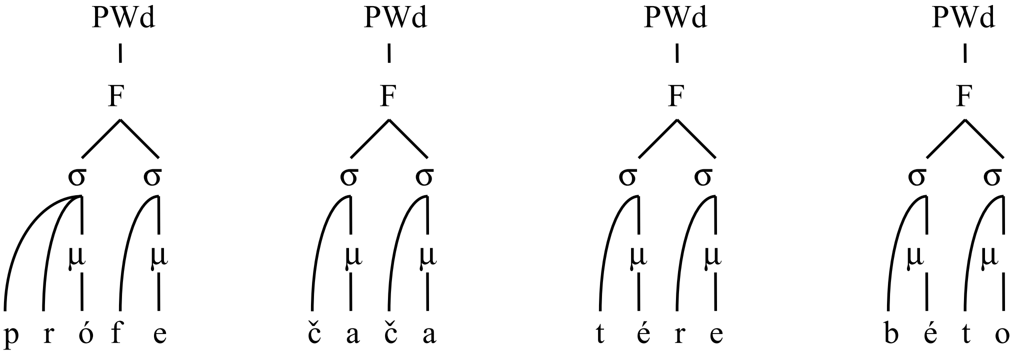
CHAPTER 4

WORD MINIMIZATION IN CLIPPINGS AND HYPOCORISTICS

4.0 Introduction

Spanish clippings (e.g. *profesór* > *prófe* 'teacher', *mučača* > *čača* 'girl') and hypocoristics (e.g. *terésa* > *tére* 'Theresa', *albérto* > *béto* 'Albert') are instances of truncatory morphology. A source form is shortened in order to conform with an invariant template: a single syllabic trochee (Prieto 1992a, Lipski 1995, Colina 1996).

(1) Prosodic Structure of Spanish Truncated Forms:



In line with the proposals by McCarthy and Prince (1994) and Benua (1995), I argue that Spanish truncated forms are unmarked prosodic words that arise when the family of MAX(imization)-correspondence constraints is dominated by the set of Prosodic Word Restrictor constraints: FT-BIN, PARSE-SYLL and ALIGN-FT. Following Selkirk

(1986), Chen (1987), Prince and Smolensky (1993) and McCarthy and Prince (1993b), I assume that every morphological word must be prosodically-licensed through its affiliation with a prosodic word. When the Prosodic-Word Restrictor constraints dominate MAX, the prosodic word must be minimal. It may contain no more than a single binary foot. As a consequence of this, the morphological word must also undergo minimization. Only those segments of the source form that may be parsed under the minimal prosodic word may be preserved in the output.

I propose a clear distinction between two basic types of truncated forms that exist in Spanish. Type-A comprises those truncated forms that preserve most of the segments parsed under the two initial syllables of the source form (e.g. *bernárδo* > *bérna* 'Bernard', *kapitán* > *kápi* 'captain'). Type-B consists of forms that preserve most of the segments parsed under the main-stressed foot of the source form (e.g. *ernésto* > *néto* 'Ernest', *bendíto* > *díto* 'blessed'). In this chapter, I propose to account for the shortening that occurs in both types of truncation through the partial ranking FT-BIN, PARSE-SYLL, ALIGN-FT >> MAX. However, two different constraint rankings are necessary because whereas Type-B Truncated Forms are sensitive to the foot structure of the source form, this is an irrelevant factor in the derivation of Type-A Truncated Forms. My proposal includes the constraint HEAD(PWd)MAX. which requires that every element in the head of the PWd of the source form must have a correspondent in the truncated form. Whereas this is a high-ranking constraint in Type-B Truncated forms, it is inactive in the formation of Type-A Truncated Forms.

This chapter is divided in two main sections. Section 4.1 reviews two previous works on Spanish truncatory morphology. They are Prieto (1992a) and Lipski (1995). Section 4.2 presents a new constraint-based analysis of Type-A Truncated Forms that solves some serious problems in the proposal made by Colina (1996). The new account is extended to explain Type-B Truncated Forms, which are found to be prosodic-head bound. The two types of truncated forms also differ with respect to syllabic well-formedness constraints which are more strictly enforced in Type-B Truncated Forms.

4.1 Spanish truncatory morphology

Prior to the emergence of Autosegmental Phonology, Spanish hypocoristics received the attention of several scholars. Wijk (1964) and Urawa (1985) report data belonging to the Honduran and Colombian dialects. Boyd-Bowman (1955) approaches hypocoristics from the perspective of child language acquisition and Costenla Umaña (1982) offers an analysis within the framework of Linear Phonology. With the advent of Prosodic Morphology Theory, hypocoristics have been analyzed from a prosodic perspective by Prieto (1992a) and Lipski (1995). These modern accounts rely on derivational procedures such as Prosodic Circumscription and Template Mapping. Colina (1996) reanalyzes the data reported by Prieto (1992) within a constraint-based model, but her account leaves out a substantial number of facts reported by Lipski (1995). In this section, I review the proposals made by Prieto (1992a) and Lipski (1995). These works synthesize the work done on Spanish truncation processes.

4.1.1 A syllabic trochee

Prieto's (1992a) Prosodic-Morphology account is particularly valuable for having uncovered the prosodic structure of Spanish clippings and hypocoristics. Her study focuses on Type-A Truncated Forms (TF), which correspond to a syllabic trochee formed with segments from the first two syllables of the Source Form (SF). This type of truncation is typical of Peninsular Spanish. The examples below are representative.

(2) Spanish Hypocoristics: TYPE A (Prieto, 1992a: 144)

Syllable Type	*SF*	*TF*	
LL	e.δu.ár.δo	é.δu	Eduardo
	a.lí.θja	á.li	Alicia
HL	mar.ɣa.rí.ta	már.ɣa	Margarita
	en.r̄í.ke	én.r̄i	Enrique

The data in (2) show that, when the penitial syllable of SF is light, all segments from the first two SF-syllables are preserved in TF. This pattern contrasts with the data in (3) below, where the peninitial syllable of SF is heavy. In such case, there is optional variation. Some speakers leave out the coda segment of the second syllable, whereas others copy the entire first two SF-syllables.

(3) Spanish Hypocoristics: TYPE A (Prieto, 1992a: 145)

LH	Xe.sús	Xé.su ~ Xé.sus	Jesus
	mi.ɣél	mí.ɣe ~ mí.ɣel	Miguel
HH	ar.mán.do	ár.ma ~ ár.man	Armando
	ber.nár.δo	bér.na ~ bér.nar	Bernardo

However, when the peninitial syllable of SF contains a diphthong (4), all speakers copy only as far as the first vocalic segment of the second syllable.

(4)	LH	da.njél	dá.ni	Daniel
		a.δrján	á.δri	Adrian
		ma.nwél	má.nu	Manuel
		ga.βrjél	gá.βri	Gabriel

Prieto's analysis of these data relies on Prosodic Circumscription. A parsing function Φ delimits the prosodic constituent C within the base B at one of its edges E: Φ(B, C, E) (McCarthy and Prince 1990, 1993a, 1995). This function yields the division of B in two parts, the *kernel* B:Φ, which corresponds to C, and the *residue* B/Φ. That is to say that B = B:Φ * B/Φ, where the symbol * indicates concatenation. Prosodic Circumscription serves to delimit the domain of certain morphological processes that do not apply to the entire B but only to a part of it. In observance of the Prosodic Morphology Hypothesis, this procedure is restricted to function in terms of the units of prosody: mora, syllable, foot, prosodic word.

In positive Prosodic Circumscription, the kernel B:Φ is used as the base for a morphological operation O. This is formalized as O/Φ (B) = O(B:Φ) * B/Φ. In negative Prosodic Circumscription, it is the residue B/Φ that serves as base. That is, O/Φ (B) = B:Φ * O(B/Φ). Prieto uses positive prosodic circumscription to derive clippings and hypocoristics. The function Φ is set to delimit the two leftmost syllables of the word. Φ is defined as Φ(Word, σσ, Left). To illustrate, consider the derivation of the hypocoristic [bér.nar)] from SF [ber.(nár.ðo)] 'Bernard'.

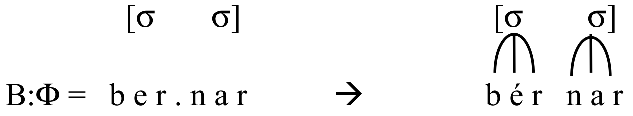
(5) Prosodic Circumscription:

Parsing Function: Φ(Word, σσ, Left) Base: [ber.(nár.ðo)]

B:Φ = <ber.nar>
B/Φ = <ðo>
(B = B:Φ * B/Φ) = (B = <ber.nar> * <ðo>)

The two syllables of the kernel are then mapped from left to right onto a disyllabic foot whose head is the leftmost syllable.

(6) Template Mapping:

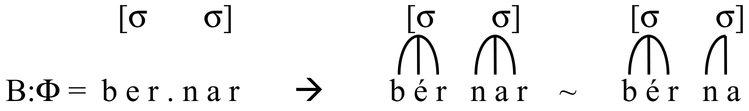


An additional condition requiring that the second syllable of the template be light applies optionally to those forms whose peninitial syllable is closed but does not contain a diphthong (7b). The same condition applies obligatorily to those forms that contain a diphthong in their peninitial syllable (7c).

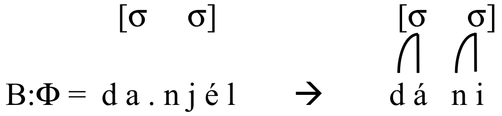
(7) a. Additional Condition:

The second syllable has to be light.

b. Optional Application:

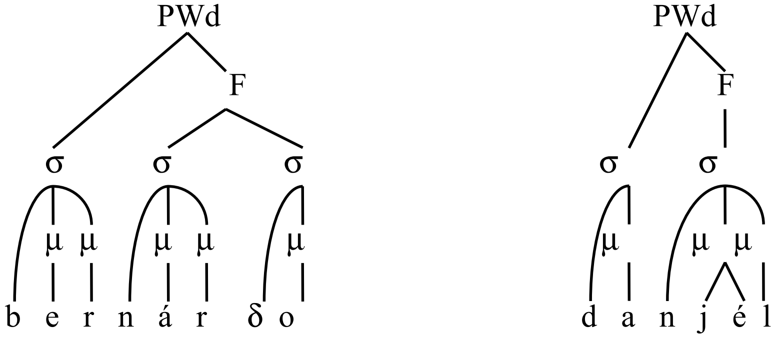


c. Obligatory Application:



This account is successful in deriving the correct output forms. However, it is not flawless. It violates an essential tenet of Prosodic Morphology Theory. The kernel of Prosodic Circumscription is required to be a prosodic constituent (McCarthy and Prince, 1993a). It must be noted that the foot is the only prosodic constituent that can group the two syllables needed to fill the template. Nevertheless, in (6) and (7) above, the first two syllables of the source forms [ber.nár.δo] and [da.njél] do not constitute a prosodic unit because they are not parsed under a single foot. This is illustrated in (8) below.

(8)



The feet (nár.δo) and (njél) are the true prosodic units, at a level higher than the syllable, that exist in these SF's.[1] However, if these constituents were to be respected, this analysis would be unable to derive the correct forms. Prieto's account relies on a type of Prosodic Circumscription that mutilates prosodic units. Note that in her analysis the only

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[1] The reader is reminded that stress in Spanish is limited to a right-edge three-syllable window which indicates that the right edge of the main-stressed foot must match the right edge of the prosodic word, except for Type-B words which are subject to NONFINALITY (e.g. [(pá.ja).ro] 'bird'). Furthermore, primary-stress is quantity-sensitive, which allows a heavy syllable to form a binary foot. According to this, it is the leftmost element within the foot that must be prominent. This means that Spanish feet are not iambic but trochaic. Consequently, the parsing of the source forms [ber.nár.δo] and [da.njél] could not be [(ber.nár).δo] and [(da.njél)] but [ber.(nár.δo)] and [da.(njél)], respectively.

foot that exist in SF [ber.(nár.δo)] is pruned when the two leftmost syllables are removed. Accepting this kind of Prosodic Circumscription would undermine the very basis of the theory of Prosodic Morphology. Any kind of operation would be possible if the theory is not constrained to allow only processes that function in terms of constituents.

4.1.2 Successive applications of prosodic circumscription

Lipski (1995) analyzes another type of Spanish hypocoristics. Type-B Truncated Forms are also molded according to a template that corresponds to a syllabic trochee. But unlike Type-A, it is the final syllables of SF that tend to be preserved in TF (e.g. [(bé.to)] < [al.(βér.to)] 'Albert'). Additionally, both syllables must be of the CV-type. The only exception to this is the possibility of parsing a nasal as the coda of the first syllable of the trochee (e.g. [(mín.da)] < [ar.(mín.da)] 'Arminda'). All other coda segments in an SF-syllable are lost. Onset clusters are simplified by deleting the second element of the cluster (e.g. [(čán.do)] < [li.(sán.dro)] 'Lisandro') and some phonological substitutions occur (e.g. /s/, /sj/ > [č], /rj/ > [y]), [r] > [l]. This type of truncation is typical of Latin American dialects. The following examples are representative.

(9) Type-B Hypocoristics: (Lipski 1995: 391)

SF	*TF*	
al.βér.to	bé.to	Alberto
gon.sá.lo	čá.lo	Gonzalo
li.sán.dro	čan.do	Lisandro
ar.mín.da	mí√.da	Arminda
gra.sjé.la	čé.la	Graciela
gre.gó.rjo	gó.ǰo	Gregorio

To account for these data, Lipski allows Prosodic Circumscription and Template Mapping to apply twice each. First, the parsing function Φ is set to delimit the rightmost foot of the word. That is, Φ(Word, Foot, Right). Consider the derivation of [(bé.to)].

(10) <u>Prosodic Circumscription</u>:

Parsing Function: Φ(Word, Foot, Right) Base: [al.(βér.to)]

B/Φ = <al>
B:Φ = <βér.to>
(B = B/Φ * B:Φ) = (B = <al> * <βér.to>)

When the function Φ applies, it divides B into the kernel B:Φ = <βér.to> and the residue B/Φ = <al>. A morphological operation called DEL(elition) is then used to dispose of the residue. DEL is formalized as in (11) below.

(11) <u>Residue Deletion</u>:

DEL/Φ(B) = DEL(B/Φ) * B:Φ

Then,

DEL/Φ([al.(βér.to)]) = ∅ * <βér.to>

Once the residue is deleted, the remaining foot is submitted to a second application of Prosodic Circumscription. This time, the parsing function is defined as Φ(Foot, Syllable, Left). The syllable sitting at the left edge of the extracted foot is circumscribed as a new kernel.

(12) <u>Prosodic Circumscription</u>:

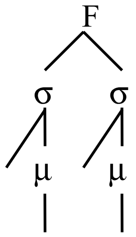
Parsing Function: Φ(Foot, Syllable, Left)
Base: (βér.to)
B:Φ = <βér>

B/Φ = <to>

(B = B:Φ * B/Φ) = (B = <βér> * <to>)

When Φ applies to <βér.to>, it separates the kernel B:Φ = <βér> from the residue B/Φ = <to>. In Lipski's analysis, this second application of Prosodic Circumscription is necessary because mapping must take place syllable by syllable. Only so may he avoid that coda segments get mapped onto the template. Also, note that after this second application of Prosodic Circumscription, the morphological operation DEL must not apply to the residue because both syllables are necessary to satisfy the template. A syllabic trochee whose syllable nodes are pre-specified to dominate a single mora and a single prenuclear segment forms the template.

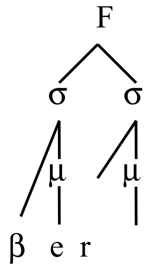
(13) Hypocoristic Template: (Lipski 1995: 405)



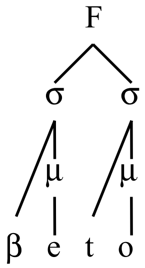
A mapping function M maps the kernel B:Φ = <βér> onto the first syllable of the trochee in a template-driven edge-inward fashion. This means that the two positions dominated by the first syllable node of the template must be filled in with the leftmost consonant and the rightmost vocoid of the kernel melody (14a). All other kernel segments must remain unassociated because there is no room for them under the first syllable node of the template. Unassociated elements are cleared up by Stray Erasure before reaching the surface level.

(14) Template Mapping:

a.



b.



(14b) illustrates how a second application of M maps the residue B/Φ = <to> onto the second syllable of the trochee to fully satisfy the template. Only when the penultimate syllable of SF is closed by a nasal (e.g. [li.sán.dro]) is it possible to preserve a coda segment. It is argued that the reason for this is because nasal consonants are the only segments that may be licensed by a following syllable node. Consider the eight steps necessary to derive TF [(≠án.do)] from SF [(li.(sán.dro)].

(15) a. First application of Prosodic Circumscription:

Parsing Function: Φ(Word, Foot, Right)
Base: [li.(sán.dro)]
(B = B/Φ * B:Φ) = (B = * <sán.dro>)

b. Residue Deletion:

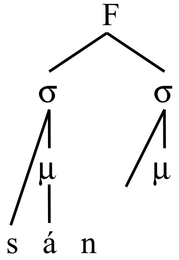
DEL/Φ([li.(sán.dro)]) = ∅ * <sán.dro>

c. Second application of Prosodic Circumscription:

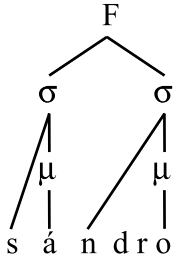
Parsing Function: Φ(Foot, Syllable, Left)
Base: (sán.dro)

(B = B:Φ * B/Φ) = (B = <sán> * <dro>)

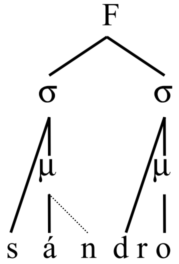
d. First application of Template Mapping:



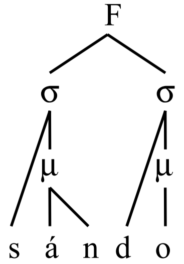
e. Second application of Template Mapping:



f. Coda Adjunction:



g. Stray Erasure:



h. Low-level phonetic rule:

/s/ → [č]   sando → čándo

On the second application of Template Mapping (15e), the nasal consonant is parsed as the onset of the second syllable. It is crucial that Stray Erasure does not apply right after the first mapping. Otherwise, the nasal segment would be lost. Through the template-specific rule of Coda Adjunction, the nasal is transferred from the onset of the second syllable to the coda of the first syllable (15f).

It is argued that the double applications of Template Mapping are justified by the fact that this permits a unified account of hypocoristics that arise from penultimately-stressed SF's and those arising from SF's that bear ante-penultimate stress.

(16) Hypocoristics from ante-penultimately-stressed SF's:

SF	*TF*	
kán.di.δa	kán.da	Cándida
kri.sós.to.mo	čó.to	Crisóstomo
es.ko.lás.ti.ko	lá.čo	Escolástico
trán.si.to	táčo ~ tán.čo	Tránsito
a.ris.tó.βu.lo	tó.βo	Aristóbulo

The examples in (16) show that, when SF is antepenultimately-stressed, TF preserves segments from the three rightmost SF-syllables (e.g. [(tó.βo)] < a.ris.tó.βu.lo). Under this approach, the correct forms may be derived only if Prosodic Circumscription and edge-inward Template Mapping are allowed to apply twice each (17).

(17) a. First application of Prosodic Circumscription:

Parsing Function: Φ(Word, Foot, Right)
Base: [a.ris.(tó.βu).lo]

(B = B/Φ * B:Φ) = (B = <a.ris> * <(tó.βu).lo>)

b. Residue Deletion:

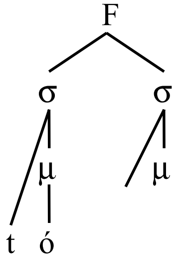
DEL/Φ([a.ris.(tó.βu).lo]) = ∅ * <(tó.βu).lo>

c. Second application of Prosodic Circumscription:

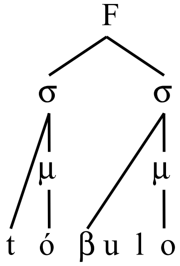
Parsing Function: Φ(Foot, Syllable, Left)
Base: <(tó.βu).lo>

(B = B:Φ * B/Φ) = (B = <tó> * <βu.lo>)

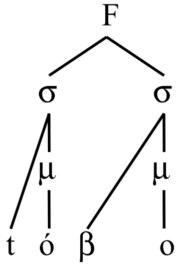
d. First application of Template Mapping:



e. Second application of Template Mapping:



f. Stray Erasure:



The first application of Prosodic Circumscription extracts the three rightmost syllables of SF, which are the ones that contain the segments to be preserved in TF (17a). The second application of Prosodic Circumscription, extracts the leftmost of these three syllables (17c). On its first application, the function M maps the melody of the circumscribed syllable onto the first syllable of the template (17d). Since the two remaining syllables contain more segments than the number of segments needed to fill the remaining part of the template, it is crucial that the second application of M be edge-inward. This way, the edgemost segments of the melody take precedence over internal segments to yield the correct form (17e). By decomposing Prosodic Circumscription and Template Mapping, this approach is able to account for the different patterns exhibited by the data in (9) and (16). Additionally, this account may be extended to cover the following set of data.

(18) Type-B Hypocoristics: (Lipski, 1995: 393)

SF	*TF*	
ful.xén.sjo	fén.čo	Fulgencio
fe.δe.rí.ko	fí.ko	Federico
flo.rín.da	fín.da	Florinda
xe.rár.δo	xá.δo	Gerardo
ma.rí.na	mí.na	Marina
san.tjá.ɣo	sá.ɣo	Santiago

In these examples, TF is formed from the last two syllables of SF except that the first consonant of the penultimate syllable is replaced by the first consonant of the word. To accommodate these data, Lipski allows four different applications of Prosodic Circumscription in a single derivation. The first and second applications extract a foot and a syllable as illustrated for the examples above. On its third application, Prosodic Circumscription extracts the initial consonant of the word: Φ(Word, Consonant, Left). On its fourth application, it separates the first consonant of the hypocoristic: Φ(Hypocoristic, Consonant, Left). The first consonant of the word is then taken by an operator O to overwrite the first consonant of the hypocoristic. Lipski (1995) also considers a type of truncated forms which have been referred to as 'reduplicative' hypocoristics.

(19) Type-B Hypocoristics: (Lipski 1995: 393)

fe.δe.rí.ko	kí.ko	Federico
fe.lí.pe	pí.pe	Felipe
xo.sé.fa	fé.fa	Josefa
kar.ló.ta	tó.ta	Carlota
már.ta	tá.ta	Marta
su.sá.na	ná.na	Susana

His account of these data also relies on circumscription of the initial consonant of the hypocoristic. Once this consonant has been circumscribed, it is deleted by the function DEL. Due to a Template Satisfaction condition, the remaining consonant spreads to fill the empty onset.

This approach appears to achieve ample generality. It accounts for the different sets of data by using the same basic procedures. Regardless the type of SF, TF always corresponds to a syllabic trochee that is derived through successive applications of Prosodic Circumscription and edge-inward Template Mapping. Nevertheless, the analysis has several shortcomings. If the Hypocoristic Template (13) may be altered by adding an extra association line to incorporate a nasal consonant, it remains merely stipulatory that other association lines may not be added to parse non-nasal segments. There is no evidence that a nasal consonant that is parsed as an onset is later on transferred to a preceding coda. Such proposal is ingenious and serves the purpose of creating a temporary shelter for a nasal segment that is necessary to generate the correct form. However, it has no phonological reality. Additionally, this account resorts to a type of Prosodic Circumscription that does not respect prosodic constituency at all times. When SF is penultimately-stressed, the first and second applications of Prosodic Circumscription extract a foot and a syllable, respectively. Since these are prosodic constituents, Prosodic Morphology Theory is observed (see 15 above). A different situation arises when the source form of the hypocoristic is antepenultimately-stressed. Recall that antepenultimate stress in Spanish results from compliance with NonFinality, which causes the main-stressed foot to shift back one syllable: $[\ \ldots\ (\acute{\sigma}\sigma)\sigma]_{PWd}$. In (17) above, the first application of Prosodic Circumscription extracts the three rightmost syllables of the source form. Nevertheless, these syllables do not form a prosodic constituent. The prosodic structure of SF *Aristóbulo* is [a.ris.(tó.βu).lo]. According to this, if a prosodic constituent is to be extracted, then it must be the foot (tó.βu) and not the sequence <(tó.βu).lo> because the latter is not a prosodic unit. Like Prieto (1992), Lipski's analysis relies on a type of Prosodic Circumscription that does not respect prosodic constituency. Under strict observance of Prosodic Morphology Theory, his analysis is unable to generate the correct TF's for ante-penultimately-stressed SF's. This causes the apparent generality of this unified account to fall apart. Prosodic Morphology Theory is also disregarded by those applications of Prosodic Circumscription that delimit the first consonant of the word and the first consonant of the hypocoristic because consonants are not prosodic units, either. In sum, Lipski's analysis seems to capture a single phonological process only because it does not respect constituency at all times. This account works at the expense of unnecessary complications reflected by the many applications of Prosodic Circumscription and Template Mapping, not to mention the need to specify at what point of the derivation Stray Erasure should apply or not apply so that the correct results may be obtained.

4.2 Word minimization in Spanish truncation processes

In their study of Diyari reduplication, McCarthy and Prince (1994) find that the reduplicant exhibits a templatic form which happens to coincide with the Minimal Word (MinWd) in this language: $[(\sigma\sigma)_{Ft}]_{PWd}$. They propose that MinWds are unmarked Prosodic Words (PWds) that arise when the following PWd-Restrictor constraints are strictly respected.

(20) Prosodic-Word Restrictor Constraints:

PARSE-SYLL: *Parse syllables*
All syllables are parsed into feet.

FTBIN: *Foot Binarity*
Feet are binary on a syllabic or moraic analysis.

ALL-FT-L/R: *All Feet Left/Right*
Every foot stands in initial/final position in the PWd.

Perfect satisfaction of the three PWd-Restrictor constraints is only possible when the PWd contains a single binary foot. This is because PARSE-SYLL demands that all syllables in the output be parsed by a foot. Additionally, FTBIN requires footing to be binary. Satisfaction of FTBIN may be accomplished moraically, in quantity-sensitive languages, or syllabically, in quantity-insensitive ones. With regards to ALL-FT, there are two versions of this constraint: ALL-FT-L requires every foot to be word-initial, whereas ALL-FT-R requires all feet to be word-final. According to these alignment conditions, only a form that contains a single foot may fully comply with ALL-FT: $[(\sigma\sigma)_{F}]_{PWD}$. Note that any form that contains more than one foot can not help falling in violation of ALL-FT because each edgemost foot would be separated from the opposite end of the PWd by at least another foot: $[(\sigma\sigma)_F(\sigma\sigma)_F]_{PWd}$. Even when dominated, the effect of ALL-FT-L/R may still be seen. Depending on what version of ALL-FT is active, this constraint forces feet to be as close to the left or right margins of the PWd as possible.

(21) ALL-FT-L

Input: σσσσσ	ALL-FT-L
a. $[\sigma(\sigma\sigma)_{F2}(\sigma\sigma)_{F1}]_{PWd}$	F_1: σσσ ! F_2: σ
b. $[(\sigma\sigma)_{F2}\sigma(\sigma\sigma)_{F1}]_{PWd}$	F_1: σσσ !
c. ☞ $[(\sigma\sigma)_{F2}(\sigma\sigma)_{F1}\sigma]_{PWd}$	F_1: σσ

(22) ALL-FT-R

Input: σσσσσ	ALL-FT-R
a. ☞ $[\sigma(\sigma\sigma)_{F2}(\sigma\sigma)_{F1}]_{PWd}$	F_2: σσ
b. $[(\sigma\sigma)_{F2}\sigma(\sigma\sigma)_{F1}]_{PWd}$	F_2: σσσ !
c. $[(\sigma\sigma)_{F2}(\sigma\sigma)_{F1}\sigma]_{PWd}$	F_2: σσσ ! F_1: σ

ALL-FT quantifies over all feet. That means, that every single foot is evaluated on the distance that separates it from the relevant edge of the PWd. This distance is measured in terms of syllables. In tableaux (21) and (22), all candidates fall in violation of ALL-FT because they contain more than one foot. Nonetheless, optimal satisfaction of these constraints is achieved through their minimal violation by avoiding any unfooted syllables between the edge of each foot and the relevant edge of the PWd (21c, 22a).

When ALL-FT along with PARSE-SYLL and FT-BIN are top-ranking, the optimal output form may contain no more and no less than a single binary foot regardless the number of syllables in the input form. (The distribution of primary stress indicates that ALL-FT-R is the foot-alignment constraint that is active in Spanish: [mi.(nú.to)$_{F}$]$_{PWd}$ 'minute'. Its counterpart, ALL-FT-L will be disregarded hereafter)

(23) FT-BIN, PARSE-SYLL, ALL-FT-R

Input: $\sigma\sigma\sigma$	FT-BIN	PARSE-SYLL	ALL-FT-R
a. $[(\sigma)_{F2}(\sigma\sigma)_{F1}]_{PWd}$	* !		F_2: $\sigma\sigma$
b. $[(\sigma\sigma)_{F2}(\sigma)_{F1}]_{PWd}$	* !		F_2: σ
c. $[(\sigma\sigma)_{F1}\sigma]_{PWd}$		* !	F_1: σ
d. $[\sigma(\sigma\sigma)_{F1}]_{PWd}$		* !	
e. ☞ $[(\sigma\sigma)_{F1}]_{PWd}$			

Any candidate preserving more than two syllables is doomed for it can not help falling in violation of at least one of the PWd-Restrictor constraints (23a-c). Benua (1995) uses this approach to account for Japanese hypocoristics. Word minimality is enforced when the PWd-Restrictor constraints dominate faithfulness constraints. In this section, I develop an analysis along these lines to account for the two types of truncation that occur in Spanish. The following constraints are active as well.

(24) FT-FORM(Troc): *Trochaic Foot Form*

Align the left edge of a foot with the left edge of its head (a stressed syllable).

(25) MAX(SF-TF): *Maximization of the Source Form*

Every element in the Source Form has a correspondent in the Truncated Form. (e.g. syllable, segment, etc.)

Given that in Spanish the single foot contained in TF is always a trochee (e.g. [(Xé.sus)] < [Xe.(sús)] 'Jesus'), the constraint FT-FORM(Troc) must be top-ranking. On the other hand, the fact that TF forms a MinWd at the expense of losing the correspondents of some SF-elements (e.g. [(íX.na)] < [iX.(ná.θjo)] 'Ignatius') is an indication that the MAX(SF-TF) constraint family is dominated by the PWd-Restrictor constraints. The ranking FT-BIN, PARSE-SYLL, ALL-FT-L/R >> MAX(SF-TF) is the hallmark of truncation. It is particular to Spanish that ALL-FT-R and FT-FORM(Troc) are high-ranking. In other languages, it may be ALL-FT-L and FT-FORM(Iamb) that are active, instead. But across languages, when the PWd-Restrictor constraints outrank MAX(SF-TF), identity between TF and SF is often sacrificed in order to obtain the unmarked PWd. Only when SF is disyllabic, TF may have a correspondent for every SF-element (e.g. [(Xó.se)] < [(Xo.sé)] 'Joseph'). Whenever SF exceeds two syllables, it is impossible for TF to remain identical, as illustrated by the following tableau.

(26) FT-FORM(Troc), FT-BIN, PARSE-SYLL, ALL-FT-R >> MAX(SF-TF, σ)

SF: σσσσσ	FT-FRM(Troc)	FT-BIN	PRSE-SYL	ALL-FT-R	MAX(SF-TF,
a. [(σ́)(σ́σ)(σ́σ)]	* !	*			
b. [σ (σ́σ)(σ́σ)]			* !		
c. [(σ́σ)(σ́σ)]				* !	*
d. ☞ [(σ́σ)]					* * *
e. [(σσ́)]	* !				* * *

Truncation is then the price that must be paid for word minimization. To the detriment of MAX(SF-TF), the dominant PWd-Restrictor constraints force TF not to exceed two syllables. FT-FORM(Troc) makes sure that the foot that parses these two syllables is a trochee. The candidate that meets these requirements is the optimal Spanish TF (26d). However, there are two different types of truncation in this language. Recall from section 2 that, in Type-A Hypocoristics, TF preserves the initial syllables of SF whereas, in Type-B Hypocoristics, it is the final syllables that are preserved. Even though both truncation processes share the ranking in (26), they differ with respect to other relevant constraints.

4.2.1 A constraint-based account of Type-A truncated forms

The fact that Spanish clippings and hypocoristics always preserve some segment that sits at one of the peripheries of SF suggests that ANCHORing is being enforced.

(27)	ANCHOR(SF-TF)L:	*Anchor the left edge of the Source Form* Any element at the left periphery of the Source Form has a correspondent at the left periphery of the Truncated Form.
(28)	ANCHOR(SF-TF)R:	*Anchor the right edge of the Source Form* Any element at the right periphery of the Source Form has a correspondent at the right periphery of the Truncated Form.

Given that in Type-A Hypocoristics the leftmost part of SF may never be truncated, the correspondence constraint ANCHOR(SF-TF)L must outrank FT-BIN, PARSE-SYLL and ALL-FT-L. However, since the rightmost part of SF may be lost, FT-BIN, PARSE-SYLL and ALL-FT-L must dominate ANCHOR(SF-TF)R. For reasons of space in the tableaux, I will use PRC to subsume the PWd-Restrictor constraints FT-BIN, PARSE-SYLL and ALL-FT-L.

(29) ANCHOR(SF-TF)L >> PRC >> ANCHOR(SF-TF)R, MAX(SF-TF, σ)

SF: [a.(lí.θja)]	ANC(SF-TF)L	PRC	ANC(SF-TF)R	MAX(SF-TF, σ)
a. ☞ [(á.li)]			*	*
b. [a.(lí.θja)]		* !		
c. [(lí.θja)]	* !			*

Candidate (29b) is identical to SF but, but because it contains an unfooted syllable, it is ruled out by PARSE-SYLL, a member of PRC. Candidates (29a) and (29b) manage to satisfy PRC by leaving out the correspondent of one SF-syllable. Of these two, (29a) is the winner because it also complies with higher-ranking ANCHOR(SF-TF)L. There is, however, another strong competitor that must be considered. A candidate that creates an unmarked PWd by combining the initial and final syllables of SF (e.g. *[(á.θja)] < [a.(lí.θja)]) would actually be expected to win over (29a) because it would satisfy not only ANCHOR(SF-TF)L but ANCHOR(SF-TF)R, as well. It is another correspondence constraint that precludes this type of truncation.

(30) I-CONTIGUITY: *Input Contiguity* ('No Skipping')

The portion of the Truncated Form (TF) standing in correspondence forms a contiguous string.

Range (ℜ) is a single contiguous string in SF.

Like MAX(SF-TF) and ANCHOR(SF-TF)L/R, I-CONTIGUITY enforces the identity between SF and TF. The reason why the optimal TF may rarely be identical to SF is because two of these correspondence constraints are dominated by PRC. That is, PRC

>> ANCHOR(SF-TF)R, MAX(SF-TF). However, TF must still bear a certain degree of similarity with respect to SF because two correspondence constraints dominate the set of constraints that force truncation: ANCHOR(SF-TF)L, I-CONTIGUITY >> PRC. Under this ranking, the optimal TF must be a MinWd formed with the correspondents of the two leftmost syllables of SF (31a).

(31) ANC(SF-TF)L, I-CONTIGUITY >> PRC >> ANC(SF-F)R, MAX(SF-TF, σ)

SF: [kris.(tí.na)]	ANC(SF-F)L	I-CONTIG	PRC	ANC(SF-F)R	MAX(SF-TF, σ)
a. ☞ [(krís.ti)]				*	*
b. [kris.(tí.na)]			* !		
c. [(krís.na)]		* !			*
d. [(tí.na)]	* !				*

This approach differs from Colina's (1995) constraint based-account in two respects. First, it does not resort to any templatic constraints such as the one Colina proposes for Spanish.

(32) TF=σσ: *Disyllabic Truncated Form*
The optimal truncated form consists of a syllabic trochee.

Instead, the fact that the optimal TF is equivalent to a single syllabic trochee follows from the high rank of FT-FORM(Troch) and the set of PWd-Restrictor constraints: FT-BIN, PARSE-SYLL, ALL-FT-R. This has the advantage that all of these constraints are universal, as opposed to a single constraint designed specifically for the process of truncation. Under the approach I propose, no template is necessary. The templatic form of Spanish clippings and hypocoristics is the result of constraint interaction. Specifically, an effect of the ranking FT-FORM(Troch), FT-BIN, PARSE-SYLL, ALL-FT-R >> MAX(SF-TF). In other words, instead of complicating the grammar with the addition of new constraints, truncation is derived from one of the key properties of Optimality Theory: constraint interaction. I conclude that there is not need to postulate constraints that are language particular or that may only be active in a particular process.[2]

Secondly, Colina's analysis does not take ANCHORing into consideration. Without ANCHOR(SF-TF)L, nothing rules out those candidates that manage to form a trochaic foot, but fail to do so by using the two leftmost syllables of SF. To illustrate this point, consider the selection of the optimal TF according to the constraint ranking proposed by Colina.

(33) TF=σσ, CONTIGUITY >> MAX

SF: [al.(fré.ðo)]	TF=σσ	CONTIGUITY	MAX
a. [al.(fré.ðo)]	* !		
b. ☞ [(ál.fre)]			ðo
c. [(ál.ðo)]		* !	fre

The templatic constraint TF=σσ rules out (33a) because this candidate exceeds the two-syllable limit. (33c) is ruled out by CONTIGUITY because it skips one syllable. This would make (33b) triumphant. But this is only apparent. When the form [(fré.ðo)] is

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[2] Cabré and Kenstowicz (1995) propose a similar constraint in order to account for Catalan hypocoristics. In their analysis, *MINPRWD* is a hypocoristic-specific constraint that forces minimal structure at the level of the Prosodic Word. Given that this analysis also relies on FT-BIN, PARSE-SYLL and ALIGN-FT, which are universal constraints that accomplish the same effect, it is not only redundant but very costly to postulate such type of constraints.

taken into consideration, this account is unable to select a winner. Since there is nothing in Colina's analysis that favors [(ál.fre)] over [(fré.δo)], her account overgenerates. Under the analysis I propose, [(ál.fre)] is better than [(fré.δo)] or any other competing candidate because it is the only form that meets the optimal degree of identity between SF and TF that the correspondence constraints ANCHOR(SF-TF)L and I-CONTIGUITY are able to secure through their domination of PRC (34b).

(34) ANC(SF-TF)L, I-CONTIGUITY >> PRC >> ANC(SF-F)R, MAX(SF-TF, σ)

SF: [al.(fré.δo)]	ANC(SF-F)L	I-CONTIG	PRC	ANC(SF-F)R	MAX(SF-TF,
a. [al.(fré.δo)]			* !		
b. ☞ [(ál.fre)]				*	*
c. [(ál.δo)]		* !			*
d. [(fré.δo)]	* !				*

This constraint ranking selects a single optimal TF. The winner is always the candidate that preserves the two leftmost syllables of SF. It is the partial ranking PRC >> MAX(SF-TF, σ) that forces a reduction in the number of syllables from SF to TF. The reduction in the number of segments is due to the fact that MAX(SF-TF, seg) is also outranked by PRC. Even when a MAX(SF-TF, seg) violation could be spared by parsing a segment from a third syllable into the syllabic trochee (e.g. *[(dó.lor)] < [do.(ló.res)]), such alternative is never favored. To account for this, I adopt a constraint proposed by McCarthy and Prince (1994a) and also used by Colina (1995).

(35) ST-ROLE: *Structural Role*

A segment in SF and its correspondent in TF must have identical syllabic roles.

ST-ROLE forces TF to mimic the syllabic structure of SF. When ST-ROLE dominates MAX(SF-TF, seg), preserving a segment with a different syllabic role is more costly than losing it. This explains why the two syllables of TF are a replica of the first two syllables of SF. To reproduce the syllabic structure of SF, the optimal TF must contain only segments that belong to the first two SF-syllables (36b,b').

(36) ST-ROLE >> MAX(SF-TF, seg)

SF: [do.(ló.res)]	ST-ROLE	MAX(SF-TF, seg)
a. [(dó.lor)]	* !	es
b. ☞ [(dó.lo)]		res
SF: [mar.ɣa.(rí.ta)		
a'. [(már.ɣar)]	* !	ita
b'. ☞ [(már.ɣa)]		rita

However, it is not always the case that the two syllables of TF are identical to the first two syllables of SF. As noted by Prieto (1992a), when the peninitial syllable of SF is heavy, the tendency is to turn it into a light one (e.g. [(má.ti)] < [ma.(tíl.de)], [(má.nu)] < [ma.(nwél)]. A set of constraints that regulate syllable well-formedness is responsible for this mismatch between SF and TF.

(37) *COMPLEXN: *No Complex Nuclei*

Syllable nuclei do not branch.

(38) NoCoda: *No Syllable Codas*
Syllables do not have codas.

*ComplexN and NoCoda favor light open syllables. Given that heavy syllables are simplified through deletion of one of the segments in the rhyme, the well-formedness constraints NoCoda and *ComplexN must dominate the correspondence constraint Max(sf-tf, seg). Furthermore, *ComplexN must also dominate St-Role since it is possible to simplify a diphthong by changing the syllabic role of a high vocoid: [i] < [j], [u] < [w].

(39) NoCoda, *ComplexN >> St-Role >> Max(sf-tf, seg)

sf: [ma.(nwél)]	NoCoda	*ComplexN	St-Role	Max(sf-tf, seg)
a. ☞ [(má.nu)]			*	el
b. [(má.nwe)]		* !		l
c. [(má.nwel)]	* !	*		

Even though sf is disyllabic in (39), tf may not be identical because such move would result in violations of NoCoda and *ComplexN (39c). Candidate (39b) avoids a NoCoda violation by leaving out the correspondent of one sf-segment. But this is of no avail because it still runs afoul of ComplexN. Candidate (39a) is the winner because it does away with all syllable markedness. There is, however, one more fact that needs to be explained about tableau (39). Why should the second rather than the first vocoid of the diphthong be lost? Note that a candidate that leaves out the first nuclear element, would also comply with *ComplexN plus it would have the advantage of avoiding a violation of St-Role (cf. *[(má.ne)] < [ma.(nwél)]). The key to answer this question is

CONTIGUITY. If the first member of the diphthong were left out, an internal segment would be skipped. This indicates that the correspondence constraint I-CONTIGUITY dominates *COMPLEXN. So, even though losing the correspondent of an SF-segment is an affordable price to create unmarked syllables, such loss is too costly when an internal segment must be sacrificed. To put it in a different way, the tendency to form unmarked syllables in TF is restricted by the need to preserve a contiguous string. In the following tableau, candidate (40c) is the winner because it simplifies all marked syllable structure without disturbing the contiguity of the melodic string. All other candidates either contain a syllable that is more marked (40a,b) or end up skipping an internal segment in the attempt to avoid violations of the constraints that penalize syllable markedness (40d).

(40) I-CONTIGUITY >> NOCODA, *COMPLEXN >> ST-ROLE >> MAX(SF-TF, seg)

SF: [Xa.(βjér)]	I-CONTIG	NOCODA	*COMPLEXN	ST-ROLE	MAX(SF-TF, seg)
a. [(Xá.βjer)]		* !	*		
b. [(Xá.βje)]			* !		r
c. ☞ [(Xá.βi)]				*	er
d. [(Xá.βe)]	* !				j r

In contrast, when the initial syllable of SF is the marked syllable (e.g. [(krís.ti)] < [kris.(tí.na)] 'Christine'; [(djó.ni)] < [djo.(ní.sjo)] 'Dionisio'), nothing can be done in order to reduce its markedness. This is because I-CONTIGUITY would be affected if any segment in the initial syllable were deleted. Consequently, preserving the offending segments is better than skipping them. This explains why a complex nucleus nor a coda segment that belongs to the initial syllable of SF may ever be simplified or lost in TF, as it is the case for candidates (41c,c') below.

(41) I-CONTIGUITY >> NOCODA, *COMPLEXN >> ST-ROLE >> MAX(SF-TF, seg)

SF: [kris.(tí.na)]	I-CONTIG	NOCODA	*COMPLEXN	ST-ROLE	MAX(SF-TF, seg)
a. [(krís.tin)]		* * !		*	a
b. ☞ [(krís.ti)		*			na
c. [(krí.ti)	* !				s na
SF: [djo.(ní.sjo)]					
a. [(djó.nis)]		* !	*	*	jo
b'. ☞ [(djó.ni)]			*		sjo
c'. [(dí.ni)]	* !			*	o sjo

I propose to account for the option of preserving the coda segment of the peninitial syllable of SF (e.g. [(fér.na)] ~ [(fér.nan)] < [fer.(nán.do)]) through a condition on permissible syllable codas. As noted by Prieto (1992), the only consonants that may close the second syllable of TF are [r, s, n, l]. Whereas these segments differ in manner, they share the same place of articulation. They are all coronal sounds. This observation suggests that there is a condition against non-coronal segments in coda position.

(42) CODACOND: *Coda Condition*

Only coronal segments may be parsed under the syllable coda.

However, there are other coronal segments in the language that may not close the second syllable of TF. They are the palatal sounds [č, ǰ, ñ, (λ)] and the stops [d, t]. The first set of segments may be ruled out by adding the feature [+anterior] since [č, ǰ, ñ, (λ)] are all [-anterior] coronals. CODACOND would then state that only [+anterior] coronals may be parsed under the syllable coda. Nonetheless, this still does not discard [d, t], which are [+anterior] coronals but with lower sonority than [r, s, n, l]. This makes it necessary to add a sonority specification to the CODACONDITION. I follow Martínez-Gil (1996, 1997) in his proposal of a sonority scale for Spanish consonants.

(43) Spanish Sonority Scale:[3] Martínez-Gil (1996, 1997)

obstruents		sonorants	
p, t, k, b, d, g, f	s, (θ), č, ǰ, x (h)	m, n, ñ, (λ), r̄	l, r
1	2	3	4

Elizabeth Hume points out that the fact that /s/ patterns with coronal sonorants would indicate that the sonority value of this segment is 3 rather than 2. In the absence of independent evidence in support of the claim that the sonority of /s/ is lesser than 3, I opt for raising this segment one scale up to place it at sonority scale 3. But as Martínez-Gil points out (personal communication), consistency with this relocation of /s/ in the sonority scale would require that the /θ/ of Peninsular dialects be raised one scale up as well, since /s/ and /θ/ pattern in a similar way in those dialects that have the phonemic contrast /s/ ~ /θ/. Making this adjustment to Martinez-Gil's sonority scale, the sonority values I assume here are the following.

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[3] The parenthesis signal segments that only occur in certain dialects.

(44) Spanish Sonority Scale: Adapted from Martínez-Gil (1996, 1997)

obstruents		sonorants	
p, t, k, b, d, g, f	č, ǰ, x (h)	s, (θ), m, n, ñ, (λ), r̄	l, r
1	2	3	4

Incorporating the feature [+anterior] along with these sonority values, the constraint CodaCond may be redefined to exclude all consonants but [r, s, n, l].

(45) CodaCond: *Coda Condition* (Final Version)

Only [+anterior] coronals with a minimum sonority of 3 may be parsed under the syllable coda.

Along with NoCoda and *ComplexCoda, CodaCond is part of a set of constraints that militate against syllable codas. These constraints are part of a continuum that regulates the degree of markedness tolerated at the right margin of the syllable.

(46) Coda Constraints:

*ComplexCoda ⊃ CodaCond ⊃ NoCoda

When *ComplexCoda is the active constraint, codas are tolerated as long as they do not branch. When instead, it is CodaCond that is active, only those segments that satisfy the condition may be parsed as codas. But most strictly, syllables must be coda-free when NoCoda is the active constraint. It is my claim that, for some speakers, the active coda-constraint in Type-A Hypocoristics is CodaCond, whereas for some others, it is NoCoda. The second syllable of TF may be open or closed depending on which of these constraints is the active one. In the examples above, it was assumed that NoCoda is active. In such case, TF is penalized for every coda segment it contains regardless the makeup of the segment. For convenience, this is illustrated again in the following tableau with the example *férna* < *fernándo*.

(47) I-CONTIGUITY >> NOCODA >> MAX(SF-TF, seg)

SF: [fer.(nán.do)]	I-CONTIGUITY	NOCODA	MAX(SF-TF, seg)
a. [(fér.nan)]		* * !	do
b. ☞ [(fér.na)]		*	ndo
c. [(fé.na)]	* !		r ndo

Given that NOCODA dominates MAX(SF-TF, seg), parsing a segment as a coda is worse than losing it (47a). However, since NOCODA is outranked by I-CONTIGUITY, TF must preserve a coda segment whose omission would entail the skipping of an element in the melodic string (47c). Under this ranking, the optimal TF is the candidate that drops the coda of the peninitial syllable but preserves the coda of the initial one (47b). On the other hand, when it is CODACOND that is the active coda-constraint, TF is penalized only for those coda segments that are not [+anterior] coronals with sonority 3 or higher. According to this, a segment parsed as the coda of the peninitial syllable of SF may be preserved in TF as long as it meets this requirement (48a).

(48) I-CONTIGUITY >> CODACOND >> MAX(SF-TF, seg)

SF: [fer.(nán.do)]	I-CONTIGUITY	CODACOND	MAX(SF-TF, seg)
a. ☞ [(fér.nan)]			do
b. [(fér.na)]			ndo !
c. [(fé.na)]	* !		r ndo

A non-coronal coda segment may be preserved in TF only when it belongs to the initial syllable of SF (49a). Deleting it would give rise to a violation of I-CONTIGUITY.

(49) I-CONTIGUITY >> CODACOND >> MAX(SF-TF, seg)

SF: [iX.(ná.θjo)]	I-CONTIGUITY	CODACOND	MAX(SF-TF, seg)
a. ☞ [(íX.na)]		*	θjo
b. [(í.na)]	* !		X θjo

When the non-coronal coda segment belongs to the peninitial syllable of SF, I-CONTIGUITY is no longer relevant and the offending segment may not be spared (50b).

(50) I-CONTIGUITY >> CODACOND >> MAX(SF-TF, seg)

SF: [kon.θep.(θjón)]	I-CONTIGUITY	CODACOND	MAX(SF-TF, seg)
a. [(kón.θep)]		* !	θjón
b. ☞ [(kón.θe)]			p θjon
c. [(kó.θe)]	* !		n p θjon

In order to account for these same facts, Colina (1995) appeals to constraint-ranking unspecification. She claims that the constraints NOCODA and MAX are unranked with respect to one another. The argument is that if more than one ranking is possible, then more than one output form is to be expected. According to this, when MAX dominates NOCODA, a consonant parsed as the coda of the peninitial syllable of SF must be preserved in TF. Conversely, when NOCODA dominates MAX, the same segment has to be sacrificed. However, even if the ranking between NOCODA and MAX is assumed to be unspecified, such approach can not explain why the following alternation is not possible.

(51)	*SF*	*TF*		
	[kon.θep.(θjón)]	[(kón.θe)]	~	*[(kón.θep)]
	[da.(βíδ)]	[(dá.βi)]	~	*[(dá.βiδ)]

As reported by Prieto (1992), when the coda consonant of the peninitial syllable of SF is not coronal, the preservation of this segment is never an option. The ranking NoCoda >> Max is able to account for TF's whose second syllable is open. However, the ranking Max >> NoCoda wrongly predicts that the forms *[(kón.θep)] and *[(dá.βiδ)] should be possible when they are actually not. The solution I propose has the advantage that it does not overgenerate and it provides an explanation for the fact that only a limited set of consonants may close the second syllable of TF (50a).

The non-preservation of the consonant that closes the peninitial syllable of SF may also be interpreted as a strategy to improve foot form. As pointed out by Hayes (1985), the preferred trochaic foot type corresponds to the form [L L] or [μ μ], whereas [L H] or [μ [μμ]] is the preferred iambic foot type. By omitting the correspondent of the consonant that closes the second syllable of SF (e.g. [(Xé.su)] < [Xe.(sús)] 'Jesus'), TF becomes more like a trochee and less like an iamb: [μ μ] < [μ [μμ]]. The same effect is derived when one of the members of a diphthong in the peninitial syllable of SF is left without a correspondent in TF (e.g. [(Xú.li)] < [(Xú.lja)] 'Julie'). Developing this approach, the prosodic constraint FtForm[μ μ] would dominate the correspondence constraint Max(SF-TF, seg).

(52) FtForm[μ μ] >> Max(SF-TF, seg)

SF: [Xe.(sús)]	FtForm[μ μ]	Max(SF-TF, seg)
a. [(Xé$_\mu$.su$_\mu$s$_\mu$)]	* !	
b. [(Xé$_\mu$.su$_\mu$)]		s
SF: [(Xú.lja)]		
a'. [(Xú$_\mu$.lj$_\mu$a$_\mu$)]	* !	
b'. [(Xú$_\mu$.li$_\mu$)		a

The optimal candidates (52b, b') sacrifice the correspondent of an SF-segment to insure that the second syllable of TF is light so that the optimal trochaic foot type may be obtained.

Casado Velarde (1984) presents a sample of clipped words resulting from a current trend among young people in Spain to reduce polysyllabic words to a disyllabic form (e.g. *bici* < *bicicleta* 'bicycle', *mili* < *milicia* 'army'). The process that yields Type-A Hypocoristics is now being extended to adjectives and nouns. The examples in (53) below are representative.

(53) Spanish clippings:

SF	*TF*	*Gloss*
[am.pli.fi.ka.(δór)]	[(ám.pli)]	'amplifier'
[de.pre.(sjón)]	[(dé.pre)]	'depression'
[ma.ni.fes.ta.(θjón)]	[(má.ni)]	'protest'
[po.li.(θí.a)]	[(pó.li)]	'police'
[pro.tek.(θjón)]	[(pró.te)]	'protection'
[θo.o.(ló.Xi).ko]	[(θó.o)]	'zoo'

The constraint ranking I established above also accounts for these new formations. The optimal TF is a candidate that minimizes in order to comply with the PWd-Restrictor constraints (PRC).

(54) ANCH(SF-TF)L, I-CONTIGUITY >> PRC >> ANCH(SF-TF)R, MAX(SF-TF)

SF: [po.li.(θí.a)]	ANC(SF-TF)L	I-CONT	PRC	ANC(SF-TF)R	MAX(SF-TF)
a. [(θí.a)]	* !				po li
b. [li.(θí.a)]	* !				po
c. [po.li.(θí.a)]			* ! *		
d. ☞ [(pó.li)]				*	si a
e. [(pó.a)]		l ! isi			li si
f. [(lí.θi)]	* !			*	po a

Among the three candidates that undergo minimization in tableau (54), candidate (54d) is selected as optimal because it faithfully reproduces the two leftmost syllables of SF in compliance with the top-ranking constraints ANCHOR(SF-TF)L and I-CONTIGUITY. However, the optimal TF may not remain identical to the two leftmost syllables of SF when the peninitial syllable of SF is marked. This is due to the fact that the effects of well-formedness constraints such as NOCODA/CODACOND, which dominate the MAX(SF-TF) constraint family, can emerge in a context where I-CONTIGUITY is not relevant (55b).

(55) I-CONTIGUITY >> NOCODA >> MAX(SF-TF, seg)

SF: [pro.tek.(θjón)]	I-CONTIGUITY	NOCODA	MAX(SF-TF, seg)
a. [(pró.tek)]		* !	sjon
b. ☞ [(pró.te)]			ksjon

Because syllable markedness may only be avoided when I-CONTIGUITY is not affected, TF may not always be free of all marked structure. In this regard, it should be noted that consonant clusters in SF may never be simplified in TF, as it is demanded by the well-formedness constraint *COMPLEXO(nset). This is because if a consonant cluster appears in the peninitial syllable of SF, dispensing of any of the members of the cluster would result in a violation of I-CONTIGUITY (see 56c-d).

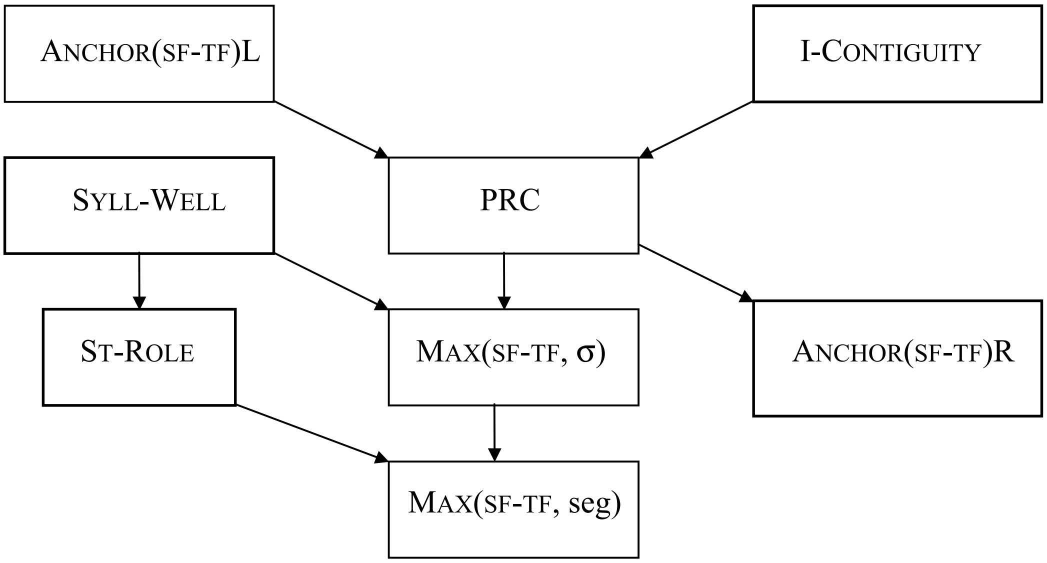
(56) ANCHOR(SF-TF)L, I-CONTIGUITY >> NOCODA, *COMPLEXO >> MAX(SF-TF)

SF: [de.pre.(sjón)]	ANC(SF-TF)L	I-CONT	NOCODA	*COMPO	MAX(SF-TF)
a. [(dé.pres)			* !	*	jon
b. ☞ [(dé.pre)]				*	sjon
c. [(dé.pe)]		r !			r sjon
d. [(dé.re)]		p !			p sjon
SF: [pro.tek.(θjón)]					
a'. [(pró.tek)]			* !	*	θjon
b'. ☞ [(pró.te)]				*	kθjon
c'. [(pó.te)]		* !			r kθjon
d'. [(ró.te)]	* !				p kθjon

On the other hand, if the cluster appears in the initial syllable of SF, the option of dispensing of the word-initial consonant is precluded by the need to satisfy top-ranking ANCHOR(SF-TF)L (see 56d'). The alternative of deleting the second element of the cluster would result in the skipping of a segment (56c'). In other words, the constraint *COMPLEXO is neutralized by ANCHOR(SF-TF)L and I-CONTIGUITY in all contexts.

The following constraint hierarchy accounts for all the facts exhibited by Type-A Truncated Forms.

(57) Constraint hierarchy responsible for Type-A Truncated Forms:



4.2.2 A constraint-based account of Type-B truncated forms

A few other constraints are active in the selection of the optimal Type-B Truncated Form. Unlike Type-A, the formation of Type-B Truncated Forms is sensitive to the prosodic structure of SF. Specifically, the head of the PWd. Related to this issue is the proposal made in Alderete (1995) to interpret the tendency to avoid stress assignment on epenthetic vowels as a type of input-dependence that involves prosodic heads.

(58) HEAD-DEP: *Dependence on the Head of Prosodic Constituents*

Every segment contained in a prosodic head in S_2 must have a correspondent in S_1.

If β is contained in a prosodic head in S_2, then $\beta \in$ Range ($\Re$).

Here, I propose to account for Type-B Truncated Forms through the counterpart of Head-Dep. That is, Head-Max(imization). As illustrated by the data in (59) below, there is a tendency for Truncated Forms of Type-B to preserve those segments that are contained in the head of the PWd of SF.

(59)

	SF	*TF*	
a. Ultimately-stressed SF's:			
	[xo.a.(kín)]$_{\text{PWd}}$	[(kí.no)]$_{\text{PWd}}$	Joaquín
	[ba.len.(tín)]$_{\text{PWd}}$	[(tí.no)]$_{\text{PWd}}$	Valentín
	[i.sa.(βél)]$_{\text{PWd}}$	[(bé.la)]$_{\text{PWd}}$	Isabela
	[i.(nés)]$_{\text{PWd}}$	[(né.ča)]$_{\text{PWd}}$	Inés
b. Penultimately-stressed SF's:			
	[do.(ló.res)]$_{\text{PWd}}$	[(ló.la)]$_{\text{PWd}}$	Dolores
	[an.(sél.mo)]$_{\text{PWd}}$	[(čé.mo)]$_{\text{PWd}}$	Anselmo
	[sil.(βés.tre)]$_{\text{PWd}}$	[(bé.če)]$_{\text{PWd}}$	Silvestre
	[bi.(sén.te)]$_{\text{PWd}}$	[(čén.te)]$_{\text{PWd}}$	Vicente
c. Antepenultimately-stressed SF's:			
	[(kán.di).δa]$_{\text{PWd}}$	[(kán.da)]$_{\text{PWd}}$	Cándida
	[kri.(sós.to).mo]$_{\text{PWd}}$	[(čó.to)]$_{\text{PWd}}$	Crisóstomo
	[(lá.sa).ro]$_{\text{PWd}}$	[(lá.čo)]$_{\text{PWd}}$	Lázaro
	[a.ris.(tó.βu).lo]$_{\text{PWd}}$	[(tó.βo)]$_{\text{PWd}}$	Aristóbulo

These data reveal a strong drive to preserve those elements in the head of the PWd. Prosodic-head maximization is accomplished when output string S_2 provides a correspondent for every segment contained in a prosodic head of input string S_1. I proceed to define Head-Max as follows.

(60) Head-Max: *Maximize the Head of Prosodic Constituents*

Every segment contained in a prosodic head in S_1 must have a correspondent in S_2.

The specific version of HEAD-MAX that is at play in Type-B Truncated Forms is HEAD(PWd)MAX, which demands that every segment parsed under the head of the PWd of SF must have a correspondent in TF. But clearly, HEAD(PWd)MAX is not perfectly obeyed in Type-B Truncated Forms. Some of the segments in the main-stressed foot of SF lack a correspondent in TF. Specifically, the second element of a complex onset is deleted (e.g. [(tán.čo)] < [(tr̲án.si).to] 'Tránsito'), the high vocoid of a diphthong is lost (e.g. [(tén.ča)] < [or.(tén.sj̲a̲)] 'Hortensia') and most coda consonants disappear (e.g. [(bé.to)] < [um.(bér.to)] 'Humberto'). These are the conspicuous effects of the well-formedness constraints *COMPLEXO(nset), *COMPLEXN(ucleus) and CODACOND(ition), redefined for Type-B truncated forms as follows.

(61) *COMPLEXO: *No Complex Onsets*
Syllable onsets do not branch.

(62) *COMPLEXN: *No Complex Nuclei*
Syllable nuclei do not branch.

(63) *CODACOND: *Coda Condition*
No place features in the coda.

Because the PWd-Restrictor constraints dominate MAX(SF-TF), the optimal TF must be a candidate that reduces to a MinWd. Additionally, because HEAD(PWd)MAX dominates the PWd-Restrictor constraints, the segments to be parsed under the MinWd must be the correspondents of the segments contained in the head of the PWd of SF. However, given that the well-formedness constraints *COMPLEXO, *COMPLEXN and CODACOND dominate HEAD(PWd)MAX, the optimal TF may not always have a correspondent for every single segment contained in the main-stressed foot of SF. The effects of this ranking are illustrated in the following tableau where, for reasons of space, the well-formedness constraints *COMPLEXO, *COMPLEXN and CODACOND are subsumed under SYLL-WELL.

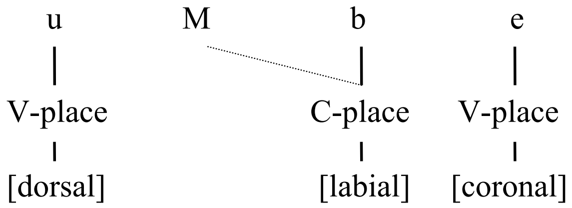
(64) SYLL-WELL >> HEAD(PWd)MAX >> PRC >> MAX(SF-TF)

SF: [uM.(bér.to)]	SYLL-WELL	HEAD(PWd)MAX	PRC	MAX(SF-TF)
a. [(úM.be)]		rto !		rto
b. [(úM.ber)]	* !	to		to
c. [uM.(bér.to)]	* !		*	
d. [(bér.to)]	* !			um
e. ☞ [(bé.to)]		r		um r

Candidates (64b,c and d) are ruled out by CODACOND, a member of SYLL-WELL, because they all have the segment /r/ parsed as a syllable coda. Since /r/ contains a place feature (e.g. [coronal]), each one of these candidates violates the constraint CODACOND once. The rivalry between the two surviving candidates, (64a) and (64e), is settled by HEAD(PWd)MAX. This constraint favors candidate (64e) for it manages to preserve a greater number of segments of those contained in the head of the PWd of SF.

It should be noted that even though candidate (64a) contains a coda consonant, it does not fall in violation of CODACOND. This is because the segment /M/ does not have a place feature of its own. Instead, it is parasitic on the place feature of the following consonant, as illustrated in the following representation.

(65)



This explains why the first syllable of the optimal TF may be closed by a nasal. Due to their property of giving up their own place features and becoming parasitic on the place feature of a following consonant, nasals are able to pass undetected by the scanning of CodaCond. However, for this to be possible, the nasal must be parsed under a word-internal coda because only there it would be followed by another consonant to share place features with. In tableau (66) below, candidate (66c) is optimal because it is able to preserve all segments in the main-stressed foot of SF without incurring any violations of Syll-Well. Candidates (66a) and (66b) are discarded by Syll-Well because they fall in violation of CodaCond. (66b) violates CodaCond twice because both /r/ and /n/ are segments specified for place. (The capital letter stands for a nasal consonant that is phonologically placeless and *pl* signals the presence of place features in the coda)

(66) Syll-Well >> Head(PWd)Max >> PRC >> Max(SF-TF)

SF: [ar.(míN.da)]	Syll-Well	Head(PWd)Max	PRC	Max(SF-TF)
a. [a r . (m í N .d a)] pl	* !		*	
b. [(á r . m í n)] pl pl	* ! *			da
c. ☞ [(m í N . d a)]				ar

Note that when a nasal ends up in word-final position, it retains its place feature. Nasals must rely on their own place of articulation when deprived of the support of a following consonant. This explains why the second syllable of TF may never be closed. Word-finally, not even nasals may pass undetected by CODACOND because in that position they have their own place feature just like all other segments.

But nasals are not the only consonants that undergo place assimilation in Spanish. When parsed as a coda, the lateral [l] also acquires the place feature of a following consonant. It becomes dental when preceding the dental stops /t, d/ (e.g. [aḽ.to] < /alto/ 'tall', [aḽ.dea] < /aldea/ 'village') or palatal when it precedes the palatal affricate [≠] (e.g. [koɭ.čón] < /kolčon/ 'mattress'). Place sharing has been proposed to account for the spirantization anomaly involving the sequence /ld/. The voiced stops /d, g/ spirantize when they follow /l/ (e.g. [kál.βo] < /kalbo/ 'bald', [sál.ɣo] < /salgo/ 'I leave'), whereas /d/ remains unchanged in the same context (e.g. [fál.da] < /falda/ 'skirt'). Following Steriada (1982), Harris (1984) redefines Guerssel's (1978) Adjacency Identity Constraint in autosegmental terms. He proposes a universal convention that I paraphrase as follows. Given a phonological representation REP where *x* and *y* are segments linked at some autosegmental tier, a process P may only affect *x* or *y* if both *x* and *y* satisfy the structural description of P. This convention precludes the spirantization of /d/ when preceded by /l/ given that /l/ is not a voiced obstruent and spirantization only applies to voiced obstruents. Even though /d/ is a voiced obstruent, spirantization may not apply to /d/ alone because /d/ is linked to /l/ at the place node.

The relevant point of this discussion is that place sharing should enable /l/ to pass undetected by CodaCond. Consequently, the segment /l/ should be retained when it is parsed as the coda of the first syllable of the main-stressed foot of SF and followed by a homorganic consonant. The data in (66b) reveal that, in such context, /l/ is in fact preserved. However, a change in its structural role comes about.

(67)	*SF*	*TF*	
a.	[an.(sél.mo)]$_{\mathrm{PWd}}$	[(čé.mo)]$_{\mathrm{PWd}}$	Anselmo
	[r̄o.(sál.βa)]$_{\mathrm{PWd}}$	[(čá.βa)]$_{\mathrm{PWd}}$	Rosalba
	[(síl.βja)]$_{\mathrm{PWd}}$	[(čí.βa)]$_{\mathrm{PWd}}$	Silvia
	[(tél.mo)]$_{\mathrm{PWd}}$	[(té.mo)]$_{\mathrm{PWd}}$	Telmo
	[(ól.ɣa)]	[(kó.ka)]$_{\mathrm{PWd}}$	Olga
b.	[gi.le.(bál̝.do)]$_{\mathrm{PWd}}$	[(bá.lo)]$_{\mathrm{PWd}}$	Guilebaldo
	[gri.(sél̝.da)]$_{\mathrm{PWd}}$	[(čé.la)]$_{\mathrm{PWd}}$	Griselda
	[i.(mél̝.da)]$_{\mathrm{PWd}}$	[(mé.la)]$_{\mathrm{PWd}}$	Imelda
	[leo.(pól̝.do)]$_{\mathrm{PWd}}$	[(pó.lo)]$_{\mathrm{PWd}}$	Leopoldo

The truncated forms in (67a) confirm that CodaCond is active. It forces the deletion of /l/ whenever the lateral precedes a non-homorganic segment. I found quite a number of Spanish names where /l/ is followed by a labial consonant within the main-stressed foot, however, I could only find one example where /l/ is followed by a velar consonant in such context (e.g. *[(kó.ka)] < [(ól.ga)]* 'Olga'). In any case, this example corroborates the claim that /l/ deletes when preceding a non-homorganic segment whether it is a labial or a velar. The data in (67a)) also indicate that the constraint St-Role, which requires the identity in syllabic roles between SF and TF correspondents, is active as well. St-Role is responsible for ruling out candidates such as *[(čá.la)] and *[(té.lo)] (see 68a and 68a'), which assign a different syllabic role to the offending coda segment. According to this, ST-ROLE dominates NOCODA and, as established above, NOCODA along with the rest of the SYLL-WELL constraints dominates MAX(SF-TF, seg).

(68) ST-ROLE >> NOCODA >> MAX(SF-TF, seg)

SF: [r̄o.(sál.βa)]$_{\text{PWd}}$	ST-ROLE	NOCODA	MAX(SF-TF, seg)
a. [(čá.la)]$_{\text{PWd}}$	* !		ɒ̄ β
b. [(čál.βa)]$_{\text{PWd}}$ | pl		* !	ɒ̄
c. ☞ [(čá.βa)]$_{\text{PWd}}$			ɒ̄ l
SF: [(tél.mo)]$_{\text{PWd}}$			
a'. [(té.lo)]$_{\text{PWd}}$	* !		m
b'. [(tél.mo)]$_{\text{PWd}}$ | pl		* !	
c'. ☞ [(té.mo)]$_{\text{PWd}}$			l

What is surprising of the data in (65) above is that /d/, a segment that is not in violation of any of the syllable well-formedness constraints, is deleted whereas /l/, the segment that challenges CODACOND, is preserved (see 68b). It appears that in addition to CODACOND there is a ban on the sequence /ld/ that favors the sonorant segment over the obstruent one. The following constraints participate in this conflict.

(69) *LD: The sequence /ld/ is disallowed

(70) PARSE-l: Parse the segment /l/

(71) PARSE-d: Parse the segment /d/

PARSE-l must dominate *LD to ensure the preservation of /l/. Given that /d/ is the segment dropped to avoid the disallowed sequence, *LD must dominate PARSE-d. *LD and PARSE-l must also outrank ST-ROLE since the lateral segment is preserved even if this involves a change in its structural role.

(72) PARSE-l >> *LD >> PARSE-d, ST-ROLE

SF:		[gi.le.(báḽ.do)]$_{PWd}$	PARSE-l	*LD	PARSE-d	ST-ROLE
a.		[(báḽ.do)]$_{PWd}$		* !		
b.		[(bá.do)]$_{PWd}$	* !			
c.	☞	[(bá.lo)]$_{PWd}$			*	*

Except for these special cases, CODACOND is able to bar the correspondents of all other segments that close any syllable contained in the head of the PWd of SF. In tableau (73) below, candidates (73a-c) are ruled out by SYLL-WELL. Since /r/ and /s/ bear place features of their own, these candidates are penalized by CODACOND. The optimal TF is a minimally-marked structure that features a MinWd built on two CV-syllables (73d). The cost of this unmarkedness is the lack of a greater number of correspondents; that is, a greater degree of unfaithfulness of TF with respect to SF.

(73) SYLL-WELL >> HEAD(PWd)MAX >> PWD-REST >> MAX(SF-TF)

SF: [er.(nés.to)]	SYLL-WELL	HEAD(PWd)MAX	PWD-REST	MAX(SF-TF)
a. [e r . (n é s . t o)] | | pl pl	* ! *		*	
b. [é r . n e s)] | | pl pl	* ! *	to		to
c. [(n é s . t o)] | pl	* !			er
d. ☞ [(n é . t o)]		s		er s

These data confirm that the constraint ST-ROLE is active. It must outrank SYLL-WELL given that, except for [l.d] sequences, syllable markedness may not be resolved through change in syllabic roles. Consider a candidate such as *[(né.čo)], where /č/ stands as the correspondent of /s/ in TF [er.(nés.to)]. Even though candidate (74c) complies with SYLL-WELL, it does so by parsing the correspondent of a coda segment as an onset, which constitutes a violation of ST-ROLE. The optimal TF must not only avoid marked syllable structure but it must also preserve segments that maintain the structural roles of their SF-correspondents (74c).

(74) ST-ROLE >> SYLL-WELL

SF: [er.(nés.to)]	ST-ROLE	SYLL-WELL
a. [(nés.to)]		* !
b. ☞ [(né.to)]		
c. [[(né.so)]	* !	

When the two members of a consonant cluster play the same structural role in SF (e.g. both are onset segments), SYLL-WELL, specifically *COMPLEXO, forces the deletion of one of them. The following examples illustrate this case.

(75)	[a.le.xan.(drí.na)]$_{\text{PWd}}$	[(dí.na)]$_{\text{PWd}}$	Alejandrina
	[a.le.(xán.dro)]$_{\text{PWd}}$	[(xán.do)]$_{\text{PWd}}$	Alejandro
	[am.(bró.sjo)]$_{\text{PWd}}$	[(bó.≠o)]$_{\text{PWd}}$	Ambrosio
	[en.(grá.sja)]$_{\text{PWd}}$	[gá.ča)]$_{\text{PWd}}$	Engracia
	[lu.(kré.sja)]$_{\text{PWd}}$	[(ké.ča)]$_{\text{PWd}}$	Lucrecia
	[pa.(trí.sja)]$_{\text{PWd}}$	[(tí.ča)]$_{\text{PWd}}$	Patricia
	[(trán.si).to]$_{\text{PWd}}$	[(tán.čo)]$_{\text{PWd}}$	Tránsito

The fact that the leftmost segment within the syllable is favored suggests that there is a syllable left-ANCHORing constraint, which must outrank *COMPLEXO to ensure that the first of two onset segments is retained (see tableau 77).

(76) ANCHOR(σ)L: *Anchor Syllables Left*

A segment sitting at the left periphery of an SF-syllable has a correspondent at the left periphery of a TF-syllable.

ANCHOR(σ)L is outranked only by PARSE-l and *LD. This ranking accounts for the fact that the hetorsyllabic sequence [l.d] is simplified by dropping /d/ and preserving the coda segment as a syllable onset (77c'). Tableau (77) below shows that although simplex onsets are enforced, they may not be obtained by omitting the first member of an onset cluster in SF. Candidate (77c) is discarded by ANCHOR(σ)L because it overlooks this condition.

(77) PARSE-l >> *LD >> ANCHOR(σ)L >> SYLL-WELL

SF:	[a.le.xan.(drí.na)]$_{\text{PWd}}$	PARSE-l	*LD	ANCHOR(σ)L	SYLL-WELL
a.	[(drí.na)]$_{\text{PWd}}$				* !
b. ☞	[(dí.na)]$_{\text{PWd}}$				
c.	[(r̄i.na)]$_{\text{PWd}}$			* !	
SF:	[gri.(séḽ.da)]$_{\text{PWd}}$				
a'.	[(čéḽ.da)]$_{\text{PWd}}$		* !		* !
b'.	[[čé.da)]$_{\text{PWd}}$	* !			
c'. ☞	[(čé.la)]$_{\text{PWd}}$			*	

Like codas and onsets, diphthongs are also simplified to satisfy SYLL-WELL, specifically *COMPLEXNUCLEUS. The following data show that, if the main-stressed foot of SF contains a syllable with a diphthong, the less sonorous of the two vocoids does not have a correspondent in TF.

(78)

[a.de.(láj.da)]$_{\text{PWd}}$	[(lá.la)]$_{\text{PWd}}$	Adelaida
[(bráw.ljo)]$_{\text{PWd}}$	[(bá.lo)]$_{\text{PWd}}$	Braulio
[ka.(sjá.no)]$_{\text{PWd}}$	[(čá.no)]$_{\text{PWd}}$	Casiano
[(fáws.ta)]$_{\text{PWd}}$	[(fá.ta)]$_{\text{PWd}}$	Fausta
[fe.li.(sjá.no)]$_{\text{PWd}}$	[(ča.no)]$_{\text{PWd}}$	Feliciano
[(sój.la)] $_{\text{PWd}}$	[(čó.la)]$_{\text{PWd}}$	Zoila

Note that deletion of the more sonorous vocoid of a diphthong would entail a change in structural roles: a non-peak vocoid would become the syllable peak. The fact that complex nuclei may not be simplified through a change in structural roles confirms that ST-ROLE dominates SYLL-WELL.

(79) ST-ROLE >> SYLL-WELL

SF:	[(bráw.ljo)]	ST-ROLE	SYLL-WELL
a.	[(bráw.ljo)]		* ! * *
b.	[(báw.ljo)]		* ! *
c.	[(bá.ljo)]		* !
d. ☞	[(bá.lo)]		
e.	[(bú.lo)]	* !	
d.	[(bú.li)]	* ! *	

Candidates (79a-c) run afoul of SYLL-WELL because they all incur violations of *COMPLEXNUCLEUS (candidate 79a. is also in violation of *COMPLEXONSET). The forms in (79e,d) opt for simplifying the complex nuclei in their attempt to comply with SYLL-WELL but they are discarded by ST-ROLE because they preserve segments with different syllabic roles. Candidate (79d) is the optimal TF because it does away with all syllable markedness without changing the syllabic roles of any segments.

This strong tendency to avoid all marked syllable structure is typical of Type-B truncated forms. It constitutes a major distinction between Type-A and Type-B hypocoristics. Whereas in Type-A, the skipping of internal segments is strongly disfavored, this is a well-accepted alternative to obtain syllable unmarkedness in Type-B truncated forms. This indicates that, whereas in Type-A the constraint I-CONTIGUITY dominates the set of constraints SYLL-WELL, in Type-B, it is SYLL-WELL that dominates I-CONTIGUITY.

(80) SYLL-WELL >> I-CONTIGUITY

SF: [(fáws.ta)]	SYLL-WELL	I-CONTIGUITY
a. [(fáws.ta)]	* ! *	
b. [(fás.ta)]	* !	w
c. ☞ [(fá.ta)]		ws

When dominated by SYLL-WELL, the constraint I-CONTIGUITY is unable to neutralize any of the well-formedness constraints. The generalization is that in Type-B truncated forms, syllable well-formedness takes priority over (SF-TF)-Faithfulness. The high rank of SYLL-WELL is the reason why the MinWd tends to be erected on two CV-syllables that yield the templatic [(CV.CV)] form.

Another way in which (SF-TF)-Faithfulness is affected has to do with featural correspondence. Notice that some of the segments in the main-stressed foot of SF have a TF-correspondent that is not featurally identical (e.g. [(≠i.la)] < [er.(s̲í.lja)] 'Ercilia'). In Type-B hypocoristics, there is a strong tendency to avoid certain segments. Most frequently, it is /s, f, x, r/ that have an unfaithful correspondent in TF.

(81) a. s → č

[ar.te.(mí.sa)]	[(mí.ča)]	Artemisa
[al.(fón.so)]	[(pón.čo)]	Alfonso
[se.(sí.lia)]	[(čí.la)]	Cecilia
[(sój.la)]	[(čó.la)]	Zoila

b. f → p

[al.(fón.so)]	[(pón.≠o)]	Alfonso
[bo.ni.(fá.sjo)]	[(pá.čo)]	Bonifacio
[del.(fí.na)]	[(pí.na)]	Delfina
[ew.(frá.sja)]	[(pá.ča)]	Eufrasia

c. x → k[4]

[eu.(xé.nja)]	[ké.ña)]	Eugenia
[(xór.xe)]	[(kó.ke)]	Jorge
[re.(fú.xjo)]	[(kú.ko)]	Refugio
[bir.(xí.njo)]	[(kí.ño)]	Virginio

d. r → l

[aw.(ré.ljo)]	[(lé.lo)]	Aurelio
[aw.(ró.ra)]	[(ló.la)]	Aurora
[el.(βí.ra)]	[(bí.la)]	Elvira
[si.(rí.lo)]	[(lí.lo)]	Cirilo

These data reveal that the segments /s, f, x, r/ are strongly disfavored. The fricatives /s, f, x/ turn into the stops /≠, p, k/, respectively (81a-c) and the vibrant /r/ changes into the lateral /l/ (81d). According to the following universal sonority scale, all of these changes represent a decrease in sonority.

(81) Universal Sonority Scale: (Based on Jespersen, 1904)

Obstruents				Nasals	Laterals	r-sounds
p, t, k, č	f, s, x	b, d, g, ⌋	v, z, ǰ	m, n, ñ, ŋ	l, ʎ	r, r̄
1	2	3	4	5	6	7
voiceless		voiced				

(82) a. Sonority decrease:

s → č
f → p Sonority 2 → Sonority 1
x → k

r → l Sonority 7 → Sonority 6

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[4] Although there are not may examples, there is also a tendency for the voiced stop /g/ to become /k/ (e.g. koka < olga 'Olga (a girl's name)'.

In order to account for this tendency of /s, f, x, r/ to become less sonorous, I resort to the principle of Sonority Dispersion (Clements 1990b). This principle arises from the observation that, within the syllable, sonority disperses from the syllable peak onto the margins. As a consequence of this, each syllable constitutes a sonority cycle, which consists of an initial and a final demisyllables. Typically, the initial demisyllable rises in sonority, whereas the final demisyllable exhibits a sonority decline. The Dispersion Principle captures this generalization according to the values of dispersion, D.[5]

(83) *Dispersion Principle*: (Clements, 1990b: 304)

a. The preferred initial demisyllable minimizes D.
b. The preferred final demisyllable maximizes D.

Minimizing D, requires non-peak segments to be low in sonority, which results in a sharp and steady sonority rise in the initial demisyllable. Conversely, maximizing D, requires non-peak segments to be high in sonority, which yields a gradual sonority drop in the final demisyllable.

It is clear that the Dispersion Principle is satisfied by all the members of the set {/sV/, /fV/, /xV/, /rV/}. However, notice that each syllable of the set {/ čV/, /pV/, /kV/, /ǰV/} has a lower dispersion value because the non-peak segments of their initial

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[5] The exact value of D is calculated according to the following equation.

$$D = \sum_{i-1}^{m} 1 / d_i^2$$

where *d* is the distance in sonority rank between each *i*th pair of segments in the demisyllable (including all non-adjacent pairs); and *m* is the number of pairs in the demisyllable, equal to *n*(*n*-1)/2, where *n* is the number of segments.

demisyllables are less sonorous. Since sonority dispersion in the initial demisyllable is to be minimized, the sonority profile of the syllables in {/ čV/, /pV/, /kV/, / ǰV/} is better than that of the syllables in {/sV/, /fV/, /xV/, /rV/}. In order to capture this tendency to prefer syllables with a better sonority profile, I propose the constraint (N-O)SONDIST, which favors a sharp sonority contrast between the peak and the left syllable margin.

(84) (N-O)SONDIST: *Nucleus-Onset Sonority Distance*
Maximize the sonority distance between the nucleus of a syllable and its onset.

Given that the change of /s, f, x, r/ into /≠, p, k, ǰ/ promotes a sharper nucleus-onset contrast to the detriment of featural identity, the constraint (N-O)SONDIST must dominate the correspondence constraint IDENT(SF-TF). For the purposes here, I will assume that all vowels have sonority 8, although it is well-known that vowels have different sonority values, which depend mainly on their degree of aperture.

(85) (N-O)SONDIST >> IDENT(SF-TF)

SF: [(xór.xe)]	(N-O)SONDIST	IDENT(SF-TF)
a. $(\text{xó})_{\sigma1}(\text{xe})_{\sigma2}$	$\sigma_1 = 6$! $\sigma_2 = 6$	▨
b. ☞ $(\text{kó})_{\sigma1}(\text{ke})_{\sigma2}$	$\sigma_1 = 7$ $\sigma_2 = 7$	{continuant} {continuant}

According to the universal sonority scale, the sonority distance between /x/ and /V/ is 6, whereas /k/ and /V/ are separated by 7 sonority levels. Even though candidate (85b) incurs two violations of IDENT(SF-TF), it is selected as optimal because the sonority distance between the segments that it parses in the peak and non-peak positions (e.g. /kV/) of its two syllables is greater than the distance that separates the onset and nucleus (e.g. /xV/) of the two syllables of candidate (85a). But not all of the IDENT(SF-TF) constraints are dominated. If they were, one would expect all consonants in the main-stressed foot of SF to have less sonorous segments as their TF-correspondents, and this is certainly not the case. My claim is that the segments /s, f, x, r/ in SF may have less sonorous correspondents in TF because the specific versions of IDENT(SF-TF) that are dominated by (N-O)SONDIST are IDENT(SF-TF, continuant) and IDENT(SF-TF, place), however, the rest of IDENT(SF-TF) constraints outrank (N-O)SONDIST. By ruling out all cases of extreme unfaithfulness, this ranking ensures that correspondent elements will be minimally dissimilar. For instance, a segment such as /f/ may not have /≠/ as its TF-correspondent because, even though such change would maximize the sonority distance between onset and nucleus, it would also entail violating some undominated versions of IDENT(SF-TF). Tableau (86) illustrates the interaction of (N-O)SONDIST with IDENT(SF-TF) constraints.

(86) IDENT(SF-TF, nas, voice, strid., etc) >> (N-O)SONDIST >> IDENT(SF-TF, cont, pl)

SF: [del.(fí.na)]	IDENT(SF-TF, nasal, voice, strident, etc.)	(N-O)SONDIST	IDENT(SF-TF, continuant, place)
a. (č̲í)$_{\sigma1}$(na)$_{\sigma2}$	{strident} !	$\sigma_1 = 7$ $\sigma_2 = 3$	{place} {continuant}
b. (k̲í)$_{\sigma1}$(na)$_{\sigma2}$		$\sigma_1 = 7$ $\sigma_2 = 3$	{place} ! {continuant}
c. ☞ (p̲í)$_{\sigma1}$(na)$_{\sigma2}$		$\sigma_1 = 7$ $\sigma_2 = 3$	{continuant}
d. (fí)$_{\sigma1}$(d̲a)$_{\sigma2}$	{nasal} ! {sonorant}	$\sigma_1 = 6$ $\sigma_2 = 5$	
e. (fí)$_{\sigma1}$(≠̲a)$_{\sigma2}$	{nasal} ! {strident} {sonorant}	$\sigma_1 = 6$ $\sigma_2 = 7$	{place}

Candidates (86b) and (86c) are the only ones that do not fall in violation of the general IDENT(SF-TF) constraint, which is able to secure a certain degree of featural identity by dominating (N-O)SONDIST. These two finalist tie with respect to the constraint (N-O)SONDIST since the sonority dispersion of the two initial demisyllables is the same for both (86b) and (86c). Bottom-ranking IDENT(SF-TF, continuant, place) settles the rivalry by favoring (86c) over (86b). Even though, both candidates incur one violation of IDENT(SF-TF, continuant) and neither of them preserves the exact place of the SF-correspondent, (86c) remains more faithful because it violates IDENT(SF-TF, place) only partially (e.g. {labial}, the main place feature is preserved), whereas (86b) blatantly violates this constraint.

The puzzling fact that /s/ becomes /≠/ rather than /t/ also follows from this constraint ranking, as illustrated by the following tableau.

(87) IDENT(SF-TF, nas, voice, strid., etc) >> (N-O)SONDIST >> IDENT(SF-TF, cont, pl)

SF: [se.(sí.lja)]	IDENT(SF-TF, nasal, voice, strident, etc.)	(N-O)SONDIST	IDENT(SF-TF, continuant, place)
a. ☞ (≠̲í)$_{\sigma1}$(la)$_{\sigma2}$		$\sigma_1 = 7$ $\sigma_2 = 2$	{continuant}
b. (p̲í)$_{\sigma1}$(la)$_{\sigma2}$	{strident} !	$\sigma_1 = 7$ $\sigma_2 = 2$	{place} {continuant}
c. (t̲í)$_{\sigma1}$(la)$_{\sigma2}$	{strident} !	$\sigma_1 = 7$ $\sigma_2 = 2$	{continuant}
d. (b̲í)$_{\sigma1}$(la)$_{\sigma2}$	{strident} ! {voice}	$\sigma_1 = 5$ $\sigma_2 = 2$	{place} {continuant}

Given that the change /s/ → /č/ only affects the features {continuant} and partially, the feature {place} (e.g. {coronal}, the main place feature is preserved), candidate (87a) scores better than any other candidate because it remains faithful to all of the undominated features while maximizing the sonority distance between onset and nucleus. Since Spanish does not have a phoneme less sonorous than /≠/ that preserves the features {voice} and {strident} (e.g. /ts/), no other Spanish sound could be a better substitute for /s/. Even though /t/ has the same place of articulation as /s/ and it incurs a single violation of IDENT(SF-TF, continuant, place), it is not chosen as the optimal substitute for /s/ because it fails to preserve the feature {strident}.

Under the condition that IDENT(SF-TF, continuant, place) is the only IDENT(SF-TF) constraint that may be violated, the vibrant /r/ is better replaced by the lateral /l/ than by any other Spanish segment. This is illustrated by the following tableau.

(88) IDENT(SF-TF, nas, voice, strid., etc) >> (N-O)SONDIST >> IDENT(SF-TF, cont, pl)

SF: [aw.(ró.ra)]	IDENT(SF-TF, nasal, voice, strident, etc.)	(N-O)SONDIST	IDENT(SF-TF, continuant, place)
a. ☞ (l̲ó)$_{\sigma1}$(l̲a)$_{\sigma2}$		$\sigma_1 = 2$ $\sigma_2 = 2$	{continuant} {continuant}
b. (n̲ó)$_{\sigma1}$(n̲a)$_{\sigma2}$	{nasal} ! {nasal	$\sigma_1 = 3$ $\sigma_2 = 3$	{continuant} {continuant}
c. (d̲ó)$_{\sigma1}$(d̲a)$_{\sigma2}$	{approximant} ! {sonorant}	$\sigma_1 = 5$ $\sigma_2 = 5$	{continuant} {continuant}

Although replacing /r/ by /n/ or /d/ would further extend the sonority distance between onset and nucleus (88b-c), such move would result in unfaithfulness to features other than {continuant}, which is a fatal failure under the ranking IDENT(SF-TF, nas, voice, strid., etc) >> (N-O)SONDIST >> IDENT(SF-TF, cont, pl). In sum, this account of sound substitutions relies on feature faithfulness and universal sonority considerations to explain these otherwise unexplainable changes.

Nevertheless, there are also some sound substitutions that seem to be unpredictable considering that there is no apparent phonological principle responsible for them. The following data are representative.

(89) a. d → l

[a.δe.(láj.δa)]	[lá.la)]	Adelaida
[i.(sí.δro)]	[čí.lo)]	Isidro
[e.(δwár.δo)]	[(lá.lo)]	Eduardo

b. r → ǰ

[e.δel.(mí.ra)]	[(mí.ǰa)]	Edelmira
[(fló.ra)]	[(pó.ǰa)]	Flora
[te.o.(δó.ra)]	[(tó. .ǰa)]	Teodora

g. d → ǰ

[al.(fré.δo)]	[(pé.ǰo)]	Alfredo
[e.(δwár.δo)]	[(ǰá.ǰo)]	Eduardo
[ber.(nár.δo)]	[(ná.ǰo)]	Bernardo

Contrary to extending the sonority distance between onset and nucleus, the substitutions that replace /d/ by /l/ or / ǰ/ reduce it because both /l/ and / ǰ/ have higher sonority than /d/. In the case of r → ǰ, there is an increase in sonority distance given that

/ ǰ/ is less sonorous than /r/, however, features other than {continuant} and {place} are being affected (e.g. {approximant}, {strident}).

(90) a. <u>Sonority decrease</u>:

r → ǰ Sonority 7 → Sonority 4

b. <u>Sonority increase</u>:

d → ǰ Sonority 3 → Sonority 4

d → l Sonority 3 → Sonority 6

Other than observing a high resistance to be faithful to the segment /d/, possibly connected with the fact that /l/ is the segment maintained when there is an /ld/ sequence in the main-stressed foot of SF, I currently have no explanation to offer in order to account for such changes. The issue is left for future research.

In addition to the sound substitutions discussed above, there is also a process of palatalization that affects the coronal consonants /r, l, d, t, n/ when followed by a yod.

(91) a. sj → č

[a.ta.(ná.sjo)]	[(ná.čo)]	Atanasio
[gra.(sié.la)]	[(čé.la)]	Graciela
[kle.(mén.sja)]	[(mén.ča)]	Clemencia

b. rj → ǰ

[be.li.(sá.rjo)]	[(čá.ǰo)]	Belisario
[bik.(tó.rja)]	[(tó.ǰa)]	Victoria
[(gló.rja)]	[(gó.ǰa)]	Gloria

c. lj → ǰ

[a.(má.lja)]	[(má.ǰa)]	Amalia
[e.(mí.ljo)]	[(mí.ǰo)]	Emilio
[r̄o.(xé.ljo)]	[(xé.ǰo)]	Rogelio

d. dj → ǰ

[(djé.go)]	[(ǰé.ǰo)]	Diego
[leo.(ká.δja)]	[(ká.ǰa)]	Leocadia
[kus.(tó.δja)]	[(tó.ǰa)]	Custodia

e. tj → ǰ

[(san.(tjá.ɣo)]	[(čá.ɣo)]	Santiago
[se.βas.(tján)]	[(ča.no)]	Sebastián
[se.βas.(tjá.na)]	[(čá.na)]	Sebastiana

e. nj → ñ

[an.(tó.nio)]	[(tó.ño)]	Antonio
[ew.(xé.nio)]	[(xé.ño)]	Eugenio
[bir.(xí.njo)]	[(kí.ño)]	Virginio

Based on the observation that the feature [-anterior] of the high vocoid is preserved in the TF-correspondent of the consonant that precedes it, I propose to analyze this set of data as a case of fusion. According to this, a sequence of two segments in SF (e.g. /sj/, /rj/, /lj/, /dj/, /tj/, /nj/) may share a single segment (e.g. / č/, / ǰ/, /ñ/) as their TF-correspondent. In other words, a many-to-one correspondence relationship between SF and TF segments is possible. This type of relationship is sanctioned by the correspondence constraint UNIFORMITY (McCarthy and Prince, 1995).

(92) UNIFORMITY: No element of S_2 has multiple correspondents in S_1.
For $x, y \in S_1$ and $z \in S_1$, if $x \Re z$ and $y \Re z$, then $x = y$

By violating UNIFORMITY, the optimal TF manages to save the correspondent of a segment that would normally be barred by *COMPLEX NUCLEUS (e.g. /j/). This suggests that the constraint PARSE-j, which specifically requires the preservation of the segment /j/, dominates UNIFORMITY. Under this ranking, the optimal candidate is also able to avoid violations of the constraints HEAD(PWd)MAX and I-CONTIGUITY while still respecting *COMPLEXNUCLEUS. This move, however, comes at the cost of violating IDENT(SF-TF), since the TF-segment that acts as correspondent for two segments in SF is not identical to any of them. (e.g. [č] < [sj], [č] < [tj], [ǰ] < [rj], [ǰ] < [lj], [ǰ] < [dj], [ñ] < [nj]). Therefore, both IDENT(SF-TF) and UNIFORMITY are dominated by PARSE-j. (Segments with multiple correspondents in SF appear underlined in the tableau below)

(93) SYLL-WELL >> PARSE-j >> IDENT(SF-TF), UNIFORMITY

SF:	[an.(tó.njo)]	SYLL-WELL	PARSE-j	IDENT(SF-TF)	UNIFORMITY
a.	[(tó.njo)]	* !			
b.	[(tó.no)]		* !		
c. ☞	[(tó.ñ̲o)]			{ñ/n,j}	ñ

Candidate (93a) is ruled by SYLL-WELL because it runs afoul of *COMPLEXNUCLEUS. Candidates (93b) and (93c) illustrate two ways to comply with *COMPLEXNUCLEUS. (93b) opts for dropping the offending segment whereas (93c) finds a harmonic solution that reconciles the two antagonistic constraints. By fusing the segments /nj/, (93c) is able to provide a correspondent for /j/, as required by PARSE-j, and simplify the diphthong, as demanded by SYLL-WELL. It should be pointed out that a candidate such as [(tó.ni)], which provides a correspondent for /j/ but with a different syllabic role, is already out of competition by the time it gets to this segment of the constraint ranking since it was already established that ST-ROLE dominates SYLL-WELL. All these same arguments also apply to the rest of cases of fusion as illustrated below.

(94) SYLL-WELL >> PARSE-j >> IDENT(SF-TF), UNIFORMITY

SF: [a.ta.(ná.sjo)]	SYLL-WELL	PARSE-j	IDENT(SF-TF)	UNIFORMITY
[(ná.sjo)]	* !			
[(ná.so)]		* !		
☞ [(ná.č̲o)]			{≠/s,j}	≠
SF: [bik.(tó.rja)]				
[(tó.rja)]	* !			
[(tó.ra)]		* !		
☞ [(tó.ǰ̲a)]			{ǰ/r,j}	ǰ
SF: [a.(má.lja)]				
[(má.lja)]	* !			
[(má.la)]		* !		
☞ [(má.ǰ̲a)]			{ j/l,j}	ǰ
SF: [(san.(tjá.ɣo)]				
[(tjá.ɣo)]	* !			
[(tá.ɣo)]		* !		
☞ [(č̲á.ɣo)]			{≠/t,j}	≠

Note that if fusion did not occur, there would be no reason why the segments /r, l, n, d, t, s/ should become palatalized. This change takes place only because the features of /j/ fuse with the features of the preceding consonant. However, these sound substitutions that accompany the formation of Type-B truncated forms are not always regular. There are examples where instead of palatalization the option is to delete the glide (e.g. *číla* < *sesílja* Cecilia, *lílo* < *bawdíljo* Baudilio, *lálo* < *bráwljo* Braulio). This less frequent solution would suggest unspecified ranking between the constraints PARSE-j and UNIFORMITY. When the latter takes precedence over the former, fusion is not a viable option and the diphthong is simplified through deletion.

(95) SYLL-WELL, UNIFORMITY >> PARSE-j

SF	[se.(sí.lja)]	SYLL-WELL	UNIFORMITY	PARSE-j
a.	[(čí.lja)]	* !		
b.	[(čí.ǰ̲a)]		ǰ !	
c.	☞ [(číl.a)]			*

This concludes my proposal to account for Type-B Truncated Forms that originate from a penultimately-stressed source form. When SF is prosodically-marked (e.g. ultimately or ante-penultimately-stressed), a few more issues arise. The following sub-sections deal with those special groups of Type-B truncated forms.

4.2.2.1 Type-B TF's from ante-penultimately-stressed SF's

When SF is ante-penultimately-stressed, the optimal TF is selected according to the same constraint ranking established above. The sole difference is that this group of data reveals one more fact about the process that generates Type-B Truncated Forms. This new fact is that ANCHORing is also active, but its effect is not obvious when SF is a word that bears penultimate stress. The data in (96) illustrate this point.

(96) Ante-penultimately-stressed SF's:

[a.ris.(tó.βu).lo]	[(tó.βo)]	Ariostóbulo
[(kán.di).δa]	[(kán.δa)]	Cándida
[kri.(sós.to).mo]	[(čó.to)]	Crisóstomo
[es.ko.(lás.ti).ko]	[(lá.čo)]	Escolástico
[(lá.sa).ro]	[(lá.čo)]	Lázaro
[(trán.si).to]	[(tán.čo)]	Tránsito

Here, where the main-stressed foot of SF is not word-final, it is quite clear that in addition to preserving those segments parsed under the head of the PWd, there is also a strong tendency to preserve the segment sitting at the right periphery of SF. This suggests that ANCHOR(SF-TF)R is active and that it must dominate HEAD(PWd)MAX since it is better to keep a correspondent for the rightmost segment in SF than one for the rightmost segment in the main-stressed foot when these are two different segments. Accordingly, the optimal form is one that does not sacrifice ANCHORing over prosodic-head maximization (97b).

(97) ANCHOR(SF-TF)R >> HEAD(PWd)MAX

SF: [a.ris.(tó.βu).lo]	ANCHOR(SF-TF)R	HEAD(PWd)MAX
a. [(tó.bu)]	* !	
b. ☞ [(tó.bo)]		u

When the main-stressed foot of SF is word-final (e.g. penultimately-stressed words), ANCHOR(SF-TF)R and HEAD(PWd)MAX do not come into conflict because they both require the preservation of the rightmost segment in SF. This is the reason why ANCHOR(SF-TF)R does not seem to be relevant for paroxytonic SF's.

(98) ANCHOR(SF-TF)R >> HEAD(PWd)MAX

SF: [be.li.(sá.rjo)]	ANCHOR(SF-TF)R	HEAD(PWd)MAX
a. [(≠á.ǰo)]		

Lipski (1995) groups together the examples presented in (99) below. I analyze these data as a case where ANCHOR(SF-TF)L is active as well.

(99) TF's with Left-Anchoring:

[ful.(xen.sjo)]	[(fén.čo)]	Fulgencio
[fe.δe.(rí.ko)]	[(fí.ko)]	Federiko
[flo.(rín.da)]	[(fín.da)]	Florinda
[xe.(rár.δo)]	[(xá.δo)]	Gerardo
[ma.(rí.na)]	[(mí.na)]	Marina
[ro.(δrí.ɣo)]	[(rí.ɣo)]	Rodrigo

In this case, the word-initial segment wins over the foot-initial one. This indicates that ANCHOR(SF-TF)L dominates HEAD(PWd)MAX so that the segment sitting at the left periphery of SF may take priority over the one sitting at the left periphery of the main-stressed foot. Tableau (100) below illustrates the effect of this alternative ranking with the example [(fén.čo)].

(100) ANCHOR(SF-TF)L >> HEAD(PWd)MAX

SF: [ful.(xén.sjo)]	ANCHOR(SF-TF)L	HEAD(PWd)MAX
a. [(xén.čo)]	* !	
b. ☞ [(fén.čo)]		x

4.2.2.2 Type-B TF's from ultimately-stressed SF's

The data from this group reveal that yet other correspondence constraints may be violated in the formation of Type-B Truncated Forms.

(101) Ultimately-stressed SF's:

[moj.(sés)]	[(čé.če)]	Moisés
[be.a.(trís)]	[(bí.če)]	Beatriz
[xo.a.(kín)]	[(kí.no)]	Joaquín
[ba.len.(tín)]	[(tí.no)]	Valentín
[xe.(sús)]	[(čú.čo)]	Jesús
[se.βas.(tján)]	[(čá.no)]	Sebastián
[i.sa.(βél)]	[(bé.la)]	Isabel
[(krús)]	[(kú.ča)]	Cruz
[i.(nés)]	[(né.ča)]	Inés
[pu.ri.fi.ka.(sjón)]	[(čó.na)]	Purificación

Here, a segment that is not present in the main-stressed foot, nor in the rest of the segmental string of SF, appears at the right periphery of TF. This segment may be /a/, /o/ or /e/, which are precisely the three most common word-markers in Spanish, and which also serve to realize the gender morpheme: -*a* 'feminine', -*o* 'masculine, -*e* 'masculine/feminine'. Considering that -*a* is consistently added to the hypocoristic of a feminine name and that -*o* is consistently added to the hypocoristic of a masculine name, it seems rather unreasonable to treat these segments as epenthetic. Instead, I propose to analyze each instance of these meaningful units as a morpheme whose right edge is required to close the Morphological Word (92). Note that if these segments were epenthetic one would not expect /o/ or /a/ but /e/ constantly since this is the unmarked vowel of the language. I claim that ALIGN(MWd)R is the constraint responsible for the emergence of word-markers.

(102) ALIGN(MWd)R: *Align Morphological Word Right*

Align (MWd, R, WM, R)
Align the right edge of the Morphological Word with the right edge of a Word Marker.

ALIGN(MWd)R requires Spanish words to be closed by a terminal element or word-marker. The selection of *-a* or *-o* as the appropriate WM is phonologically unpredictable. It seems to depend on a semantic feature that the TF inherits from the source form. WM is precisely the morphological category that serves to flesh out this semantic feature. ALIGN(MWd)R comes into conflict with ANCHOR(SF-TF)R because the word-marker sits exactly at the right periphery of TF (e.g. [(čé. če)], [(kí.no)], [(bé.la)]. Since the conflict is resolved to the detriment of ANCHOR(SF-TF)R, ALIGN(MWd)R must be the dominant constraint. Tableau (103) below illustrates this constraint conflict.

(103) ALIGN(MWd)R >> ANCHOR(SF-TF)R

SF: [xo.a.(kín)]	ALIGN(MWd)	ANCHOR(SF-TF)R
[(kín)]	* !	
☞ [(kí.no)]		*
SF: [i.(nés)]		
[(néč)]	* !	
☞ [(né.ča)]		*
SF: [moj.(sés)]		
[(čéč)]	* !	
☞ [(čé.če)]		*

It should be pointed out that the addition of a word-marker is also favored by the PWd-Restrictor constraints and SYLL-WELL. The additional vowel provided by the word-marker allows TF to satisfy FT-BIN. It also enables TF to simplify the marked syllable structure contained in the main-stressed foot of SF by transferring the coda consonant to the onset of the new syllable.

(104) PRC, SYLL-WELL, ALIGN(MWd)R >> ANCHOR(SF-TF)R

SF: [xe.(sús)]	PRC	SYLL-WELL	ALIGN(MWd)	ANCHOR(SF-TF)R
[(čú č)]	* !	*	*	
[(čú.čo)]				*

Finally, when the main-stressed foot of SF corresponds to a single open syllable (e.g. [(≠é.o)] < [xo.(sé)] José), the addition of the word-marker is not needed to simplify syllable structure but its presence is still required by ALIGN(MWd)R and PRC. Tableau (95) below illustrates this case.

(105) PRC, SYLL-WELL, ALIGN(MWd)R >> ANCHOR(SF-TF)R

SF: [xo.(sé)]	PRC	SYLL-WELL	ALIGN(MWd)	ANCHOR(SF-TF)R
a. [(čé)]	* !		*	
b. ☞ [(čé.o)]				*

4.2.2.3 Contrastive Type-A and Type-B properties

I conclude this analysis with some comments on the correlation between the properties of the two truncation processes. I argued that these are two independent processes based on the fact that, even though they have some properties in common, some constraints that are strongly enforced in one process are totally ignored in the other. The following are the main contrastive properties between the two processes.

(106) Correlation between Type-A and Type-B truncated forms:

TYPE-A	TYPE-B
Sensitive to syllable structure	*Sensitive to foot structure*
The segments preserved in TF come exclusively from the first two syllables of SF : compliance with ANCHOR(SF-TF)L.	The segments preserved in TF come mostly from the main-stressed foot of SF: Compliance with HEAD(PWd)MAX.
[al.(fón.so)] > [(ál.fon)] Alfonso	[al.(fón.so)] > [(fón.čo)] Alfonso
More tolerance of syllable markedness	*Less tolerance of syllable markedness*
Marked syllable structure may be simplified as long as it does not entail skipping any segments: I-CONTIGUITY >> SYLL-WELL.	Marked syllable structure must be simplified even if this entails skipping some segments: SYLL-WELL >> I-CONTIGUITY.
[ro.(dól.fo)] > [(ró.do)] Rodolfo [(ró.dol)]	[[ro.(dól.fo)] > [(fó.fo)] Rodolfo *[(fól.fo)]
Higher Feature Faithfulness	*Lower Feature Faithfulness*
A segment in SF and its TF-correspondent are featurally-identical: IDENT(SF-TF) is undominated.	A segment in SF and its TF-correspondent may be minimally dissimilar: IDENT(SF-TF) is dominated.
[bir.(Xí.njo)] > [(bír.Xi)] Virginio	[bir.(xí.njo)] > [(kí.ño)] Virginio
One-to-one Correspondence	*Two-to-one Correspondence*
A segment in TF must have a single correspondent in SF: UNIFORMITY is undominated.	A segment in TF may have multiple correspondents in SF: UNIFORMITY is dominated.
[djo.(ní.sjo)] > [(djó.ni)] Dionisio	[djo.(ní.sjo)] > [(ní.čo)] Dionisio

No word-markers	*Word-markers*
TF is not required to be closed by a word-marker:	TF is required to be closed by a word-marker:
[pru.(den.θja) > [(pru.dén)] Prudencia	[pru.(den.sja) > [(čén.ča)] Prudencia

Furthermore, since Type-A and Type-B hypocoristics occur in different dialects, one expects them to be part of different grammars. Type-A is representative of Peninsular Spanish whereas Type-B mostly occurs in Latin American dialects. Accordingly, many Spanish names have two different types of hypocoristics.

(107)

SF	TYPE-A	TYPE-B	
[(xo.sé)]	[(xó.se)]	[(čé.o)]	José
[do.(ló.res)]	[(dó.lo)]	[(ló.la)]	Dolores
[be.a.(trís/θ)]	[(bé.a)]	[(bí.če)]	Beatriz
[ix/X.(ná.s/θjo)]	[(íX.na)]	[(ná.čo)]	Ignacio
[fer.(nán.do)]	[(fér.na)]	[(nán.do)]	Fernando
[(trán.si).to]	[(trán.si)]	[(tán.čo)]	Tránsito
[bi.(s/θén.te)]	[(bí.θen)]	[(čén.te)]	Vicente

This indicates that the selection of type is unpredictable. Ultimately, penultimately or antepenultimately-stressed words may form hypocoristics in either type. Words that take the terminal element /o/, /a/, /e/, /Vs/ or any other terminal element for that matter, may form hypocoristics in either type, as well. The selection of type appears then to be bound solely to the dialect and the grammar of that dialect.

Even though there exist cases where the truncated form is predetermined (e.g. *Pacho* < *Francisco*, *Pepe* < *José*) both processes are amply productive. As remarked by Lipski (1995, p. 390), 'the fact that innovative names can usually be adapted to existing hypocoristic patterns indicates a degree of synchronic vigor, supplementing the recurring diachronic processes which gave rise to the common core of Spanish hypocoristics.' He goes on to point out how 'if *Nacho* is accepted as the hypocoristic for *Atanasio, Ignacio, Anastasio*, etc., then an innovative name such as **Protanasio* will also predictably take *Nacho*. This productivity is also reflected in the treatment given to foreign names. Although the corpus of data provided by Boyd-Bowman (1955) does not provide many examples of this kind, there is evidence that foreign names are adapted to the hypocoristic patterns as well (e.g. *Guásho* < *Wáshington*).

4.3 Summary

There are two well-defined truncation processes in Spanish. Both of them result from universal prosodic constraints that limit the PWd to a MinWd. When the prosodic constraints FT-BIN, PARSE-SYLL and ALL-FT dominate MAX(SF-TF), the PWd may contain no more and no less than a single binary foot. Consequently, if the source form (SF) contains more segmental material than can be fit into the MinWd, the new output is a truncated form (TF) that may not be identical to SF. In Type-A truncated forms, the segments that are preserved in TF may only be the correspondents of segments that are parsed under the first two syllables of SF. This is because ANCHOR(SF-TF)L and I-CONTIGUITY are the only correspondence constraints that outrank the PWd-Restrictor constraints. Even when there is room under the MinWd to parse a segment from the third syllable of SF, this alternative is disfavored because ST-ROLE dominates MAX(SF-TF, seg). However, not all of the segments from the first two syllables of SF may be preserved in TF. The well-formedness constraints *COMPLEXN and CODACOND also dominate

MAX(SF-TF, seg) and they are able to prevent the preservation of diphthongs and non-coronal coda consonants when the offending segments may not be spared by top-ranking I-CONTIGUITY. In Type-B truncated forms, the segments that are preserved in TF are mostly the correspondents of those segments parsed under the main-stressed foot of SF. This is because the prosodic constraint HEAD(PWd)MAX outranks the PWd-Restrictor constraints. However, not all of the segments parsed under the main-stressed foot of SF may be preserved in TF because *COMPLEXO, *COMPLEXN and CODACOND outrank HEAD(PWd)MAX and I-CONTIGUITY. This constraint ranking forces the deletion of the second member of an onset cluster, the less sonorous segment of a diphthong and all coda consonants but /N/ and /L/. The reason why /N/ and /L/ are exceptional is because they undergo place assimilation, which enables them to pass undetected by CODACOND. The constraint (N-O)SONDIST forces the correspondents of some onset segments in SF to become less sonorous so that they are more harmonic with their syllabic role. The fact that UNIFORMITY and some versions of IDENT(SF-TF) are dominated makes it possible for two segments in SF to share a single correspondent is SF or for a segment in SF to have a minimally dissimilar correspondent in TF. These two types of correspondence relationships work to the detriment of (SF-TF)-Identity and impinge greatly on the resemblance between SF and TF.