh}$
*(Verb *fa* Noun])$_{PPh}$ → (Verb ∅ Noun])$_{PPh}$

b. Japanese morpheme (non-)realization: genitive (and copulative) *no*

Taro	no	hoN	but	*((ZyoN	no	no)$_{PW}$)$_{PPH}$	→	ZyoN	no	∅
Taro	GEN	book		Zyon	GEN	NOMZ				

'Taro's book'   'John's'

akai	no	and	(akai	no)$_{PW}$)$_{PPH}$	no	(futa)$_{PW}$)$_{PPH}$
red-PRES	NOMZ		red-PRES	NOMZ	GEN	lid

'the red one'   'the red one's lid'

In contrast, if the functional element carries unrecoverable information and in the constraint hierarchy of a given language the markedness constraint against a certain structure outranks the constraint demanding morpheme realization, then the whole construction is avoided. Selkirk (2001) illustrates this situation with Ancient Greek. In Ancient Greek, a sequence of two definite articles is allowed in DPs with a center-embedded possessor DP (46a), but not if the two articles are homophonous (46b). Unlike Japanese, though, haplology via deletion of one of the determiners is not possible, so a crashing in the derivation and an alternative syntactic configuration are triggered (46c).

(46) a. [t-éei   [t-ées   huphánikees]   dunámei]]
the-D:F   the-G:F   weaving-G:F   power-D:F
'with the power of weaving'

b. [t-óon   [t-óon   eikein-oon]   oikeínoon]   tin-ás]
the-G:F:P   the-G:M:P   those-G:M:P   slave-G:F:P   some-A:F:P
'some of the slaves of those people'

c. *t-óon [∅ eikein-oon] oikeínoon] tin-ás]
a. [[t-óon oikeínoon] [t-óon eikein-oon]] tin-ás]

Weir (2012: 115–116) also discusses this issue, and he likewise concludes that "only material that can be reconstructed from context is a candidate for deletion. Pronouns, determiners, auxiliaries and initial syllables of multisyllabic words are generally candidates for deletion, but entire lexical verbs are not". In fact, all the cases of deletion or omission identified in the literature involve redundant elements or elements whose semantic content can be recovered from the context.

6 Alternative analyses

In this section, we briefly explore other potential approaches to the facts analyzed here, such as external allomorphy, the use of more specific alignment constraints, an

interpretation based on morphological haplology, and, still, an interpretation based on deletion under identity, and we justify why we believe they are not viable. We also include here an alternative interpretation for kinship appositive phrases with a feminine personal name, which also show the non-realization of the personal article, and which we have interpreted as a consequence of an underlying representation without the personal article.

6.1 Allomorphy

An external allomorphic account based on the double lexical representation /konku/ ~ /konkun/ (after an hypothetical diachronic process of agglutination of *conco* + *en*) and precluding a prosodic drive based on alignment for the reported behavior is not feasible: it is not possible to derive the selection of /konku/ before a word starting with a vowel, given the constraint ONSET. Indeed, one would expect 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.nán.ʒəl]). One could of course give lexical priority to the allomorph /konku/ (i.e., /konku/ > konkun/), 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 an approach of this kind applied to other Catalan data). However, in this way, it would be impossible to derive [əs.kòŋ.kun.ʒáw.mə], 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 low-ranked constraint *CODA. Alternatively, one could consider that it is the personal article that is subject to allomorphy (/n/~/∅/), but the same reasons adduced above would prevent the selection of /∅/ before a personal name starting with a vowel. The selection of /n/ before a personal name starting with a vowel would always be preferable, given the constraint ONSET, which would reject [əs.kòŋ.ku.∅án.ʒəl] and select *[əs.kòŋ.ku.nán.ʒəl]. Note that, in this case, establishing the lexical order {/∅/ > n}, would have undesired consequences, since /∅/ would always be favored in isolated constructions and in appositions with the personal name starting with a consonant (i.e., *[∅ʒáw.mə]; *[əs.kòŋ.ku.∅ʒáw.mə]). Finally, the ranking ALIGN(PWd, L; Lex, X) >> PRIORITY and the lexical order {/n/ > /∅/}, although it would lead to the selection of the correct outputs in cases of apposition, would wrongly induce the selection of the second allomorph in isolated constructions (*[∅ʒáw.mə], *[∅án.ʒəl]).

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 article. The ranking MAX-DET(high) >> ALIGN(EN, R, PWd, R), *C.V >> ONSET, MAX-Det would ensure the realization of the personal article before a personal name starting with a consonant, and its non-realization when the personal name starts with a vowel. In fact, an account along these lines, within a different framework, is found in Zec and 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 account only for these data, as opposed to the one we propose (i.e., ALIGN(PWd, L; Lex, X), which is drawn from Generalized Alignment, which does not allow explicit reference to functional elements (see Selkirk 2004 [1996], and above), and which expresses the requirement that the left edge of the prosodic word be associated with 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 (barring some exceptional cases) alignment of the clitic with the left edge of the prosodic category.

6.3 Phonological and 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). An interpretation of this kind would make sense when the personal name starts with a sequence that is identical or quasi-identical to the personal article (i.e., *Àngel* [án.ʒəl], *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, identity avoidance might be assumed to apply at the morphological level, in the sense that definiteness in these appositive 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. Nevertheless, this interpretation is not possible either, since there is no explanation of why the identity avoidance is active before a personal name

starting with a vowel (**es conco n'Àngel → es conco Àngel*), but not before a personal name starting with a consonant (✓*es conco en Jaume*).

6.4 Deletion under identity

A related approach to phonological haplology is deletion under identity, a process that affects internal parts of words in coordinated structures in which an element is repeated, like in English *prewar or postwar*, in Spanish *única~~mente~~ y exclusivamente* 'uniquely and exclusively', or in European Portuguese *pré-~~acentual~~ e pós-acentual* 'preaccentual and postaccentual'. This phenomenon has been identified in a wide variety of languages, such as German, English, Italian, Catalan, Spanish, and European and Brazilian Portuguese, among others, and it is subject to a series of phonological conditions. These are the phonological identity of parts of the coordinated components, the prosodic status of the deleted element, which has to be a prosodic word, or the prosodic status of the remnant, which also has to be a prosodic word, and to a certain variation depending on the language (Vigário and Frota 2002). In the case of Catalan, deletion under identity is found in coordinations of prefixed words (*afro~~asiàtic~~ i euroasiàtic* 'Afroasiatic and Euroasiatic') and in coordinations of adverbs ending in *–ment* (*única~~ment~~ i exclusivament* 'uniquely and exclusively'). Although there are some similarities between this process and the one under analysis in this article (i.e., omission or deletion applies in a coordinate/appositive structure and affects elements standing at a certain distance), they are of course not equivalent: in **es conco ~~n'~~Àngel* there is no phonological identity, and the deleted element does not constitute a prosodic word.

6.5 An alternative prosodic interpretation for the feminine appositive phrases

In Section 2.2 we saw that the lack of realization of the personal article in kinship appositive phrases is not only found before masculine personal names starting with a vowel, but also before feminine personal names, whether they start with a consonant or with a vowel. Since in the feminine paradigm of these appositive phrases there is no contrast between realization and non-realization, unlike in the masculine counterparts, we have argued that the most plausible explanation for this pattern is a morphosyntactic representation of the feminine appositive phrases lacking the phonological exponent of the personal article. However, it is legitimate to ask whether there might be a prosodic explanation for the lack of realization of the feminine personal article. As it stands, the proposed hierarchy would entail the selection of the candidate with realization of the

feminine personal article, because the personal article in a prosodification such as *(sə.(tí.ə.)$_{PWd}$ nə.(kə.tə.lí.nə)$_{PWd}$)$_{PPh}$, with the personal article outside the prosodic word, would not be targeted by the constraint ALIGN(PWd, L; Lex, X). That would not be the case, though, if we included the activity of the constraint MEDIALEXHAUSTIVITY (according to which "a prosodic constituent C must immediately dominate prosodic constituents of the next level down in the prosodic hierarchy, except if the daughter constituent lies at the edge of C"; Selkirk 2001: 260), outranking MAX-Det. The consequences of considering MEDIALEXHAUSTIVITY for the appositive phrases with a masculine personal name would be innocuous: a candidate with a prosodification such as *(əs.(kòŋ.ku.)$_{PWd}$ ən.(ʒáw.mə)$_{PWd}$)$_{PPh}$, instead of being ruled out by ONSET, would be ruled out by MEDIALEXHAUSTIVITY; the second determiner prosodified in the first prosodic word, as in the winning candidate (əs.(kòŋ.kun.)$_{PWd}$ (ʒáw.mə)$_{PWd}$)$_{PPh}$, would not be targeted by the constraint; finally, the constraint would not target the first determiner because is lying at the edge of the phonological phrase, apart from the fact that is already protected by MAX-Det(high). In any case, although a prosodic explanation for the lack of realization of the personal article in the feminine appositive phrases is possible, we believe, as argued before, that the most plausible explanation is a morphosyntactic representation lacking the phonological exponent of the personal article.

7 Final remarks

In this article, we have focused on a case of prosodically driven morpheme non-realization found in Minorcan Catalan kinship restrictive appositive phrases, in which the personal article *en* is realized before masculine personal names starting with a consonant but not before personal names starting with a vowel. As seen, from a strictly syllabic point of view this pattern is unexpected, since a preconsonantal coda is generated when the personal article precedes a consonant-initial masculine personal name, and an onsetless syllable and a hiatus are generated if it precedes a stressed vowel-initial masculine personal name. According to our proposal, this asymmetric behavior is mainly driven by the constraint ALIGN(PWd, L; Lex, X), which penalizes the presence of a functional category, such as a clitic, at the left edge of the prosodic word. We have shown that, while it is possible to satisfy this constraint without challenging basic syllabification constraints (i.e., *C.V, ONSET) if the personal name starts with a consonant, this is not possible if the personal name starts with a vowel. The effects of the alignment constraint, on the other hand, are inhibited by the need for a phonological realization of a morpheme associated with a high hierarchical syntactic position. This explains the realization of the personal article in isolated constructions when the personal name starts with a vowel and the realization of the first determiner, when asyllabic, in appositive phrases.

We have justified the need for an approach to morphoprosodic alignment constraints that crucially relaxes their formulation by targeting just the edge of one of the categories to be aligned. Our proposal ensures the exclusion of clitics from the left edge of the prosodic word but, at the same time, allows for phenomena in which there is no perfect alignment between the left edge of a prosodic category and the left edge of a lexical category, a very frequent phenomenon in languages that has not been considered in depth in previous work. Among these phenomena, we have discussed deletion caused by vowel contacts (which involve the deletion of word-initial vowels and which lead to a left-misalignment between prosodic and lexical categories) or basic syllabification tendencies (which can provoke a misalignment between the left edge of a prosodic category and the corresponding lexical category).

In general, we have shown that a parallel OT approach is sufficiently powerful to account for the data under consideration, without the introduction of any *ad hoc* stipulations or sophisticated refinements. It can be claimed that phonology (expressed through a specific constraint hierarchy that combines prosodic and morpheme realizational constraints at the same level) can act as a blocker of the phonological expression of certain morphemes.

References

Alexiadou, Artemis. 2014. *Multiple determiners and the structure of DPs*. Amsterdam & Philadelphia: John Benjamins.

Alexiadou, Artemis & Chris Wilder. 1998. Adjectival modification and multiple determiners. In Artemis Alexiadou & Chris Wilder (eds.), *Possessors, predicates and movement in the DP*, 303–332. Amsterdam & Philadelphia: John Benjamins.

Anderson, Stephen R. 2005. *Aspects of the theory of clitics*. Oxford: Oxford University Press.

Barbosa, Pilar. 1996. Clitic placement in European Portuguese and the position of subjects. In Aaron Halpern & Arnold Zwicky (eds.), *Approaching second: Second position clitics and related phenomena*, 1–40. Stanford, CA: CSLI Publications.

Bennett, Ryan, Emily Elfner & James McCloskey. 2016. Lightest to the right: An apparently anomalous displacement in Irish. *Linguistic Inquiry* 47. 169–234.

Bonet, Eulàlia. 2018. Missing inflectional features and missing exponents in DP-internal agreement asymmetries. *Glossa: A Journal of General Linguistics* 3(1). 79. 1–19.

Bonet, Eulàlia & Maria-Rosa Lloret. 1998. *Fonologia catalana*. Barcelona: Ariel.

Bonet, Eulàlia & Maria-Rosa Lloret. 2005. More on alignment as an alternative to domains. *Probus* 17. 37–78.

Bonet, Eulàlia & Maria-Rosa Lloret. 2016. Romance phonology and morphology in Optimality Theory. In Susann Fischer & Christoph Gabriel (eds.), *Manual of grammatical interfaces in Romance*, (Manuals of Romance Linguistics Series 10), 105–147. Berlin & Boston: De Gruyter Mouton.

Bonet, Eulàlia, Maria-Rosa Lloret & Joan Mascaró. 2007. Allomorph selection and lexical preferences: Two case studies. *Lingua* 117. 903–927.

Brucart, Josep Maria. 2008 [2002]. Els determinants. In Joan Solà, Maria-Rosa Lloret, Joan Mascaró & Manuel Pérez-Saldanya (dirs.), *Gramàtica del català contemporani*, 1435–1516. Barcelona: Empúries.

Cabré, Teresa & Pilar Prieto. 2009. Positional and metrical prominence effects on vowel sandhi in Catalan. In Sónia Frota, Marina Vigário & Maria João Freitas (eds.), *Prosodies: With special reference to Iberian languages*, 123–157. Berlin & New York: Mouton de Gruyter.

Campmany, Elisenda. 2008. *Diferències fonològiques entre diversos estils de parla al català central septentrional*. Barcelona: Universitat de Barcelona dissertation.

Caro-Reina, Javier. 2014. The grammaticalization of the terms of address *en* and *na* as onymic markers in Catalan. In Friedhelm Debus, Rita Heuser & Damaris Nübling (eds.), *Linguistik der familiennamen*. Hildesheim & New York: Georg Olms.

Casanova, Emili. 2003. L'evolució de l'article onomàstic "En/Na" en català i occità. In Fernando Sánchez Miret (ed.), *Actas del XXIII congreso internacional de lingüística y filología románica*, vol. 2, 209–234. Tübingen: Max Niemeyer Verlag.

Cinque, Guglielmo. 2010. *The syntax of adjectives: A comparative study*. Cambridge, MA: MIT Press.

Elfner, Emily. 2012. *Syntax-prosody interactions in Irish*. Amherst, MA: University of Massachusetts dissertation.

Elfner, Emily. 2015a. Recursion in prosodic phrasing: Evidence from Connemara Irish. *Natural Language & Linguistic Theory* 33. 1169–1208.

Elfner, Emily. 2015b. The syntax-prosody interface: Current theoretical approaches and outstanding questions. *Linguistics Vanguard* 4(1). 1–14.

Giusti, Giuliana. 2015. *Nominal syntax at the interfaces. A comparative analysis of languages with articles*. Cambridge: Cambridge Scholars.

Halle, Morris & Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger*, 111–176. Cambridge, MA: MIT Press.

Hay, Jennifer. 2003. *Causes and consequences of word structure*. New York: Routledge.

Hyde, Brett. 2012. Alignment constraints. *Natural Language & Linguistic Theory* 30. 789–836.

Itô, Junko & Armin Mester. 2009. The extended prosodic word. In Baris Kabak & Janet Grijzenhout (eds.), *Phonological domains. Universals and deviations*, 135–194. Berlin & New York: Mouton de Gruyter.

Itô, Junko & Armin Mester. 2013. Prosodic subcategories in Japanese. *Lingua* 124. 20–40.

Itô, Junko & Armin Mester. 2019. Match as syntax-prosody MAX/DEP: Prosodic enclisis in English. *English Linguistics* 36(1). 1–28.

Jiménez, Jesús. 1997. *L'estructura sil·làbica del dialecte valencià*. València: Universitat de València dissertation.

Kikuchi, Seiichiro. 2006. On Galician definite article allomorphy. *On'in Kenkyu* [Phonological Studies] 9. 41–48.

Klein, Thomas B. 2003. Syllable structure and lexical markedness in Creole morphophonology: Determiner allomorphy in Haitian and elsewhere. In Ingo Plag (ed.), *The phonology and morphology of Creole languages*, 209–228. TübingenMax Niemeyer.

Kolliakou, Dimitra. 1995. *Definites and possessives in Modern Greek: An HPSG syntax for noun phrases*. Edinburgh: University of Edinburgh dissertation.

Kolliakou, Dimitra. 2004. Monadic definites and polydefinites: Their form, meaning and use. *Journal of Linguistics* 40. 263–323.

Kurisu, Kazutaka. 2001. *The phonology of morpheme realization*. Santa Cruz, CA: University of California Santa Cruz dissertation.

Larson, Richard. 1995. Olga is a beautiful dancer. Paper presented at the 69th Annual Meeting of the Linguistic Society of. America, New Orleans, LA, 5–8 January 1995.

Larson, Richard. 1998. Events and modification in nominals. In Devon Strolovitch & Aaron Lawson (eds.), *Proceedings from Semantics and Linguistic Theory* (*SALT*) *VIII*, 145–168. Ithaca, NY: Cornell University Press.

Lekakou, Marika & Kriszta Szendrői. 2012. Polydefinites in Greek: Ellipsis, close apposition and expletive determiners. *Journal of Linguistics* 48. 107–149.

Mascaró, Joan. 1985. *Morfologia catalana*. Barcelona: Enciclopèdia Catalana.

Mascaró, Joan. 1996a. External allomorphy and contractions in Romance. *Probus* 8(2). 181–205.

Mascaró, Joan. 1996b. External allomorphy as emergence of the unmarked. In Jacques Durand & Bernard Laks (eds.), *Current trends in phonology: Models and methods*, vol. 2, 473–483. Manchester: ESRI & University of Salford.

Mascaró, Joan. 2007. External allomorphy and lexical representations. *Linguistic Inquiry* 38(4). 715–735.

McCarthy, John J. & Alan Prince. 1993a. Generalized alignment. In Geert Booij & Jaap van Marle (eds.), *Yearbook of morphology 1993*, 79–153. Dordrecht: Kluwer.

McCarthy, John J. & Alan Prince. 1993b. *Prosodic Morphology I: Constraint interaction and satisfaction*. Linguistics Department Faculty Publication Series 14. Amherst: University of Massachusetts. Available at: https://scholarworks.umass.edu/linguist_faculty_pubs/14.

McCarthy, John J. & Alan Prince. 1995. Faithfulness and reduplicative identity. In Jill N. Beckman, Suzanne Urbanczyk & Laura Walsh Dickey (eds.), *University of Massachusetts Occasional Papers in Linguistics 18: Papers in Optimality Theory*, 249–384. Amherst, MA: Graduate Linguistic Student Association, University of Massachusetts.

McCarthy, John J. & Alan Prince. 1999. Faithfulness and identity in prosodic morphology. In René Kager, Harry van der Hulst & Wim Zonneveld (eds.), *The prosody-morphology interface*, 218–309. Cambridge: Cambridge University Press.

Myrberg, Sara. 2013. Sisterhood in prosodic branching. *Phonology* 30. 73–124.

Nevins, Andrew. 2011. Phonologically conditioned allomorph selection. In Marc van Oostendorp, Colin J. Ewen, Elizabeth Hume & Keren Rice (eds.), *The Blackwell companion to phonology*, 2357–2382. Malden, MA: Blackwell.

Paster, Mary. 2006. *Phonological conditions on affixation*. Berkeley, CA: UC Berkeley dissertation.

Peperkamp, Sharon. 1997. *Prosodic words*. The Hague: Holland Academic Graphics.

Pesetsky, David. 1998. Some Optimality principles of sentence pronunciation. In Pilar Barbosa, Daniel Fox, Paul Hagstrom & Martha McGinnis (eds.), *Is the best good enough?* Cambridge, MA: MIT Press.

Pons-Moll, Clàudia. 2004. *Els contactes consonàntics en balear. Descripció i anàlisi*. Barcelona: Universitat de Barcelona dissertation.

Pons-Moll, Clàudia. 2007. *La teoria de l'optimitat: Una introducció aplicada al català de les Illes Balears*. Barcelona: Publicacions de l'Abadia de Montserrat.

Prince, Alan & Paul Smolensky. 2004. *Optimality Theory: Constraint interaction in generative grammar*. Malden, MA: Wiley-Blackwell.

Selkirk, Elisabeth. 1984. *Phonology and syntax: The relation between sound and structure*. Cambridge, MA: MIT Press.

Selkirk, Elisabeth. 1986. On derived domains in sentence phonology. *Phonology* 3. 371–405.

Selkirk, Elisabeth. 2001. On the phonologically-driven nonrealization of function words. In Charles Chang, Michael Houser, Yuni Kim, David Mortensen, Mischa Park-Doob & Maziar Toorsarvandani (eds.), *The proceeding of the Berkeley Linguistic Society*, vol. 29, 257–270. Berkeley, CA: Berkeley Linguistics Society.

Selkirk, Elisabeth. 2004 [1996]. The prosodic structure of function words. In John J. McCarthy (ed.), *Optimality theory in phonology: A reader*, 464–482. Oxford: Blackwell.

Selkirk, Elisabeth. 2011. The syntax-phonology interface. In John A. Goldsmith, Jason Riggle & Alan C. L. Yu (eds.), *The handbook of phonological theory*, 435–484. Oxford: Blackwell.

Selkirk, Elisabeth & Tong Shen. 1990. Prosodic domains in Shanghai Chinese. In Sharon Inkelas & Draga Zec (eds.), *The phonology-syntax connection*, 313–337. Chicago, IL: University of Chicago Press.

Stemberger, Joseph. 1981. Morphological haplology. *Language* 57(4). 791–817.

Storme, Benjamin & Jocelyn Otilien. 2022. Phonologically conditioned suppletive allomorphy in Haitian as morphological optimization. *Proceedings of the Annual Meetings on Phonology* 9. 1–11.

Torres-Tamarit, Francesc & Eulàlia Bonet. 2019. Verb-clitic structures in Eivissan Catalan: Recursive prosodic words and allomorphy. *Catalan Journal of Linguistics* 18. 191–215.

Truckenbrodt, Hubert. 1999. On the relation between syntactic phrases and phonological phrases. *Linguistic Inquiry* 30. 219–256.

Tsiakmakis, Evripidis, Joan Borras-Comes & M. Teresa Espinal. 2021. Greek polydefinites revisited. *Journal of Greek Linguistics* 21(1). 151–190.

Vigário, Marina. 2003. *The prosodic word in European Portuguese*. Berlin & New York: Mouton de Gruyter.

Vigário, Marina. 2010. Prosodic structure between the prosodic word and the phonological phrase: Recursive nodes or an independent domain? *The Linguistic Review* 27. 485–530.

Vigário, Marina & Sónia Frota. 2002. Prosodic word deletion in coordinate structures. *Journal of Portuguese Linguistics* 1(2). 241–264.

Weir, Andrew. 2012. Left-edge deletion in English and subject omission in diaries. *English Language and Linguistics* 16(1). 105–129.

Wheeler, Max W., Alan Yates & Nicolau Dols. 1999. *Catalan: A comprehensive grammar*. London: Routledge.

Wheeler, Max W. 2005. *The phonology of Catalan*. Oxford: Oxford University Press.

Wolf, Matthew. 2008. *Optimal interleaving: Serial phonology-morphology interaction in a constraint-based model*. Amherst, MA: University of Massachusetts dissertation.

Yu, Alan C. L. 2003. *The morphology and phonology of infixation*. Berkeley, CA: University of California Berkeley dissertation.

Zec, Draga & Sharon Inkelas. 1990. Prosodically constrained syntax. In Sharon Inkelas & Draga Zec (eds.), *The phonology-syntax connection*. Chicago, IL: Chicago University Press.