

## Greek and Turkish in contact: An excursus to two contact-induced varieties

Anthi Revithiadou  
Aristotle University of Thessaloniki  
revith@lit.auth.gr

### Part II: Cappadocian

#### 1. Introduction

In a handful of Asia Minor Greek dialects, certain morphosyntactic changes (e.g. the change from fusion to agglutination), caused by Turkish interference, led to the development of:

- a rightmost default stress at the expense of the Greek origin lexical accent system,
- a vowel harmony-like process.

#### 2. The emergence of edgemost stress from lexical accents

I investigate the effects of language interference on reshaping 'deviant' phonological behavior and recasting it towards a more regular phonological pattern. More specifically, I examine a few Asia Minor Greek dialects, in which lexically-imprinted stress subsided under the influence of language contact with Turkish, which has a predictable (rightmost default) stress rule. I argue that this development was assisted by certain morphosyntactic changes which independently took place and transformed the original fusional system of noun morphology into an agglutinative-oriented one.

##### 2.1. Background information

Starting point: A group of Asia Minor Greek dialects (mainly the Cappadocian group), which are contact-induced systems (Greek-Turkish). The Greek dialects were subordinate compared to Turkish and most Greek speakers were bilingual in Greek and Turkish (Thomason & Kaufman 1988: 215)

- Greek: fusional language with lexically-encoded stress (PU, U) and default on the initial/APU
- Turkish: agglutinative system, with mainly rightmost default stress as well as instances of lexically-imprinted stress

Sources: Dawkins (Da) (1916), Kesisoglou (1951)

Background information:

- The degree of Turkish interference varies; some dialects appear to be more 'turkicized' (e.g. Ulaghatsh, Semenderé) than others (e.g. Delmeso, Misti, Aravan).<sup>1</sup>

---

<sup>1</sup> This discrepancy hinged on the extent of bilingualism and the existence or not of established Greek schooling in the village. Other Asia Minor dialects, such as Fáraza, Silli and Pontic, which were spoken in areas with established Greek schooling and less widespread bilingualism, displayed much less interference from Turkish.

- Fusional and agglutinative morphology co-exist in Cappadocian dialects with certain preferences for one or the other depending on the degree of ‘turkicization’ exhibited by each dialect (Janse 2004).

## 2.2. From fusion to agglutination

The most ‘turkified’ Cappadocian dialects (e.g. Ulaghatsh, Ghourzono, Ferték, Semenderé) developed an agglutinative declension next to the fusional one.

**Ulaghatsh, Ferték:** Nouns of Greek origin ending in *-os* split into two inflectional patterns depending on (a) position of stress, and (b) certain morphosyntactic features.

- Stress final nouns, σσσ, follow the agglutinative declension. (See Table 2)
- Nouns stressed elsewhere (e.g. on the initial or the PU syllable) follow either the fusional or the agglutinative declension usually depending on (a) noun class (e.g. nouns ending in *-a* or in a consonant enter the agglutinative paradigm), and (b) within the same class, the feature [±human] (Spyropoulos & Kakarikos 2007):
  - [+human] nouns, such as *xerífos* ‘man’, *ɣjávolos* ‘devil’ Da102 follow a fusional declension
  - [-human] nouns, such as *líkos* ‘wolf’ Da102, follow the general agglutinative declension pattern:

SINGULAR		
NOM	xeríf-os	ɣjávol-os
GEN	xerif-jú	ɣjavól-(u), ɣjavol-jú
ACC	xeríf-o	ɣjávol-o
PLURAL		
NOM	xeríf-ja	ɣjavól-(i)
GEN	—	—
ACC	xeríf-ja	ɣjavol-jús

Table 1. Fusional declension in Ulaghatsh

SINGULAR			
NOM	níf <sub>[base]</sub> -Ø <sup>2</sup> <i>níf</i>	líkos-Ø <i>líkos</i>	néka-Ø <i>néka</i>
GEN	níf <sub>[base]</sub> -jú <sub>[gen]</sub> <i>nífju</i>	líkos-jú <i>líkozju</i>	néka-jú <i>nékazju</i>
ACC	níf <sub>[base]</sub> -Ø <i>níf</i>	líkos-Ø <i>líkos</i>	néka-Ø <i>néka</i>
PLURAL			
NOM	níf <sub>[base]</sub> -es <sub>[+pl]</sub> -Ø <i>nífes</i>	líkos-ja-Ø <i>líkozja</i>	nék-es <sub>[+pl]</sub> -Ø <i>nékes</i>
GEN	níf <sub>[base]</sub> -es <sub>[+pl]</sub> -jú <sub>[gen]</sub> <i>nífeszju</i>	–	nék-es <sub>[+pl]</sub> -jú <sub>[gen]</sub> <i>nékezju</i>
ACC	níf <sub>[base]</sub> -es <sub>[+pl]</sub> -Ø <i>nífes</i>	líkos-ja-Ø <i>líkozja</i>	nék-es <sub>[+pl]</sub> -Ø <i>nékes</i>

Table 2. Agglutinative declension in Ulaghatsh and Ferték

GLOSSES: *níf* ‘bride’ UI, Sem, Fer Da115, *líkos* ‘wolf’ UI, Da102, *néka* ‘woman’ Fer, Da114

**Q:** Which factor(s) triggered the **re-analysis** of inflectional suffixes as part of the stem and, subsequently, caused the transition from fusion to agglutination?

**A1. Syncretism of nominative-accusative:** Cappadocian, under the influence of Turkish, exhibits *Differential Object Marking* with respect to specificity (Kornfilt 1997, a.o.).<sup>3</sup> This is evidenced mainly in less turkified dialects, that is, dialects in which agglutination is more confined compared to the fusional paradigm (Spyropoulos & Tiliopoulou 2006: 367-370).

- (1) a. Ali bir kibab-ı aldı  
Ali a book-ACC buy-3SG.PAST  
‘Ali bought a certain book.’  
b. Ali bir kitap aldı  
Ali a book-NOM buy-3SG.PAST  
‘Ali bought some book.’
- (2) a. éxo én aðelfó (Potamia, Da454, §4)  
have-1.SG a brother-ACC.SG  
‘I have a certain brother.’  
b. ðéke éna layós (Delmesos, Da94)  
hit-3.SG a hare-NOM.SG  
‘He struck some hare.’

<sup>2</sup> The underlying form is /níf-i/. In these dialects, syllable structure permitting, unstressed high vowels in word-final position delete.

<sup>3</sup> Specific objects are marked by the accusative marker *-(y)ı*, whereas non-specific objects appear in the nominative/absolute form which carries no overt case morphology.

## A2. The influx of **Turkish loans (with final stress)** and the pressure for assimilation:

- (3)
- |    |          |             |              |
|----|----------|-------------|--------------|
|    | NOM.SG   | GEN.SG      |              |
| a. | qarəndʒá | qarəndʒayjú | 'ant' Da110  |
| b. | qarɣá    | qarɣayjú    | 'crow' Da110 |

## A3. Certain **phonological changes**: The deletion of unstressed high vowels /i, u/ in word final positions:<sup>4</sup>

- (4)
- |    |           |        |         |
|----|-----------|--------|---------|
| a. | /korítʃi/ | korítʃ | 'girl'  |
| b. | /níf-i/   | níf    | 'bride' |

led to (i) the loss of inflection and, consequently, the increase of suffixless bases, and (ii) the proliferation of finally stressed words: **σσό**. This was further enhanced by the overall shape of the fusional paradigm (see (8a).) For instance, the genitive singular suffix *-jú* is accented and attracts stress from the root, resulting in a word with stress on the final syllable.

### → **Results**:

(a) nom=acc → re-analysis of *-os* as part of the stem

- (5) **lik<sub>[base]</sub>-os<sub>[infl]</sub> → likos<sub>[base]</sub>**

→ *-∅* is defined as the general default (marking the absolute) (Spyropoulos & Kakarikos 2007)

- (6) **likos-∅**

→ re-analysis of plural; the grammatical categories of number and case are marked separately (Spyropoulos & Kakarikos 2007)

- (7) **likos-ja<sub>[pl]</sub>-∅**

(b) Emergence of the agglutinative sub-system; restricted use of the fusional paradigm

(c) Each morphological sub-system is associated with a particular stress pattern:

## (8) Turkish and Greek stress patterns compared

TURKISH/AGGLUTINATIVE	STRESS PATTERNS	GREEK/FUSIONAL
default	a. σσό	<lexically-encoded>
lexically-encoded <sup>5</sup>	b. σόσ	lexically-encoded
lexically-encoded <sup>6</sup>	c. όσσ	default

<sup>4</sup> Cf. *spít* 'house', *spítit* 'his house' Da358 (due to \*tt#).

<sup>5</sup> This pattern exists in loans and places names, e.g. *Ánkara* 'Ankara', *ácala* 'one wonders', etc. (Kabak & Vogel 2001: 316).

<sup>6</sup> Lexically-encoded patterns of this sort are also attested in Turkish, e.g. *Avrúpa* 'Europe', etc.

▪ **Fusional:** (a) predominant patterns: initial and PU stress; initial is the default; PU due to lexical accents; U-stressed words are \*not\* attested(!), (b) there is stress mobility within the paradigm, (c) in case of conflicting accents, the rightmost one is stressed; otherwise, default stress is assigned on the leftmost syllable → **proliferation of σσό pattern**

• **Cophonology-1 (CoP1):** “Assign stress to the rightmost accent (9a); otherwise stress the leftmost syllable (9b).”

C-ranking: FAITH(acc), RIGHTMOST(acc) » LEFTMOST-σ

- (9) a. /xeríf-jú/ → *xerifjú* proliferation of σσό pattern  
 b. /ɣjavol-os/ → *ɣjávolos*

▪ **Agglutinative:** (a) mainly U stress, (b) initial/APU and PU stress is due to underlying accents, (c) in case of multiple underlying accents, e.g. /líkos-jú/, the leftmost accent surfaces with stress, *líkozju*.

• **Cophonology-2 (CoP2):** “Assign stress to the leftmost accent (11b); otherwise, stress the final syllable (11a).” → **This is the Turkish stress rule.**<sup>7</sup>

C-ranking: FAITH(acc), LEFTMOST (acc) » RIGHTMOST-σ

(10) *Turkish*

- a. final default  
 /kitap/ kitap ‘book’  
 /kitap-lar/ kitaplár ‘book-PL’
- b. leftmost accent  
 /yap-í-ver-ínce/ yapíverince (Inkelas & Orgun 2003:142)  
 do-ADV-AUX-ADV  
 ‘having suddenly done, as soon as s/he did (that)’
- c. /Ánkara-li-laɣ-íyor/ Ánkara-li-laɣ-ıyor (Inkelas 1999/2004:160)  
 Ankara-DER-VERB-PROGR  
 ‘becoming ones from Ankara’

(11) *Ulaghatsh - Ferték*

- a. final default  
 /qarəndʒa/ qarəndʒá ‘ant’ Da110  
 /qarəndʒa-ɣju/ qarəndʒaɣjú ‘ant-GEN’  
 /adelfo/ adelfó ‘brother’ Da106  
 /adelfo-ɣju/ adelfoɣjú ‘brother-GEN’
- b. leftmost accent  
 /líkos-jú/ líkozju ‘wolf-GEN’ Da102

---

<sup>7</sup> See Inkelas (1999/2004), Kabak & Vogel (2001), Inkelas & Orgun (1998, 2003), among others.

### Conclusion:

- ✓ Two accentual systems (*cophonologies*), each one associated with a particular morphology: agglutination – CoP2; fusion – CoP1

### (12) Ulaghatsh agglutinative and fusional stress compared

<i>ULAGHATSH AGGLUTINATIVE</i>	<i>SURFACE STRESS PATTERNS</i>	<i>ULAGHATSH FUSIONAL</i>
default	a. $\sigma\sigma\acute{\sigma}$	d.n.e.
lexically-encoded	b. $\sigma\acute{\sigma}\sigma$	lexically-encoded
lexically-encoded	c. $\acute{\sigma}\sigma\sigma$	default

### (13)

<i>ULAGHATSH AGGLUTINATIVE URS</i>	<i>SURFACE STRESS PATTERNS</i>	<i>ULAGHATSH FUSIONAL URS</i>
a. / $\sigma\sigma\sigma$ /	a. $\sigma\sigma\acute{\sigma}$	d.n.e.
b'. / $\sigma\acute{\sigma}\sigma$ /	b. $\sigma\acute{\sigma}\sigma$	b''. / $\sigma\acute{\sigma}-\sigma$ /
c'. / $\acute{\sigma}\sigma\sigma$ /	c. $\acute{\sigma}\sigma\sigma$	c''. / $\sigma\sigma-\sigma$ /

## 2.3. The emergence of edgemost stress from lexical accents

### ☒ Cappadocian is a contact-induced system:

- Thomason & Kaufman (1988), Thomason (2001): ‘heavy borrowing’
- Winford (2003a, b): not only borrowing but mainly a case of ‘imposition’, according to which the *source-language* (SL), i.e. Turkish, is dominant and material and structures are transferred from it into the *recipient language* (RL), i.e. Greek, to which the speaker is less proficient.  
That is, next to the Greek-dominant bilinguals, who import changes from Turkish (SL) into Greek (RL) through borrowing (=RL agentivity), Turkish-dominant bilinguals played a major role in introducing grammatical structures from Turkish to Greek through imposition (=SL agentivity).

Dawkins (1910: 118): ‘... But in fact in all these villages the local dialect is in danger of being lost. It is attacked on two sides; by Turkish, and by the purified Greek taught in the schools.’

Dawkins (1910: 118): “To a Christian living where there are Turks, a knowledge of Turkish, for the men at all events, is a necessity, whilst Greek is not, and therefore tends to lose ground... from economic cause the Turkish element in these villages is increasing and the Greek is decreasing.”

Dawkins (1910: 120): “...the difference between the local speech and the Greek of the schools is so great that the schoolmaster's efforts rather go to substitute another language for the local dialect than gradually correct it, as happens in places where the divergence between the two is not so marked.”

This language contact schema is diagrammed in (14):

(14) Language contact in Ulaghatsh (à la Winford 2003a)

**Oldest group:** Greek-Grammar → Corpus<sub>Greek</sub>

**Older group:** Greek-Grammar → Corpus<sub>Gr</sub>; Turkish-Grammar → Corpus<sub>Turk</sub>  
(Greek-dominant bilinguals)

**Younger group:** Ulaghatsh-Grammar → Corpus<sub>Ul</sub>; Turkish-Grammar → Corpus<sub>Turk</sub>  
(Turkish-dominant bilinguals)

**Next group:** Ulaghatsh'-Grammar → Corpus<sub>Ul</sub>; Turkish-Grammar → Corpus<sub>Turk</sub>

where Ulaghatsh' is a more turkicized variant of Ulaghatsh which could have been developed had the speakers remained in Cappadocia

**Q:** How can this language contact schema be fruitfully implemented in order to shed light on the way the agglutinative stress pattern emerged and gradually superseded the fusional one?

→ The combined effects of the factors mentioned above caused the  $\sigma\sigma\sigma$  pattern to be **reanalyzed** as the **default** and be associated with a Turkish-like morphology.

**U**  $\sigma\sigma\sigma$

- Oldest group: fusional morphology and lexically-encoded stress, / $\sigma\sigma\text{-}\acute{\sigma}$ /
- Older & Younger groups: **ALWAYS** agglutinative morphology (suffix joins the root to form the base for agglutination) and default stress, i.e. loss of lexical accent contrast, / $\sigma\sigma\sigma$ /

→ (internal) morphological structure and phonological representation both **change**

(15)

a.	<i>Greek/Fusional</i> lexically-encoded stress *	b.	<i>Turkish/Agglutinative</i> accentless; default
	↓ ↑		
	$\sigma\sigma\text{-}\sigma \rightarrow \boxed{\sigma\sigma\sigma}$	→	$\sigma\sigma\sigma \rightarrow \sigma\sigma\acute{\sigma}$

☒ The  $\sigma\sigma\sigma$  pattern remains lexically-encoded in all groups, only the morphology changes in the **Older** and **Younger** groups:

**PU**  $\sigma\sigma\sigma$

- Oldest group: fusional morphology and lexically-encoded stress, e.g. / $\sigma\acute{\sigma}\text{-}\sigma$ /
- Older & Younger groups: agglutinative and fusional morphology and lexically-encoded stress in both cases, e.g. / $\sigma\sigma\sigma$ / or / $\sigma\acute{\sigma}\text{-}\sigma$ /.

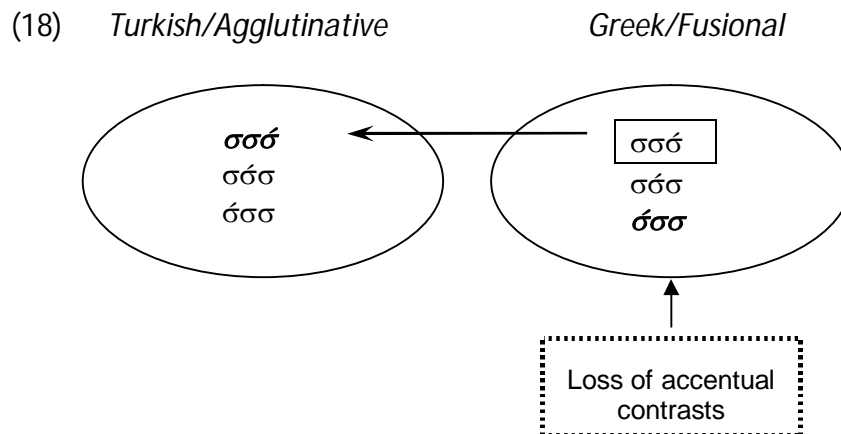
- (16)
- |  |   |  |
|--|---|--|
| <p>a. <i>Greek/Fusional</i><br/>lexically-encoded stress<br/>*<br/>↓↑<br/>σσ-σ → <span style="border: 1px solid black; padding: 0 2px;">σσσ</span></p> | → | <p>b. <i>Turkish/Agglutinative</i><br/>lexically-encoded stress<br/>*<br/>↓↑<br/>σσσ → σσσ</p> |
|--|---|--|

☒ The σσσ displays a split; it is considered lexically-encoded or default stress depending on the type of morphology it is associated with:

**Initial**      ▪ Oldest group: fusional morphology and default stress, /σσ-σ/  
**όσσ**        ▪ Older & Younger groups: agglutinative morphology and lexically-encoded stress, e.g. /όσσ/ or fusional morphology and default stress /σσ-σ/ (depending on morphosyntactic features of the base)  
 → dual representation and hence unstable

- (17)
- |   |   |  |
|---|---|--|
| <p>a. <i>Greek/Fusional</i><br/>accentless; default<br/><br/>/σσ-σ/ → <span style="border: 1px solid black; padding: 0 2px;">σσσ</span></p> | → | <p>b. <i>Turkish/Agglutinative</i><br/>lexically-encoded stress<br/>*<br/>↓↑<br/>σσσ → σσσ</p> |
|---|---|--|

→ The fusional default fossilizes and the morpheme is introduced in the agglutinative system with a lexically-imprinted accent.



### ☒ Predictions for Ulaghatsh'

**Prediction 1:** Further decline of the fusional system

- ☞ More turkicized dialects: Ferték, Ghourzono and Semenderé preserved only fossilized instances of fusional morphology (Da106, §146).

**Prediction 2:** Decline and loss of the 'problematic' (because of its dual representation) όσσ pattern and shift to the default. In general, increase of σσσ words and concomitant lexical accent death.

- ☞ There must be a stage in which the όσσ stress pattern fluctuates with the σσσ one in the agglutinative system. This is confirmed by Dawkins (1910: 277, §62):



'...whenever the agglutinative genitive is found, it is doubtful if the accent remains on the stem or passes to the ending. E.g. from Ghourzono *ɣjáskaloʒju* or *ɣjaskaloʒjú* (AR: 'teacher-GEN'). Probably the ending has a secondary stress, *ɣjáskaloʒjú*."

→ Emergence of two stresses; primary < lexical accent, secondary < default

Cf. Thracian Muslim Greek spoken by young students who have Turkish as a native language (L1) and learn Greek as a second language (L2):

(19) Early stages of L2 acquisition: primary stress on initial/APU or where the accent dictates; secondary stress on final syllable (Revithiadou & Tzakosta 2007):

	<u>όσδ</u>		
a.	áloyðs	'horse'	1MF-e-Em
b.	práymatà	'thing-PL'	1MF-st-Eb
c.	kítrinò	'yellow'	2MF-d-Has
d.	fórtiyò	'truck'	2MF-d-Has
e.	aftocínità	'car-PL'	1MF-st-Eb

	<u>(σ)ός:</u>		
f.	pexníðjà:	'toy-PL'	2MF-e-Es
g.	jínékà:	'woman'	1MX-st-Ai
h.	kostúmjà:	'costume-PL'	1MF-st-Eb

☞ Several Ulaghatsh bases shift their stress from the A(PU) to the U syllable:

(20)		<u>Ulaghatsh</u>	
a.	kríos	kirjós	'cold' Kes19
b.	kréas	kirjás	'meat' Da372
c.	xórja	xorjá	'separately' Kes19
d.	ekíno	ekinó	'that one' Da350
e.	kenúrjo	kenirjó	'new' Kes19

### 3. The development of vowel harmony (or something like harmony)

The Asia Minor dialects of Greek<sup>8</sup> (with the exception of Pontic) display a vowel process which looks superficially like the vowel harmony that is familiar from Turkish.<sup>9</sup> However, this process shows sensitivity to stress and morphological structure, and hence should not be identified as vowel harmony of the Turkic type.

Even though the Greek dialects discussed here do not really have a truly Turkic type of vowel harmony, I claim that this harmony-like process may have developed under the

<sup>8</sup> The following written sources are used: Kostakis (1968) for Silly; Dawkins (1916), Mauroxalyvidis & Kesisoglou (1960) for Axo; Andriotis (1948) for Farasa; Andriotis (1961) and the Oral Archives of the Center of Asia Minor Studies for Livisi.

<sup>9</sup> The discussion in this section relies on many of the findings and ideas developed in previous work on vowel harmony in Asia Minor Greek: Revithiadou, Van Oostendorp, Nikolou & Tiliopoulou (2006); Van Oostendorp & Revithiadou (2005).

influence of language contact with Turkish and, more specifically, may be intimately related with the transition from a fusional morphological pattern to an agglutinative one.

(21) *Vowel harmony in Turkish*

	NOM.SG	GEN.SG	NOM.PL	GEN.PL	
a.	/iʃ/	/iʃin/	/iʃler/	/iʃlerin/	'name'
b.	/ev/	/evin/	/evler/	/evlerin/	'house'
c.	/kız/	/kızın/	/kızlar/	/kızların/	'girl'
d.	/jol/	/jölün/	/jollar/	/jolların/	'road'
e.	/gyl/	/gylın/	/gyller/	/gyllerin/	'rose'
f.	/gœl/	/gœlyn/	/gœller/	/gœllerin/	'lake'
g.	/tas/	/tasın/	/taslar/	/tasların/	'pot'

Turkish **vowel harmony** is found in Greek verbal suffixes, e.g. /-dízo/ (< Gr /-(d)ízo/), which attach to Turkish roots:

(22)	a.	/anladízo/	<	anlamák	'understand' Delmeso, Da67, §70
	b.	/axdízo/	<	akmák	'flow' Delmeso, Da67, §70
	c.	/aradízo/	<	aramák	'seek' Delmeso, Da67, §70
	d.	/batırdízo/	<	batırmák	'sink myself' Delmeso, Da67, §70
	e.	/istedízo/	<	istemék	'want' Delmeso, Da68, §70
	f.	düjündüzo	<	düjünmék	'consider' Ghourzono, Da67, §70

Words of Greek origin exhibit the following **harmony-like** process which takes place at the last two syllables of the word (=noun/adjective):

(23) *Asia Minor Greek 'harmony'*

	Greek word	AMG word	
a.	perðikóθir-a	perdikóθara	'window-PL' Far, An48:21
b.	pandeleímon-as	pandeleímanas	'merciful' Sil, Ko151
c.	petsét-a	petjáta	'napkin' Sil, K185
d.	ðáskal-os	ðáskolos	'teacher' Far, An48:20
e.	ánem-os	ánomos	'unlawful' Axo, MK9; UI, K13, §3
f.	kóskin-o	kóskunu (/i-o/ <sup>10</sup> )	'sieve' Sil, Ko31
	áçiro	ásuru	'straw' Liv, OACAMS IE'
g.	ípñ-os	júpñus	'sleep' Sil, Ko35
h.	xrist-ós	xrustós	'Jesus' Liv, OACAMS IE'
	θim-ós	sumós	'anger' Sil, Ko35

☒ **Comments:**

- Examples (23a-c) demonstrate that the final vowel requires the preceding vowel to agree with it in backness/frontness.
- Examples (23f-g) evidence the same also for roundness.
- The process affects only initial/APU- or PU-stressed words. A stressed vowel is a trigger only in disyllabic words (23h).<sup>11</sup>

<sup>10</sup> Unstressed /o/ raises to [u] in this dialect, e.g. /ómosma/ ómusma 'oath' Ko33.

- Restrictions on distribution/Exceptions: The process does not affect all nouns; it has several lexical exceptions. Moreover, it is restricted to the nom/acc singular forms of the paradigm, e.g. \*ðáskol-u 'teacher-GEN'. Finally, it is mostly associated with fusional morphology.

(24) AMG 'harmony' characteristics in a nutshell:

a. Sensitive to stress; attested only in σσσ and σσσ words → stressed vowel is never a trigger
b. Sensitive to morphological category; attested in nouns/adjectives
c. It appears in nom/acc forms
d. Disyllabic domain; end of the word, between a suffix and a stem
e. It has lexical exceptions; it is associated with fusional morphology

**Qs:** Why is this VH-like process confined to the last two syllables of the word? Why is it sensitive to morphology?

☒ Van Oostendorp (2005): VH in AMG does not have any of the characteristics of vowel harmony and, furthermore, cannot be efficiently treated as such under current theories of vowel harmony.

**Hypothesis:** Vowel harmony in AMG is not a 'borrowed' rule from Turkish but rather a novel phonological pattern that emerged when certain morphological pressures were exercised in the system.

☒ Sketching out the idea:

☞ The morphological structure of word in a fusional paradigm is as follows:

(25) [[Stem] + Theme-Inflection]<sub>word</sub>

ðaskal	o s
petʃet	a
koskin	o

☞ Spreading of [back] / [round] from inflection to the stem is a form of *conflation*; the inflection 'merges' (in the sense of sharing the same feature) with the stem. (See Postma, Hermans & Van Oostendorp 2006 for a somewhat similar account of A Umlaut in Old High German.)

---

<sup>11</sup> Another process, which affects the first syllables of the word, takes place in σσσ words.

(26) [[Stem] + Them-Inflection]<sub>word</sub>

a.	ðaskal os	b.	petjet a	c.	koskin o
	\		\		\
	[+rd]		[+bk]		[+rd]

Recall that, because of the nom/acc syncretism and other factors mentioned above, in many AMG systems the [Them-Inflection] complex underwent a process of fusion with the stem, e.g. *laγ-os*, and was eventually reanalyzed as a base, e.g. *laγos* (see ex. (5-7)). Spreading of the [back]/[round] feature, therefore, could be viewed as an instance of such a fusion: The inflection starts sharing some features with the base before merging completely with it.

☒ **Welcome results:** It explains:

- why the process applies only to nouns and adjectives and is restricted to the nom/acc forms; these inflectional endings underwent syncretism and, subsequently, fused with the stem in order to form a base (see ex. 5-7)
- why the process has exceptions (incomplete actualization)
- why the process is bound to a binary domain

☞ Contra to previous assumptions (Revithiadou et al. 2006, Van Oostendorp 2005), this VH-like process is related to language interference not via borrowing of the VH-rule from Turkish, but rather as a reflection of certain morphological changes that were initiated due to language contact with Turkish.

#### 4. Conclusions

##### Development of predictable stress from an 'unpredictable' system

- Language interference may trigger certain changes at different components of the grammar the effects of which are mirrored in phonology. I examined two phenomena, an accentual and a segmental one, which have been shown to be intimately linked with the transition from fusion to agglutination.
- Morphosyntactic changes may cause a radical shift in the mental representations of lexical items, as exhibited by Ulaghatsh; in this language, final stress was reanalyzed as the default in the agglutinative/Turkish-based system, whereas initial stress was linked to two different representations depending on the specific co-grammar it was associated with.
- Patterns which assume such dual representations are unstable and tend to regularize towards the unmarked/favorite/statistically preferred choice of the language.

##### Development of a vowel harmony-like process

Vowel harmony in AMG is not a 'borrowed' rule from Turkish but rather a novel phonological pattern which is the phonological reflection of the morphological process of fusion between the Greek inflection and the root, which laid the ground for agglutinative morphology.

## References

- Andriotis, N.P. (1948). *Το γλωσσικό ιδίωμα των Φαράσων*. [The Dialect of Farasa.] 8 Collection de l'Institut Français d'Athènes. Μουσικό Λαογραφικό Αρχείο, Αρχείο Μικρασιατικής Λαογραφίας, τόμος 4: Καππαδοκία 2. Ίκαρος, Αθήνα.
- Andriotis, N.P. (1961). *Το ιδίωμα του Λιβισίου Λυκίας*. [The Idiom of Livisi of Lykia.] Αθήνα: Εκδόσεις Κέντρου Μικρασιατικών Σπουδών.
- Bailey, Todd Mark (1995). Nonmetrical constraints on stress. Ph.D. Dissertation, University of Minnesota, Minneapolis.
- Dawkins, Richard M. (1910). Modern Greek in Asia Minor. *The Journal of Hellenic Studies* 30: 109-132 & 267-291.
- Dawkins, Richard M. (1916). *Modern Greek in Asia Minor: A Study of the Dialects of Silly, Cappadocia and Pharasa with Grammar, Texts, Translations and Glossary*. Cambridge: Cambridge University Press.
- Drettas, Georges. (1997). *Aspects Pontiques*. Publié avec le concours du Centre National du Livre. Association de recherches pluridisciplinaires.
- Goldrick, Matthew A. (1998). Optimal opacity: Covert structure in phonology. Ms., John Hopkins University, Baltimore.
- Goldrick, Matthew A. (2000). Turbid output representations and the unity of opacity. In *NELS 30*, Masako Hirotsu, Andries Coetzee, Nancy Hall and Ji-Yung Kim (eds.), 231-245. Amherst, Massachusetts: GLSA, University of Massachusetts.
- Gordon, Matthew (2002). A factorial typology of quantity insensitive stress. *Natural Language and Linguistic Theory* 20: 491-552.
- Inkelas, Sharon (1994). Exceptional stress-attracting suffixes in Turkish: Representations vs. the grammar. Paper presented at the Workshop on Prosodic Morphology, Utrecht University. Rutgers Optimality Archive, ROA 39.
- Inkelas, Sharon (1999). Exceptional stress-attracting suffixes in Turkish: Representations versus the grammar. In *The Prosody-Morphology Interface*, René Kager, Harry van der Hulst and Wim Zonneveld (eds.), 134-187. Cambridge: Cambridge University Press. [Revised version of Inkelas, Sharon. 1994.]
- Inkelas, Sharon & Orhan C. Orgun. (2003) Turkish stress: A review. *Phonology* 20: 139-161.
- Janse, Mark (2004). Animacy, definiteness and case in Cappadocian and other Asia Minor Greek dialects. *Journal of Greek Linguistics* 5: 3-26.
- Kabak, Barış & Anthi Revithiadou (to appear). From edgemost to lexical stress: Diachronic paths, typology and representation. To appear in *The Linguistic Review*.
- Kabak, Barış & Irene Vogel. (2001) The phonological word and stress assignment in Turkish. *Phonology* 18: 315-360.
- Kesisoglou, I.I. (1951). *Το Γλωσσικό Ιδίωμα του Ουλαγάτς* [The Dialect of Ulaghatsh]. Κέντρο Μικρασιατικών Σπουδών, Μουσικό Λαογραφικό Αρχείο: Εκδόσεις του Γαλλικού Ινστιτούτου Αθηνών.
- Kornfilt, Jaklin (1997). *Turkish*. London and New York: Routledge.
- Kostakis, Thanassis P. (1968). *Το γλωσσικό ιδίωμα της Σίλλης*. [The dialect of Silly.] Αθήνα: Κέντρο Μικρασιατικών Σπουδών.
- Mauroxalynidis, G. & I.I. Kesisoglou (1960). *Το γλωσσικό ιδίωμα της Αξού*. [The dialect of Axos.] Κέντρο Μικρασιατικών Σπουδών, Καππαδοκία 6. Αθήνα: Εκδόσεις του Γαλλικού Ινστιτούτου Αθηνών.
- Oikonomidis, Demosthenis E. (1958). *Grammatiki tis Ellinikis Dialektou tou Pontou*. [Grammar of the Pontic Greek dialect.] Athens: Academy of Athens.
- Oostendorp, Marc van (2005). Greek vowel harmony is no vowel harmony. Paper presented at the *Workshop on Greek Phonology*, University of the Aegean, Rhodes, November 8, 2005.

- Oostendorp, Marc van (2006). The theory of faithfulness. Ms., Meertens Institute/KNAW, Amsterdam.
- Oostendorp, Marc van & Anthi Revithiadou (2005). Quasi-opacity and headed spans in Silly and Megisti Greek. Paper presented at the 13th Manchester Phonology Meeting, University of Manchester, Manchester, May 26-28, 2005.
- Papadopoulos, Anthimos A. (1955). *Ιστορική Γραμματική της Ποντικής Διαλέκτου*. [Historical grammar of the Pontic dialect.] Παράρτημα 1. Αθήνα: Επιτροπή Ποντιακών Μελετών.
- Papadopoulos, Anthimos A. (1958). *Ιστορικών Λεξικών της Ποντικής Διαλέκτου*. [Historical dictionary of the Pontic dialect.] Επιτροπή Ποντιακών Μελετών. Παράρτημα 3, τομ. 1. Αθήνα: Μυρτίδης.
- Papadopoulos, Anthimos A. (1961). *Ιστορικών Λεξικών της Ποντικής Διαλέκτου*. [Historical dictionary of the Pontic dialect.] Επιτροπή Ποντιακών Μελετών. Παράρτημα 3, τομ. 2. Αθήνα: Μυρτίδης.
- Postma, Gertjan, Ben Hermans & Marc van Oostendorp (2006). Antisymmetry in Morphosyntax - two types of affixes and their linearization. Ms., Meertens Institute/KNAW, Amsterdam.
- Revithiadou, Anthi (2007). Colored Turbid accents and Containment: A case study from lexical stress. In *Freedom of Analysis?*, Sylvia Blaho, Patrik Bye and Martin Krämer (eds.), 149-174. Berlin and New York: Mouton de Gruyter.
- Revithiadou, Anthi & Marina Tzakosta (2007). *Η Φωνολογία στην Εκμάθηση της Ελληνικής ως Ξένης Γλώσσας*. [Phonology in the Acquisition of L2 Greek.] Αθήνα: Εκδόσεις Πατάκη.
- Revithiadou, Anthi, Marc Van Oostendorp, Kalomoira Nikolou & Maria-Anna Tiliopoulou (2006). Vowel harmony in contact-induced systems: The case of Cappadocian and Silly. In *Proceedings of the 2nd International Conference on Modern Greek Dialects and Linguistic Theory*, Janse, M., B. Joseph & A. Ralli & (eds.), 350-365. University of Patras, Patras.
- Spyropoulos, Vassileios & Konstantinos Kakarikos (2007). Aspects of dialectal variation in the Greek declension system: A feature-based approach. Paper presented at the 6th Mediterranean Morphology Meeting, Ithaca, September 27-30, 2007. [To appear in the Conference Proceedings.]
- Spyropoulos, Vassilios & Maria-Anna Tiliopoulou (2006). Definiteness and case in Cappadocian Greek. In Mark Janse, Brian Joseph & Angela Ralli (eds.), *Proceedings of the 2nd International Conference on Modern Greek Dialects and Linguistic Theory*. Patra: University of Patras, 366-378.
- Thomason, Sarah Grey (2001). *Language Contact: An Introduction*. Edinburgh: Edinburgh University Press.
- Thomason, Sarah Grey & Terrence Kaufman (1988). *Language Contact, Creolization and Genetic Linguistics*. Berkeley: University of California Press.
- Tombaidis, Dimitris E. (1996). *Μελετήματα Ποντιακής Διαλέκτου* [Studies on Pontic Greek.] Θεσσαλονίκη: Κώδικας.
- Tsopouridis, Thomas (2002). *Leksiko Pontiakis Dialektou*. [Dictionary of the Pontic dialects.] Θεσσαλονίκη: Εκδόσεις Τσιπουρίδη.
- Winford, Donald (2003a). Contact-induced changes – Classification and processes. In Hope C. Dawson, Robin Dodsworth, Shelome Gooden, and Donald Winford (eds.), *OSU Working Papers in Linguistics* 57, 129-150. The Ohio State University.
- Winford, Donald (2003b). *An Introduction to Contact Linguistics*. Malden, MA [etc.]: Blackwell Publishing.