ACCENTUATION OF MODERN GREEK AND THE NATURE OF FAITHFULNESS CONSTRAINTS

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Abstract

Στην ανακοίνωση αυτή εξετάζουμε δύο φαινόμενα που σχετίζονται με τη θέση του τόνου στα ονόματα της Νέας Ελληνικής. Συγκεκριμένα, το πώς η θέση του τόνου αλληλεπιδρά με την παρουσία/ απουσία αλλομόρφων. Η λύση που προτείνεται είναι μέσα στα πλαίσια της Θεωρίας του Βελτίστου.

Keywords

stress, dominant-suffixes, phonologically conditioned allomorphy, Optimality Theory, Output-to-Output Faithfulness, Representational Entailment Hypothesis.

Problems

An interesting metrical phenomenon that we address in this paper is that although dominant inflectional suffixes do exist in MG -for example the Genitive Plural (GP) of the noun 'stratiotis' "soldier": 'stratioton' (1.1a)- yet, under certain circumstances, when the stem is augmented by a class marker (CM): stem+, they can behave recessively as in the case of 'manavis' "grocer" illustrated in (1.1b) below:

(1.1)

Singular

	a. ROOT	CM	INFL	b. ROOT	CM	INFL
Nom	stratiot	+ i	+ s	manav	+ i	+ s
Gen	stratiot	+ i	+ O	manav	+ i	+ O
Acc	stratiot	+ i	+ O	manav	+ i	+ O

Plural

	a. ROOT	CM	INFL	b. ROOT	CM	EP	INFL
Nom	stratiot	+ O	+ es	manav	+ i	+ δ	+ es
Gen	stratiot	+ O	**+ <u>on</u>**	manav	+ i	+ δ	+ on
Acc	stratiot	+ O	+ es	manav	+ i	+ δ	+ es

Class markers are normally recessive. Their metrical properties are governed by the root: an accented root selects for an unaccented class marker and an unaccented root selects for an accented one: e.g. **filak** + a +s vs. <u>pap</u> + a + s respectively. Class markers always consist of a vowel mediating between the root and the inflectional suffix. In the singular the inflectional suffixes are either [O] or a consonant, so no hiatus arises. In contrast, in the plural all the inflectional suffixes have a VC structure; thus, when a stem that ends in a vowel combines with

them, a vowel hiatus comes as a result. The examples in (1.2) show how the resulting hiatus is repaired:

(1.2)

Plural

	a. oxytones with epenthesis	b.oxytones with deletion	c.paroxytones with deletion	d.paroxytones with epenthesis	e.proparo-xytones with deletion
	Root CM EP Infl	Root CM Infl	Root CM Infl	RootCM EP Infl	Root CM Infl
Nom	pap + a + δ +es	poiet + O +es	agon + O + es	manav+ i +δ+es	filak + O + es
Gen	pap + a + δ +on	poiet + O +on	agon +O + on	manav+ i +δ+on	filak + O + on
Acc	pap + a + δ +es	poiet + O +es	agon +O + es	manav+ i +δ+es	filak + O + es

As (1.2b,c,e) show, some cases avoid the vowel hiatus in the plural by deleting the class marker before an inflectional suffix that begins with a vowel, whereas others (1.2a,d,) add an epenthetic / δ/ in between the class marker and the inflectional suffix. MG uses two strategies to avoid a vowel hiatus in the plural: deletion of the class marker or epenthesis of /δ/ in between the class marker and the inflectional VC suffixes. The choice between the two available mechanisms is idiosyncratic as far as the oxytone and the paroxytone nouns are concerned. Proparoxytone nouns, on the other hand, invariably choose the same strategy: deletion of the class marker. We argue that this is not an accident.

Proposed Solutions

1. Solution to Problem 1: we propose in the spirit of Burzio 1998, 2002, that the rank of Faithfulness is controlled by the dimensionality of the representation. This predicts that:

   $\text{Faith}_{\text{Stem+}} >> \text{Faith}_{\text{Dom-Affix}} >> \text{Faith}_{\text{Stem}}$

2. Solution to Problem 2: proparoxytones always delete because epenthesis would violate Paradigm Uniformity (PU): 'filakes'/ *'filakaδes'

Framework

Burzio argues that neutralization phenomena, like syncretism segmental or metrical as in the case of 'manavis', reflect an attraction effect, where attraction is proportional to similarity: the greater the similarity between two representations/ words the stronger the attraction and vice versa. This attraction effect is enhanced by the number of the shared components between the two representations/ words that stand in an attraction relation. In Burzio's framework the role of similarity/ "distance" is captured by means of the Representational Entailment Hypothesis (REH):

Representational Entailment Hypothesis: "Mental representations of linguistic expressions constitute sets of entailments: a representation with the structure AB will generate the entailments: A⇒ (read entails) B, and B⇒A." (Burzio, 2002)

In the extension of OT developed in Burzio (1998, 2002) and adopted here, Morphology and Phonology are fully parallel without underlying representations. In this system, both OO-F and IO-F are present. Both notions of Faithfulness however, are derived from the REH rather than being primitive. The REH establishes a correlation between the rank of OO-F and similarity between representations (stronger OO-F or "attraction" for greater similarity/ shorter 'distance') and a correlation between the rank of both OO-F and IO-F and the dimensionality of the representation (the higher the dimensionality, the stronger the Faithfulness effect).

For example, consider some input ABC in which C is being changed by some grammatical factor (some markedness constraint or some OO-F/ PU constraint). Two entailments are violated: A⇒C and B⇒C. Consider next some higher dimensional input ABDC in which again C is changed. This time three entailments are being violated: A⇒C, B⇒C and D⇒C. Remember that entailment summation yields constraints of higher rank. Thus, the higher-dimensional a representation is, the higher-ranked the IO-F it will induce

Solutions

- Solution to problem 1: The class marker is a piece of sound structure that carries some morphological information: participation of a root X in some declensional class. Thus, the presence of the CM has the effect of adding one component both of sound and of meaning to the overall representation, as illustrated in (1.3):

(1.3)

Stems	**A. Root:** *Segmental Structure*	**B. Root:** *Semantics*	**C. Root:** *Metrical properties*	**D. Class Marker:** *Segmental Structure*	**E. Class Marker:** *Morphology*
a. $[Root+CM]_{stem}$	√	√	√	√	√
b. $[Root]_{stem}$	√	√	√		

Table (1.3) is a highly idealized representation, whose aim is only to reveal that adding morphological material adds to the number of components or dimensions, which in turn affects the magnitude of the faithfulness effect under the REH. We can see that from the point of view of REH, a stem that comprises by a root and a class marker will be represented by a five-dimensional input: $[Root + CM]_{stem+}$ = ABCDE, whereas a stem that comprises only by a root will be represented by a three-dimensional input: $[Root]_{stem}$=ABC. Hence (1.3a) will have more entailments associated with it than (1.3b). Therefore the faithfulness associated with (1.3a) will be stronger than that of (1.3b):

IO-Faithfulness$_{stem\{a\}}$ >>IO-Faithfulness$_{stem\{b\}}$.

Thus, what we predict then is that for those nouns that epenthesize in the plural and hence retain the CM throughout the paradigm declension, their stems because they remain invariant will be more stable and more resistant to the prosodic requirements of a dominant suffix. This is exactly what happens in the case of 'manavis' in (1.2d) above: as we have seen in the GP the otherwise dominant suffix [-on] has no effect on the root stress: the root supported by the class marker is able to overcome the prosodic requirements of a dominant suffix and retain its own prosodic characteristics. The ranking in (1.4) below reflects the discussion above:

(1.4) IO-Faith$_{stem+}$>> IO-Faith$_{dominantsuffix}$ >> IO-Faith$_{root/stem}$ >> IO-Faith$_{CM}$

- Solution to Problem 2: The notion of OO-F is crucial in explaining why proparoxytones only have deletion so as to avoid the vowel hiatus in the plural, although oxytone and proparoxytone nouns oscillate between epenthesis and deletion.

Primary stress in MG cannot be placed beyond the antepenultimate; it is restricted to one of the last three syllables of the prosodic word, e.g. 'anthropos' "man", 'nomos' "law", 'uranos' "sky", 'sidirodromos' "railway" and not *'sidirodromos', etc. This three–syllable window is a general restriction clearly imposed by the Phonology as in many other languages.

Proparoxytone stems fail to epenthesize because epenthesis would result in an extra syllable in the plural, with the consequence that stress in the plural would either have to be on the pre-antepenultimate, which is excluded by the three-syllable window, or inconsistent with that of the singular violating OO-F/PU.

If proparoxytone nouns like 'filakas' in (1.2e) above chose epenthesis instead, then they would have to alter their accentual pattern in the plural; the stress would have to move one syllable to the right in the NP and AP so as to be within the prosodically specified three-syllable window (see 1.5 below):

(1.5)

Plural

	a. Deletion of the CM	**b. Epenthesis**
	ROOT CM INFL	ROOT CM EP INFL
Nom	filak + O + es	filak + a + δ + es ⇒ *filakaδes
Gen	filak + O + on	filak + a + δ + on
Acc	filak + O + es	filak + a + δ + es ⇒ *filakaδes

A form like '*filakaδes' can never surface because it violates the noted three-syllable window. In fact '*filakaδes' will be always corrected to '*filakaδes' by the grammar, since the latter is the optimal output, provided that Paradigm Uniformity with the Nominative Singular (PU$_N$) is not at work (see Tableau 1.6 below):

(1.6) Tableau

Input /filak, -a,-δ-,-es/	Three-syllable window[i]	ONSET	Max-IO$_{CM}$	Dep-IO

a)☞fi(la.ka) δes				*
b)(fi.la)(ka.δes)	*!			*
c) fi(la.ka)es		*!	*	

PU_N is crucial: it gives us the answer as to why the proparoxytone nouns never epenthesize to avoid hiatus in the plural: PU_N dominates Max-IO_{CM}. So we end up with the following grammar of deletion:

- ONSET[ii] (the constraint militating hiatus), PU_N, Dep-IO >> Max-IO_{CM}

Tableau (1.7) illustrates that even if the grammar of epenthesis was chosen instead:

- ONSET, Max-IO_{CM} >> Dep-IO

where both ONSET the constraint forcing the avoidance of the vowel hiatus in the plural and Max-IO_{CM} the constraint militating against the deletion of the class marker dominate Dep-IO the constraint banning epenthesis, the optimal candidate would still be candidate (b): the one that chooses deletion of the CM rather than epenthesis. Candidate (a) violates PU_N along with Dep-IO and thus it is ruled out. Deletion of the class marker will be optimal since it complies with PU_N. In the case of the oxytone and paroxytone nouns, PU_N is not violated no matter which of the two available mechanisms is chosen (deletion or epenthesis). Therefore, either one can apply.

(1.7) Tableau

Input /filak, -a, -δ,-es/ NS : [filakas]	Three-syllable window	ONSET	PU_N	Max-IO_{CM}	Dep-IO
a) fi(la.ka) δes			*!		*
b) ☞ (fi.la)kes				*	
c) fi(la.ka)es		*!	*		
d)(fi.la)(ka. δes)	*!				*

The fact that epenthesis is blocked by PU_N in the way we have just seen, indicates that output-to-output relations are necessary. The existence of OO-Faith relations is automatic under the REH, since the members of the same paradigm substantially intersect in their entailment structure. On the other hand, in a framework where only IO-Faith relations existed, "filakas" could in principle (under Richness of the Base) have been assigned antepenultimate stress by default[iii]. However, with no stress in the input, a model based solely on IO-Faith has no way to block epenthesis, and incorrectly predicts that cases like '*filakaδes' with default antepenultimate stress should straightforwardly exist.

(1.8) Tableau

Input /filak, -a,- δ, -es/	Antepenultimate stress[iv]	ONSET	Max-IO_{CM}	Dep-IO
a)☞ fi(la.ka)δes				*
b) (fi.la)kes			*!	
c) fi(la.ka)es		*!		

This situation is excluded in the present perspective that has no UR. Without an UR, all 'inputs' are simultaneously also outputs. Stressless inputs are automatically excluded by the fact that all outputs necessarily have stress. Hence the stem in any form like '*filakaδes' needs to be faithful to other surface allomorphs, each with its own stress with the NS playing the most prominent role.

Summing up, we have seen that MG employs two strategies to avoid a vowel hiatus in the plural: deletion of the class marker or epenthesis of delta in between the class marker and the inflectional suffixes. While in the oxytone and paroxytone cases we cannot determine which of the two mechanisms will be used each time, we have seen that in the case of the proparoxytone nouns only one is used: deletion of the class marker. We have argued that this is due to an OO-F effect namely: PU_N dominating Max-IO_{CM}.

Finally, we have seen that while a root by itself is not able to impose its metrical requirements on a dominant suffix: $Faith_{dominantsuffix}$ >> $Faith_{root/stem}$, when supported in the presence of a class marker the situation is reversed in favor of the stem: $Faith_{stem+}$ >>$Faith_{dominantsuffix}$. The class marker, by adding more components to the representation, renders it more robust and immune to the affixal prosodic requirements.

Notes

[i] Under this title we subsume the following set of undominated markedness constraints that account for the three-syllable window: Ft-Form:Trochaic, ENDRULE-R, Lapsesyllable
Lapse-s (Green & Kenstowicz 1995): adjacent unstressed syllables must be separated by a foot boundary.
ENDRULE-R (Prince & Smolensky 1993): The rightmost foot of the word is the head of the prosodic word.
Ft-Form: Trochaic (McCarthy & Prince 1993): $[\sigma_s \sigma_w]_{Ft} \succ [\sigma_s]_{Ft}$
[ii] ONSET (Kager, 1999) = Syllables must have onsets
[iii] We assume that antepenultimate stress is the default stress pattern for Modern Greek, for example in the case of nominal compounds (Nespor and Ralli, 1993)
[iv] Under 'Antepenultimate stress' we assume the following set of constraints: ENDRULE-R >> NonFin, >> Align PrWd-R.
NonFin (Prince & Smolensky, 1993): The head foot of the prosodic word should not stand in final position.
ALIGN PrWd-R (McCarthy & Prince, 1993): Align the right edge of the prosodic word with the right edge of a foot (PrWd, R, Foot, R).

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