

**Prosodic Patterns in Greek Truncation and
Reduplication:
A Correspondence approach**

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1. Introduction

This dissertation examines the phenomenon of truncation in Modern Greek (henceforth Greek) within the scope of Optimality Theory (OT). The data used come from the domain of hypocoristics, where all the types of nicknames are explored and certain prosodic shapes are established. It is argued that not only the ‘traditional’ nicknames appear truncated, but also another type of names, whose size is bigger than the one of the nicknames, but smaller than the one of the full names.

The model used is Correspondence Theory and more specifically Benua’s (1995) version of truncation. It is claimed that Greek generally supports the model proposed, but it also challenges some of its ideas, e.g. the peripheral role of the input in truncated forms and expands more on others, e.g. the need for multiple bases, upon which truncated names are formed.

The importance of prosody is displayed. Its interaction with lexical stress and constraints regulating the amount of copying between source and truncated forms is evaluated. An exhaustive account of the patterns of truncated names is attempted. Among these, reduplicated nicknames also arise. Naturally, the discussion moves to the phenomenon of reduplication, where some aspects of the Correspondence Model (McCarthy and Prince 1995) are questioned. Finally, the interaction of reduplication with truncation is considered and an enrichment of the faithfulness family of constraints is proposed. The new relation, FAITH-TR, evaluates the identity between the reduplicant and the truncatum in cases of reduplicated nicknames.

The rest of the dissertation proceeds as follows. Section 2 presents a brief overview of the Correspondence Model both in reduplication and truncation. Moreover, the superiority of constraint-based approaches over rule-based ones is demonstrated. Section 3 offers some background information on Greek. Moving on to section 4, an analysis of the various patterns of truncation is developed. It is proposed that hierarchical alignment along with the proper alignment of feet are the most significant factors in the construction of truncated names. Lower-ranked constraints such as MAX-BT and PARSE- σ are responsible for the final product. Next, it is argued that different bases, instead of a single one, should be assumed when nicknames are

formed. Subsequently, the role of lexically marked stress, along the lines of Revithiadou (1999) is pointed out in cases of nicknames stressed on the last syllable.

In Section 5 the phenomenon of reduplication is addressed and its link to truncation is considered. An alternative analysis is outlined contra Nelson (1998) and Sanders (1999). Section 6 returns to a question left unanswered earlier, namely the lack of monosyllabic nicknames. It is suggested that a requirement of binarity (Itô and Mester 1992) is imposed. Finally, section 7 presents the concluding remarks.

2. Correspondence Theory

McCarthy and Prince (1993) introduce Correspondence Theory to account for reduplication as a base-reduplicant relation. Later on, Correspondence is extended to the input-output domain (McCarthy and Prince 1995). Correspondence is a relation between two structures, such as base and reduplicant or input and output. Formally it is defined below:

(1) Correspondence

Given two strings S_1 and S_2 , correspondence is a relation \mathfrak{R} from the elements of S_1 to those of S_2 . Elements $\alpha \in S_1$ and $\beta \in S_2$ are referred to as correspondents of one another when $\alpha \mathfrak{R} \beta$.

Correspondent segments are not necessarily identical. The amount of correspondence is regulated by various constraints. Some of these refer to relations between strings of segments. Thus, MAX militates against deletion and DEP against insertion of segments. The IDENT[F] family of constraints demands featural identity between corresponding segments. Other constraints penalize metathesis (LINEARITY), skipping and intrusion within substrings (CONTIGUITY), while ANCHOR demands that elements at edges are in correspondence.

Specifically in reduplication, Correspondence Theory views the development of base and reduplicant in parallel. Through FAITH-BR relations, it can account for the range of base-reduplicant interactions in a way that the basic Ordering Theory could not. Due to its serialist processes, the latter framework is bound to determine whether

phonology precedes reduplication or reduplication precedes phonology. In order that it captures the identity effects between base and reduplicant, it postulates that reduplication applies after phonology has taken place. However, empirical data falsify this claim, where for example the base (B) undergoes a phonological alternation, which is triggered by the reduplicant (R). This is illustrated in (2), where reduplication is combined with coalescence [from McCarthy and Prince 1995].

(2)	Underlying	Output	Expected
a. Tagalog	paŋ-RED-putul	pamu-mutul	*pamu-putul
b. Chumash	k-RED-ʔaniš	k'an-k'aniš	*k'an-ʔaniš

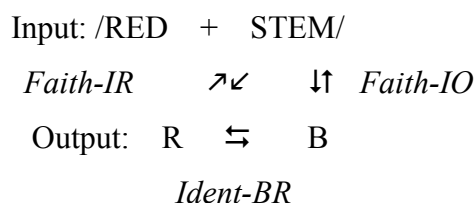
(2) provides an example of overapplication, a phenomenon difficult to explain in terms of serialist approaches. Overapplication describes the situation in which a phonological process affects both B and R, although the conditions for its application are met only in the base or only in the reduplicant.. In Tagalog, the prefix final -ŋ coalesces with a following voiceless stop producing a nasal homorganic with the stop. Unexpectedly, coalescence arises also in B, although the latter lacks the environment for this alteration. In Chumash, an oral stop + ʔ/h coalesce in a single glottalized or aspirated segment. One would expect the form *k'an-ʔaniš, where only the reduplicated part would exhibit this process. Instead, this also appears on the base. The change, which reasonably appears on the reduplicant, passes on the base as well. In other words, the base copies the reduplicant.

All serial approaches face great difficulty with cases where B ‘copies’ R¹. Especially those that adhere to fixed rule ordering are incapable of expressing patterns in which R imposes phonology on B that then re-appears in R. Among the serialist theories though, one seems to be able to cope better. This approach requires persistent re-application of rules, so that it accounts for the identity effects between the base and the reduplicant. But, even after the suggested revision, this also fails, since it essentially recapitulates the notion of ‘identity’, the cornerstone of Correspondence Theory.

¹ The discussion that follows is based on McCarthy and Prince (1995). Due to space limitations, this is only a brief illustration of key points. For a full discussion, the reader is referred to the work cited.

This model - proposed by McCarthy and Prince (1995) - being far superior both empirically and conceptually to serial approaches, manages to account in a unified way for a range of processes including overapplication, underapplication, normal application and emergence of the unmarked. Its application involves multiple and simultaneous correspondences between the input and the output (FAITH-IO), the base and the reduplicant (FAITH-BR)² as well as the input and the reduplicant (FAITH-IR). It is significant that FAITH-BR is seen as a relation between B and R, rather than an operation creating R from B. The model proposed is represented in the following schema.

(3) Reduplication (McCarthy and Prince 1995)

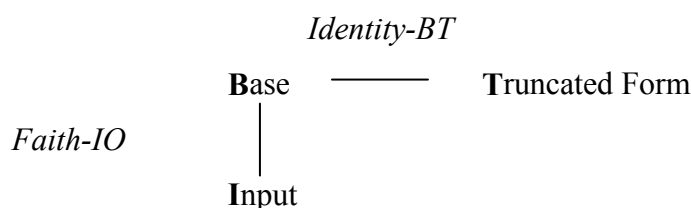


Vast evidence supports the existence of FAITH-BR and FAITH-IO, while the effects of FAITH-IR are not as easy to trace. However, its action is visible in a case where the reduplicant is more similar to the input than the base is. To illustrate this from an example in Klamath (McCarthy and Prince 1995), in the reduplicated form [mbo-mpditk] from an underlying /DIST+mbdy'+dk/, the reduplicant exhibits a voiced *b* and a vowel *o*, which are faithfully related to the underlying segments respectively. At the same time, the base shows syncope of the vowel and laryngeal neutralization lacking in the input. In this case, the reduplicant is more faithful to the input than the base is. Such a correspondence is regulated by FAITH-IR.

McCarthy and Prince (1995:14) note that Correspondence could be naturally extended to other relations as well. Following this line of thinking, Benua (1995) applies the correspondence model with some modifications to the domain of morphological truncation. The model she proposes is shown in the following diagram.

² Thus, in the cases discussed in (2), FAITH-BR would be the driving force for the similarity between the base and the reduplicant.

(4) Truncation (Benua 1995)



In this model, there is an input-output correspondence between the base and the input and an output-output relation between the base and the truncated form. The similarities with the Reduplication model are evident. Nevertheless, there are important differences as well. While base and reduplicant are simultaneously produced (McCarthy and Prince 1993, 1995), in truncation, the base and the truncatum are separate output forms. As Benua claims (1995:6), truncatory BT-correspondence is a transderivational relation that evaluates distinct outputs, i.e. O-O Correspondence. This also seems to imply that the generation of base and truncatum does not take place in parallel. This conclusion is not necessarily inconsistent with the parallelism promoted in the reduplication model. However, no evidence supports the parallelism.

Moreover, no correspondence relation is established between the input and the truncatum (i.e. no IT relation). This predicts that the truncated words will never be more faithful to the input than the base is.

Setting these differences aside, one can easily acknowledge that the adaptation of Correspondence to truncation is successful and fruitful. Benua (1995:section 3.4) compares the new model to serialist approaches and concludes that the main problem for the latter is that they must arbitrarily stipulate the ordering between morphological and phonological rules. This arbitrariness is not problematic for OT, since the constraint-based approach is inherently arbitrary. Furthermore, the idea of 'identity' between the base and the truncated form offers a more satisfactory explanation of overapplication and underapplication phenomena. On the other hand, while rule-based theories can eventually capture the facts, they need to stipulate the ordering relations and even occasionally postulate special rules that are otherwise unmotivated in the grammar. Clearly then, a constraint-based account presents advantages that the serial approaches lack.

But, although many researchers generally agree with Benua's model, some of its points are disputable. For instance, Hale, Kissock and Reiss (1998) and Sanders

(1999) show that in English, underlying vowel contrasts may be maintained in the truncated nicknames, while they are neutralized in the full forms.

- (5) P[ə]tricia P[æ]t
 G[ə]rard G[ɛ]r
 Christ[ə]pher Christ[ɑ]ph

Since this alternation is unpredictable, it must be underlying, indicating that the truncatum must be able to access the vowel quality of the input. But this is impossible in Benua's analysis, as there is no correspondence relation between the truncatum and the input.

The problem that arises is indeed genuine and we will suggest a possible solution in section 4.3. However, we will see that Greek does not pose a similar problem, but actually, it seems to support Benua's claim that the truncated form cannot be more faithful to the input than the base is. Thus, Benua's model will be adopted, although in due course, some of its points will be commented or even questioned.

3. Greek: Background information

Greek is a language with fusional morphology (see Revithiadou 1999 and references therein). Most words comprise several morphemes. For instance the word *anthropinos* 'human' consists of the root *anthrop-* the derivational affix *-in-* and the inflectional suffix *-os*. Nominal roots are followed by a suffix that denotes case and number e.g. *anthrop-os* 'man' and verbal roots are followed by an aspectual morpheme and a personal suffix, e.g. *mil-us-a-me* 'talk-PAST CONT-1pl'. A single suffix may simultaneously express case and number, e.g. in *thalass-on* 'sea-GEN PLURAL' the suffix *-on* incorporates the genitive and the plural.

Greek is a trochaic language, forming syllabic trochees, since all syllables are of equal phonological weight. Stress is limited to the last three syllables of the word. Various proposals have been put forward to account for it. Most of them recognise the significance of morphology in the assignment of stress (Ralli and Touradzidis 1992,

Malikouti-Drachman and Drachman 1989, Drachman and Malikouti-Drachman 1996). For the purposes of this dissertation, I will assume Revithiadou's approach (1999), who draws on some important conclusions reached in prior literature.

Essentially, she claims that roots and affixes are lexically specified in terms of accents³. Roots and derivational suffixes are considered to be heads, while inflectional suffixes are non-heads. Heads take priority over non-heads, thus their accentual properties are preserved more in comparison to those of the non-heads. Head dominance yields the ranking HEADFAITH >> FAITH, which offers 'a compelling counterproposal' (Revithiadou 1999:1) to the metaconstraint ROOTFAITH >> SUFFIXFAITH⁴ (McCarthy and Prince 1995).

In the forthcoming analysis, I will implicitly assume that each morpheme bears some accentual specification. I will only refer to these facts though, only when it is relevant to the rest of the discussion.

4. Truncation and greek nicknames

Before I proceed in discussing the data, a couple of significant notes are in place. As various authors note, (Benua 1995, fn. 34, Itô and Mester 1997, fn.5, among others), variation in nicknames is anticipated and in fact attested. Idiosyncrasies and irregularities may well be a result of child language patterns, sociological trends, levels of intimacy with the nickname bearer and desire to distinguish people with the same name. We will see that some of the names below fall under these categories. Relevant comments or observations will be made in due course.

³ Revithiadou argues that a lexical accent is an abstract autosegmental feature, which is realized phonetically as pitch or stress depending on the language in question. Obviously, in Greek it takes the form of stress.

The author develops an elaborate analysis of lexical accents. To summarise, three main categories arise, namely unmarked, marked and unaccentable morphemes. Unmarked morphemes lack any inherent metrical organisation. Marked morphemes are further subdivided in strong and weak accents. Weakly accented morphemes have a tail specification, i.e., they never bear prominence. Strong accents are heads, which attract prominence. Finally, unaccentable morphemes indicate floating accents that require non-local linking with a vocalic peak.

⁴ Revithiadou (1999:2) notes that both rankings make the same predictions when the root is the 'head' of the word, but different, when it comes to derivational suffixes. By the ranking HEAD FAITH >> FAITH, she accounts for the fact that derivational suffixes attract prominence. This is not predicted by ROOTFAITH >> SUFFIXFAITH.

Moreover, the data below are not meant to present an exhaustive list of names and all the possible nicknames. Instead, the aim is to provide representative examples of the patterns attested and subsequently offer an analysis that accounts for them, while at the same time bring forward certain interesting matters that arise through the discussion.

4.1. The data

Greek names take a form, which I will call the ‘original name’. This is the name people are given, when baptized. Usually the original name is used to address someone, but in many cases, the preferred form is not the original name, but a truncated form of the former. For instance the original name *Athanásios* practically never arises phonetically as such⁵, but instead the name *Θanásis* is used. This latter type of names, namely the ones commonly used to call people, will be referred to as ‘modern’ names. As already noted, it is usual that the original name and the modern version coincide⁶, e.g. *Aléksanðros*, *Eléni*, *Iríni*.

Furthermore, many names form nicknames, which generally have the size of a bisyllabic trochee. Thus, it is the case that certain names exhibit all three forms. For example, the original name *Evágelos* emerges as *Vagélis* (modern form), while the nickname *Vágos* is also possible. Some data will clarify the observations mentioned.

(6) a. Masculine names

<u>Original name</u>	<u>Modern name</u>	<u>Nickname</u>
Athanásios	Θanásis	Θános, Násos
Aléksanðros	Aléksanðros	Aléksis, Alékos
Alkiviáðis	Alkiviáðis	Álkis
Aristotélis	Aristotélis, Arístos	Áris, Télis
Vasílios	Vasílis	
Δimítrios	Δimítris	Mítros, Míços
Δimosθένis	Δimosθένis	Δímos

⁵ Irrespectively of however they are informally addressed, people need to use the original form in any case in formal and bureaucratic matters, e.g. taxation, application forms.

⁶ Sometimes, the modern version and the nickname coincide as well, e.g. *Strátos*, *Spiros*, etc.

Elefθérios	Leftéris	
Efstrátios	Strátos	Strátos
Efstáθios	Stáθis	Stáθis
Emanuíl	Manólis	Mános
Evágelos	Vagélis	Vágos
Ko(n)stadínos	Ko(n)stadínos	Kóstas, Dínos
Ksenofóδας	Ksenofóδας	Fóδας
Nikólaos	Nikólas	Níkos
Panajótis	Panajótis	Pános, Jótis
Spirídon	Spíros	Spíros
Xarílaos	Xarílaos or Xáris	Xáris

b. Feminine names

<u>Original name</u>	<u>Modern name</u>	<u>Nickname</u>
Anðromáçi	Anðromáçi	Máçi
Vasilikí	Vasilikí	Váso, Vásja
Ekateríni	Katerína	Kátja, Kéti
Efrosíni	Frosíni	Fróso
Eléni	Eléni	Léna
Evagelía	Evagelía	Évi, Lía
Iríni	Iríni	Réna
Ko(n)stadína	Ko(n)stadína	Dína
Maryaríta	Maryaríta	Ríta
Melpoméni	Melpoméni	Mélpo
Xaríklia	Xaríklia or Xará	Xará
Xrisúla	Xrisúla	Xrísá, Súla

With bold letters, the truncated modern forms are represented. Most of them appear with a trisyllabic size, while some exhibit a bisyllabic one.

The focus of this study is on the prosodic sizes that hypocoristics (in the broad sense, i.e. including truncated modern names) take. Thus, the circumstances under

which the modern name appears in some cases identical to the original, while in others truncated, will not be considered. Similarly, segmental differences such as the disparity in the vowels as in *Iríni-Réna* or the formation of glides as in *Vasilikî-Vásja* will not be explored, as they deserve a study of their own.

Next, I will demonstrate an analysis that accounts for these patterns and I will show how these conform to certain prosodic shapes. Subsequently, I will supply more data that broaden the domain of nicknames into other morpho-phonological processes such as reduplication. Naturally, we will move to reduplication in the general phonology of the language and explore its relationship to truncation.

4.2. Hierarchical alignment

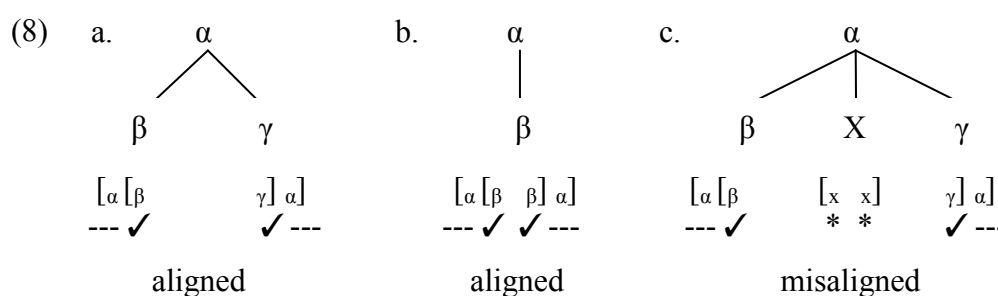
A brief observation of the facts reveals that the modern forms, when truncated, usually show up as trisyllabic words⁷, e.g. *Frosíni*, *Vagélis*, *Θanásis*, which contain a bisyllabic trochee at the right edge of the prosodic word and an unparsed syllable initially, i.e. $\sigma(\acute{\sigma})$. Nicknames on the other hand consist of two syllables which have either the form of a single trochee, $(\acute{\sigma})$, e.g. *Léna*, *Álkis*, *Xrísa* or less commonly of a monosyllabic foot at the right edge and an unparsed syllable on the left, $\sigma(\acute{\sigma})$, e.g. *Xará*.

All these forms conform to hierarchical alignment in the sense of Itô, Kitagawa and Mester (henceforth IKM 1996).

(7) Hierarchical Alignment (HIER AL):

Every prosodic constituent is aligned with some prosodic constituent that contains it.

To illustrate, let us see how this works with the following structures:



⁷ A few exceptions exist, e.g. *Katerína*.

In the binary structure of (8a), β is left-aligned (L-aligned) with α and γ is right-aligned (R-aligned) with α . In the unary (8b), β is both L- and R-aligned with α . In the ternary structure (8c), X fails both to be L- and R-aligned. This means that in a structure like $[F+\sigma+F]$ or $[\sigma+F+\sigma]$ among others, the medial constituent is not aligned, producing an illicit structure, but prosodic units such as $[F+F]$, $[F+\sigma]$, $[\sigma+F]$ and $[F]$ respect Hierarchical Alignment. The tableau below shows that.

(9)

	HIER AL
a. $(\sigma\sigma)(\sigma\sigma)$	✓
b. $(\sigma\sigma)(\sigma)$	✓
c. $(\sigma\sigma)\sigma$	✓
d. $\sigma(\sigma\sigma)$	✓
e. $(\sigma\sigma)$	✓
f. $\sigma(\sigma)$	✓
g. (σ)	✓
h. $\sigma\sigma(\sigma\sigma)$	*
i. $(\sigma\sigma)\sigma\sigma$	*
j. $(\sigma\sigma\sigma)$	*

All of (9a-9f) satisfy HIER AL, but obviously not all of them are possible sizes for truncated names. The overwhelming majority presents the sizes and shapes of (9d-9e), while a few names arise with the form of (9f). What is common to these forms is the fact that all of them have a foot, whose right edge coincides with the right edge of the prosodic word. This indicates that ALL-FT-R is active.

(10) **ALL-FT-R:**

Align (Ft, Right, PrWd, Right): Align the right edge of the foot with the right edge of the prosodic word.

Together, (7) and (10) yield the correct forms. For concreteness, all the candidates of (9) - even the ones that violated it - will be considered.

(11) HIER AL, ALL-FT-R

		HIER AL	ALL-FT-R
a.	(σσ)(σσ)	✓	*
b.	(σσ)(σ)	✓	*
c.	(σσ)σ	✓	*
☞ d.	σ(σσ)	✓	✓
☞ e.	(σσ)	✓	✓
☞ f.	σ(σ)	✓	✓
☞ g.	(σ)	✓	✓
h.	σσ(σσ)	*	✓
i.	(σσ)σσ	*	*
j.	(σσσ)	*	✓

The candidates (11d-11g) are rendered optimal. This is a welcome result, since these are the actually attested forms. Only a small wrinkle arises with candidate (11g), which although is well-behaved and predicted to emerge, it does not. For the time being, our attention will be drawn on (11d-11f). We will return to the aforementioned matter in section 6.

4.3. Anchoring

Truncated words present certain similarities with their source forms. Usually, they copy segments from the left edge of the source name (cf. Benua 1995 for Japanese, Itô and Mester 1997 for German, van de Weijer 1989 for Hungarian, among others) or from the head of the prosodic word⁸ (cf. Piñeros 2000 for Spanish). Languages such as Spanish, employ both strategies in truncation. Thus, there are forms, which preserve the initial part of the source form (Colina 1996), e.g. *profe* < *profesor*, while others preserve the prosodic head (Piñeros 2000), e.g. *[(Téa)]_{PrWd}* < *[Doro(téa)]_{PrWd}*. Greek exhibits the same variation in terms of anchoring as Spanish does⁹. A plethora

⁸ This should be read in a loose way. For example Piñeros (2000) claims that Spanish nicknames maximise their similarity with the whole of the foot of the source form, while Nelson (1998) analyses French hypocoristics, using a constraint that aims to copy the stressed syllable of the original word.

⁹ Among the references concerned with hypocoristics that I have checked, I found no case, where a language that uses a unique choice in anchoring chooses to copy from the foot only. A potential exception to that might be Catalan where under truncation it is the stressed foot of the word that is retained. Nevertheless, Cabré and Kenstowicz (1995) note that even in Catalan, there is truncation

of nicknames target the beginning of the source word, e.g. *Spíros* < *Spirídon*, *Xáris* < *Xarílaos*, *Mélpo* < *Melpoméni*, while many others copy from the main foot of the word, e.g. *Télis* < *Aristotélis*, *Lía* < *Evagelía*. The difference with Spanish is that, as Piñeros (2000) claims, Spanish preserves the head of the prosodic word, i.e. the foot as a whole, while Greek does not impose such a requirement.

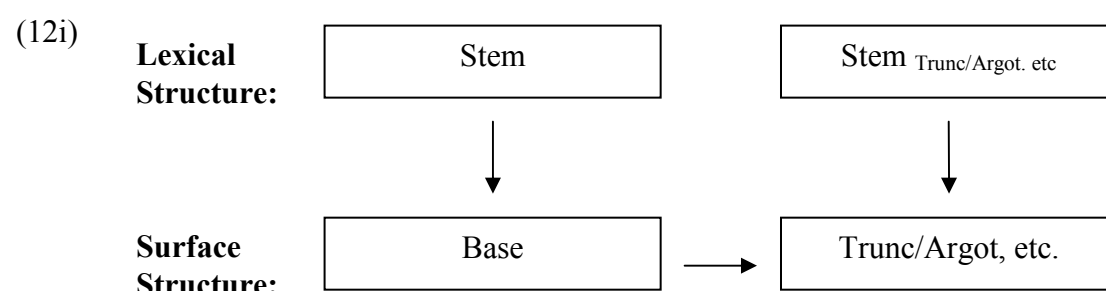
But even in Spanish, preservation of the head is not always perfect either (for full discussion, see Piñeros 2000, section 4). To illustrate, consider a case, which does not fit within this picture, e.g. [*Aris(tóβu)lo*]_{PrWd} becoming [(*Tóβo*)]_{PrWd}. In the case at hand, the last vowel of the base is preserved in the nickname. This is a result of high-ranking ANCHOR (SF-TF)_R, which requires the right edge of the source form to be anchored with the correspondent one of the truncated form¹⁰. Such a constraint cannot be enforced in Greek, since it would require that segments at the right periphery, which emerge in the nickname, could be recovered in the base as well. Nicknames such as: *Léna* < *Eléni*, *Fróso* < *Frosíni*, show that the last vowel cannot be recovered from the base. Moreover, near minimal pairs such as *Strát-os* < *Efstráti-os*, *Stáθ-is* < *Efstáθi-os* exhibit a different suffix in the nickname, although the root ending and the suffix of the base in each of the source names are identical¹¹.

where the initial part of the word is maintained. They also add that this process has been recently introduced and that it is essentially the same with that of truncation in Castilian Spanish. Taking this observation seriously, it seems then to me that languages either copy from the left periphery of the source word or exploit both options, namely preservation of the left edge or of the head of the prosodic word. If this is right, it might be telling in terms of cross-linguistic generalisations and anchoring. For example, it might denote an implicational universal of the type: ‘if a language has anchoring at the left periphery of the foot, then it will also have anchoring at the left periphery of the prosodic word’. A possible explanation to that may relate to the phenomenon of ‘positional faithfulness’ (Beckman 1998), namely that initial positions are more prominent than non-initial positions and that they tend to be more faithful to their underlying representations than non-initial positions. This observation could then be extended to anchoring. The beginning of a prosodic word is more prominent than that of a foot within the prosodic word. Under this reasoning, every language would allow the ranking ANCHOR-L PrWd >> ANCHOR-L Ft. In addition, some would allow both types of anchoring. In that case, the above constraints would be unranked with respect to each other. But no language would prefer ANCHOR-L Ft >> ANCHOR-L PrWd as its single choice of anchoring. This matter of course merits further investigation.

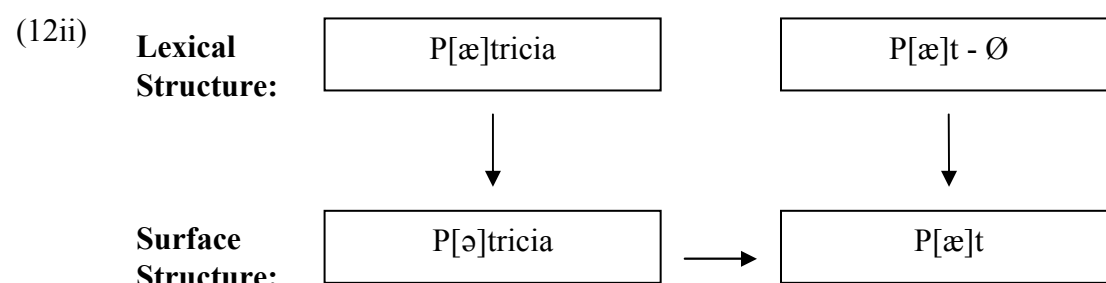
¹⁰ What I present in the text is Piñeros’ (2000) analysis considering ante-penultimately-stressed source forms. Moira Yip (p.c.) noted that it might be the case that what actually happens in Spanish is that the *-o* found in *Toβo* instead of the expected *Toβu* is the suffix that marks masculine names (and in analogy the same holds for *-a* in feminine). In that case, ANCHOR (SF-TF)_R would not be the decisive factor. I am inclined to believe that this is the correct analysis. Thus, the suffix *-o* for masculine names (or sometimes *-e*) and *-a* for feminine names might be considered underlying. This is something that Piñeros already admits in order to explain names like *Kíno* < *Xoakín*, *Béla* < *Isaβél* (Section 6). The analysis proposed for these names would then subsume the case presented by *Toβo* without the need of ANCHOR (SF-TF)_R. Irrespectively of the analysis adopted, the significant point is that admission of underlying segments must be allowed. Greek clearly illustrates this need.

¹¹ Recall that all nouns in Greek consist of a root and a suffix. The latter denotes number and case.

For these reasons, I will assume that the choice of suffix is lexical, even though some forms present full identity between the suffix of the source and that of the nickname, e.g. *Fódas* < *Ksenofódas*. Building on that, I will assume that there must be an input for the truncated form, which contains the nominal suffix and an empty morpheme T to be filled segmentally by melodies of the base. This is a reasonable move, already proposed by others. For example, IKM (1996) question Benua's assertion that there is a common lexical input for both base and truncatum. Thus, they tentatively propose the following schema:



At this point, it is appropriate to recall the problem posited for Benua's model by English nicknames (Section 2). Using the schema of (12i) for a name like *Patricia*, we would then get¹²:



This diagram should be read as follows¹³. The first row represents the input forms, while the second refers to the output forms. The left column shows how the full name is constructed. The input vowel neutralizes to a schwa. The right column refers to the truncated forms. According to this view, the full vowel is already there in the input and due to certain faithfulness relations, it is retained in the output. This approach yields the correct effects, without carrying along the problem that Benua's model

¹² Thanks to Moira Yip for helping me comprehend this diagram. Any misunderstanding is of course mine.

¹³ The forms here are not transcribed. Only the vowels in question do. These are represented within square brackets.

faces. There is no single input as assumed in Benua (1995). Instead, each of the full and truncated forms have corresponding inputs. Thus, it is possible for the surface truncated form to be more faithful to the input (contra Benua), because there is a distinct input for truncation, with which it is faithfully related¹⁴.

Itô and Mester (1997) also implicitly adopt the schema of (12i), when they assume that the input for the German truncatums is: /Trunc + i/, which yields forms like [Gab-i], [And-i], [Gorb-i], etc. A similar approach will be taken for the Greek data.

Bearing all the above in mind, we can now return to the issue of anchoring. It seems more workable then to assume that what is in action in Greek is a constraint that targets the left edge of a foot and another that targets the left periphery of the prosodic word. The amount of copying will be regulated by the interaction of these constraints with others which determine the prosodic size of the truncatum as well as MAX-BT.

(13) **ANCHOR PrWd (SF-TF)L**¹⁵:

Anchor the left edge of the Source Form (Piñeros 2000)

Any element at the left periphery of the Source Form has a correspondent at the left periphery of the Truncated form.

(14) **ANCHOR Ft (SF-TF)L**:

Anchor the left edge of a foot¹⁶ (adapted from Benua 1995)

Every correspondent of a foot-initial segment is foot-initial.

Later on, we will see how these constraints interact with each other in terms of ranking.

¹⁴ IKM's diagram (1996) of (12i) lacks a relationship between the inputs. In my opinion however, this is essential. Otherwise, there would not be any way to ensure that e.g. for the input /*Patricia*/ the input of truncation would be /*Pat*/ instead of say /*Tim*/. And of course, the input /*Tim*/ would not lead to [Pat], the desired result. Roughly what this means is that a correspondence relation is needed between inputs as well. Although, this matter needs extensive elaboration, I will assume for the rest of the discussion that there is such correspondence between inputs.

¹⁵ Where SF is the source form and TF the truncated form. Henceforth, the constraints will be referred to as ANCHOR-L PrWd and ANCHOR-L Ft.

¹⁶ This constraint here should be read so that it targets the main foot in the word, i.e. the stressed one.

4.4. Word minimization

4.4.1. Names of the $\sigma(\acute{\sigma}\sigma)$ and $(\acute{\sigma}\sigma)$ type

As already noted, the plethora of the truncated names exhibit the forms $\sigma(\acute{\sigma}\sigma)$ and $(\acute{\sigma}\sigma)$. The core proposal here is that these forms spring from near-identical rankings of constraints. The only difference is that in the first case, it is preferable to copy more material from the source form, while in the latter, it is preferable to sacrifice material so that other prosodic requirements are satisfied. First, we will see how these requirements are formulated.

A recurring theme in the literature is the role of the foot in processes such as reduplication and truncation. It has been proposed (McCarthy and Prince 1994 for reduplication, Benua 1995 and Piñeros 2000 for truncation, among many others) that the unmarked prosodic word is a binary foot, which obeys perfectly the constraints below.

(15) **FTBIN**: Feet are binary on a syllabic or moraic analysis.

ALL-FT-R: Every foot stands in final position in the PrWd.

PARSE- σ : All syllables are parsed into feet.

These constraints ensure that a single foot is constructed, which is aligned to the right edge of the PrWd. More feet would violate ALL-FT-R. In addition, the foot should be binary (in Greek this is equivalent to bisyllabic), which means that monosyllabic or ternary feet are disallowed (due to FTBIN). Finally, unparsed syllables are not tolerated (PARSE- σ). Thus, the preferable word cross-linguistically has the size of a binary foot. This is indeed the case for most nicknames in Greek as well (cf. the data in 6). However, as we have already seen in (11), ALL-FT-R is highly ranked in the domain of truncation and along with HIER AL, it allows for more patterns, namely $\sigma(\acute{\sigma}\sigma)$ and $\sigma(\acute{\sigma})$, a fact which implies that ALL-FT-R dominates both PARSE- σ and FTBIN.

(16) **ALL-FT-R** >> **FTBIN**, **PARSE- σ**

But, even under this ranking, without assuming further constraints, a bisyllabic trochee would still win, since it would satisfy all the constraints in (16) perfectly, while its rivals $\sigma(\acute{\sigma}\sigma)$ and $\sigma(\acute{\sigma})$, would successfully pass ALL-FT-R, but they would incur violations of PARSE- σ and FTBIN. So, under which circumstances would these candidates be preferred?

Let us first draw our attention to $\sigma(\acute{\sigma}\sigma)$. The candidate $\sigma(\acute{\sigma})$ will be discussed in section 4.4.3. A comparison between $\sigma(\acute{\sigma}\sigma)$ and $(\acute{\sigma}\sigma)$ reveals the distinctive property between them. The former fails to satisfy some constraints of total prosodic well-formedness, but it compensates by including more material than the latter. This indicates that the constraint that militates against the non-copying of segments of the source form to the truncated form (MAX-BT) is ranked higher than PARSE- σ and FTBIN¹⁷, but not higher than ALL-FT-R. If it did, then forms such as (11a) or (11b) would be well-formed¹⁸.

(17) **MAX-BT:**

Every segment in the base has a correspondent in the truncated form¹⁹ (Benua 1995)

¹⁷ In fact, it seems impossible to exactly establish the position of FTBIN. We know that it must be ranked below HIER AL and ALL-FT-R, because of the attested $\sigma(\acute{\sigma})$ forms, which respect HIER AL and ALL-FT-R, while they violate FTBIN, but we cannot determine its relation to PARSE- σ and MAX-BT. This happens, because its effects are derived from the higher-ranked HIER AL and ALL-FT-R. To illustrate, consider the candidates in the tableau below.

	HIER AL	ALL-FT-R	FTBIN	PARSE- σ
a. $(\acute{\sigma}\sigma\sigma)$	*!		*	
b. $(\sigma)(\acute{\sigma}\sigma)$		*!	*	
c. $(\sigma)(\acute{\sigma})$		*!	**	
d. $\sigma(\acute{\sigma})$			*	*

The last candidate, which is the only one attested among those presented here will be discussed more extensively in section 4.4.3. For the time being, it suffices to note that it shows that FTBIN must be dominated by HIER AL and ALL-FT-R. The other three candidates incur violations of FTBIN, but they are already out, since they fail to satisfy the high-ranked constraints. Thus, we cannot locate the exact position of FTBIN. However, for expository reasons, I will assume throughout this study that it is unranked with respect to PARSE- σ . Such a decision is totally consistent with the results obtained.

¹⁸ Actually there are a few names such as *Katerína* and *Kostadís*, which would have the prosodic form $(\sigma\sigma)(\acute{\sigma}\sigma)$ and $(\sigma\sigma)(\acute{\sigma})$ respectively. In that case ALL-FT-R would be violated. This might suggest that instead ALIGN-R (PrWd, Ft) is the constraint activated, so that these cases are accounted for as well. However, this seems to overgenerate patterns and predict wrong outputs in many cases. Thus, ALL-FT-R will be preferred. Moreover, as it will be shown below, the observation made here will be limited only to a name like *Katerína*, whose status will be considered peripheral to the general pattern proposed. Cases of the *Kostadís* type will find a natural explanation in section 4.4.3.

¹⁹ Here I assume Benua's (1995:7) formulation of MAX-BT in terms of segments and not elements as in Piñeros (2000). But see for example Revithiadou (1999) and IKM (1996) for faithfulness in terms of prosodic units, e.g. MAXFt, MAXFtHead, etc.

Thus, the relevant ranking is:

(18) $\sigma(\acute{\sigma})$: HIER AL, ALL-FT-R >> MAX-BT >> FTBIN, PARSE- σ

Let us see how this is established.

(19) MAX-BT >> PARSE- σ

Base: [Ni.(kó.la).-os ²⁰]	MAX-BT	PARSE- σ
☞ a. Ni.(kó.l-as)	a	*
b. (Ní.k-os)	o!,l,a	

Candidate (19b) is ruled out, because it incurs fatal violations of MAX-BT. (19a) is the optimal one, because although it violates PARSE- σ , it satisfies higher-ranked MAX-BT more satisfactorily than (19b).

(20) HIER AL, ALL-FT-R >> MAX-BT

Base: [Ni.(kó.la).-os]	HIER AL	ALL-FT-R	MAX-BT
☞ a. Ni.(kó.l-as)			a
b. Ni.(kó.la).-os	*!	*	

Although (20b) is fully faithful to the base, it loses to (20a) which satisfies the higher-ranked constraints.

The ranking in (18) thus accounts for the trisyllabic truncated forms, but leaves unexplained the vast majority of the nicknames, which exhibit a bisyllabic trochee. This is easily accommodated if we assume that in these cases, MAX-BT is demoted. What matters most this time is that the output is consistent with the top-


²⁰ Forms deriving from the same base may show up with different suffixes, e.g. *Panajót-is* (base), *Panáy-os*, *Pán-os* (truncated names), or in the case at hand *Nikóla-os* (base), *Nikól-as*, *Ník-os* (truncated names), a fact which implies that when these words are compared with respect to each other, it is rather difficult to assume a single underlying suffix for the truncated form. Thus, the suffix each time must be underlying, e.g. for *Nikólas* it should be / T + -as /, for *Nikos* / T + -os /, etc. Henceforth, I will mention no input for the truncated form, although I will still assume it. Moreover, MAX-BT violations will only be computed in terms of the segments of the root within the base that are copied to the truncatum. Including the suffixal segments would complicate the presentation of this analysis and therefore, these will be ignored. Such a decision though does not affect the argument in any way.

ranked constraints and at the same time it respects FTBIN and PARSE- σ . Therefore, MAX-BT must appear low-ranked as in (21).

(21) (**66**): FTBIN, PARSE- σ >> MAX-BT

Combining (21) with the top-ranked HIER AL and ALL-FT-R yields the following ranking presented in (22) with the help of a tableau.

(22) HIER AL, ALL-FT-R >> FTBIN, PARSE- σ >> MAX-BT

Base: [(Mar.γa.)(rí.ta)]	HIERAL	ALL-FT-R	FTBIN	PARSE- σ	MAX-BT
a. (Mar.γa.)(rí.t-a)		*!			
b. (Már.γa.ra)	*!		*		i,t
c. Mar.(γá.r-a)				*!	i,t
d. (Rí.-a)					m,a,r,γ,a!, t
 e. (Rí.t-a)					m,a,r,γ,a

(22e) is the optimal one. It satisfies all constraints, except MAX-BT, where it does badly, but still better than (22d), which fails to copy *t*. This shows, first that MAX-BT, although dominated, can still favour a candidate (22e) over another (22d) and second that given the chance, MAX-BT will copy as much as it can, provided that this fits the template. So for instance, names such as *A(lék.sis)* > *Aléksandros* or *(Mítros)* > *Δimítris* copy codas or complex onsets which are generally allowed in the language so long this is consistent with the template provided.

The other candidates fail because they violate high-ranked constraints. Thus, while (22b) and (22c) satisfy MAX-BT more satisfactorily, they blatantly violate HIER AL and PARSE- σ respectively. (22a) is the only candidate that maximally copies the base, but it violates high-ranking ALL-FT-R, because its first foot is not R-aligned with the prosodic word.

Up to now, we have established the following general rankings:

- HIER AL, ALL-FT-R (11)
- ALL-FT-R >> FTBIN, PARSE- σ (16)
- HIER AL, ALL-FT-R >> MAX-BT (20)

And the more specific:

➤ (σσ): FTBIN, **PARSE-σ** >> **MAX-BT** (21)

➤ σ(σσ): **MAX-BT** >> **PARSE-σ** (19)

By transitivity, this yields:

➤ (σσ): HIER AL, ALL-FT-R >> FTBIN, **PARSE-σ** >> **MAX-BT** (22)

➤ σ(σσ): HIER AL, ALL-FT-R >> **MAX-BT** >> FTBIN, **PARSE-σ** (18)

As it is evident from the rankings above, the variation is centred on the constraints represented with bold, namely **PARSE-σ** and **MAX-BT** and the position they take each time. Nicknames of the (σσ) type have **PARSE-σ** promoted. Here all the prosodic well-formedness constraints dominate **MAX-BT** and the resulting output is prosodically optimal. On the other hand, names of the σ(σσ) type, respect ALL-FT-R, but prefer to violate **PARSE-σ**, in order that **MAX-BT** is satisfied more satisfactorily.

It seems to me that the nicknames resulting from the ranking in (22) are the default case of nickname formation, which almost all names present when truncated. These exhibit a binary trochaic foot which is prosodically optimal cross-linguistically. This can be viewed as an Emergence of the Unmarked effect (McCarthy and Prince 1994). On the other hand, the ranking depicted by the trisyllabic names in (18) might be lexical, as it is restricted to a limited set of names and moreover it is unpredictable to determine which names will emerge with this form and which will be identical to the original name.

What is left to see now is where the anchoring constraints fit into the picture. Recall from section 4.3 that Greek can target both the left periphery of the prosodic word or the foot. This indicates that the relevant anchoring constraints are not ranked with respect to each other and in many cases two nicknames may arise from the same base, of whom the one targets the beginning of the source form and the other its foot. An example is given in (23).

(23) ANCHOR-L PrWd, ANCHOR-L Ft

Base: [(Kos.ta).(dí.n-os)]	ANCHOR-L PrWd	ANCHOR-L Ft
☞ a. (Kós.tas)		*
☞ b. (Dí.nos)	*	

(23) shows that both words emerge as optimal. They fare equally in all constraints. What distinguishes them is the ranking between ANCHOR-L PrWd and ANCHOR-L Ft each time. If ANCHOR-L PrWd dominates ANCHOR-L Ft, then (23a) arises. In the opposite ranking, (23b) is optimal. As it can be observed, I have assumed here that violations of anchoring are not reckoned gradiently, but instead categorically. This is an assumption made for instance in McCarthy and Prince (1993) in their analysis of epenthesis in Axininca Campa and in Nelson (1998).

To show why this is the case, consider the following example. Let us assume that the candidates compared have already passed the test of the higher-ranked HIERAL and ALL-FT-R successfully. Moreover, suppose that the ranking of anchoring constraints in our case is ANCHOR-L Ft >> ANCHOR-L PrWd. This will promote candidates that target the foot of the source word, but still ANCHOR-L PrWd might affect the outcome even fatally. This is possible if it is evaluated gradiently.

(24) ANCHOR-L Ft >> ANCHOR-L PrWd: gradiently

Base: [(Mar.ɣa.)(rí.ta)]	ANCHOR-L Ft	ANCHOR-L PrWd
a. (Már.ɣa.)	*!*	
☞ b. Γa.(rí.t-a)		*
c. (Rí.t-a)		**!

Treating the anchoring constraints gradiently, yields the incorrect results. (24b) is predicted to be optimal since it satisfies ANCHOR-L Ft perfectly and has only one mark for ANCHOR-L PrWd, because it is only a syllable away from the left periphery of the prosodic word in the base. Thus, it excludes (24c), the actual output, which incurs two violations of the lower-ranked constraint. Instead if the same constraints are reckoned categorically, the outcome is rather different.

(25) ANCHOR-L Ft >> ANCHOR-L PrWd: categorically

Base: [(Mar.ɣa.)(rí.ta)]	ANCHOR-L Ft	ANCHOR-L PrWd
a. (Már.ɣa.)	*!	
☞ b. Γa.(rí.t-a)		*
☞ c. (Rí.t-a)		*

This time, (25a) again loses, as anticipated. But (25b) is treated equally with respect to (25c). Both fail to anchor with the left edge of the PrWd. This is enough. The actual distance from the left edge is of no concern. In this way, both last candidates are given the opportunity to emerge. Which will ultimately arise, will be determined by the lower-ranked constraints PARSE- σ , MAX-BT and the ranking with respect to each other.

It seems then that in the case of nicknames of the ($\sigma\sigma$) type, both options of anchoring are available. This of course does not imply that these are always attested. For instance, the single nickname of *Marýaríta* is *Ríta*. This means that the ranking of the anchoring constraints in this case is: ANCHOR-L Ft >> ANCHOR-L PrWd. It is entirely possible, though, that a name like **Márya* or **Máryi* would arise if the ranking was ANCHOR-L PrWd >> ANCHOR-L Ft. In fact, other nicknames are the result of the ranking ANCHOR-L PrWd >> ANCHOR-L Ft only, e.g. *Áimos* < *Áimosθénis*, banning the ranking ANCHOR-L Ft >> ANCHOR-L PrWd that would produce e.g. **Sθénis*. The point is that although unattested, the production of nicknames like **Márya* and **Sθénis* is still possible.

The fact that these names are not attested is probably related to reasons outside the domain of grammar. It seems that this is a matter of chance. The grammar allows it, but for some reason it is not chosen (cf. the well-known example of a lexical gap like **blík*, which is unattested, although fully well-formed).

After this observation, the ranking proposed takes the following form:

- (26) i) $\sigma(\sigma\sigma)$: **HIER AL, ALL-FT-R >> ANCHOR-L PrWd, ANCHOR-L Ft >> MAX-BT >> FTBIN, PARSE- σ**
 ii) $(\sigma\sigma)$: **HIER AL, ALL-FT-R >> ANCHOR-L PrWd, ANCHOR-L Ft >> FTBIN, PARSE- σ >> MAX-BT**

As already noted in (23), the anchoring constraints are not ranked with respect to each other. Sometimes ANCHOR-L PrWd takes priority over ANCHOR-L Ft, while occasionally the reverse takes place.

To illustrate, below, the ranking ANCHOR-L PrWd >> ANCHOR-L Ft >> MAX-BT is shown, which also justifies why anchoring must dominate MAX-BT.

(27) ANCHOR-L PrWd >> ANCHOR-L Ft >> MAX-BT

Base: [A.(lék.san).ðr-os]	ANCHOR-L PrWd	ANCHOR-L Ft	MAX-BT
a. A.(lék.s-is)			a,n,ð,r
b. A.(lé.k-os)			s,a,n,ð,r!
c. Lek.(sán.ðr-os)	*!	*	a

The first two candidates²¹ satisfy anchoring (coincidentally in terms of both edges), but they incur many violations of MAX-BT. However, this is insignificant, because of the place of the constraint in the hierarchy. The opposite ranking, where MAX-BT would outrank anchoring, would favour (27c), since it fails to realize only one segment. (27c) is impossible though, suggesting that the ranking in (27) is the correct one.

4.4.2. Different bases

Throughout this study, it was tacitly assumed that the original name was used as the base of the nicknames. However, this seems not to be always the case. There is empirical evidence that supports the existence of multiple bases. More specifically, it is suggested that the modern name serves as the base of the nickname, whose realization sometimes coincides with that of the original name, but occasionally it appears truncated itself. The evidence for that comes from various examples.

First, consider the types of anchoring. Although there is variation in the choice of anchoring in nicknames of (σσ) type, this is not the case for the σ(σσ) type. In the latter, it is systematically preferred to start copying from the left edge of the prosodic word, suggesting that in these cases the ranking of the anchoring constraints may need to be fixed, namely ANCHOR-L PrWd >> ANCHOR-L Ft²². Nevertheless, this is not always obtainable. Some original names lose their initial vowel when truncated e.g.

²¹ Both *Aléksis* and *Alékos* are attested. The ranking in (27) predicts that *Aléksis* is the actual one. Maybe some form of NO CODA would result in *Alékos*. Anyhow, this variation seems to be idiosyncratic to the specific name and is probably related to sociolinguistic reasons.

²² This kind of free variation, where there are different probabilities for the appearance of the forms is widely attested, as Boersma and Hayes (1999) show. Some forms may be more frequent than others. Boersma and Hayes provide an algorithm to formally provide this probability. This is by no means the goal of this paper, albeit the significance of the topic.

Leftéris > *Elefθérios*. This is apparently a violation of ONSET²³, which could also account for the resolution of hiatus between *i* and *o* in the original *Elefθérios*. Such an assertion would plausibly present itself as a case of emergence of the unmarked (McCarthy and Prince 1994, 1995). More specifically, although the language generally allows onsetless syllables (and some hiatus as well), it is in the domain of truncation, where these are banned.

However, this is not the whole story as there are some exceptions, where the truncated name retains the initial vowel of the original source, e.g. *Évi*, *Arístos*. Notice though that nicknames follow the pattern of the modern name in terms of the retention or loss of the initial vowel. So for example, *Arístos* exceptionally appears onsetless initially and its nickname *Aris* maintains the vowel. A form like **Rístos*, where the onsetless syllable is avoided, does not arise. Similarly, *Évi* is one of the nicknames of *Evagélia*, a name, which appears unmodified in its modern version. The nickname shares the onsetless syllable that the modern form exhibits. On the other hand the hypocoristic *Mános*, has *Manólis* as its modern version and *Emanuíl* as the original. Obviously, both hypocoristic and modern forms avoid the onsetless syllable of the original. This fact may also support the claim that the formation of nicknames happens serially and not in parallel²⁴. This means that first the modern name is formed and subsequently this serves as the new base, upon which the hypocoristic is formed. This implies that in cases where the modern name is a truncated form itself, the nickname cannot be more faithful to the original name than it is faithful to the modern form²⁵. If this were possible, then we would expect for instance to get nicknames like **Rídos* or **Emis* which would be more faithful to the original *Spirídon* and *Emanuíl* (cf. (6a)) than to the modern *Spíros* and *Manólis* respectively. Indeed, no such case seems to exist.

²³ A vexed issue is to see under which circumstances, some of the truncated names lose the initial vowel of the source, while others do not. Nothing systematic arises though. However, as a general tendency, masculine names tend to lose their initial vowel, unless they are Ancient Greek, while feminine names usually emerge onsetless. For the purposes of this study, it will be assumed that ONSET is violated each time an onsetless syllable appears, without further specifying the context within which this happens.

²⁴ As already indicated, this view is proposed also in Benua 1995.

²⁵ This is essentially an adaptation of Benua's claim (1995) that the truncated form cannot be more faithful to the input than it is to the base. Here, it is also suggested that whenever multiple bases appear, the final output will be as faithful as it can be to the last base and not to any of the previous.

Furthermore, names such as *Θάνος* suggest that the bases may already be truncated, e.g. *Θανάσις*, instead of the original *Αθανάσιος*. Let us show why this is with a help of a tableau.

(28) ONSET >> ANCHOR-L PrWd >> ANCHOR-L Ft

Base: [A.θa.(ná.si).-os]		ONSET	ANCHOR-L PrWd	ANCHOR-L Ft
a.	A.(θá.n-as)	*!		*
☞ b.	Θa.(ná.sis)		*	
c.	(Θά.nos)		*	*!
☞ d.	(Ná.sos)		*	

Here, (28a) loses, because it violates ONSET. (28b) and (28d) can arise depending on the ranking of MAX-BT and PARSE-σ lower down. If it is MAX-BT >> PARSE-σ then (28b) will be optimal. If it is PARSE-σ >> MAX-BT, then (28d) will emerge. The problematic candidate is (28c) which is predicted not to arise ever, although it is attested. A solution is to assume that *Θάνος* is produced, when the base is the trisyllabic output (28b), i.e. the truncated modern form.

(29) ANCHOR-L PrWd >> ANCHOR-L Ft >> PARSE-σ

Base: [Θa.(ná.s-is)]		ANCHOR-L PrWd	ANCHOR-L Ft	PARSE-σ
☞ a.	(Θά.n-os)		*	
b.	(Ná.s-os)	*!		

Additional evidence for the existence and need of multiple bases comes from the formation of diminutives. In Greek, it is possible to attach the suffix *-ákis* (for masculine names) and the suffix *-úla* (for feminine names), creating names such as:

(30)	<u>Original name</u>	<u>Modern name</u>	<u>Diminutive</u>	<u>Nickname</u>
	Vasíli-os	Vasíl-is	Vasil-ákis	Lákis
	Γεράsim-os	Γεράsim-os	Γerasim-ákis	Mákis

Δjonísi-os	Δjonís-is	Δjonis-ákis	Sákis
Panajót-is	Panajót-is	Panajot-ákis	Tákis
Δímitr-a	Δímitr-a	Δimitr-úla	T(r)úla
Elén-i	Elén-i	(E)len-úla	Núla
Paraskev-í	Paraskev-í	Paraskev-úla	Vúla
Xaríkli-a	Xaríkli-a or Xar-á	Xar-úla	Rúla

The diminutives denote familiarity towards the name-bearer and they are a common way to address children. Their base is the modern name or even the usual nickname, e.g. *Xará* < *Xarúla*. (30) also shows that apart from the usual nicknames discussed above, there is another - fairly productive - category of nicknames whose base is the diminutive form, e.g. *Rúla* < *Xarúla*²⁶. In such cases, the only way to form the nickname is to copy the stressed foot of the source name and create a bisyllabic trochee in the way that (26ii) suggests.

Two slight differences appear here compared to (26ii). The first is that ANCHOR-L Ft systematically outranks ANCHOR-L PRWD, while the latter has to do with the fact that the whole foot (instead of its left edge) is perfectly copied. So for example, there is no case, where instead of *Mák-is* a form such as *Mák-os* arises. The same happens in the feminine forms as well. I argue that the perfect correspondence is due to the fact that the diminutive suffixes *-ákis* and *-úla* are lexically specified as marked (in the sense of Revithiadou 1999) and thus there are stronger demands to maintain this specification in the outputs not only in the suprasegmental tier but also in the melodic tier²⁷.

²⁶ Sometimes a confusion might be caused in terms of the source of a nickname. For instance, the name *Núla* may have as its source any of the names *Iríni*, *Eléni* or *Fotini* among others. That is why, speakers - although they can often guess - usually ask the name bearer about the source form of his/her nickname.

²⁷ Alternatively, it could be assumed that the input for the truncated forms in these cases is / T + *-ákis*/ and / T + *-úla*/. The ‘co-operation’ of ONSET, ANCHOR-L Ft and MAX-BT forces the truncated form to include at least a consonant and produce names such as *Sákis*, *Kúla*, etc. It is unclear to me why a name such as *Akis* also emerges. However, I believe that it is idiosyncratic, since the feminine equivalent *Ula* does not exist.

4.4.3. Nicknames of the $\sigma(\acute{\sigma})$ type

The preceding discussion brings us naturally to the topic of this section, which deals mainly with the $\sigma(\acute{\sigma})$ type of nicknames, but also generally with (nick)names stressed in the last syllable. This category encompasses relatively few names, which nevertheless deserve some analysis.

These are names such as: *Xará*, *Kostís*, *Stratís*, *Pavlís*, etc. and some trisyllabic such as: *Panayís*, *Kostadís* and a few more²⁸. All of them are stressed in the last syllable. The disyllabic have the form $\sigma(\acute{\sigma})$, while the trisyllabic either $(\sigma\sigma)(\acute{\sigma})$ or $\sigma\sigma(\acute{\sigma})$. The first option is more plausible in terms of HIER AL, but violates ALL-FT-R. The latter option fares better in terms of ALL-FT-R, but it fails to respect HIER AL. Recall that these constraints are not ranked with respect to each other and in any case, any of these forms would be ill-formed. Thus, I will not commit myself with any of these options.

As we have already shown in (11), the disyllabic final-stressed forms are well-formed in terms of HIER AL and ALL-FT-R, but their equivalent trisyllabic forms are ill-formed. Therefore, a higher-ranked requirement must account for the existence of these forms, but also to account for the final stress.

I will assume that the relevant constraint is MAX (LA) (after Revithiadou 1999).

(31) MAX (LA):

A lexical accent of S_1 (input) has a correspondent in S_2 (output).

Revithiadou (1999) puts forward an elaborate system, which incorporates constraints that regulate the transfer or stability of the lexical accents e.g. * FLOP, * DOMAIN. In order that the discussion is not further complicated with details of this kind, I will assume that MAX (LA) demands correspondence not only in the skeletal tier (i.e. to retain a lexical accent), but also in the melodic tier, so that the segment which sponsors the lexical accent in the input is also maintained in the output.

²⁸ It is worth noting that these names are influenced by dialects and are not as common in standard Greek.

This approach leads to the following view of the matter. All roots will be considered unmarked, i.e. they lack an accentual specification, while some inflectional (see below) and derivational (e.g. *-ákis*) suffixes introduce lexical accents.

- (32) a. $\begin{array}{c} * \\ | \\ \sigma\sigma- \end{array}$ accented b. $\sigma\sigma-$ unmarked

This is essentially the categorisation that Revithiadou advances²⁹. I propose that the reason that some names are stressed in the final syllable, namely on the suffix, which expresses case and number, is because the particular suffixes bear a specification of lexical accent.

Empirical evidence of this kind is suggested by minimal pairs like: *Strátos-Stratís*, *Kóstas-Kostís*, *Pávlos-Pavlís*, etc. The first half of all these pairs exhibits stress in the penultimate syllable, since none of the root or suffixes are accented³⁰. A bisyllabic trochee is formed. In the second half though, all names are stressed on the vocalic position of the suffix *-ís*, which I will consider to be accented and thus due to the absence of any other accent, is stress-attracting. This suffix must be distinguished from the homophonous *-is*, which appears unmarked in names such as: *Xáris*, *Álkis*, etc. Under the reasoning pursued, trisyllabic names stressed on the suffix present no difficulty either. The ranking MAX LA >> HIER AL, ALL-FT-R suffices³¹.

²⁹ Since the lexical accents' system is only indirectly relevant to the topic of this study, I abstract away from the discussion of weak accents, i.e. those that never bear primary prominence. Also, I will refer only in passing to unaccentable morphemes, which introduce floating accents in section 5.2.

³⁰ Revithiadou (1999) avoids discussing the properties of penultimately stressed disyllabic words. Consider a word like: *lófos* 'hill'. This word includes the suffix *-os*, which according to the position taken in Revithiadou (1999) and here, is unmarked, thus it cannot itself attract stress. Therefore the position of stress will be regulated by the root. But how exactly could someone test in such occasion whether the root is accented or indeed unmarked? Revithiadou, proposes that the default position for stress in Greek is the antepenultimate syllable. We could say then, that due to the absence of an antepenultimate syllable, stress is attached to the second best choice, i.e. the penultimate.

Moreover, the names at hand, suggest that the roots here are unmarked. Had they been marked, then we would not be able to explain how come an accented root e.g. *Strát-* loses its accent when confronted with a marked inflectional suffix and produces *Strat-ís*. This is not possible under the ranking: HEADFAITH >> FAITH, where roots and derivational suffixes constitute heads and inflectional suffixes are non-heads.

³¹ MAX LA could also be used in the cases of the nicknames in (30), under the assumption that an accent is sponsored by the first vocalic position of each of *-ákis* and *-úla*. Also, cf. fn. 27.

(33) MAX LA >> HIER AL, ALL-FT-R

Base: [(Kos.ta).(dí.nos)] Input: <div style="display: inline-block; vertical-align: middle; margin-left: 100px;"> * / T + - is / </div>		MAX LA	HIER AL	ALL-FT-R
a.	(Kos.ta).(dí.s)			*
b.	Kos.(tá.dis)	*!		

The same ranking applies to the bisyllabic nicknames stressed in the last syllable. The lower-ranked constraints function in the usual way of (26). As for the nicknames examined before, the assumption is that neither the roots nor the suffixes introduce any accent, thus MAX LA has no say and the decision is made by the rest of the constraints.

5. Reduplication and its interaction with truncation

Finally, a small class of nicknames appear reduplicated (cf. the discussion about French in Nelson 1998, Sanders 1999). These are mostly feminine nicknames, although some masculine seem to exist as well.

(34)	<u>Original name</u>	<u>Other nicknames</u>	<u>Reduplicated nickname</u>
	Aθinά		Naná
	Agelikí		Kikí
	Vasilikí	Víki	Viví
	Δίmitra	Míči	Mimí
	Kirjakí		Kikí
	Paraskevί		Viví
	Fotinί		Fofó
	Δimítris		Mímis

The last column in (35) presents the reduplicated nicknames. These are usually based on the original name³², since - as all nicknames - they either copy from the left periphery of the name or from the left edge of the stressed foot. However, it seems that in order to keep this generalisation, some reduplicated nicknames have to be based on other nicknames available for a certain name, e.g. *Mimî* cannot be based on the original *Δίμιτρα*, since it does not copy from any of the designated areas. Instead, it could be connected to the nickname *Miči*, whose first syllable reduplicates and creates the reduplicated nickname. The same holds for *Vivî* < *Viki*.

These examples make it worth while to examine the phenomenon of reduplication in Greek more closely.

5.1. Reduplication in the general morpho-phonology of the language

The phenomenon of reduplication in Greek is very limited. It could grossly be separated in three small subcategories. The first includes some fossilised expressions where a whole word - an adverb - is repeated. The semantics is not fixed, but usually the meaning attributed in these expressions is intensifying.

(35) *ísa-ísa* ‘on the contrary’ or ‘exactly’ (both emphasising)

póte-póte ‘every now and then’

óso-óso ‘as much...’

tříma-tříma ‘exactly’ (like *ísa-ísa*)

táka-táka or *třáka-třáka* ‘very quickly’

láu-láu ‘slowly and patiently’

siyá-siyá ‘calmly and slowly’

All these expressions consist of a disyllabic word (which with only one exception is a single trochee as well) repeated wholly.

³² This category of nicknames presents many difficulties, because their origin is sometimes obscure. It also seems that some names are influenced by foreign names and thus the distinctions are not always clear. For instance, a nickname like *Sísi* can be related with the original name *Elisávet* under German influence. Other names such as *Γογό* < *Γεοργία* or *Xarálabos* < *Bábis* present idiosyncrasies in the choice of the segments copied from their bases. In the main text, the clearer cases - which luckily are the majority as well - are discussed.

The next subcategory comprises words, which in their majority denote onomatopoeia. Some examples are shown below³³.

(36)	bubunízo	‘thunder’	γaryára	‘gurgle’
	γáryaros	‘sparkling’	γuryurízo	‘rumble’
	zuzúni	‘insect’	ǰǰíki	‘cicada’
	kakarízo	‘laugh in an annoying way’	kókoras	‘rooster’
	murmurízo	‘murmur’	psipsína	‘kitty’
	titivízo	‘sing in a way a bird does’	turturízo	‘shiver’
	xaxanízo	‘laugh in a silly manner’		

It is evident that the reduplicant appears prefixed, since the copy consists of an initial substring of the base. The problem though is the exact status of the base. Almost all of these words appear only reduplicated. There is no independent word, e.g. *γáryaros* but **γáros* or rarely there is, but it is semantically unrelated to the reduplicated word³⁴. An alternative would be to say that actually the input for these words appears already reduplicated, e.g. */γaryar-os/* and MAX-IO ensures the retention of the input segments. Although, this is workable, it has a serious flaw. The whole notion of reduplication is lost. The repetition of a syllable appears now coincidental. Obviously, such a solution is not desirable, especially when one considers the fact that the reduplicated words have almost exclusively specific semantics, namely that of onomatopoeia.

If it were only chance that some syllables are repeated - a fact which is entirely possible in every language - then we would expect these words to come randomly from a pool of words with different semantics. But this is not the case. Moreover, it is not only the fact that these words have common semantics, but also that they have

³³ In (36) a representative sample of reduplicated words is shown. However, there are some more. Furthermore, there are reduplicated words which are loanwords or their status is doubtful between loan and native words (according to the dictionary of Babiniotis 1998), e.g. *paparúna* ‘poppy’ from Romanian, *kokoréči* ‘a kind of food’ from Albanian, *dudúka* ‘a type of megaphone’ from Turkish. These words are not included in the data discussed in the main text, as non-native, although the analysis put forward accounts equally for the loanwords.

³⁴ This is not totally accurate. See some examples that follow.

semantics which commonly across languages appears with the morphology of reduplication.

Therefore, we will exclude the possibility that the reduplicated forms appear as such underlyingly. There must be a base upon which the reduplicant is formed through BR correspondence relations. But the vast literature, which uses the standard OT model of reduplication does not discuss cases like the ones exemplified by Greek (for similar cases and some criticism of the Correspondence model, see Golston and Thurgood in press). In all the languages examined within this model, there is always a recognisable independent base with which the reduplicant is related. Correspondence Theory then faces some difficulties with these cases. The problem is that there must be a base postulated, which nevertheless cannot appear on its own, but only reduplicated. Correspondence Theory as it stands, can only work by assuming that there is such a base, but it fails to explain the inexistence of the base independently.

I will not provide any solution to the problem at the moment, but point out the significance of this issue for further research. However, I believe that the role of the lexicon and the semantics assigned to specific morphemes may be decisive (cf. Golston and Thurgood in press, who tie reduplication with specific morphemes).

For the purposes of this study, I will assume that reduplication is one of the options that the language offers to express onomatopoeia. Which words will appear reduplicated though is a matter of the lexicon. It will be impossible for a word designated in its input to include a morpheme RED to emerge unreduplicated, as it will violate the undominated REALISE RED, which requires the phonetic realisation of the reduplicated morpheme.

Moreover, I will also assume that there is a base, upon which reduplication is formed. Fortunately, some empirical evidence suggests that are a few words where it is etymologically established (see Babiniotis 1998) that the reduplicated words are formed based on unreduplicated words³⁵. These are words like: *tfítfirízo* ‘to sizzle’ which comes from *tfirízo* ‘to squeak’, *tfutufúni* ‘penis’ from *tfuní* ‘penis of small boy’

³⁵ As already discussed, this is actually the problem that the Greek data present. These words, which also appear unreduplicated are the exception, but due to a lack of a better analysis, their role is promoted, so that the position of the non-reduplicated base in the input is established. Nevertheless, I believe that the analysis provided by Correspondence Theory is indeed the correct one. What remains to be explained is the inexistence of the base as an independent word, which is quite an independent matter from the analysis itself. We could still technically use the hypothetical base in the input, postponing the problem presented for further investigation.

and *murmurízo* ‘murmur’, whose origin can be traced back in the indoeuropean root **mur* (cf. *murmur* in Latin).

In all cases, the reduplicant is one syllable long (RED=σ) and it is anchored on the left periphery of the prosodic word (ANCHOR-L BR). These constraints must dominate MAX-BR, which forces the full copying between base and reduplicant.

(37) MAX-IO >> RED=σ, ANCHOR-L BR >> MAX-BR

/RED-γar-os/	MAX-IO	RED=σ	ANCHOR-L BR	MAX-BR
a. γár.γα.ros				o,s
b. γά.γα.ros				r,o,s!
c. γa.ros.γά.ros		*!		
d. γά.γα.os	*!			o,s

(37c) copies more material than a single syllable and (37d) deletes an input segment. Both violate high-ranking constraints and hence they fail. (37b) does well, but it copies one less segment when compared to its rival (37a), which is the winner.

The same ranking works for a very small group of words, which come from child language and mostly denote kinship terms. Among them are the very common: *mamá* ‘mum’, *babás* ‘dad’, *jajá* ‘grandmother’, *papás* ‘priest’. These words are of interest, because they exhibit exactly the same pattern with that of the reduplicated truncated nicknames, save the fact that they are not truncated themselves³⁶. The base is a monosyllable, which is extended to two syllables, after reduplication has taken place.

5.2. Truncated nicknames

Having briefly discussed how reduplication generally works in the language, we can now focus in the type of nicknames that are presented in (34). Similar hypocoristics

³⁶ Under the reasoning that it is more likely for children first to address their parents by using the vocative, than using the nominative, I am assuming that the vocative is the form generated by reduplication and then the other cases are formed, being reanalyzed in a root-affix construction, in such a way so that they fit the general paradigm of nouns. For instance, the vocative of ‘dad’ is *babá*. This is the product of reduplication of the syllable *ba*, i.e. *ba-ba*. The latter vowel can serve as the morpheme of vocative singular, i.e. *bab+á*. Accordingly the other cases are formed. In our example, the noun will follow the pattern of nouns ending in *-ás* (nominative), e.g. *bab+ás* (nom. Sing), *bab+ád+on* (gen.pl).

appear in French. Nelson (1998) and Sanders (1999) devote a significant amount of discussion on the French data³⁷. Some examples are given below.

- (38) Nikol → Nini
Toma → Toto
Emil → Mimil
Elen → Lelen

Ignoring the effects that ONSET has on the nickname - as this is not relevant to our concerns - Nelson (1998) proposes that the input for a nickname of this kind is: /RED + Nikol/. Sanders (1999) on the other hand claims that the input is specified instead for truncation, e.g. /Nikol+T/. In order that a candidate such as **Niko* is excluded, both have to assume a meta-linguistic process, which prevents hypocoristics from being too similar to their base forms. But this is not the case for Greek. For instance, the name *Agelikí* has *Agéla* (truncated) and *Kikí* (truncated and reduplicated) as its nicknames. I also argue that this is not the case in French either.

Nelson (1998) mentions that a name like *Dorote* forms the hypocoristic *Doro*, but it can also reduplicate as in *Dodo*. As she notes, the option of reduplication is readily available - although not always attested - for all names, but is obligatory for the disyllabic names of (38). But actually, as Sanders (1999) observes, an input specified with the morpheme RED, will emerge reduplicated (REALISE RED is high-ranked), but nothing will force it to be truncated as well. Thus, Nelson's analysis predicts that for the name *Nikol*, the optimal output should be **Ninikol* (Sanders 1998:16 on the ROA version), which is only reduplicated, instead of the correct truncated and reduplicated *Nini*.

Hence, Sanders's analysis works fine for the obligatory reduplicated cases of (38), but it cannot cope with cases like *Dodo*, where a non-reduplicated nickname is also possible, namely *Doro*. This happens, because Sanders assumes a single input which includes the morpheme T. This ensures that all names will truncate without reduplicating, e.g. *Doro* < *Dorote*, *Karo* < *Karolin*, *Meli* < *Ameli*, etc and only those, which are unable to truncate only (due to the meta-linguistic reason mentioned before), reduplicate, i.e. the names of (38). But what happens, when the meta-

³⁷ Below, argumentation is given against the analysis that the above authors propose, while the analysis itself is summarised. For more details, the reader is referred to Nelson (1998) and Sanders (1999).

linguistic reason is no longer in force as in the case of *Dorote*, where the hypocoristic *Doro* is attested, implying that it is different enough from its base name? Sanders predicts that only *Doro* is possible (i.e. the normal process). Indeed, he does not discuss *Dodo* at all³⁸.

For these reasons, I propose that the type of nicknames illustrated in (34) for Greek and in (38) for French indicate that the input must contain both morphemes RED for reduplication and T for truncation. These morphemes are considered distinct and thus it is possible to get reduplication alone, when only RED is present, truncation alone, when only T appears in the input and their interaction, when both are parts of the input as in the reduplicated hypocoristics.

Moreover, I explicitly state a new correspondence relation between the reduplicant and the truncatum (FAITH-TR). Initially, I will present the weak approach that handles FAITH-TR as a specific version of FAITH-BR and see how FAITH-TR can account for the facts. Next, I shall support a stronger version that treats FAITH-TR as a separate entity and illustrate how and why this version leads to better results.

Let us take each approach in turn. To assume that FAITH-TR is a specific version of FAITH-BR is not an entirely novel idea. Such a correspondence relation underlies Nelson's notion of 'Base' in MAX-BR, when during the discussion on the reduplicated nicknames of French, she states: 'Base' in MAX-BR refers to the truncated portion of the name which the reduplicant copies (Nelson 1998:11 ROA version). Thus, FAITH-TR is a specific version of FAITH-BR, where the truncatum constitutes the base for the reduplicant.

To illustrate, we will consider only some candidates, which conform to the anchoring constraints and the size restrictors of both reduplication and truncation. More specifically, RED= σ requires the reduplicant to have the size of a single syllable and at the same time the size restrictors of the hypocoristics allow for certain structures, namely $\sigma(\acute{\sigma}\sigma)$, $(\acute{\sigma}\sigma)$ and $\sigma(\acute{\sigma})$. All these patterns arise. The first is attested in some feminine names like: *Titika*, *Lilika*, *Mimika* etc³⁹. The second emerges in names like *Mimis* and the latter - the commonest - in the names of (34). I will not explore the stress patterns in more detail, bearing in mind that almost minimal pairs like the

³⁸ In fact, Sanders (1999:14 ROA version), considers *Dodo* ungrammatical, but he does not discuss its inexistence in more detail.

³⁹ Although these names conform to the $\sigma(\acute{\sigma}\sigma)$ pattern, the status of their base is dubious. It seems that *-ka* is underlying and is suffixed to the reduplicated name without being present in the base as well, e.g. *Lilí+ka*.

feminine *Mimî* and the masculine *Mîmis* differ in stress assignment, a fact which seems to indicate that the decision is lexical.

In any case, MAX-TR dominates MAX-BT meaning that it is more important to get the maximal similarity between the reduplicant and the truncatum than to copy more material of the base in the nickname.

(39) MAX-TR >> MAX-BT

Base: [Mičǐ] Input: / R + T + .../ ⁴⁰		MAX-TR	MAX-BT
a.	<u>Mimí</u>		č,i
b.	<u>Mičmí</u>	č!	č,i
c.	<u>Mimíč</u>	č!	i

The R morpheme is shown underlined, while the T morpheme is doubly-underlined. MAX-TR evaluates the identity between these two strings, while MAX-BT compares the truncatum with the base *Míči*. (39a) is the winner. It does best in terms of MAX-TR than the other candidates, which violate MAX-TR blatantly. Another possible candidate would be *Mičmíč*. This would actually be a very appealing candidate, since it obeys MAX-TR perfectly, while it fares better in terms of MAX-BT than (39a), because it copies more material from the base. However, this rival would lose, because the last consonant would constitute an illegal coda for Greek, whose general phonology allows only *n* and *s* word finally. The constraint responsible for this ban must be dominant and thus such a candidate need not be considered (this constraint would also be violated by 39c).

As it has already been mentioned, we thought of MAX-TR as a specific version of MAX-BR. So, one could argue that actually we do not need MAX-TR and instead its role can be subsumed by MAX-BR (as Nelson suggests). But then how do we ensure that the base is itself a truncated form? The use of MAX-BR would yield, as we have already seen, the wrong form **Ninikol* instead of *Nini*. If this justifies the existence of FAITH-TR, then we can admit it to the system, but not as a specific version of FAITH-BR. Being a specific version of FAITH-BR would produce a considerable overlap

⁴⁰ The input here probably introduces a floating accent, which needs to be attached to the last vocalic position in the output.

between the two types of correspondence. Instead, I shall propose that MAX-TR is actually a distinct type of faithfulness, which is activated whenever the input contains both RED and T morphemes.

To do that, we need to consider the way the term ‘base’ is used in reduplication and truncation. In the former, base and reduplicant are simultaneously produced and FAITH-BR compares elements within the same word, while BT correspondence is a transderivational relation, i.e. between distinct words. Now suppose that we assigned the term ‘base’ a certain reference for a certain process. Suppose furthermore that in the case of reduplicated nicknames, what was meant by ‘base’ was the source name. Taking our previous example, our ‘base’ would be *Miči* and the output name would be *Mimi*. In this case, nothing would change for BT correspondence, since it would still compare parts of two different words, namely the truncatum *mí* with the base *Miči* and FAITH-TR would examine the correspondence between the reduplicant (the underlined portion) and the truncatum (the doubly-underlined portion) in *Mimi*. But now the difference would be that BR correspondence would relate the reduplicated part of the word with the base, i.e. *Mi* with *Miči*. To put in different words, FAITH-BR would work transderivationally in the way FAITH-BT does.

This would ensure the independence of FAITH-TR and show that it is needed as a separate entity from FAITH-BR. After all, if FAITH-TR were just a specific version of FAITH-BR, then FAITH-BR should be somehow inactive in the case of reduplicated nicknames, something which is against the basic assumptions of OT. The problem then would be to find a satisfactory way to ensure that in the purely reduplicated cases (i.e. where there is no truncation at the same time), FAITH-BR would work in the usual way, comparing elements within the same form. I believe that this is possible to be done, by formally defining ‘base’ in a constant and unified way, but I shall not pursue this matter more. Further research and more empirical data are necessary to support the (independent) existence of FAITH-TR.

However, before concluding this discussion, it is worth seeing with a tableau that the faithfulness relations used in the sense proposed here would have different effects and thus their independent existence is supported.

(40) MAX-TR >> MAX-BR, MAX-BT

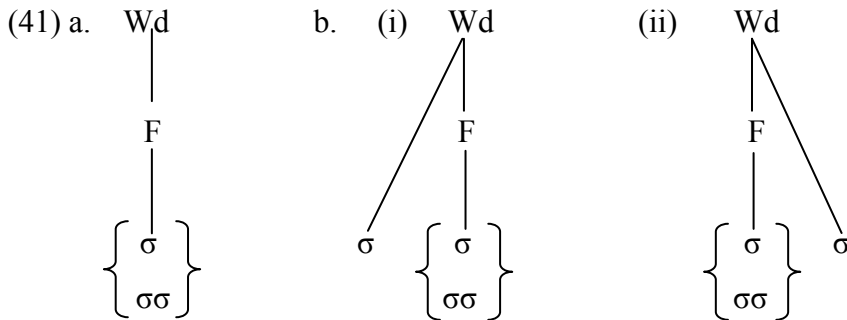
	Base: [Mí.či]	MAX-TR	MAX-BR	MAX-BT
☞ a.	<u>Mimí</u>		č,i	č,i
b.	<u>Mičmí</u>	č!	i	č,i
c.	<u>Mimíč</u>	č!	č,i	i

(40a), the winning candidate, presents perfect correspondence between the reduplicant and the truncatum, while it fails to include some base segments in each of the reduplicant and truncatum. The other two candidates fare better in terms of MAX-BR and MAX-BT, but they incur fatal violations of MAX-TR.

6. Lack of monosyllabic nicknames

In this section we return to a question brought up earlier, but still unanswered. As we have seen, truncated names in Greek (i.e. modern names if truncation is applicable and standard nicknames) take certain prosodic shapes. Namely, $\sigma(\sigma\sigma)$, $(\sigma\sigma)$, $\sigma(\sigma)$. All these are well-formed prosodic words, which minimally contain a foot. However, the discussion up to now, allows for another form, i.e. a single monosyllabic foot (σ), but this is absent from the inventory of the attested prosodic shapes of the truncated names. How is this to be accounted for?

We will see that the explanation lies onto the Weak Layering Hypothesis (Itô and Mester 1992), which distinguishes between the descriptive terms of strict minimal word and that of the loose minimal word. The former refers to a single foot (a), while the latter allows for a foot to be accompanied by an unfooted syllable (b). The diagram below exemplifies these cases (adapted from Itô and Mester 1992).



(41b) presents the case where unfooted material is allowed. In Greek, modern names which show up with a trisyllabic shape, align their single foot with the right edge of the prosodic word. Thus only forms, such as the ones in (41b.i) arise. Nevertheless, the forms produced by the pattern in (41b.ii) are also well-formed under hierarchical alignment. Indeed, such forms occur generally in the language, but not in the domain of truncated names, where ALL-Ft-R is highly ranked and thus militates against the non-matching between the right edges of foot and prosodic word.

The question then comes to (a). Naturally the structure (óσ) is attested and widely preferred for the formation of nicknames, because it fares best than all other candidates in terms of the prosodic word restrictor constraints, PARSE-σ, FTBIN, and ALL-FT-R. Strangely though, no nicknames have the size of a single syllable, which constitutes a degenerate foot at the same time. In their discussion of Japanese, Itô and Mester (1992), show that this form is allowed generally in the language, but crucially it is banned in clippings, a matter we will return to below. Japanese constructs moraic feet and the minimal foot allowed is that of a single heavy syllable (ō). This cannot be retained in a system like Greek, where there is no quantity sensitivity and the trochees formed are of the syllabic type.

More strangely, it has been argued that Greek lacks a word minimum (Malikouti-Drachman and Drachman 1989, Drachman and Malikouti-Drachman 1996). There are some monosyllabic verbal forms, e.g. *lés* ‘say-2sg.PRES’, *ðés* ‘see-2sg.IMP’, *zí* ‘live-3sg.PRES’ and a handful of archaic words, e.g. *mís* ‘muscle-NOM.sg’, *fós* ‘light- NOM.sg’, *pán* ‘everything (adjective used as a noun)-neuter’. So what obstructs nicknames from appearing as monosyllables?

In my view, there are at least two possible explanations for that. The first may be an extra-linguistic requirement that names should be at least disyllabic, so that there is a minimum of information, which helps recover the source name. To clarify this, suppose for a moment that the language somehow targets a syllable of the source name. In accordance to what has been proposed, let us assume that this syllable is the stress bearer. A possible syllable that meets these requirements is for instance the syllable *rí*. The problem is that such a small syllable would provide no cues to the hearer to recover the source name. Under this reasoning, it could be any of *Katerína*,

Iríni, *Maryaríta* or *Xaríklia* among others. Therefore, such a size cannot qualify and a bisyllabic one is promoted.

A possible counterexample to this argument could be the fact that the language - as it has already been discussed - has a fairly productive process, where it constructs diminutive forms of names and subsequently⁴¹ creates nicknames from these. Thus, a nickname like *Núla*, could come from a plethora of source names. Just to mention some: *Katerína*, *Iríni*, *Eléni*, *Fotíní*, etc. Nevertheless, this fact does not restrain speakers from using these names, even though recovering the original name, might be quite confusing.

This observation weakens the initial argument, which might lead us to another, more interesting explanation. If the analysis proposed so far is on the right track and under the assumption that the minimal prosodic well-formedness conditions hold, then the lack of monosyllabic nicknames in Greek - a language which generally allows monosyllabic stressed words - may well provide empirical evidence and enforce the approach adopted in Itô and Mester (1992), where a requirement of Binariness⁴² is claimed. The original proposal is stated below:

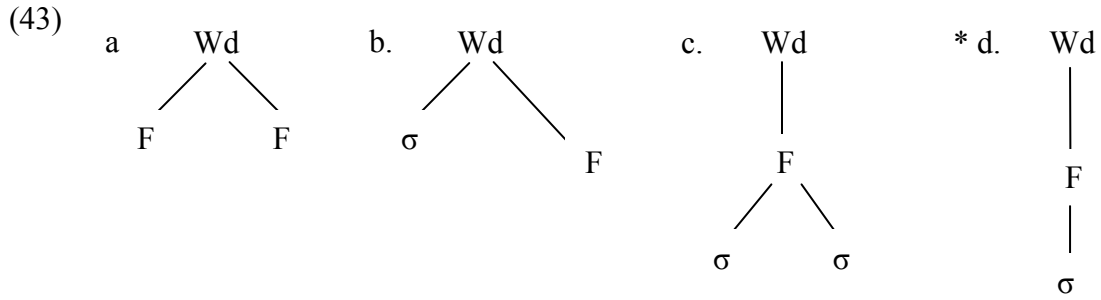
(42) Word Binariness:

P-derived words must be prosodically binary.

‘P-derived’ refers to words that are related to more basic words by means of prosodic-morphological operations. Thus, truncated words present themselves as a natural candidate of ‘p-derived’ words. Binary branching is obeyed in the [FF] structure (42a) and the [σF] structure (42b) at the word level, while the [F=σσ] (42c) branches at the foot level. The only structure that is irreconcilable to binary branching is that of a foot constituted by a single syllable (42d), namely the shape that nicknames never take.

⁴¹ This is consistent with Benua’s (1995) claim that there is no evidence that suggests full parallelism in the construction of truncated words from their bases. This example might actually support the fact that the bases and the truncated words are not derived at the same time.

⁴² Bisyllabicity or ban of monosyllabicity in Itô’s terms (1990) is another possibility, which will not be explored here. Many problems arise with this view of things. For further discussion see Itô and Mester (1992:27-29).



Although (43a) conforms to Binarity, it does not emerge in truncated hypocoristics, since ALL-FT-R ensures that truncated names will include minimally and maximally a foot. $\sigma(\acute{\sigma}\sigma)$ and $\sigma(\acute{\sigma})$ fall under the scope of (43b), while $(\acute{\sigma}\sigma)$ is depicted in (43c). All these are well-formed truncated names in Greek. Only form (43d) is missing. I claim that the reason for that is because it violates Binarity. Therefore, although monosyllabic words are allowed generally in the language, they are prevented from arising in the domain of truncation, where the requirement of Binarity is top-ranked. This can plausibly be considered an ‘Emergence of the Unmarked’ effect (McCarthy and Prince 1994).

Greek thus supports the Binarity approach and the weak layering hypothesis. Moreover, in the domain of truncated names, it makes use of the distinction between loose and strict minimal word. The modern trisyllabic names (and bisyllabic names stressed on the final syllable due to requirements of lexical stress) reduce to a loose minimal word of the (43b) type so that they maximise the similarity with the source name. The bisyllabic trochees of (43c) take the unmarked prosodic structure of the strict minimal word, but the price to pay is to lose more material of the source form.

7. Conclusion

This study has shown the significance of prosody for the determination of possible nicknames and its interaction with anchoring and faithfulness constraints. Greek truncated names take one of the following forms: $\sigma(\acute{\sigma}\sigma)$, $\sigma(\acute{\sigma})$, $(\acute{\sigma}\sigma)$, with the latter being by far the commonest. All these adhere to constraints of hierarchical and foot alignment. The same result is achieved by one more form, namely $(\acute{\sigma})$, which nevertheless fails to be a member within the inventory of the possible truncated

names. I argue that the reason for that is due to a requirement of Binarity (Itô and Mester 1992), which although is not active in the general morpho-phonology of the language - since monosyllabic words generally exist - it is in force in the domain of truncation, thus providing an Emergence of the Unmarked effect (McCarthy and Prince 1994).

Greek is also interesting, because within the same process of truncation, it exemplifies similar, but still different patterns. This can straightforwardly be accounted for, with the tools that OT provides, by a simple re-ranking of a few constraints. All other things equal, a ranking $\text{MAX-BT} \gg \text{PARSE-}\sigma$, yields the $\sigma(\acute{\sigma}\sigma)$ type of names, where it is more important to copy more material from the source name than satisfy the lower-ranked prosodic constraints. On the contrary, the opposite $\text{PARSE-}\sigma \gg \text{MAX-BT}$ ranking produces bisyllabic trochees, which are indeed the unmarked feet cross-linguistically. Finally, $\sigma(\acute{\sigma})$ forms demonstrate the effect of MAX_{LA} , where an accent marked as such in the lexicon is retained in the same melodic position in the output.

Moreover, the discussion has expanded to the domain of reduplication both in the language as a whole and in connection to truncation. In the latter case, tentative ideas have been proposed in order to capture the relation between reduplication and truncation within the same form. Argumentation has been given contra Nelson (1998) and Sanders (1999), who explore similar examples in French. Nelson (1998) argues that the input for such cases should include a RED morpheme, while Sanders (1999) argues for a T morpheme. Both analyses make some false predictions. For this reason, the claim made here is that instead the input should comprise both morphemes. Accordingly, an extension of the faithfulness family has been proposed. The new correspondence, namely FAITH-TR, relates the reduplicant with the truncatum and requires their identity. Although, it has been shown that FAITH-TR could be a specific instance of FAITH-BR, argumentation has been given which supports its independent existence.

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