

Hiatus resolution in Mycenaean Greek.

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Structure of presentation.

- Introduction in the Mycenaean language.
- Overview of the phenomenon of hiatus resolution.
- Theoretic analysis of the various repair strategies.
- Asymmetric phonotactics of /i/ and /u/.
- Tentative analysis of the variation with respect to hiatus resolution.
- Conclusions and future research.

Language.

- Oldest attested Greek language.
- Main sources: about 7000 inscriptions from Pylos (1250 b.C.), Knossos (1450-1250 b.C.) and Mycenae (1250 b.C.).



Language.

- Written in syllabic script (Linear B).
- Syllabograms of type (C)V, occasionally CCV.
- Deciphered by M. Ventris in 1953.
- Interpretational refinements (Ruijgh 1967, Vis in prep.)
- IPA symbols used in transcriptions.

Overview.

- Deletion: /apo+edo:ke/ [apedo:ke]
- Diphthongization: /dohelois/ [dohelo^js]
/ouk^we/ [owk^we]
- Consonant anaptyxis: /hikk^wia/ [hikk^wija]
/marat^huon/ [marat^huon]
- Consonant formation: /perusinua/ [perusinva]
- Fusion: /turion/ [turr^jon]
- Heterosyllabification: /pera+aigolahia/
[peraa^jgolahija]

Dominant constraints.

No hiatus (Casali 1996)

“Two adjacent heterosyllabic vowels are not allowed.”

Dep. IO [F] (McCarthy & Prince 1995)

“Every feature [F] in the output must have a corresponding feature in the input.

Deletion.

/ana+agehen/ > [anagehen] ‘to lead up’ (inf.)

/apo+edo:ke/ > [apedo:ke] ‘pay’ (past, 3rd sing.)

- Phonological context: /CVVC/
- V is **not** /i/ or /u/
- First vowel deletes, but reason unclear due lack of additional data (only data of /o+e/ and /a+a/).
- Violation of ‘Max. IO’ (McCarthy & Prince 1995):
“Every input segment must have a corresponding output segment.”

Deletion.

/ana+agehen/	No Hiatus	Dep. IO [F]	Max. IO
a) anaagehen	*!		
b) anatagehen		*!	
c) > anagehen			*

Deletion

Possible explanations of deletion of V_1 :

- Linear order: second vowel is always preserved.
- Scale of vowel strength: [e] is stronger than [o].
- Morphological more prominent position: e- is past tense marker.
- Less prominent position: [apo] is function word.
- Phonological markedness: [e] is less marked than [o].

Diphthongization.

/dohelois/ > [doheloʲs] ‘servant’ (dat. pl.)

/ouk^we/ > [owk^we] ‘nor’

- /CV₁V₂C/ (V₂ = /i/ or /u/)
- Asymmetries between [j] and [w] diphthongs.
- Violation of ‘No Diphthong’ (Casali 1996):
“Diphthongs are not allowed”.
- Crucial hierarchy:
Max. IO >> No Diphthong
[doheloʲs] >> *[dohelos]

Diphthongization.

/dohelois/	No hiatus	Dep. IO [F]	Max. IO	No Diphthong
a) dohelois	*!			
b) dohelos			*!	
c) □ dohel ^l o's				*

/ouk ^w e/	No hiatus	Dep. IO [F]	Max. IO	No Diphthong
a) ouk ^w e	*!			
b) ok ^w e			*!	
c) □ owk ^w e				*

Consonant anaptyxis.

/hikk^wia/ > [hikk^wija] ‘charriot’

/marath^huon/ > [marath^huon] ‘fennel’

- /CV₁V₂C/ (V₁ = /i/ or /u/)
- Anaptyxis of homorganic approximant.
- Copy of features of V₁.
- No violation of ‘Dep. IO [F]’.

input: /h i k k^w i a/

output: [h i k k^w i j a]

Consonant anaptyxis.

- Insertion of new root node.
- Violation of ‘Dep. IO [x]’ (cf. McCarthy & Prince 1995)
“Every root node [x] of the output must have a corresponding root node in the input”.
- Asymmetries between /iV/ and /uV/.
- Crucial hierarchy:
Max. IO >> Dep. IO [x]
[hikk^wija] >> *[hikk^wa]

Consonant anaptyxis.

/hikk ^w ia/	No hiatus	Dep. IO [F]	Max. IO	Dep. IO [x]
a) hikk ^w ia	*!			
b) hikk ^w a			*!	
c) hikk ^w ita		*!		*
d) <input type="checkbox"/> hikk ^w ija				*

/ksenua/	No hiatus	Dep. IO [F]	Max. IO	Dep. IO [x]
a) ksenua	*!			
b) ksena			*!	
c) ksenuta		*!		*
d) <input type="checkbox"/> ksenuva				*

Consonant formation.

/perusinua/ > [perusinva] ‘yesterday’s’ (neut. pl.)

- /CuV₂C/
- PoA remains the same.
- Change of sonority, but both are approximants.
- Violation of ‘Ident. IO [son.]’ (cf. McCarthy & Prince 1995):
“The sonority of corresponding segments in the input and the output is identical.”
- Crucial hierarchy:

Max. IO >> Ident. IO [son.]

perusinva >> perusina

Consonant formation.

/perusinua/	No hiatus	Dep. IO [F]	Max. IO	Ident. IO [son.]
a) perusinua	*!			
b) perusina			*!	
c) <input type="checkbox"/> perusinua				*

Fusion.

/turion/ > [turr^jon]

- /CiV₂C/
- Preservation of coronal PoA of /i/.
- No violation of ‘Max. IO’:

Input: /t u r i o n/

Output: [t u r^{rj} o n]

Fusion.

- Violation of ‘Uniformity’ (McCarthy & Prince 1995):
“No output segment must have multiple input segments.”
- Asymmetries between /uV/ and /iV/.
- Crucial hierarchy:
Max. IO >> Uniformity
[turr^jon] >> *[turon]

Fusion.

/turion/	No hiatus	Dep. IO [F]	Max. IO	Uniformity
a) turion	*!			
b) turon			*!	
c) \square turr ^j on				*

Heterosyllabification.

- ‘No Hiatus’ applies to the pword only (Vis 2007).
- [peraa^jgolahija] has to be analysed as two different pwords:

[pera]_ω[a^jgolahija]_ω

Asymmetry between /i/ and /u/.

	/u/	/i/
Diphthong	[Vw]	[V j]
Anaptyxis:	[v]	[j]
Consonant formation:	[v]	[j]
Fusion:	*	[Cj]

- In short, [lab] seems to be more consonantal / stronger than [cor] (see also van der Torre 2003).

Variation.

Application of more than one strategy which results in the realization of more than one output form.

- Diphthongization + consonant formation:

/laurantia/ [lawrantija], [laurantija] ‘placename’

- Consonant anaptyxis + fusion:

/k^halkia/ [k^halkija], [k^halkja] ‘bronze’

- Consonant anaptyxis + consonant formation:

/duo:/ [duvo:], [dvo:] ‘two’

Variation.

- Co-ranking of constraints (Crowhurst 2001).
- No fixed ranking can be established between:
 - Dep. IO [x] (“No consonant anaptyxis”)
 - Ident. IO [son.] (“No consonant formation”)
 - Uniformity (“No fusion”)
 - No Diphthong

Variation.

/laurantia/	No Hiat.	Dep. [F]	Max.	No Dip.	Dep. [x]	Id. [son.]	Unif.
a) laurantija	*						
b) □ lawrantija				*			
c) □ laurantija						*	

/k ^h alkia/	No Hiat.	Dep. [F]	Max.	No Dip.	Dep. [x]	Id. [son.]	Unif.
a) k ^h alkia	*						
b) □ k ^h alk ^l a							*
c) □ k ^h alkija					*		

/duo:/	No Hiat.	Dep. [F]	Max.	No Dip.	Dep. [x]	Id. [son.]	Unif.
a) duo:	*						
b) □ duvo:					*		
c) □ dvo:						*	

Predictability of the grammar.

- More than one instance of hiatus within the same word.
- Several optimal candidates predicted
- This is attested directly **and** indirectly:

/diu-ios/ [diwjos], [divijos] + [dʲujos], [diʋjos]

Predictability of the grammar.

/diuios/	No Hiat.	Dep.	Max.	No Dip.	Dep. [x]	Id. [son.]	Unif.
a) □ ? d'ujos						*	*
b) ? diujos					*	*	
c) □ diwjos				*		*	
d) □ divijos					*	*	
e) □ ? divjos						*	*
f) * dijuvijos					***!		

Conclusions.

- Hiatus within the pword is not allowed.
- Epenthesis never occurs.
- High vowels may form a diphthong and have a corresponding consonant > fusion, consonant formation, consonant anaptyxis.
- No preference between these strategies > co-ranking of constraints.
- Deletion applies only when no high vowel is involved.

Conclusions.

- This grammar correctly predicts directly and indirectly attested forms.
- Labial approximants are more consonantal than coronal ones.

Future research.

Examine the parametres possibly contributing to variation:

- Chronological / geographical distribution.
 - Statistics show overlap of 96.8%
- Morphological context: morpheme internal / external, root / affix.
- Phonological context: position of stress, nature of preceding consonant.
- Analysis in terms of stochastic constraints.

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