Instances of vowel assimilation in the Cretan dialect

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Abstract
This study examines the effect of vowel assimilation in the dialectal realizations of western Crete. The corpus is based on data drawn from written sources as well as naturalistic data. The analysis has shown that the assimilation is mostly sonority driven, following largely the pattern attested in southern Greece; the trigger of assimilation is the most sonorous (un)stressed vowel within the prosodic word and targets a preceding unstressed vowel, although stressed targets are also attested. The assimilation is regressive, strictly local and may be blocked by intervening Labials and Dorsals which spread their round or back feature respectively to the target vowel. Coronal sonorants may also block total assimilation causing only lowering, due to the V-C interaction too.

Keywords: Cretan dialect, total vowel assimilation, blocking, V-C interaction

1. Introduction

The present study is a preliminary investigation of the vowel assimilation patterns which are attested in the dialectal realizations of western Crete. The corpus for this study relies on data drawn from Kafkalas (1992), Ksanthinakis (2001), Metaxaki (2009) and Pagalos (1955), as well as naturalistic data collected during field-works in the villages of W. Crete.

2. Vowel assimilation in western Crete

Vowel assimilation is a common phenomenon attested in the southeastern Greek dialects. There are two types of assimilation: *total assimilation* or vowel copy, thus a vowel changes all feature specifications for the assimilating features of another vowel while in the *partial assimilation* the vowel does not change totally. In this section we will illustrate instances of total vowel assimilation patterns attested in the dialectal speech of western Crete.

The mid vowels /e/ and /o/ undergo total assimilation in the environment of following (un)stressed vowels /a/, /o/ as shown in the data (1, 2, 3).

(> : more sonorous than)

	SMG	W. Cretan dialect	Gloss
(1)	o > e		
(1a)	[ékso]$_{\omega}$	[ókso]	‘out’
(1b)	[exθr-ós]$_{\omega}$	[oxθrós]	‘enemy’
(1c)	[peδem-ós]$_{\omega}$	[peδomós]	‘suffering’
(2)	a > e		
(2a)	[elafr-ís]$_{\omega}$	[alafrís]	‘light’
(2b)	[δrepáni]$_{\omega}$	[δrapáni]	‘sickle’
(3)	a > o		
(3a)	[olácer-os]$_{\omega}$	[aláceros]	‘whole’
(3b)	[monastíri]$_{\omega}$	[manastíri]	‘monastery’

The high, front vowel /i/ undergoes total assimilation in the environment of following stressed vowels /o/ and /e/, see the data in (4). For more vowel hierarchies, see the cases of hiatus resolution in (7).

	SMG	W. Cretan dialect	Gloss
(4)	o > i		
(4a)	[iγr-ós]$_{\omega}$	[oγrós]	‘wet’

The above data in (1-4) show that the stressed or unstressed most sonorous vowels, namely /a/ and /o/, are the triggers of a regressive assimilation targeting a preceding stressed or unstressed, less sonorous vowel, namely /e/ or /i/. The target vowels copy all feature specifications of the trigger. We claim that in the above examples, the total assimilation or vowel copy is sonority driven and applies within the prosodic word (ω). The trigger of the assimilation is the most sonorous vowel within (ω) and affects a vowel occurring, in a strictly adjacent syllable to its left; the assimilation may apply within a di-/trisyllabic stem e.g. (1a, 2a, 2b, 3a, 3b) or between a stem and an inflectional suffix e.g. (1b, 1c, 4a). The assimilation may not apply iteratively, namely it may not spread to successive syllables, e.g. (1c) may surface as [peδ**o**mós], but not as *[p**o**δ**o**mós]. The above assimilation patterns seem to be fossilized changes,

attested mostly in the speech of older generation, and there is not any evidence that they are still productive. In the speech of younger generation we have attested alternations, e.g. [ékso]~[ókso] ‘out’, [elafrís]~[alafrís] ‘light’. The most of the above data also occur in the other southeastern dialects (see Revithiadou et. al. 2006).

3. Vowel sonority hierarchy for W. Cretan Dialect

The above examples (1-4) show that the ranking of a vowel in the sonority hierarchy plays a crucial role for its choice as a trigger or a target of assimilation. The vowels obey the same sonority hierarchy in the cases of deletion in hiatus contexts too. We claim that the sonority hierarchy for the W. Cretan dialect in (6) differs minimally from the hierarchy proposed for Standard Modern Greek in (5) (Malikouti-Drachman & Drachman 1992) in the ranking of the front vowels /i/ and /e/. In SMG the high front vowel /i/ is ranked higher than the mid front /e/. In the W. Cretan dialect both front vowels are equally ranked, as the less sonorous ones. Examples in (7) from hiatus resolution in W. Cretan dialect justify the equal ranking of front vowels, because both vowels prevail if they are in hiatus context, e.g. compare the examples (7j) vs. (7k). The relevant data of hiatus resulution for the W. Cretan dialect are drawn from Metaxaki (2009); these data, from natural conversational speech, are selected during a fieldwork in the village Kissamos of W. Crete.

(5) Vowel hierarchy for Modern Greek [a > o > u > i > e]
(Malikouti-Drachman & Drachman, 1992)

(6) Vowel sonority hierarchy for W. Cretan dialect: [a > o > u > e, i]

(7) Vowel hiatus resolution in western Cretan dialect

	SMG		W. Cretan dialect	Gloss
(7a)		a > i		
	[alíθja íne]		[alíθjane]	‘it is true’
(7b)		a > o		
	[to anazitó]		[tanazitó]	‘I am looking for it’
(7c)		a > e		
	[ta érava]		[tárava]	‘I was sewing them’

(7d)	a > u		
[mu arési]		[marési]	‘(I) like (it)’
(7e)	o > i		
[to íθele]		[tóθele]	‘(s)he wanted it.’
(7f)	o > u		
[tu kózmu ólu]		[tu kózmolu]	‘of all people’GEN.
[su orcízome]		[sorcízome]	‘I swear you’
(7g)	o > e		
[ce ópla]		[cópla]	‘and weapons’
(7h)	u > e		
[su ékana]		[súkana]	‘I did it to you’
(7i)	u > i		
[mu ípan]		[múpane]	‘they told me’
(7j)	i > e		
[ce i néi]		[cinéi]	‘and the young (men)’
[ce ìme]		[cìme]	‘and (I) am’
[me ikoʝénia]		[mikoʝén´a]	‘with family’
[tis éleɣan]		[tsi éleɣan] > [tsíleɣan]	‘they were talking to her’
(7k)	e > i		
[tis eryasíes]		[tsi eryasíes] > [tseryasíes]	‘the works-Acc. PL’
[tis eklisíes]		[tsi eklisíes] > [tseklisíes]	‘the churches-Acc.PL’
[éçi émata]		[eçémata]	‘(s)he has blood’

In the above cases of hiatus of two adjacent vowels, the hiatus is not resolved, if both vowels are stressed, for example [to proí érçete] ‘(s)he coming in the morning’ (Condoravdi 1990).

4. Blocking of Vowel Copy due to V – C interaction

The above phonological change, namely total assimilation, as in the examples (1-4) is blocked and the vowels /a/ and /o/ fail to provoke a (total) assimilation, if the target is the high vowel /i/. The high, front vowel /i/ is realized as the high, round back [u] in the environment of a following labial or dorsal obstruent as in (8), where the most

sonorous vowel [a] fails to provoke a total assimilation. A few similar cases are also attested in the environment of a following labial sonorant /m/ (8e).

	SMG	Backing in Cretan dialect	Gloss
(8a)	[pr**í**ka]	[pr**ú**ka]	‘dowry’
(8b)	[θ**i**kári]	[f**u**kári]	‘sheath’
(8c)	[γar**i**fal´á]	[γar**u**fal´á]	‘carnation’
(8d)	[t**i**banízo]	[t**u**banízo]	‘beat a drum’
(8e)	[θr**í**ma]	[θr**ú**malo]	‘crumb / very small piece’

(data drawn from Pagalos 1955: 179)

In the above data in (8) a total assimilation does not apply, but the resulting vowel change is due to a Vowel-Consonant interaction (V-C), i.e. the high, front vowel assimilates the labiality (roundness) or dorsality (backness) of the following consonant and surfaces as the high, back (round) [u]. The vowel /i/ is generally accepted across languages as an unmarked vowel due to its coronal place feature, therefore it assimilates the more marked dorsal or labial place features and, preserving its specified [+high] feature, it is realized as [u]. The V-C interaction applies first and bleeds the application of total assimilation, therefore we assume that the total assimilation applies only in underlying vowels and not in derived ones.

Blocking is defined as a local process (Odden 1994). There is evidence from other languages that different types of intervening consonants or consonant sequences may block the spreading of assimilation from one vowel to another, e.g. if between the trigger and the target intervene two consonants, then the harmony is blocked in Yucatec Maya (Krämer 2003); the voiced obstruents and nasal-obstruent clusters block height harmony in Buchan Scots (Paster 2004); the nasal stops block regressive ATR vowel harmony in Assamese (Mahanta 2007), and many other cases (see Rose & Walker (2011) for a detailed description).

In many languages the target vowel /i/ lowers to [e]; Hyman (1999) reports that, in ten languages from the Bantu family (zones K and R), the lowering of /i/ is triggered not only by the non-high vowels /o/ and /e/, but also by the vowel /a/ and this is

considered as an example of partial lowering harmony[1]. Paster (2004) supports the latter view and offers evidence from Buchan Scots that unstressed high vowels are lowered in the environment of preceding stressed non-high vowels.

In the following Cretan examples in (9) and (10) the non-high stressed vowels, /a/ and /o/ occur respectively and therefore the preceding unstressed high /i/ vowel might be expected to undergo total assimilation, surfacing as [a] and [o] respectively. In our data in (9) and (10), the high, front vowel [i] surfaces in both cases as a non-high front vowel [e], if a coronal sonorant consonant /l, r, n/ intervenes. In this case *lowering* of /i/ occurs which is realized as [e].

	SMG	Lowering in Cretan dialect	Gloss
(9a)	[c**i**rá]	[c**e**rá]	'lady'
(9b)	[maks**i**lári]	[maks**e**lári]	'pillow'
(9c)	[θ**i**ʌá]	[θeʌá]	'loop'
(10a)	[pl**i**romí]	[pl**e**romí]	'payment'
(10b)	[ɟ**i**noméno]	[ɟ**e**noméno]	'ripe'

In the literature it has been argued that the blocking consonants must be of higher sonority (i.e. sonorants) and immediately precede the triggering segment (Mahanta 2007). In the above data it seems that coronal consonants of higher sonority, namely Liquids and the Nasal /n/, may block the total assimilation and provoke lowering of the high unstressed /i/; the lowering occurs due to V-C interaction, i.e. the coronal sonorants spread their [-high] feature to the preceding high vowel /i/. As in the data with intervening Labial and Dorsal consonants in (8), the V-C interaction applies first and bleeds the application of total assimilation.

In the following examples in (11), the rounding of the unstressed non-high vowel /e/ (and sometimes also of the stressed one) is not the outcome of assimilation to the feature(s) of the following vowel. This rounding occurs in the environment of an adjacent (preceding or following) labial consonant and is attested not only in the Cretan dialect, but in other south-eastern dialects too, e.g. Cyprus, Chios (Newton

[1] Parkinson (1996: 12) claims that only raising is partial height harmony and that 'no vowel partially lowers in assimilation to the height of a lower vowel'.

1972). The rounding of /e/ may be explained as the result of spreading of the [+round] feature of labial consonants /p, f, v, m/ to the preceding vowel, namely this is another instance of V-C interaction, which prevents the realization, e.g. of *[psáma] instead of [psóma] ‘lie’ in (11e).

	SMG	W. Cretan dialect	Gloss
(11a)	[ɟefiri]	[ɟofiri] ~ [ɟófiros]/ E. Crete	‘bridge’
(11b)	[revíθi]	[rovíθi]	‘chick-pea’
(11c)	[ɟemízo]	[ɟomízo]	‘fill,1.PR. SG.’
(11d)	[kremíδi]	[kromíδi]	‘onion’
(11e)	[pséma]	[psóma]	‘lie’

5. Sonority driven assimilation in other Greek dialects

The above data (1-4) replicate largely the findings of Revithiadou et al. (2006 and references therein) in other southern Greek dialects, e.g. Karpathos, Rhodes, Symi, namely the patterns of sonority-driven total assimilation (vowel copy). In (12) are illustrated the relevant data from Karpathos, which are drawn from Revithiadou et al. (2006).

(12) Vowel assimilation (copy): the case of Karpathos

	SMG	Karpathos	Gloss
(12a)	[elafr-ís]	[alafrís]	‘light’
(12b)	[velón-i]	[volóni]	‘needle’
(12c)	[éksi]	[ékse]	‘six’
(12d)	[orfan-ós]	[arfanós]	‘orphan’
(12e)	[skotúr-a]	[skutúra]	‘worry’
(12f)	[irakl-ís]	[araklís]	‘Hercules’
(12g)	[árotr-on]	[áratr-on]	‘plough’
(12h)	[iγr-ós]	[oγrós]	‘wet’

(Revithiadou et al. 2006: 354-5)

In the dialect of Karpathos the vowel copy is sonority driven, namely a stressed/unstressed, most sonorous vowel triggers the assimilation and affects an

unstressed, less sonorous vowel (target). The domain of application for the vowel copy is a specified domain, such as the disyllabic stem e.g. the data (12a-g); the vowel copying crosses the morphological boundaries only in the case of a monosyllabic stem as in (12h). The vowel copy affects a vowel occurring, in a strictly adjacent syllable, leftwards or rightwards from the (most sonorous) trigger. Revithiadou et al. (2006) argue that in the dialect of Karpathos, the hiatus is resolved by means of vowel copy and vowel deletion which conform to the same sonority hierarchy, as shown in (13).

(13) Vowel sonority hierarchy for the Karpathos dialect

a > o, u > e > i (Revithiadou et al. 2006: 356)

The following table in (14) summarizes the similarities and the differences between the southern dialects of Crete and Karpathos.

(14) Dialect of Karpathos vs. western Cretan dialect

		Karpathos	W. Crete
TRIGGER of Assimilation	Most sonorous stressed vowel Most sonorous unstressed vowel	✓ ✓	✓ ✓
TARGET of Assimilation	Less sonorous stressed vowel Less sonorous unstressed vowel	---- ✓	✓ ✓
DOMAIN	Prosodic Word monosyllabic stem + suffix disyllabic stem trisyllabic stem	---- ✓ ✓ not reported	✓ ✓ ✓ ✓
	LOCALITY (strictly adjancent syllables)	✓	✓
	DIRECTION of assimilation	leftwards rightwards	leftwards ----
	VOWEL ASSIMILATION (Copy) total	✓	✓
	BLOCKING of vowel copy due to V–C interaction	not reported	✓
	VOWEL SONORITY HIERARCHY SMG: a > o > u > i > e (Malikouti-Drachman & Drachman 1992)	a > o, u > e > i	a > o > u > e, i

Table 1

6. Conclusions

The present study examines types of vowel assimilation in the dialectal realizations of western Crete. The corpus for this study relies on data drawn from written sources (Lexica) as well as naturalistic, conversational data collected during field-works. The analysis has shown that the assimilation is mostly sonority driven, following the pattern attested in the southern Greek dialects with only a few differences, i.e. in W. Crete, the trigger of assimilation is the most sonorous (un)stressed vowel within the prosodic word and targets (mostly) a preceding unstressed vowel, although stressed targets are also attested. The direction of assimilation is leftwards (regressive), affects only adjacent vowels and has not any iterative effect. The total assimilation of a target [+high] front vowel may be blocked due to the action of following consonants with a specified place of articulation, i.e. Labials and Dorsals. If the latter consononats intervene between the trigger and the target, e.g. if a Labial or Dorsal consonant precedes the trigger, then the consonant spreads its round or backn feature respectively and the (target) high, front vowel /i/ will surface as a high, back [u]. Highly sonorous coronal consonants, namely Liquids and the nasal /n/, may also block the total assimilation of a (target) high, front vowel /i/ resulting in lowering, thus the vowel [e] surfaces. In the latter case the coronal sonorants spread their [-high] feature to the target high vowel. Both above V-C interactions apply first and bleed the application of total assimilation between vowels. This is an evidence that the total assimilation applies only in underlying vowels and not in derived ones. Further work has to be done on the W. Cretan dialect as well as investigation of instances of vowel assimilation in the variety spoken in eastern Crete, and subsequent comparison of both Cretan varieties.

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References

Condoravdi C. 1990. Sandhi rules of Greek and prosodic theory. In S. Inkelas & D. Zec (eds), *The phonology-syntax connection.* Chicago: University of Chicago Press, 63-84.

Hyman, LM. 1999. The historical interpretation of vowel harmony in Bantu. In J.-M. Hombert & L.M. Hyman (eds), *Bantu historical linguistics: theoretical and empirical perspectives.* Stanford: CSLI, 235-295.

Kafkalas, M. 1992. [in Greek]. *Μνημόνιο κρητικής διαλέκτου*. Αθήνα: Κρητικά Επίκαιρα.

Krämer, M. 2003. *Vowel harmony and correspondence theory*. Berlin, New York: Mouton De Gruyter.

Ksanthinakis, A. 2001. [in Greek]. *Λεξικό, ερμηνευτικό και ετυμολογικό του δυτικοκρητικού γλωσσικού ιδιώματος.* Ηράκλειο: Πανεπιστημιακές Εκδόσεις Κρήτης.

Mahanta, S. 2007. *Directionality and locality in vowel harmony. With special reference to vowel harmony in Assamese.* PhD dissertation. Utrecht University, OTS.

Malikouti-Drachman A. & G. Drachman. 1992. Greek clitics and lexical phonology. In W.U. Dressler, H.C. Luschützky, O.E. Pfeifer & J.R. Rennison (eds), *Phonologica 1988*. Cambridge: Cambridge University Press, 197-206.

Metaxaki, E. 2009. [in Greek]. *Ζητήματα από τη Φωνολογία του δυτικού κρητικού ιδιώματος (περιοχή Κισσάμου-Σφακίων).* Διπλωματική εργασία Α΄ Μεταπτυχιακού Κύκλου. Ρέθυμνο: Πανεπιστήμιο Κρήτης.

Newton, B.E. 1972. *The generative interpretation of dialect. A study of Modern Greek phonology*. Cambridge: Cambridge University Press.

Odden, D. 1994. Adjacency parameters in phonology. *Language* 70(2): 228-329.

Pagalos, G. 1955. [in Greek]. *Περί του γλωσσικού ιδιώματος της Κρήτης* (τόμος Α΄). Αθήνα.

Paster, M. 2004. Vowel height harmony and blocking in Buchan Scots. *Phonology* 21: 359-407.

Parkinson, F.B. 1996. *The representation of vowel height in phonology*. PhD dissertation, Ohio State University.

Revithiadou, A., M. van Oostendorp, K. Nikolou & M.-A. Tiliopoulou. 2006. Vowel harmony in contact-induced systems: The case of Cappadocian and Silly. In M. Janse, B.D. Joseph & A. Ralli (eds), *Proceedings of the 2nd International Conference on Modern Greek Dialects and Linguistic Theory*. Patra: University of Patras, 350-365.

Rose, S. & R. Walker. 2011. Harmony systems. In J. Goldsmith, J. Riggle & A.C.L. Yu (eds), *The handbook of phonological theory* (2nd edition). Oxford, Cambridge, MA: Blackwell Publishing Ltd, 240-290.